Re-humanising Public Urban Space
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Unfolding the influence of socio-cultural norms on the use, experience, and provision of the sidewalk in Riyadh, Saudi Arabia

PhD Thesis by Mohammed Abdulrahman M Almahmood
Title: Re-humanising Public Urban Space – Unfolding the influence of socio-cultural norms on the use, experience, and provision of the sidewalk in Riyadh, Saudi Arabia

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Preface and Acknowledgments

As an architect and urban designer who was born and grew up in Saudi Arabia and who has had the privilege to visit, study, and work in different cities across the globe, e.g., St. Louis, Los Angeles, Chicago, Washington DC, London, Barcelona, Copenhagen, Oslo, Berlin, Rotterdam, Athens, Rio De Janeiro, Dubai, Kuwait, Hong Kong, Shanghai, and more – I was interested in understanding the role of public urban space in people’s everyday lives. I have always been attracted by lively, happy, and vibrant cities, but my exposure to cities worldwide made me realise that the use of public urban space varies across different cultures. Observing the social and cultural dimensions and their influence on people’s use of space was an eye-opener for me. Therefore, I started my PhD journey with a curiosity to understand what makes a street lively in Riyadh, the most gender segregated city in the world, with the aim of gaining a comprehensive overview of the spatial, social, and cultural dimensions of public urban space.

However, I was not alone on this journey; many people have supported me along the way. Thus, I would like to gratefully thank my supervisors, Gertrud Jørgensen, Trine Agervig Carstensen, and Oliver Schulze for their effort, time, and guidance throughout my research journey. They encouraged me to be explorative and critical; they gave me freedom, but also guidance when needed. Conducting this PhD would not have been possible without their support, knowledge, and the time they spent supervising my work.

I would also like to thank my co-authors who helped sharpen my papers, Eric Scharnhorst and Natalie Marie Gulsrud; Natalie, thank you very much for being a critical and supportive reader of this thesis. I am also grateful to my colleagues at the Section of Landscape Architecture and Planning, my fellow PhD candidates, and my office mates with whom I shared a wonderful academic and social experience.

Furthermore, I would like to thank all my colleagues at S+G –Schulze+Grassov– the urban design firm where I had the chance to work as a part-time project manager during my PhD. There I had limitless opportunities to share knowledge in a creative and vibrant environment with a group of intelligent urbanists. I would particularly like to thank Louise Grassov, Julie Linke Bank, and Pil Beider Kleinschmidt.
Needless to say, I am so grateful to Imam Abdulrahman bin Faisal University (previously known as University of Dammam) for funding this research. Also, I would like to gratefully thank all female and male participants for their interest and willingness to take part in the project, all interviewees from Riyadh Municipality – especially the Former Mayor, Prince Abdulaziz bin Ayyaf, and King Saud University and Dar AlUloom University for hosting the workshops with participants in Riyadh.

Moreover, I would like to thank the assessment committee, Lise Herslund, Mashary AlNaim, and Stefan van der Spek, for spending their time reading and evaluating the modest work of this thesis.

Last, but not least, I would like to thank my lovely wife, Manar, who joined and brightened up my life during this journey – for her warm love, support, and patience. I am exceptionally grateful to my parents, Hussah and Abdulrahman Almahmood, who supported me throughout my entire educational journey.

I hope you enjoy reading.

Mohammed Almahmood,
November, 2017
**Table of Contents**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREFACE AND ACKNOWLEDGMENTS</td>
<td>3</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>5</td>
</tr>
<tr>
<td>GLOSSARY</td>
<td>7</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>9</td>
</tr>
<tr>
<td>DANSK RESUMÉ</td>
<td>11</td>
</tr>
<tr>
<td>ملخص الدراسة</td>
<td>13</td>
</tr>
<tr>
<td>THESIS SUMMARY</td>
<td>15</td>
</tr>
<tr>
<td>LIST OF SCIENTIFIC PAPERS</td>
<td>17</td>
</tr>
<tr>
<td>1 INTRODUCTION</td>
<td>19</td>
</tr>
<tr>
<td>1.1 Urban design and people friendly cities</td>
<td>19</td>
</tr>
<tr>
<td>1.1.1 Human-centred urban design</td>
<td>20</td>
</tr>
<tr>
<td>1.2 Research gaps and contribution of this study</td>
<td>21</td>
</tr>
<tr>
<td>1.2.1 Traveling concepts in spatial planning vs cultural contexts</td>
<td>21</td>
</tr>
<tr>
<td>1.2.2 Gender norms and social exclusion in public urban space</td>
<td>23</td>
</tr>
<tr>
<td>1.3 Research aim and study objectives</td>
<td>23</td>
</tr>
<tr>
<td>1.3.1 Research questions</td>
<td>24</td>
</tr>
<tr>
<td>1.4 Thesis structure</td>
<td>24</td>
</tr>
<tr>
<td>2 RIYADH’S SPATIAL PLANNING AND THE PARADOX IN URBAN LIFE</td>
<td>27</td>
</tr>
<tr>
<td>2.1 City background</td>
<td>27</td>
</tr>
<tr>
<td>2.1.1 Riyadh: the car-dependent metropolis 1970s</td>
<td>28</td>
</tr>
<tr>
<td>2.1.2 Humanising the city in the 2000s: Riyadh as a pedestrian-friendly city</td>
<td>32</td>
</tr>
<tr>
<td>2.2 Gender as a challenge in urban life</td>
<td>35</td>
</tr>
<tr>
<td>2.2.1 The sidewalk, the least regulated space in the city</td>
<td>38</td>
</tr>
<tr>
<td>3 RESEARCH BACKGROUND</td>
<td>41</td>
</tr>
<tr>
<td>3.1 The People Friendly City</td>
<td>41</td>
</tr>
<tr>
<td>3.1.1 ‘Universal’ characteristics of urban space and the reduction of socio-spatial qualities</td>
<td>43</td>
</tr>
<tr>
<td>3.1.2 Public urban space: the spatial, socio-cultural, and temporal dimensions of exclusion</td>
<td>44</td>
</tr>
<tr>
<td>3.2 The Gendered City</td>
<td>45</td>
</tr>
<tr>
<td>3.2.1 Gender norms and urban life in public space</td>
<td>46</td>
</tr>
<tr>
<td>3.2.2 Social exclusion and women’s spatiotemporal behaviour</td>
<td>47</td>
</tr>
<tr>
<td>3.3 Culturised Planning Model for Human-centred urban design</td>
<td>48</td>
</tr>
<tr>
<td>4 METHODOLOGY</td>
<td>51</td>
</tr>
<tr>
<td>4.1 Epistemological orientation</td>
<td>51</td>
</tr>
<tr>
<td>4.2 Research design and methods</td>
<td>52</td>
</tr>
<tr>
<td>4.2.1 The sidewalk in Riyadh as a revelatory case study</td>
<td>53</td>
</tr>
<tr>
<td>4.2.2 GPS tracking (Paper I)</td>
<td>54</td>
</tr>
<tr>
<td>4.2.3 Spatial behaviour observations on the sidewalk (Paper II)</td>
<td>56</td>
</tr>
<tr>
<td>4.2.4 Map-based workshops (Papers I, II, &amp; III)</td>
<td>58</td>
</tr>
<tr>
<td>4.2.5 Semi-structured interviews (Paper III)</td>
<td>61</td>
</tr>
<tr>
<td>4.2.6 Spatial and physical assessment (Paper III)</td>
<td>62</td>
</tr>
</tbody>
</table>
### Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-presence</td>
<td>Being in a place with others at a given time</td>
</tr>
<tr>
<td>Gender norms</td>
<td>The socio-cultural standards and expectations which women and men are expected to obey. They are ideas about how women and men should behave when in public spaces.</td>
</tr>
<tr>
<td>Gender segregation</td>
<td>The spatial separation of men and women in all sectors of society.</td>
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<tr>
<td>Gendered regulations</td>
<td>The unequal regulations of public space that limit women’s access and use of public space compared to men.</td>
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<tr>
<td>Gendered space</td>
<td>It is the embedded experience and/or conception of space whereby the presence of one gender is considered more welcome and/or appropriate than the other.</td>
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<tr>
<td>Human-centred urban space</td>
<td>A space that is accessible, walkable, safe, delightful, comfortable, liveable, inclusive, and sociable; which encourages people to walk, cycle, stroll, meet each other, enjoy leisure time, and practise all sorts of lingering activities</td>
</tr>
<tr>
<td>Provision of urban space</td>
<td>The process of shaping, providing, and maintaining urban spaces which includes the planning, designing, and managing of space.</td>
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<tr>
<td>Religious traditions</td>
<td>The inherited/established religious patterns of thought which influence men’s and women’s spatial behaviour</td>
</tr>
<tr>
<td>Socio-cultural norms</td>
<td>They are behavioural standards that citizens adopt and follow when interacting with each other. This thesis focuses on gender norms and religious traditions in Saudi Arabia</td>
</tr>
<tr>
<td>Socio-spatial</td>
<td>The sociological aspects of urban spaces.</td>
</tr>
<tr>
<td>Spatial exclusion</td>
<td>The use of the term spatial exclusion is limited to the nature of gender segregation in public space and the limitations of using and accessing public urban space in Riyadh.</td>
</tr>
<tr>
<td>Spatial inclusion</td>
<td>The use of the term spatial inclusion is limited to the co-presence of men and women in public urban space.</td>
</tr>
<tr>
<td>Spatial planning</td>
<td>The process of creating a spatial plan of a city; it includes land use, urban, regional, transport, environmental, and community planning as well as urban design.</td>
</tr>
<tr>
<td>Spatiotemporal behaviour</td>
<td>Behaviour that is attached to both space and time</td>
</tr>
<tr>
<td>Spatiotemporal presence</td>
<td>The state of being present which is attached to both space and time</td>
</tr>
<tr>
<td>Traveling concepts</td>
<td>Professional concepts and themes that become global phenomena and travel between disciplines and individual scholars across the geographically dispersed academic communities</td>
</tr>
<tr>
<td>Urban design</td>
<td>The particular part of spatial planning which focuses on the processes of shaping urban spaces for people</td>
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</tbody>
</table>
Abstract

This PhD thesis aims to contribute to a better understanding of the spatial, social, and cultural dimensions of the formation of human-centred public urban space. ‘Re-humanising’ the city is a traveling concept which implies that public urban spaces are liveable, walkable, safe, enjoyable, and inclusive thereby allowing vibrant social interaction. While the inclusiveness of space is considered as a core value in human-centred public urban space, social and spatial exclusion is a key challenge to the success of public urban space, especially in the Global South. The mainstream research in urban design argues that modifying spatial settings can change cultural practices, undermining the cultural variations and their role in the inclusion and exclusion process by assuming that design is a key cause of social behaviour to occur. Therefore, this thesis unfolds the socio-cultural influence on the use, experience, and provision of the sidewalk in Riyadh, which is one of the most car-dependent and gender-segregated cities in the world.

Gender norms and religious traditions prohibit direct interaction between men and women in public spaces and prescribe codes of behaviour and dress, which reduce opportunities for men and women to be co-present in public urban spaces. However, among all gendered spaces, streets and sidewalks to some degree function as potentially inclusive spaces, where men and women may be co-present. The study applies quantitative and qualitative methods including GPS tracking, spatial behaviour observations, map-based workshops, semi-structured interviews, spatial and physical assessment, and document analysis, which provide multiple sources of evidence. The results show that public urban space in Riyadh is predominantly gendered. Sidewalks are socially conceived as men’s place, while indoor environments, such as shopping malls, are ‘appropriate’ for women. Women’s exclusion on the sidewalk is derived from the generic spatial programming, the gendered regulations, gender norms and religious traditions, as well as young men’s appropriation of space. Although this thesis shows that young women negotiate the spatially-bounded gender norms, it argues that the ‘universal’ characteristics of urban quality were insufficient to create inclusive public urban spaces in Riyadh. Ultimately, this thesis suggests that re-humanising public urban space should not only be considered as a matter of design, but also as an on-going process which includes an inclusive spatial planning agenda and the management of space supplemented by background knowledge regarding the culture of use of space.

Keywords: Urban design; human-centred public urban space; sidewalk; socio-spatial exclusion; gender norms; urban walkscapes; Riyadh
Dansk Resumé


1) at udfolde kønsnormer og religiøse traditioners betydning for mænds og kvinders oplevelser til fods og rækkevidden af deres gåture.
2) at undersøge mænd og kvinders brug og oplevelser af fortovet samt at udfolde socio-rumlige eksklusionsprocesser.
3) at afdække udfordringer ved at tilegne sig det gennemrejsende begreb om byrum “re-humanisering” i forhold til at skabe inkluderende fortove, hvor mænd og kvinder kan være samtidigt tilstedeværende.


Overordenet er afhandlings konklusion at definitioner af byrumskvaliteter og standarder for bydesign – så som menneskelig skala, sidde- og gåmuligheder, løvtag og mikroklima, aktiviteter i stuetagen, mangfoldighed, tilgængelighed, nærhed, læsbarhed og sikkerhed – kan nok være "universelle", men de er ikke tilstrækkeligt til at skabe inkluderende offentlige byrum i Riyadh. Afhandlingen påpeger derfor, at re-humanisering af offentlige byrum ikke kun bør betragtes som en designopgave, men også som en løbende proces, der omfatter en inkluderende dagsorden for byplanlægning og byrumsforvaltning suppleret med baggrundsviden om kulturelt specifikke adfærdsmønstre i byrum.
ملخص الدراسة

تأثير المع🔍ير "الجئنة" على السلوك المكاني والتخطيط الحضري للقضاء العام بمدينة الرياض

تهدف هذه الطريقة إلى التحسين في عمل التعليم والتعليمي والثقافي للقضاء العام المنتمي إلى الإسمنت.

تهدف هذه الطريقة إلى التحسين في عمل التعليم والتعليمي والثقافي للقضاء العام المنتمي إلى الإسمنت.

تهدف هذه الطريقة إلى التحسين في عمل التعليم والتعليمي والثقافي للقضاء العام المنتمي إلى الإسمنت.
• استكشاف التحديات التي واجهت أمانة مدينة الرياض في مبادرات أنشطة المدينة خلال العقد الماضي. وكذلك استقصاء عما إذا كانت تلك المبادرات قد أثرت في خلق فضاءات عامة "جامعة/شمالية" ووعي حضري اجتماعي يمكن الرجاء أو الامرأة من استخدام الفضاء العام على حد سواء.

تبين نتائج الدراسة أن العزلة الاجتماعية والمكانية تحدث تحدياً رئيسيًا. فالرياض، من مبادرات أمانة مدينة الرياض في خلق فضاءات تدعم المستخدمين على ممارسة الانتقائية الحضرية، تشير الفضاءات العامة بالمدينة في غالبيها "بدكادك" الحضرية للناحية السكنية والثقافية. على سبيل المثال، خلق الفضاء العام التقميدي كمصدر للترفيه والترفيه ومن ثم يمكن أن يكون لازمًا في الناحية الاجتماعية لحث المرأة على ارتياح المرأة عند ممارستها للمشي أو عند وجودها في أماكن مدنية على الوفقية حيث بعض المشاركات في عينة الدراسة هذا "الخطاب". وذلك، فقد أصبحت المشاكل في الفضاء العام تضع المرأة في مواجهة مستمرة مع القيود والمعايير.

الدراسة أيضاً بحثت العلاقة بين المعيار الجغرافي والخصائص المكانية، باستخدام الرجال والأطفال مشاكل عرض شرائح التركيبة السكانية. وتفحص النتائج أن بالرغم من التصور العلمي للخصائص كفضاء عام ذكي لا تحتوي فضاءات التربوية الإقليمية للمحال التجارية كالمستقبل والمقدميات بالإضافة إلى وجود شعورية تمنع المرأة من استخدام أمكنة الجنس الخارجي بشكل أعم الواقعي. أما استخدام المرأة للفرصة العامة، ويعتمد، فتوضح نتائج رصد السلك المكاني للمرأة أن 18% فقط من مستخدمات رصيف الترسيح التربوية يتنافسون على المشاركة المشتركة، في حين أن البقية يبقون في المواقع الترسيحية لفجوة مدنية مشتركة، وتتحرك جامعات الممارسات السكنية والاقتصادية في الهندسة والاقتصادية في الجذب، وتعدر مستويات أخرى من الدراسات المشتركة.

توضح الدراسة أن اشكالات الفضاء العام، ومدينة الرياض، تكمن في عدم القدرة على كسر العزلة المكانية والاجتماعية. حيث أنه وبالرغم من مبادرات أمانة مدينة الرياض في مبادرات أنشطة المجتمع المكاني، فإن استخدام الرجال والنساء للصحة العامة، تعزز الفضاءات العامة من الناحية السكنية والثقافية. وهكذا، تشرح الدراسة أن العزلة المكانية والاجتماعية للمرأة ليست نتيجةً سبب وراء الفضاءات العامة بالمدينة بل هي مستخدمة أيضاً من الناحية الدينية-القرآنية الفضاء العام وجهوده. دعت هذه الدراسة إلى أن البحث في الفضاء العام، بالإضافة إلى الابتكارات المتميزة لتخطيط الحضرية، يستدعي تغييرات في مساحة الحياة المدنية، وتساعدها على "الشعور" الفضاء العام لجميع المستخدمين. فإن هذه الدراسة تقترح بأن الفضاء العام ليست فقد مسألة وتصميم فضاءات عامة وإنما هي عملية مستمرة تشمل تقديم وإدارة الفضاء العام.

خاتمة الدراسة، قدمت الدراسة نظريات للدراسات المستقبلية في مجال أنشطة المدن وذلك توصيات عملية في ممارسات التصميم الحضري للمساهمة في خلق بيئة حضرية "جامعة/شمالية" تتشكل الرجال والنساء على استخدام الفضاء العام بشكل حي.
The ‘re-humanisation’ of cities is a traveling concept in spatial planning and urban design; it has been adopted by many cities worldwide. The human-centred public urban space is defined as liveable, walkable, safe, enjoyable, and inclusive allowing vibrant social interaction in places where people spend their leisure time, meet friends, and encounter other people. Among these qualities, the inclusiveness of space - the ability of people to access and use space regardless of their age, gender, class, ethnicity or religion - is considered in the urban design literature as a core value in human-centred public urban space. Along these lines, mainstream researchers in urban design research and practice argue that spatial behaviour is constituted, constrained, or mediated by the spatial setting with the assumption that design is a key cause of social behaviour occurring, which undermines the cultural variations and their role in the use and experience of public urban space. However, spatial planning and urban design cannot be understood independently from their socio-cultural context. Hence, this thesis takes a critical realist position in order to bridge the gap between Environmental Probabilism, which exemplifies the current practice and research in urban design, and Social Constructionism, which prioritises the role of cultural contexts and the interactions between people in the co-creation of behaviour.

Therefore, this PhD thesis aims to contribute to a better understanding of the spatial, social, and cultural dimensions of the formation of human-centred public urban space. This is done by drawing on the culturized planning model as an analytical framework in order to unfold the influence of socio-cultural norms on the use, experience, and provision of the sidewalk in Riyadh, which is one of the most car-dependent and gender-segregated cities in the world. Gender norms and religious traditions play a key role in regulating men’s and women’s use and access to public space. They prohibit direct interaction between men and women in public and prescribe codes of behaviour and dress, which reduce opportunities for men and women to be co-present in public urban spaces. However, among all gendered spaces, streets and sidewalks to some degree function as potentially inclusive spaces, where men and women may be co-present. Therefore, this thesis takes the sidewalks in Riyadh as a case study. Through quantitative and qualitative methods including GPS tracking, spatial behaviour observations, map-based workshops, semi-structured interviews, spatial assessment, and document analysis, this study addresses the following objectives:
1) To unfold the influence of gender norms and religious traditions on men’s and women’s walking experience and the range of walkscapes.

2) To explore men’s and women’s use and experience of the sidewalk and unfold the socio-spatial processes of exclusion.

3) To reveal the challenges involved in adapting the traveling concept of ‘re-humanising’ urban spaces to create inclusive sidewalks where men and women can be co-present.

The results of this thesis show that the socio-spatial processes of exclusion is a key challenge to ‘re-humanising’ public urban space. Public urban space in Riyadh is predominantly gendered. For instance, sidewalks are socially conceived as men’s place, while indoor environments, such as shopping malls, function as ‘urban shelters’ for women, so they use such spaces to socialise. This thesis unfolds the multidimensional layers of women’s exclusion on the sidewalk. The exclusion of women is derived from, the generic application of universal spatial qualities, especially spatial programming, along with the gendered policy and regulations, gender norms and religious traditions, as well as young men’s appropriation of space. However, the study shows that young women negotiate these spatially-bounded gender norms at certain times of the day through their visible presence, spatial behaviour, and dress. Therefore, Saudi women’s spatiotemporal use and presence in public urban spaces is associated with the level of spatial management and control, spatial programming, as well as the presence of other women, which culturally justifies their spatial presence.

In conclusion, spatial quality definitions and urban design standards, such as human scale, seating and walking opportunities, tree canopy and micro-climate, stimuli at the ground level, diversity, accessibility, proximity, legibility, and safety, might be ‘universal’, but they are insufficient for creating inclusive public urban spaces in Riyadh. Hence, this thesis suggests that re-humanising public urban space should not only be considered as a matter of design, but also as an on-going process which includes an inclusive spatial planning agenda, the management of space, supplemented with background knowledge regarding the culture of use of space.
List of Scientific Papers

This research is the outcome of the following three scientific papers:

**Paper I**

**Mapping the Gendered City: investigating the socio-cultural influence on the practice of walking and the meaning of walkscapes among young Saudi adults in Riyadh**

Mohammed Almahmood, Eric Scharnhorst, Trine Agervig Carstensen, Gertrud Jørgensen, and Oliver Schulze

Journal of Urban Design
Status: Published, Vol. 22, Issue. 2, 2017
http://dx.doi.org/10.1080/13574809.2016.1273742

**Paper II**

**The Sidewalk as a Contested Space: women’s negotiation of socio-spatial processes of exclusion in public urban space in Saudi Arabia; the case of Al Tahlia Street**

Mohammed Almahmood, Oliver Schulze, Trine Agervig Carstensen, and Gertrud Jørgensen

Planning Practice and Research
Status: Published
https://doi.org/10.1080/02697459.2017.1419652

**Paper III**

**Human-centred Public Urban Space: exploring how the ‘re-humanisation’ of cities as a traveling concept has been adapted and is experienced within the socio-cultural context of Riyadh**

Mohammed Almahmood, Natalie Marie Gulsrud, Oliver Schulze, Trine Agervig Carstensen, and Gertrud Jørgensen

Urban Research & Practice
Status: (under peer-review)
Submitted: October 30th, 2017
1 Introduction

1.1 Urban design and people friendly cities

The aim of the field of urban design, theoretically and professionally, is to build connections between people and their built environment (Krieger & Saunders, 2009). Therefore, it derives its theories from diverse academic fields such as sociology, psychology, urban studies, urban geography, anthropology, political/economic science, and arts (Carmona, 2014b). Urban design also encompasses a set of multiple professions such as architecture, landscape architecture, town planning, urban management, environmental protection, etc. (Carmona, Tiesdell, Heath, & Oc, 2010). Defining urban design is, however, complex as its scope is broad and its boundaries ambiguous (Madanipour, 1996). While urban design has multiple layers and plays a role at multiple scales and levels (e.g. a bridge between planning and architecture; a physical form of public policy; an artistic dimension of the city; place-making; sustainable and smart growth; visionary urbanism, and; mobility infrastructure) they all fundamentally contribute to making places for people (Carmona et al., 2010; Krieger, 2009). Therefore, for the purpose of this thesis, urban design is understood as the particular area of spatial planning that focusses on the processes of shaping urban spaces for people.

Although the theoretical and professional use of the term ‘urban design’ is relatively recent as it first appears at a Harvard conference in 1956 (Krieger, 2009), urban design as the ‘intentional’ activity of making urban spaces for people has been practiced throughout history (Carmona, 2014b). For instance, ancient examples of cities that were intentionally planned and designed for humans exist in Africa, the Middle East, the Americas, Asia, and Europe; particularly in the Roman and Greek cultures (see, e.g. Vitruvius and Hippodamus works). At that time, the quality and configuration of public spaces with buildings reflected social norms and religious traditions (Panofsky, 1951). However by the end of the 19th century, as a result of industrialisation, city planning was being driven and influenced by the interests of private businesses and industries (Schivelbusch, 2014). Consequently, industrial growth created social problems concerning health and safety (Mumford, 1981). Thus, modern/functionalistic planning emerged focusing on how to mitigate the consequences of the industrial age (Fishman, 1982), e.g. by planning cities with self-contained communities where areas were separated according to their function, i.e. residential, industrial, and agricultural (e.g., Ebenezer Howard’s Garden City Movement and Le Corbusier’s...
Ville Radieuse). In the 20th century, cities underwent a dramatic change in planning, which was influenced by the automobile industry (Mumford, 1981). Car-oriented planning influenced city layouts, which had to be based on roads and traffic patterns (Gehl, 2006). This resulted in the transformation of integrated urban areas into rather fragmented cities (Holston, 1999), which has contributed to social exclusion in cities (Madanipour, 1998). However, in the 1960s and 70s, urbanists and scholars, such as J. Gehl, J. Jacobs, W. Whyte, D. Appleyard, A. Rapoport, and others, strove to investigate the human dimension of urban spaces and to (re)develop human-centred approaches to urban design, calling for ‘cities for people’ as an alternative to the dominant functionalistic and car-centred approaches. This school of thought, although originating mostly in the United States and European countries, was to a large degree implemented worldwide to transform city centres from the late 1960s and into the 90s (e.g., Copenhagen, Toronto, New York, Sidney, Melbourne, Vancouver and lately also other cities in the Global South) (Gehl & Svarre, 2013).

Since the early 2000s, studies of human-centred urban design have become more complex with multiple layers, which go beyond simply providing adequate spaces for people to gather, meet, and spend time. Instead, scholars argue that the process of shaping human-centred public urban spaces should also be democratic. Therefore, the use of and access to the spaces should be inclusive to all user groups regardless of age, gender, class, religion, etc. (Carmona, 2014a; Carmona, Magalhães, & Hammond, 2008; Carmona et al., 2010; Madanipour, 2003, 2010c; Reijndorp & Hajer, 2001). Today, the re-humanisation of cities has become a traveling concept that has been adopted by many cities worldwide (Maloutas, 2017; UNESCO, 2016).

1.1.1 Human-centred urban design

Public urban spaces play a key role in the everyday lives of city inhabitants even if the social, cultural, and spatial composition of cities varies across the globe (Madanipour, 2010c). A wide range of behaviours and experiences take place in urban spaces; they are places where people spend their leisure time, meet friends, and encounter other people (J. Jacobs, 1961; Whyte, 1980). Public urban space, therefore, contributes to safety, liveability, vitality, as well as to social sustainability (Carmona et al., 2010). Hence, spatial configurations which contribute to social cohesion are considered key indicators of the quality of urban spaces (Cilliers & Timmermans, 2016; Gehl & Gemzoe, 2008; J. Jacobs, 1961; Lynch, 1984). Accordingly, human-centred public urban spaces are defined as liveable, walkable, safe, enjoyable, and inclusive; they allow vibrant social interaction in places where people spend their leisure time, meet friends, and
encounter other people (Gehl, 2010; J. Jacobs, 1961; Mehta, 2013; Yang, 2016). Therefore, scholars, such as architects, planners, landscape architects, urban designers, and urban sociologists, etc., have been conducting research to understand the design and provision of urban space in relation to people’s needs.

Mainstream researchers in the field of urban design research focus on the spatial attributes of the space as a catalyst for public life (Bosselmann, 2008; Gehl, 2010; Varna, 2014; Whyte, 1980). Their theoretical point of departure for understanding spatial behaviour in public space is that people’s behaviour in public space is rooted in a universality of basic human needs such as safety, comfort, and enjoyment (Gehl & Gemzøe, 2008). Therefore, basic spatial qualities, such as human scale, seating and walking opportunities, tree canopy and micro-climate, stimuli at the ground level, diversity, accessibility, proximity, legibility, and safety, are considered to be universal and to have a significant impact on people’s use and experience of public urban spaces (Bosselmann, 2008; Burton & Mitchell, 2006; Gehl, 2010; Karssenberg & Laven, 2016; Moulay, Ujang, & Said, 2017; NYC, 2013). Ultimately, these spatial qualities have framed a set of universal or global planning assumptions and characterisations of how the human-centred public urban space should be achieved (NACTO & GDCI, 2016).

However, a key criticism of urban design today is the way it relies on best practices and universal guidelines for achieving urban space qualities as ideal goal-oriented problem-solving strategies to re-humanise public urban spaces (Lang, 2005; Madanipour, 2010c). Hence, it continues to marginalise the significant influence of cultural contexts on the provision of public urban spaces (Fürst, 2009).

1.2 Research gaps and contribution of this study

‘What makes a good city?’ might be a meaningless question. Cities are too complicated, too far beyond our control, and affect too many people, who are subject to too many cultural variations, to permit any rational answer.’

Lynch (1984, p. 1)

1.2.1 Traveling concepts in spatial planning vs cultural contexts

The re-humanisation of cities has become a travelling concept in urban design practice and research (Gehl, 2010). Cities worldwide adopt the universal characteristics of space and best practice in urban design as strategies to ‘re-humanise’ public urban spaces, e.g., the attempts to ‘Copenhagenise’ the spatial planning of other cities as a way of achieving urban qualities (see
also NACTO and GDCI 2016; Sadik-Khan 2017; Picard 2015). For a concept to travel between disciplines, professions, and academic communities, it is important that it is sufficiently abstract, i.e. it can be de-contextualised so it becomes applicable to any given context (Maloutas, 2017).

De-contextualisation is a key characteristic that allows traveling concepts to be abstract and then universally applicable. However, it is difficult to detach spatial planning from its socio-cultural context as it implies objectives, values, and norms that are bound to a specific cultural setting (Knieling & Othengrafen, 2009; Sayer, 1992, 2000). Hence, a key critique of the traveling concepts in spatial planning (e.g. the ‘re-humanisation’ of cities) is that they may, to a certain extent, remain attached to the cultural contexts where they were originally produced, i.e. the Anglo-American and European urban and cultural contexts (Maloutas, 2017). This is highly relevant in the context of the Global South, where the design of urban spaces is often highly influenced by ‘traveling concepts’ and ‘best practice’ in urban design (Maloutas, 2017). In his culturized planning model, Othengrafen (2010) argues that the societal environment (e.g. social norms and beliefs) influences the way universal and traveling concepts are adapted and experienced in different cultural contexts. Therefore, although ‘best practices’ and the ‘universal’ characteristics of the quality of public urban space can address the shared human needs in space, people’s use of space is highly influenced by the culturally established norms (Mehta, 2013; Rapoport, 1987).

Socio-cultural aspects shape people’s use and experience of urban space qualities (Madanipour, 2010b; Valentine, 2001). For instance, the qualities of public urban space such as liveability, inclusiveness, and sociability, are socio-spatially produced (Carmona et al., 2010; Mehta, 2013). Hence, people’s experience of public urban spaces is also influenced by the way they perceive the spatial behaviour of other users they encounter in the space (e.g. when certain social groups dominate the use of space, thereby excluding ‘others’ as they feel unwelcome). Hajer and Reijndorp (2001) describe this as the ‘parochialisation’ of public space, the continuous process of exclusion, which occurs when a space is appropriated by or is planned to suit the needs of a particular social group, thereby leading to processes that marginalise or exclude certain social groups (e.g. gender segregation and the gendered use of public urban space). Social and spatial exclusion is a key challenge to the success of today’s public urban space (Madanipour, 1998, 2010c).
1.2.2 Gender norms and social exclusion in public urban space

Studies across cultures have highlighted the influence of socio-cultural dimensions on people’s experience of inclusion or exclusion in public urban spaces. Gender, for instance, is one of the cultural factors that needs to be considered when analysing the use and experience of public urban spaces (Massey, 1994). The masculinisation of space and the awareness of potential harassment affect women’s spatiotemporal use and access to public urban space (Valentine, 2001; Fenster, 2005). In the Global South and culturally conservative societies, the presence of women in public urban space is strongly contested, controversial and bounded by gender norms and traditions (Rieker & Ali, 2008; Sur, 2014). For instance, norms and traditions prescribe codes for ‘modest’ behaviour and clothing for women, which limit their spatiotemporal use and access to public urban spaces (Le Renard, 2013b; Phadke, Ranade, & Khan, 2013; Whitzman, 2013). Consequently, spaces for women are absent from the city’s public areas. Instead, the city’s private spaces, e.g. shopping malls and other commercial spaces, are considered appropriate meeting places and social spaces for women (Khalili, 2016; Sur, 2014). In this sense, men’s and women’s experience of urban environments is not only influenced by the ‘universal’ spatial qualities as it is also influenced by cultural norms and subjective experience (Canter, 1977; Mehta, 2013; Williams, 2014). Therefore, studying the human dimension of urban spaces requires a comprehensive and dynamic method that accounts for the spatial, social, and cultural contexts of public urban space (Carmona, 2014c; Madanipour, 2010c).

The overall aim of this thesis is to contribute to a better understanding of the spatial, social, and cultural dimensions that influence the formation of human-centred public urban space from a Global South perspective. Accordingly, this study draws on literature from human-centred urban design research as well as the extensive and growing body of literature on gender norms and the culture of use of public urban space primarily from the academic fields of anthropology, cultural geography, sociology, and urban studies.

1.3 Research aim and study objectives

This study is based on the case of Riyadh, Saudi Arabia; one of the most car-dependent and gender-segregated cities in the world. On the one hand, over the last five decades, the spatial planning of the city has been highly influenced by changing universal and traveling concepts from the work of international consultants and planners (see section 2.1). On the other hand, socio-cultural norms in Riyadh prescribe the segregation of the genders in public space and
enforce behaviour and dress codes which regulate men’s and women’s use and access to public space (see section 2.2).

Therefore, the aim of the thesis is to unfold the influence of socio-cultural norms on the use, experience, and provision of public urban space by focusing on the sidewalk in Riyadh. In the urban design literature, the inclusiveness of space - the ability of people to access and use space regardless of their age, gender, class, ethnicity or religion - is considered a core value in the human-centred public urban space (Carmona et al., 2010; Madanipour, 2010c). Hence, the study pursues three main objectives: Firstly, to unfold the influence of gender norms and religious traditions on men’s and women’s walking experience and the range of walkscapes; secondly, to explore men’s and women’s use and experience of the sidewalk and socio-spatial processes of exclusion, and; thirdly, to identify the challenges of adapting the traveling concept of ‘re-humanising’ urban spaces to create inclusive sidewalks in Riyadh.

1.3.1 Research questions

Main research question:
How do the spatial, social, and cultural dimensions influence the use, experience, and provision of public urban spaces in Riyadh?

Sub-questions:
Q1. What influence do gender norms and religious traditions have on men’s and women’s walking experience, tempo-rhythm, sense of place, and the range of walkscapes in Riyadh? (Paper I)
Q2. How do men and women use and experience the sidewalk? How do women negotiate socio-spatial exclusion in the sidewalk? (Paper II&I)
Q3. To what extent has the adaptation of the travelling concept – ‘re-humanising cities’ – in Riyadh municipality’s programme, Humanizing the City, created inclusive sidewalks where men and women can be co-present.? (Paper III)

1.4 Thesis structure

This thesis is a compilation of three scientific papers (see the appendices). Each of these three papers addresses one of the research sub-questions and the stated objectives (see Figure 1).
Figure 1: The thesis objectives in relation to the three papers.

- Paper I elaborates on the influence of gender norms and religious traditions on men’s and women’s walking experience and the range of walkscapes (objective 1). It applies GPS tracking and map-based workshops.
- Papers I & II elaborate on the use and experience of the sidewalk as well as the socio-spatial processes of exclusion (objective 2). Both papers apply spatial behaviour observations and map-based workshops to understand men’s and women’s use and experience of the sidewalk.
- Paper III elaborates on the challenges of adapting the traveling concept of ‘re-humanising’ urban spaces to create inclusive environments where men and women can be co-present (objective 3). It explores Riyadh Municipality’s adaptation of universal guidelines for achieving urban quality to the socio-cultural context.
- All papers feed into a synthesis which discusses the implications for urban design research/practice as well as related recommendations that contribute to the creation of inclusive public urban spaces in Riyadh.

As this study is based on the case of Riyadh, a contextualisation of the city, its spatial planning, and the socio-cultural context are presented in chapter 2. Defining the research scope, research questions, and the development of papers were the result of an extensive review of the state-of-the-art literature on human-centred urban design research as well as the growing body of literature on gender norms and culture regarding the use of public urban space; a summary of this review is presented in chapter 3. In chapter 4, the research design and the applied methods...
are summarised. Chapter 5 introduces the three scientific papers. A summary of the results of the papers is presented in chapter 6. This is followed by a discussion of the results in chapter 7. Chapter 8 introduces the implications for the practice of urban design and related recommendations. The chapter also addresses the limitations of the study. In chapter 9, the thesis ends with an overall conclusion and perspective for future research.
2 Riyadh’s Spatial Planning and the Paradox in Urban Life

2.1 City background

Although Riyadh was founded on the ruins of several civilisations around 1740 A.D., it is a relatively young metropolis (Al-Hathloul, 1996). It was not even known until king Abdulaziz Al-Saud took over in 1902 as an independent Governor and started his campaign to establish the modern Saudi Arabia. Its character as a traditional old Arab city was preserved until 1950 when its population did not exceed 84,000 people (Al-Hathloul, 1996; Mubarak, 2004). At this time, the vibrant urban life was concentrated around the *souq* (see Figure 2); the vitality of that space was created through a combination of formal and informal commercial activities in a central open space (Abalkhail & Al-Naim, 2010). The city and its neighbourhoods formed a hierarchy of streets and open spaces, moving from semi-private residential areas to public spaces, which were mainly commercial and institutional. This hierarchy allowed streets to play a major role as the dominant public space in local people’s daily lives; they were a platform for social and cultural activities (Al-Hammad, 1993).

![Figure 2: Philby’s 1917-1918 scale plan of Riyadh (left); the main *souq* in the central open space (right). Source: (Facey & Grant, 1996)](image)

A turning point in the modern history of the city came in 1953, when the government decided to move the government administration from Mecca to Riyadh; hence a fast way to build ministries

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1 *Souq* is a traditional outdoor market.
and housing for transferring the government employees was needed (Al-Hathloul, 1996). Therefore, the first modern neighbourhood, Al Malaz, was built. New values regarding the concept of space have been introduced: the grid as a street pattern, low density neighbourhoods, a large proportion of the space assigned to streets with only 53% of the land for private lots, compared to more than 77% in the traditional neighbourhood. This resulted in considerably more space for cars (Al-Hathloul, Al-Hussayen, & Shuaibi, 1975) and led to a shift towards a new urban form for the city; Al-Hathloul claims that the spatial planning of Al Malaz neighbourhood became the model for the future physical development of Saudi Arabia. As a result of economic growth in the country in the 1960s & 70s, Riyadh experienced rapid urbanisation (see Figure 3). The city became a centre for the migration of people in search of employment and to establish businesses. Therefore, there was a significant need for a planning strategy that controlled and managed urban sprawl; a task that was given to Doxiadis Associates (Menoret, 2014; Middleton, 2009).

2.1.1 Riyadh: the car-dependent metropolis 1970s

In 1971, the comprehensive master plan created by Doxiadis was prepared, the aim of which was to guide the future development and growth of the city. The plan envisioned that Riyadh would be the main administrative, cultural, and educational centre of Saudi Arabia in 2000 with a total population of 1,400,000 people (Garba, 2004; Middleton, 2009). The spatial planning of the master plan was based on a model with a basic component of a 2 x 2km super-block (see Figure 4), which formed one neighbourhood which was divided into smaller blocks with spatial hierarchy (Middleton, 2009). The master plan strategy claimed that they preserved the human dimension and scale in their actions, “…this basic community of 2 by 2km has been chosen as
(the) unit...since its dimensions have proved to be convenient and ... their physical dimensions, in turn, reflect human dimensions, human contacts and human life. These values are the values that must be preserved in the planning and design of the future city” (Doxiadis, 1971). Although Doxiadis’s master plan can be interpreted as a plan to build a human-centred city, it was not realised as soon after it had only been partially implemented it became outdated due to the rapid growth of the city both in size and population.

Therefore, the master plan was subjected to multiple revisions; in 1982, a revised master plan was prepared by the French firm SCET International; in the late 1990s, Riyadh's Comprehensive
Strategic Plan for 2030 was prepared by Arriyadh Development Authority\(^2\) (see Figure 5) (ADA, 2003a; Daghistani, 1985). The Comprehensive Strategic Plan includes a set of strategies related to economic development, land use, transportation, housing, public buildings and services (Al-Solaiman, 2010). Although the 2 x 2km super-grid was maintained in the Strategic Plan as the basic component for each neighbourhood, local planners argued that the human dimension and scale were not the top priority of the spatial planning under the Comprehensive Strategic Plan; instead, the plan prioritised urban growth and smooth traffic flow, which consequently led to travel behaviour which depends on the automobile as the only mode of transportation (Al-Hammad, 1993; Al-Hathloul, 1996; Garba, 2004). During the 1980s, Riyadh was also influenced by the traveling concepts at that time which called for the pedestrianisation of streets, which resulted in one of the commercial streets, *Al Mutanabi Street*, being turned into a pedestrian-only street (see Figure 6). Although this can be considered as the first attempt to ‘re-humanise’ public urban spaces in Riyadh, it was not successful and the number of street users declined significantly (Abalkhail & Al-Naim, 2010).

\(^2\) The ADA (Arriyadh Development Authority) is the technical and administrative arm of the High Commission for the Development of Arriyadh. The ADA is responsible for implementing the High Commission's organisational, planning, executive and coordinating decisions and missions.
Figure 5: Riyadh’s Comprehensive Strategic Plan. Source: (ADA, 2003a)

Figure 6: Map of Al Mutanabi Street (right); showing the pedestrianisation of the street during the 1980s (top); the picture at the bottom is when the street became accessible to cars. Source: (Abalkhail & Al-Naim, 2010).
Multiple factors led to the failure of the attempt; the prioritisation of cars in the spatial planning of the city, the fact that the sidewalk and pedestrian right-of-way was neglected in the planning agenda; the introduction of shopping, which changed the nature of shopping so that it was conducted in indoor environments, as well as the influence of gender norms and religious traditions on people’s use of space\(^3\) (Abalkhail & Al-Naim, 2010; Al-Hathloul, 1996). Additionally, the micro-climate has a temporal impact on the use of outdoor spaces; the average annual temperature is around 30°C (JRCC, 2016), which has a detrimental effect on comfort when walking in urban spaces during the daytime, especially during the warm seasons (see Table 1). All these factors paved the way for a new car-dependent metropolis and, hence, in the 1980s and 1990s, pedestrians were rare due to both a lack of adequate urban spaces and people’s car-dependent mobility behaviour (Abalkhail & Al-Naim, 2010). As a result, during the early 2000s, statistics show that more than 98% of trips in Riyadh were made by private automobile (ADA, 2003b).

### Table 1: The average monthly temperature in Riyadh; source: (JRCC, 2016)

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan</th>
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<tr>
<td>High°C</td>
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<td>23</td>
<td>28</td>
<td>33</td>
<td>39</td>
<td>42</td>
<td>43</td>
<td>44</td>
<td>40</td>
<td>35</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>Mean°C</td>
<td>14</td>
<td>17</td>
<td>21</td>
<td>27</td>
<td>33</td>
<td>36</td>
<td>37</td>
<td>37</td>
<td>33</td>
<td>28</td>
<td>21</td>
<td>16</td>
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<tr>
<td>Low°C</td>
<td>9</td>
<td>12</td>
<td>15</td>
<td>20</td>
<td>26</td>
<td>28</td>
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<td>29</td>
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<td>21</td>
<td>15</td>
<td>11</td>
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</table>

2.1.2 Humanising the city in the 2000s: Riyadh as a pedestrian-friendly city

At the beginning of the 2000s, Riyadh municipality realised that there was a significant lack of public urban spaces for people relative to the size of the city and its population (Bin Ayyaf, 2015). The population size has increased from nearly 160,000 inhabitants in 1960 to more than 6 million today (see Figure 3). Local planners started to rethink the city’s spaces in order to provide people with environments where they could engage in urban life. Thereby, a turning point for urban life in the city occurred at the beginning of 2004 when Riyadh municipality

\(^3\) Section 2.2 elaborates more on the relationship between urban life and gender norms in Riyadh.
initiated an ambitious urban programme titled, *Humanising the City*. The vision and purpose of the municipality’s programme was to reclaim the human dimension of urban spaces in order to create inclusive and liveable environments that promote healthy activities (Bin Ayyaf, 2015).

One of the major initiatives was a strategy to transform Riyadh into a pedestrian-friendly city, which led to the implementation of three major planned types of spaces for walking: 1) Promenades and Walkways (N=61); 2) Neighbourhood Gardens (N=314), and; 3) Neighbourhood Sports Fields (N=56) (see Figure 7). The city has been implementing these elements extensively during the last decade. This thesis focuses on the municipality spatial interventions aimed at satisfying pedestrians’ basic needs by widening sidewalks, increasing tree canopy cover, and providing outdoor seating to create a safe and comfortable environment for pedestrians (Riyadh Municipality, 2008). Al Tahlia Street was chosen by the municipality to be a model for the new urban commercial street in the city. The total length of the street is 5km east to west with a right-of-way width of 60m, including a wide sidewalk of 20m on average on each side (see Figure 8). By balancing traffic and pedestrian movements as well as encouraging restaurants and coffee shops to open along the street and use the wide sidewalk for outdoor seating, the street has become a major attraction for a wide range of visitors who come to the street to walk, eat, meet friends, and go shopping (Bin Ayyaf, 2015). The development of the street has created momentum in the city; it has even been branded *sharie al-shabab*, which means ‘a street for youth’, while local newspapers and magazines have named it the *Champs-Élysées* of Riyadh (aawsat, 2003).
Figure 7: Maps of Riyadh showing the locations of the new promenades, parks, and sports fields under the municipality’s programme, adapted from (paper III).
2.2 Gender as a challenge in urban life

In Saudi culture, the presence of women in private space and the gender-segregation of public space have been locally understood as the core of Islamic public life in accordance with Sharia law\(^4\). This conservative interpretation of religious values became significant after the ‘Islamic revival’ in the 1970s/80s; a movement that wanted to protect the traditional way of life, which

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\(^4\) Sharia Law is a set of regulations that is derived from the religious precepts of Islam. It governs everyday life and provides a behavioural code of conduct.
was known as the, *Al–Sahwa Al-Islamiyya*\(^5\) - the Islamic Awakening (Al-Ghathami, 2004; Al-Khidr, 2010; Meijer, 2010). Since then, any attempt to create inclusive environments, where men and women can be co-present, has been perceived as a bid to ‘westernise’ Saudi society (Al-Rasheed, 2013). Hence, despite the modernisation of the city’s infrastructure during the last five decades, which includes the construction of new, open spaces, skyscrapers and shopping malls, the segregation of the genders, which is rooted in socio-cultural norms, gender traditions, and religious regulations, is a paradox of urban life in Riyadh (Al-Khidr, 2010; Meijer, 2010). Although Abu-Lughod (1987) argues that the segregation of genders is one of the features of Islamic cities, some researchers claim that gender segregation in Riyadh was not a widespread before the 1960s (Al-Khidr, 2010; Le Renard, 2008). Today, gender segregation is present in all aspects of urban life including working and educational environments, restaurants and coffee shops, all of which have two physically separate sections; one for ‘families,’ which includes single females, and the other for ‘singles,’ which means males only (see Figure 9). This arrangement is regulated by government legislation and enforced by the religious police\(^6\). Furthermore, the new Riyadh-Metro project, which is under construction and will be integrated with a massive public transit system in 2018, will reproduce the gender segregation by dividing the metro wagons into ‘singles’ and ‘families’ (ADA, 2015).

\(^5\) The Islamic Awakening (*Al–Sahwa Al-Islamiyya*) is a worldwide movement, which emerged in the 1970s/80s. It is a movement against the wave of modernisation, which was seen as a process of ‘westernising’ Muslim countries. Thus, the *Sahwa* movement seeks to "re-Islamise" societies.

\(^6\) Although the power of the religious police in Saudi Arabia was reduced by a royal decree in April 2016, they will still be able to enforce the gender segregation and other religious laws by reporting cases to the local police department (Zorthian, 2016).
In addition, gender norms and religious traditions prescribe codes for women’s behaviour and dress in public space. For instance, the traditional *Abaya*, which is typically black and covers a woman from head to toe, is required by law to be worn by all women in public. While Saudi legislation does not force women to cover their faces in public, gender norms, especially in the *Najd* region where Riyadh is located, stipulate that women must wear a *Nikab*, which covers all of the face apart from the eyes. Socio-cultural and gender norms also limit women’s mobility in the city; women have to plan their outdoor movements in a daily routine with a male family
member if they want to drive anywhere as the law forbids women to drive\(^7\) (Le Renard, 2013b). Even women from middle-class families, who own cars and have private chauffeurs, have to get permission from their parents or husbands and in most cases they are only allowed to go out with a male member of the family (Al-Hussayen, 1996; Le Renard, 2013b). While the official reason for the gendered restrictions is to protect women, women’s use and access to many spaces in the city has become limited compared to men (Le Renard, 2008).

### 2.2.1 The sidewalk, the least regulated space in the city

Despite the widespread gender segregation, young men and women use any opportunity to transgress gender restrictions in the city in order to interact and mingle together (Almahmood, Scharnhorst, Carstensen, Jørgensen, & Schulze, 2017; Alsanea, 2008; Le Renard, 2013b). They engage in interactions that include short talks, the exchange of phone numbers, or flirting, which usually take place in shopping malls or through car windows while stopped at traffic lights (Al-Rasheed, 2013). According to Menoret and Samin, “Cars [in Riyadh] afford not only transportation, but also the possibility of seeing and being seen…..They afford the paradoxical possibility of flaunting one’s intimacy” (2013, p. 220).

While gender segregation is enforced in all spaces in Riyadh such as schools, universities, hospitals, restaurants, public institutions, and work places, it is less enforced on streets and sidewalks. The sidewalk, to some degree, functions as a mixed-gender space where women and men can be co-present (Almahmood, Scharnhorst, et al., 2017). It has also become a space where gender norms and religious traditions can be negotiated and contested (Almahmood, Scharnhorst, et al., 2017; Almahmood, Schulze, Carstensen, & Jørgensen, 2017; Le Renard, 2013b). Young Saudi women, for instance, challenge gender norms on the sidewalk and public space through the way they present themselves, e.g. clothing (see Figure 10). However, such spatial behaviour in public space has been very controversial and has led to societal debates and rejection in the newspapers and social media (BBC, 2017; Okaz, 2016; Sayidaty, 2012, 2016).

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\(^7\) On 26\(^{th}\) of September 2017, a royal decree allowing women to drive in Saudi Arabia was announced. The royal decree ordered the Ministry of Interior to establish new and equal regulations for men and women regarding their driving license; the regulations are to be implemented 10 months after the announcement of the royal decree (Chulov, 2017).
Therefore, this study considers sidewalks to be much more than street elements; they are potentially contested spaces where norms and traditions may be reproduced, negotiated, or challenged. Hence, sidewalks provide a revelatory case study for a potential inclusive public urban space where the ‘universal/global’ characteristics of public urban space can be examined against the local socio-cultural setting.

Figure 10: The picture at the top-left shows a young Saudi woman who decided to go to Al Tahlia Street without an Abaya. As she announced it on social media, the incident went viral and became very controversial. She became known in the media as “Al Tahlia Girl”. The top-right picture shows a group of women dancing on the sidewalk of Al Tahlia street. They became known in the newspapers as the “Riyadh Girls”. The picture at the bottom relates to a very controversial incident involving a young woman who was walking on a street of an old town near Riyadh wearing a short skirt (sources: BBC, 2017; Okaz, 2016; Sayidaty, 2012, 2016).

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8 See section 4.2.1 in the Methodology chapter.
3 Research Background

The aim of this study is to improve understanding of the complex interrelationship between spatial, social, and cultural aspects of the human-centred planning of public urban space. Therefore, this chapter begins with an overview of the people-friendly city and the ‘universal’ characteristics of human-centred public urban spaces. Then, this chapter presents these universal spatial assumptions through a cross-cultural overview, which highlights the influence of gender norms and religious traditions in the spatiotemporal processes on inclusion and exclusion in public urban space. Ultimately, this chapter highlights the theoretical framework for the study’s empirical research.

3.1 The People Friendly City

“Good cities are places of social encounter. Creating spaces that encourage social behaviour in our neighbourhoods and cities is an important goal of urban design, architecture and planning. Across cultures and over history of civilization, the street has supported myriad levels of social engagement.”

(Mehta, 2013, p. 2)

The rapid increase in the number of vehicles and the modern spatial planning approaches and outcomes of the 20th century undermined the vitality of life in public urban spaces (Holston, 1999; J. Jacobs, 1961). Spatial planning became car-oriented, urban sprawl made distances longer and less walkable, and the modern mono-functional land use made cities less vital in terms of public urban life (J. Jacobs, 1961). Consequently, the human dimension of public urban space became marginalised in the planning agenda (Gehl, 2010). In parallel, J. Gehl, J. Jacobs, W. Whyte together with the emergence of urban design as a distinct field in 1956 put an emphasis on the social and cultural dimension of space, and sought to reclaim the human dimension in spatial planning (Krieger & Saunders, 2009; Mehta, 2013). While this was followed by a growing interest among urbanists in understanding the relationship between human interaction and behaviour in relation to the urban setting, the social dimension of urban settings had been an interdisciplinary research area of a variety of theoretical and academic fields since the end of the 19th century (Abbott, 1997; Carmona, 2014a). This included academic fields such as sociology, psychology, urban studies, urban geography, anthropology, political/economic science, and the arts (Carmona, 2014b). The Chicago School, which was founded in 1892, was among the first to focus on the sociological dimension of cities, known later as urban sociology (Abbott, 1997). By combining sociological and anthropological theory with ethnographic fieldwork, the Chicago School provided causal analysis frameworks to
understand how individuals interact in urban social environments (Abbott, 1997; Sampson & Raudenbush, 1999). Inspired by this, architects, planners, landscape architects, urban designers, and urban sociologists have been striving to understand the social dimension of urban settings.

Mainstream scholars in urban design research and practice correlate people’s use and experience to spatial attributes (Bosselmann, 2008; Gehl, 2006; A. B. Jacobs, 1995; Mehta, 2014). Thus, human behaviour in urban space is understood as the result of the interaction between people and the spatial setting (Mehta, 2007). In this sense, the factors that affect the spatial behaviour include; 1) attributes of the users- e.g., gender, age, culture, needs, socio-economic status, etc.; and 2) spatial characteristics, e.g., access, configuration, programme, location, transparency, etc. (Gehl, 2010; Mehta, 2013). Hence, spatial behaviour is assumed to be constituted, constrained, or mediated by the spatial setting (Wolch & Dear, 1989). Therefore, the role of urban design, in the Environmental Probabilism, is understood to involve providing the best possible conditions in order to revitalise spatial behaviour with a great focus on design as a key factor in the occurrence of social behaviour (Bosselmann, 2008; M. Carmona, Tiesdell, Heath, & Oc, 2010; Gehl & Gemzoe, 2008; Michelson, 1975, 1977).

Human-centred public urban space is defined in urban design research as being accessible, walkable, safe, delightful, comfortable, liveable, inclusive, and sociable (see Table 2); it encourages people to walk, cycle, stroll, meet each other, enjoy leisure time, and practise all sorts of lingering activities (Whyte, 1980; Gehl, 2010). Among these socio-spatial characteristics, the inclusiveness of urban spaces - the ability of people to access and use space regardless of their age, gender, class, ethnicity or religion - is considered a core value in public space as it contributes to safety, liveability, vitality, as well as to the symbolic dimensions of the human-centred public urban space (Carmona et al., 2010; Madanipour, 2010c).

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9 Environmental Determinism, Possibilism, and Probabilism are geographical theories that focus on the interaction between human beings and the physical environment (Fekadu, 2014; Lewthwaite, 1966). In urban design, Determinism argues that the physical environment has a massive and often controlling influence on the occurrence of public life. In contrast, Possibilism argues that the physical environment provides the opportunity for a range of possible spatial behaviour and urban activities, while Probabilism considers the probabilistic relationship between physical environments and public life. In other words, it argues that some spatial configurations are more likely to invite spatial behaviour than others (see, Fekadu, 2014; Lewthwaite, 1966; Mehta, 2013; Strange & Banning, 2001).
### Table 2: Spatial characteristics of the human-centred public urban space, adapted from paper III

<table>
<thead>
<tr>
<th>Spatial Conception</th>
<th>Definition</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spatial Qualities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessible</td>
<td>Easy to gain access to and move around in; urban spaces that are available for use all the time</td>
<td>(Gehl, 2010; Madanipour, 2010c; Mehta, 2014; Varna, 2014)</td>
</tr>
<tr>
<td>Walkable</td>
<td>Opportunities for walking; reduced car traffic and supports more pedestrian activities</td>
<td>(Adkins, Dill, Luhr, &amp; Neal, 2012; Ewing &amp; Handy, 2009; Lo, 2009; Southworth, 2005)</td>
</tr>
<tr>
<td>Safe</td>
<td>Feeling of safety and security both physically and psychologically. Protection from traffic, crime, and unpleasant encounters</td>
<td>(Gehl, 2010; Gehl &amp; Gemzøe, 2008)</td>
</tr>
<tr>
<td>Delightful</td>
<td>Human scale, micro-climate, aesthetics of spatial quality</td>
<td>(Gehl, 2010; Gehl &amp; Gemzøe, 2008)</td>
</tr>
<tr>
<td>Comfortable</td>
<td>Comfortable to spend time in and engage in different activities such as walking, standing, sitting, people watching, and talking</td>
<td>(Carmona et al., 2008; Gehl &amp; Gemzøe, 2008)</td>
</tr>
<tr>
<td><strong>Socio-spatial Qualities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liveable</td>
<td>Lively, busy, and well used; urban spaces characterised by lively activity</td>
<td>(Carmona et al., 2010; Gehl, 2010; J. Jacobs, 1961; Whyte, 1980)</td>
</tr>
<tr>
<td>Inclusive</td>
<td>Inviting, welcoming to all users, free, and open. Urban spaces that encourage a diversity of users and activities.</td>
<td>(Carmona et al., 2008, 2010; Hajer &amp; Reijndorp, 2001; Madanipour, 2010c; Whitzman et al., 2013)</td>
</tr>
<tr>
<td>Sociable</td>
<td>Encouraging social interaction from passive to active.</td>
<td>(Gehl Institute, 2016; Mehta, 2009, 2013; Whyte, 1980)</td>
</tr>
</tbody>
</table>

#### 3.1.1 ‘Universal’ characteristics of urban space and the reduction of socio-spatial qualities

Mainstream researchers in urban design research and practice argue that modifying spatial settings can change cultural practices (Agrawal, Schlossberg, & Irvin, 2008; Gehl, 2010; A. B. Jacobs, 1995; Talen, 2002; Whyte, 1980). They argue that basic spatial parameters have a significant impact on how people, in general, use and experience urban spaces. Scholars such as Bosselmann (2008) and Gehl and Gemzøe (2008) claim that despite cultural differences, people’s behaviour in public spaces is rooted in a universality of human needs. Therefore, human
scale, seating and walking opportunities, tree canopy and micro-climate, stimuli at the ground level, mixing of functions, accessibility, legibility, and safety are considered to be universal key parameters when assessing, designing, and providing inclusive urban spaces (Gehl Institute, 2016; Karssenberg, Laven, Glaser, & Hoff, 2016; Moulay et al., 2017; NACTO, 2013; NYC, 2013). Ultimately, these spatial qualities have framed a set of ‘universal/global’ design assumptions and spatial characteristics of how the human-centred public urban space should be achieved (NACTO & GDCI, 2016).

However, as shown in table 2, the spatial conceptions of the human-centred space are categorised as follows: 1) Spatial Qualities, which are focused solely on spatial design and programming, and; 2) Socio-spatial Qualities, which are collectively produced by users in the space. Thus, the liveability, inclusiveness, and sociability of public urban space for a certain individual or group are significantly influenced by the way other people (individuals or groups) use the space (Hajer & Reijndorp, 2001; Madanipour, 2010c). In other words, the way people perceive the behaviour of those they encounter influences people’s presence in the space, e.g. when certain social groups dominate the use of space, thereby excluding ‘others’ because they feel unwelcome.

A key criticism of urban design today is how it addresses social problems by solely focusing on ‘best practices’ and ‘universal’ characteristics of space design. Therefore, it continues to marginalise the significant influence of cultural contexts on the provision of public urban spaces (Fürst, 2009). Madanipour criticises the exclusive focus on space design as a goal-oriented problem-solving strategy when addressing social inclusion in public urban space “Social exclusion is a multidimensional process and it needs a multidimensional response, which includes the provision of public spaces” (2010a, p. 129). The following sub-sections highlight the multidimensional processes of social exclusion as well as the role of gender norms and traditions in the spatiotemporal exclusion of women from public urban spaces.

3.1.2 Public urban space: the spatial, socio-cultural, and temporal dimensions of exclusion
Today, some social groups have been spatially or temporally marginalised and excluded from using and accessing urban space on the basis of race, gender, class, age, or religion (Madanipour, 1998; Simonsen & Koefoed, 2015). For instance, the commercialisation of public urban space encourages a focus on consumption and purchasing power and, hence, access to public space becomes limited to a narrow range of social groups who can afford the use of such spaces
(Madanipour, 2010c). Although spatial programming and retail planning are considered as catalysts and anchors of public life (Karssenberg & Laven, 2016), they can also play a key role in the temporal dimension of exclusion in public urban spaces (Carmona, 2010). The type of ground floor function can encourage certain social groups to dominate the use of space as well as influence the nature of the activities that occur there (Roberts & Eldridge, 2007). For example, a study by Roberts and Eldridge (2009) looked at UK town centres and found that at night, streets adjacent to pubs, bars, and clubs attract young people who dominate use of the space, thereby excluding other visitors, e.g., families and older visitors, as they come to associate the spaces with fear and antisocial behaviour.

However, people’s use and experience of public urban spaces are not only influenced by the spatial attributes. Socio-cultural norms, for instance, influence people’s use, experience, and access to urban space. According to Rapoport “...even appropriately designed settings will be used or not used depending on the culturally established rules.” (1987, p. 82). In this sense, ‘universal/global’ guidelines for urban space design have been criticised for being standardised for the ‘generic user’ (Phadke, 2012), which fails to address the fact that specific socio-cultural inclusion needs might vary between men and women, depending on the cultural context.

Exclusion regarding public urban space can also have a temporal dimension. For instance, while publicness and accessibility are key features of public space (Carmona et al., 2010), they can also create potential conflicts and tension between those who tend to appropriate the space and the rest of the visitors, e.g., the dominant use of space by men during the day or night limits women’s access to the space, which actually highlights the temporal and non-spatial dimension of exclusion (Madanipour, 2010a; Valentine, 2001). The ‘parochialisation’ of public space, as described by Hajer and Reijndorp (2001), is a key challenge of public urban space today.

3.2 The Gendered City

Men and women perceive the qualities of urban spaces differently, which influences their spatial and territorial behaviour, and sense of place (Fenster, 2005; Koskela, 1997; Whitzman, 2013). Therefore, the gendered use of public space is a relatively global phenomenon. Women’s use, access, and experience in public urban spaces are influenced by gender norms and traditions (Rieker & Ali, 2008; Spain, 2014; Whitzman et al., 2013). Women’s safety, for instance, is not only correlated with traffic accidents or fear of crime and violence, but is also affected by the masculinisation of space (Fenster, 2007; Valentine, 2001; Wesely & Gaarder, 2004). Studies on
gender norms and use of space across cultures have shown how gender norms and religious traditions restrict/regulate women’s spatial presence, behaviour, and dress-code (Morin & Guelke, 2007; Rieker & Ali, 2008; Whitzman et al., 2013). Hence, women’s use and access to urban spaces requires much more than a provision of universal spatial settings as it includes a process of negotiating social and cultural bounds, a claim for their right to the city, and a key to inclusiveness in public urban spaces (Klodawsky et al., 2013; Phadke, Khan, & Ranade, 2011). The following subsections present a cross-cultural analysis of the gendered use of public space, especially in culturally conservative societies, as well as the way women negotiate the spatially-bounded gender norms.

3.2.1 Gender norms and urban life in public space

The presence of women in public urban spaces has always been a political and societal debate in culturally conservative societies (Gole, 1996, 2008). Dahlgren (2008) analyses gender segregation and the presence of women in public spaces during the colonial and post-colonial periods in Aden, Yemen. Her findings show that despite the political change over the last five decades, women’s access to public spaces has been limited as it is influenced by the cultural context. For instance, when in public space, women are socially expected to be accompanied by male family members, who are described by religious traditions as *Mahram*¹⁰ (Dahlgren, 2008).

In Turkey, for instance, despite the Kemalism approach in the 1920s to create a Western-oriented modernity by abolishing gender segregation in all aspects of everyday life (Gökarsksel, 2007; Gole, 1996, 2008), today the choice and use of public spaces is relatively gendered, e.g. the clustering of veiled women in specific shopping malls that allows them to maintain their lifestyle and behaviour in the space (Gökarsksel, 2007). Fenster’s study of Mea Shearim, one of the oldest Jewish neighbourhoods in Jerusalem, where the residents seek to apply the orthodox dress code to all women entering their neighbourhood, provides a non-Muslim example (Fenster, 2007). According to Fenster, this regulation means that women have come to associate Mea Shearim with physical discomfort and tension, which makes them avoid the area. Jin and Whitson’s study (2014) on the influence of gender norms and Chinese traditions on the use of public spaces among young women in contemporary Beijing shows that what is socially perceived as the ‘appropriate’ behaviour for the ‘traditional Chinese girl’ influences women’s temporal use of

¹⁰ *Mahram* is a family member who is unmarriable – e.g., parents, uncles, siblings and children.
space as well as with whom they access public spaces. Generally, all these cross-cultural cases highlight the significant influence of gender norms and religious traditions on women’s use and access to public urban space.

3.2.2 Social exclusion and women’s spatiotemporal behaviour

With a set of culturally prescribed codes for dressing and behaviour, which vary from culturally liberal to conservative societies, women are expected to maintain the socially shared ‘appropriate’ spatiotemporal behaviour of women in public urban spaces (Le Renard, 2013b; Whitzman, 2013). These spatially-bounded gender norms contribute to exclude women from public urban spaces (Khalili, 2016). For instance, in culturally conservative societies, streets are conceived as men’s places, especially at night. Therefore, women’s presence on streets is associated with social stigma for being in the ‘wrong place’ at the ‘wrong time’ (Almahmood, Scharnhorst, et al., 2017; Sur, 2014). Hence, women use tactics to negotiate their presence in public spaces in order to protect their modesty and to mitigate the risk of violence or fear of being socially stigmatised by self-regulating the types of places and time of day when they use and access urban spaces as well as by self-policing, i.e. remaining alert to any potential harm that may befall them while in the space (Phadke, 2012; Sur, 2014). In addition, in these contexts, women also need to justify their presence in public spaces through purposeful spatial behaviour, e.g., shopping, carrying something, or moving quickly towards a destination, especially at certain times of the day (Phadke, 2012). Consequently, women’s access to public urban spaces is contested, and their lingering activities are limited (Khalili, 2016). Women, especially at night, use shopping malls and indoor environments as these spaces are considered to be much safer, so they use them for social encounters with friends (Klodawsky et al., 2013; Sur, 2014).

Public urban spaces are places where we encounter strangers (Hajer & Reijndorp, 2001) as well as platforms where traditions and norms can be reinforced, negotiated, or contested (Jin & Whitson, 2014; Whitzman, 2013). However, when women’s particular spatial needs are not fulfilled, it leads to the invisibility of women in public urban space (Phadke et al., 2013). Therefore, in order to ensure social inclusion in public urban spaces, the role of urban design needs to address the needs of all users of space. Hence, a set of multidimensional layers is needed to understand the spatial, social, and cultural dimensions of inclusion in public urban space.
3.3 Culturised Planning Model for Human-centred urban design

The inclusiveness of space, i.e. the ability of people to access and use space regardless of their age, gender, class, ethnicity or religion, is one of the key characteristics and challenges for human-centred public urban spaces (Carmona et al., 2010; Madanipour, 2010c; Reijndorp & Hajer, 2001). The inclusiveness of public urban space should not only be considered as a matter of design, but also as an on-going process, which encompasses an inclusive spatial planning agenda, the management of space, and which is supplemented with background knowledge regarding the culture of use of space (Carmona et al., 2008; Madanipour, 2010a). In line with this, the sub-sections above show how spatial, social, and cultural dimensions contribute to exclusion in public urban space. They highlight the need for a comprehensive framework to explore the complex relationship between spatial planning and its cultural context (Friedmann, 2005).

This section introduces the culturized planning model by Othengrafen (2010) and provides a systematic and comprehensive framework to explore the relationship between spatial planning and its cultural context through three analytical layers: planning artefacts, planning environment, and societal environment (see Figure 11).

![Figure 11: The "culturized planning model" (adapted from, Othengrafen 2010)](image)

*Planning artefacts*: includes visible planning products, structure, and processes, e.g. urban structure, master plans, urban spaces, spatial settings, etc. The elements in this layer can be observed immediately and recognised easily. *Planning environment*: the outspoken shared norms and assumptions among planners at the strategic or vision level. They tend to be normative...
concepts with sets of certain objectives that guide the planners and the artefacts, e.g. sustainability, the provision of an inclusive city, the ‘re-humanisation’ of cities, etc. Societal environment: the tacit dimension of spatial planning, which includes taken-for-granted social norms, beliefs, and perceptions, which influence the use, experience, and provision of public urban space and are bound to specific socio-cultural contexts (Othengrafen, 2010; Othengrafen & Reimer, 2013).

As the societal environment includes values and norms that are culturally rooted, it might alter and reshape travelling concepts when applied in different countries. In other words, “different contexts can therefore exert a significant modifying influence on the way that strategic [universal] plans are applied” (Sykes, 2008, p. 550). Hence, although planning artefacts and planning environment are influenced by universal and travelling concepts, spatial planning is still characterised by the way it adapts to the societal environment of any given context (Knieling & Othengrafen, 2015; Sykes, 2008). The theoretical framework for the empirical research of this thesis uses the three layers of the culturized planning model to: 1) unfold the influence of gender norms and religious traditions on men’s and women’s walking experience and the range of walkscapes; 2) explore men’s and women’s use and experience of the sidewalk and unfold the socio-spatial processes of exclusion, and; 3) reveal the challenges involved in adapting the travelling concept of ‘re-humanising’ urban spaces to create inclusive sidewalks where men and women can be co-present (see Figure 12).

Figure 12: The three layers of the culturised planning model in relation to the research questions
4 Methodology

4.1 Epistemological orientation

The epistemological position of this thesis is inspired by critical realism as a philosophical worldview. According to Denzin and Lincoln (2011), critical realism emerged from the post-positivist crises in the natural and social sciences in the 1970s and 1980s; a period that was also known as positivist/constructivist ‘paradigm wars’ (Fletcher, 2016). The positivist epistemological perspective claims that knowledge must be acquired in an ‘objective’ way and limited to what can be empirically known and measured (Bryman, 2008). The constructivist epistemological view, in contrast, argues that knowledge has a subjective element as it is considered to be socially constructed and co-produced through and within human experience, discourses, and interaction rather than determined only by the facts of observations (Creswell, 2014; Crotty, 1998). Despite the differences between the positivist and constructivist views in acquiring knowledge, they both produce knowledge in the form of empirical description of a given phenomenon (Fletcher, 2016). In this sense, critical realism positions itself between these two ends and draws elements and methods from both paradigms with a focus on description, explanation, and causal analysis. Therefore, critical realism can function as a general methodological framework for analysing societal problems and suggesting solutions for social change (Archer & Bhaskar, 1998, p. ix; Fletcher, 2016).

In the realm of spatial planning, research cannot be detached from the subjective element as it usually holds certain normative values (e.g., liveability) and ultimately seeks to achieve certain environmental and/or social goals (e.g., social cohesion) (Farthing, 2016; Goldstein & Carmin, 2006). In this sense, research in spatial planning is not only driven by incentives such as describing certain phenomena, but it also has a problem-solving dimension, which is key in the practice of planning, which means the notion of ‘change’ is usually embedded in the research objectives. In relation to critical realism, Bhaskar claims that “we will only be able to understand – and so change – the social world if we identify the structures at work that generate those events and discourses” (2010, p. 2). Although we can empirically observe and measure these events (e.g., the level of social interaction in an urban space), critical realism calls for an in-depth understanding of the causation (e.g., the incentives and constrains) that shapes the spatiotemporal occurrence of these events (Sayer, 2000). In this sense, the causal mechanism in
critical realism is understood to be social products that can be observed and interpreted, but cannot solely be empirically identified (Fletcher, 2016; Sayer, 2000). Hence, as *causal mechanisms* are considered social products (Sayer, 2000), they are also subject to the temporal dimension of change as they will be constantly reproduced, contested, and negotiated.

In this study, the research takes place in a planning context where the provision of public urban space has been influenced by the mainstream and universal urban design practices, which determine/assume that people’s behaviour is *constituted by space*, *constrained by space*, or *mediated by space* (Gehl, 2010; Wolch & Dear, 1989). Therefore, in line with *Environmental Probabilism*, the role of spatial planning and urban design is to provide the best possible conditions for supporting known and new social behaviour; with the assumption that the design will *cause* such behaviour to occur (Bosselmann, 1998, 2008; Gehl & Gemzøe, 2008; Mehta, 2013). However, urban life in public space in Riyadh, as presented in section 2.2, is socio-culturally constructed with a set of norms and traditions that shape not only people’s spatial behaviour, but also the provision and management of public space. Gender norms and traditions, for instance, constitute rules and restrictions about the way public life ‘should’ be conducted, which is also embedded in men’s and women’s daily lives. Therefore, in the context of this PhD study, critical realism provides a methodological framework for understanding the *mechanisms* of urban life in public space, where the *causations* and *structures* (e.g., spatial, social, and cultural factors) are reflected in the actual use and experience in order to address the re-humanisation of public urban space in a comprehensive and integrated manner.

### 4.2 Research design and methods

The overall approach taken is a single-case study with *embedded units of analysis* (Creswell, 2014; Yin, 2014). According to Yin (2014), case study research is a suitable approach for investigating a *contemporary phenomenon* (e.g., the ‘re-humanisation’ of public urban space) within its *real-context* (e.g., the socio-spatial processes of exclusion in Riyadh). In this sense, case study research is also characterised as in-depth and qualitative, requiring validation through multiple sources of information (Creswell, 2013). However, a key limitation to single case study research is the extent to which the findings can be generalised (Bryman, 2008). The empirical findings of single case study research are considered *context-dependant* (Creswell, 2013), and are mostly not *statistically generalisable* to other contexts (Yin, 2014). However, they could contribute to the so-called *theoretical generalisation* (Lewis & Ritchie, 2003), where the theoretical body of research (e.g., gender norms and use of public space) become the main
vehicle to extract generalisations from the empirical findings that can feed into wider theoretical propositions and discourses (Yin, 2014).

The following subsections elaborate on the research design in terms of justifying the selection of the sidewalk in Riyadh as a case study, defining the research scope and approach, and presenting the relevant methods applied in this thesis.

4.2.1 The sidewalk in Riyadh as a revelatory case study

The sidewalks in Riyadh represent unique dynamics of the everyday life in Riyadh. While the segregation of the genders is enforced in all aspects of city life, the sidewalks allow the genders to mix to some degree. Therefore, based on Yin’s (2014) rationales for single case studies, the sidewalks in Riyadh can be considered a revelatory case. It provides an opportunity to uncover the influence of gender norms on men’s and women’s spatial behaviour and experience in Riyadh; such study in this context is unprecedented. Therefore, the findings of this research will reveal new insights that will contribute to a better understanding of human-centred public urban space, especially in cities of the Global South.

This thesis uses the method of triangulation based on a number of different studies, which provides multiple sources of evidence (Creswell, 2013; Yin, 2014). Drawing on the culturized planning model presented in section 3.3, this thesis inductively unfolds the influence of socio-cultural norms on the use, experience, and provision of the sidewalk in Riyadh. For the three sub-studies – 1) the influence of gender norms and religious traditions on men’s and women’s walking experience and the range of walkscapes; 2) the use and experience of the sidewalk and the socio-spatial processes of exclusion, and; 3) the challenges of adapting the travelling concept of ‘re-humanising’ urban spaces to create inclusive sidewalks – a mixed methods approach was used for data collection and analysis; methods that include multiple sources of evidence such as direct observations, interviews, workshops, and document analysis, all of which are described in the following (see Table 3).
4.2.2 GPS tracking (Paper I)

To answer parts of the first research question (RQ1. ‘What influence do gender norms and religious traditions have on men’s and women’s walking experience, tempo-rhythm, sense of place, and the range of walkscapes in Riyadh?’), an innovative methodology was needed in order to map, measure, and investigate the practice of walking among young adults. When tracking pedestrians in Norwich, Rouen, and Koblenz, Spek (2009) demonstrates the potential of GPS tracking to produce a map that aggregates individuals’ walking behaviours. This technology gives the researcher access to a set of accurate data in terms of the time of day of each route, time spent at specific locations, destinations, and the type of transport mode (Jensen, Sheller, & Wind, 2015; Scharnhorst, 2015; Van Schaick & Spek, 2008; Verbrée et al., 2005). Distributing GPS devices among participants seems to be quite useful for one day of tracking. However, if the survey is for a longer period, which is the case for this thesis, it will require more commitment from the participants as they will have to keep charging their devices every night and remember to take them with them every time they leave the home. Therefore, in this study, the author used the participants’ mobile telephones with inbuilt GPS to solve this problem.
The GPS tracking survey, used in paper I, consists of four steps (see Figure 13). (1) Signing-up and registration: each participant had to download a smart phone app, Moves, and provide information regarding age and gender on the project’s website, www.slowcity.dk/riyadh, while they also gave us access to their tracking data, which was available through the Moves application programme interface (API). This information was stored in an SQLite database on the internet application’s server. (2) Tracking process: The Moves app recorded the point location of each participant at a frequency of between 5 seconds and 1 minute depending on the speed of movement and the power of the signal. (3) Data validation: included cleaning, filtering, and categorising. The attribution of data was based on age, gender, activity, date/time, a unique identification number for each participant, and the collection of each participant’s point locations during the study. (4) Collective analysis: the filtered GPS data of each gender was mapped as kernel density surfaces with a convenience buffer of 500 metres in order to identify the top walking areas for each gender. This step also demanded that the typologies of spaces be categorised along with the patterns of walking activity within these locations. During the mapping process, Quantum GIS software was used to analyse the data. The GPS tracking survey took place during a period of 6 weeks between November and December 2014 in a moderate climate (25°-15°).

Figure 13: The four steps of the GPS tracking survey includes signing-up, tracking movement, data validation, and collective analysis.
4.2.3 Spatial behaviour observations on the sidewalk (Paper II)

Scholars from multiple disciplines such as urban design, planning, urban sociology, and anthropology have studied and documented people’s spatial behaviour in urban spaces and have developed and shared methods and techniques for spatial and behavioural observation (Bosselmann, 2008; Gehl & Svarre, 2013; Goffman, 1966; Mehta, 2013; Whyte, 1980). The observation techniques include counting, mapping of lingering activities, and tracking of movement. When applied systematically, the techniques provide a set of data about people’s behaviour in public spaces or specific information on certain spatiotemporal practices (Gehl & Svarre, 2013). To address parts of the second research question about men’s and women’s use of the sidewalk in Riyadh, this thesis uses that prior knowledge on spatial behaviour observations, builds upon it, and customises it.

Study area where spatial observations were conducted

The sidewalks of Al Tahlia Street were selected as the study area for the observations (see Figure 14)\(^\text{11}\). Once pilot observations had been conducted during several visits at different times of the day, a sidewalk segment was selected for in-depth study (see Figure 15). The selection of the sidewalk segment, which has a total length of 460 metres with an average sidewalk width of 20 metres, was based on the high concentration of activity that occurs on this part of the street.

\(^{11}\) Refer to paper II for the detailed criteria of study area selection.
Methods and periods of observation

Spatial behaviour observations were conducted on 16 weekend days in 2014 and 2015 distributed evenly through the summer, autumn, winter, and spring. They included: 1) Counting the number of men and women who passed counting stations, which were marked by the surveyor on the sidewalk segment (see Figure 15); 2) Tracking men’s and women’s patterns of movement on the sidewalk segment, either strolling or purposeful walking behaviour. This observation was also conducted by walking slowly along the sidewalk segment and plotting
pedestrian tracks on the map; 3) Registering and mapping men’s and women’s lingering activities, which was conducted by walking slowly along the length of the sidewalk segment and registering/mapping all lingering activities encountered by the surveyor, and; 4) Photographing and taking field notes of encounters between men and women. The observations were conducted over a period of 18 hours on every survey day at 10-minute intervals between 08:00am to 02:00am (see Figure 16).

![Figure 16: The breakdown of observation methods and the 10-minute intervals in a typical one hour survey hour.](image)

4.2.4 Map-based workshops (Papers I, II, & III)

Combining data from observations with interviews, focus group discussions, or workshops helps to increase the validity of research findings (Bryman, 2008; Yin, 2014). Therefore, the aim of the map-based workshops was to gather qualitative data from the participants to address parts of the stated research questions and objectives:

1. To unfold the influence of gender norms and religious traditions on men’s and women’s walking experience, tempo-rhythm, sense of place, and the range of walkscapes (*paper I*): through a set of map-based discussions using visual materials of data from the GPS findings of both the types of spaces and pattern of walking behaviour where participants can retrospectively reflect on their practice of walking and spatial preferences.
2) To explore men’s and women’s use and experience of the sidewalk (paper II): where visualisations of the empirical findings from the sidewalk observations were presented to encourage participants to retrospectively reflect on their own experiences on the sidewalks of Al Tahlia Street.

3) To reveal the challenges involved in adapting the traveling concept of ‘re-humanising’ urban spaces to create inclusive sidewalks where men and women can be co-present. (paper III): during the workshop, female participants were asked to reflect on their experiences of walking on the newly built promenades and in relation to their spatial preferences.

Two one-day workshops (one with each gender) were held in Riyadh in April 2015, with the same groups who participated in the GPS tracking (see below for sample size and selection criteria). Each workshop consisted of four activities: 1) Project introduction; 2) Walk-about exercise; 3) Map-based discussions, and; 4) Open discussion (see Table 5).
### Methodology

Table 4: Breakdown of the map-based workshops activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description and Goals</th>
<th>Guiding Questions/Themes $^{12}$</th>
</tr>
</thead>
</table>
| **Project introduction**  
* (Presentation) | Through a presentation by the PhD researcher to introduce the workshop goals and activities. The presentation included findings from the GPS tracking survey. | N/A |
| **Time:** 8:30-9:20 | | |
| **Walk-about exercise** $^{13}$  
- Al Tahlia Street  
* (men workshop) | In each workshop, a site visit to one of the mapped walks with highest walking activity in the GPS tracking. The aim of the walk about exercise was for participants to reflect on their walking experiences against the spatial qualities based on open-ended questions using a base drawing for annotation. | What makes this type of walkable to you? Or what does not make it walkable? |
| - AlRayan Walk  
* (women workshop) | | |
| **Time:** 9:30-12:00 | | |
| **Lunch break + Open lecture** $^{14}$  
* Time: 12:00-13:50 | | |
| **Map-based discussions**  
* (Group discussions and poster production), paper I, II, & III | Participants were divided into smaller groups; each group consisted of 4-5 participants. They were asked to engage in discussions using the guiding questions as a basis so they could retrospectively reflect on their practice of walking and spatial preferences.  
**The role of the PhD researcher** $^{15}$ was, as describes by Bryman (2008), to be a *minimally participating observer* and facilitator of discussions. | - Why would you come to this space? Why not?  
- Why would you promenade in this type of walks? Why not?  
- What other activities would you do besides walking?  
- What would you change to make it better? |
| **Time:** 14:00-16:50 | | |
| **Open discussion**  
* (Presentation and group discussion), paper II | Through a set of slides presenting the empirical findings of the spatial behaviour observation of paper II, (mainly, pedestrian count and gendered behaviour), the aim was to encourage participants to reflect. | - Pedestrian count (total/split by gender).  
- Male-dominance street at night.  
- Women’s spatial behaviour varies during the day.  
- Staying indoor vs. visible-presence on the sidewalk |
| **Time:** 17:00-19:00 | | |

$^{12}$ The guiding questions/topics were meant to assist and facilitate the discussion. Thereby, discussions were not limited to these questions or themes.

$^{13}$ The selection of walks was based on the findings from the GPS tracking survey. Sites with highest mapped walking activity per/gender were chosen for the walk-about exercise.

$^{14}$ As the workshops were held at two universities of architecture and planning, the PhD researcher was asked by the deans to include an open public lecture about the applications of human-centred planning on urban design projects.

$^{15}$ Read more about the role and position of the PhD researcher during the workshops in section 5.2.9.
The data from the map-based workshops was in the form of audio-recorded discussions as well as facilitator’s written reflections. The data from the participants’ discussions were *inductively coded* (Thomas, 2006) in order to generate themes that describe how participants reflect on their practice of walking and their experience on the walkscapes (paper I), sidewalk use and experience (paper II), as well as the spatial qualities of the newly built promenades (paper III).

**The sample group of the map-based workshop participants (Paper I, II, &III)**
The study focuses on young adults (19 to 24 years old). Therefore, there was a trade-off in selecting the sample due to the limitations regarding how to obtain access to female participants. Thus, the sample focused on university students and their voluntary participation was secured by presenting the research project to them. The sample consists of 45 participants (22 males / 23 females), who performed spatial patterns that are widely and geographically distributed across Riyadh.

**4.2.5 Semi-structured interviews (Paper III)**
The semi-structured interview is a flexible method in qualitative research. It is a semi-guided approach that combines a pre-determined set of open-ended questions, where the interviewees can express their opinion, with the opportunity for the interviewer to explore particular themes or responses further (Bryman, 2008; Yin, 2014). In the context of this thesis, the aim of conducting semi-structured interviews is to understand the influence of the ‘travelling concepts’ on the spatial planning approach of the municipality’s programme, as well as to understand the extent to which the municipality’s programme was adapted to the socio-cultural context. Therefore, four interviews with four municipal officials and the urban project designer were conducted in Riyadh in December 2016 (see Table 6). The interviewees were selected due to their role in the municipality’s programme; the former Mayor was the initiator and leader of the programme; the former Vice Mayor was responsible for spatial planning strategies; the Heads of Roads and Landscape Architecture Department were the key people in the implementation process, while the Urban Designer was the project architect and the key person regarding the spatial planning and design of the promenades.
Table 5: List of interviewees, adapted from (paper III).

<table>
<thead>
<tr>
<th>Interview Date</th>
<th>Position and Role</th>
<th>Interviewee</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Dec. 2016</td>
<td>Former Mayor, 1997-2012 Riyadh Municipality</td>
<td>Prince Dr. Abdulaziz bin Ayyaf</td>
<td>2.5h</td>
</tr>
<tr>
<td></td>
<td>Role: initiator and leader of the program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 Dec. 2016</td>
<td>Former Vice Mayor, 2004-2012 Riyadh Municipality</td>
<td>Dr. Ibrahim Al-Dijain</td>
<td>3h</td>
</tr>
<tr>
<td></td>
<td>Role: spatial planning strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 Dec. 2016</td>
<td>Head of Road and Street Design Riyadh Municipality</td>
<td>Eng. Fahad Al-Ajalyn</td>
<td>1h</td>
</tr>
<tr>
<td></td>
<td>Role: implementation process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05 Jan. 2017</td>
<td>Head of Landscape Arch. Dept. Riyadh Municipality</td>
<td>Eng. Ibrahim Al-Howaimel</td>
<td>1.5h</td>
</tr>
<tr>
<td></td>
<td>Role: implementation process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29 Dec. 2016</td>
<td>Architect/Urban Designer Farhat Dashkandi Architects</td>
<td>Eng. Farhat Dashkandi</td>
<td>2.5h</td>
</tr>
<tr>
<td></td>
<td>Role: project architect</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on their role and contribution to the municipality’s programme, the interviewees were asked about the vision, goals, planning and implementation process of the programme, and more specifically, the role of gender segregation in the ‘re-humanisation’ of urban space. All interviews were recorded and transcribed and inductively coded in themes according to how the interviewees reflected on the influence of socio-cultural and gender norms on the municipality’s programme.

4.2.6 Spatial and physical assessment (Paper III)

As explained previously, walking and promoting Riyadh as a pedestrian-friendly city was the main goal of the municipality’s programme. Thus, understanding the spatial and physical characteristics of the walking spaces involves three main analytical steps; (1) Mapping the spatial artefacts through the geo-data, which were taken from the landscape department at Riyadh municipality. A set of maps of Riyadh with the locations of the new parks, sports fields, and promenades were produced to investigate their distribution across the city; (2) Classifying and categorising the walking spaces on the basis of their accessibility, contexts and spatial programming such as residential, commercial, institutional, etc; (3) Identifying the spatial qualities of the walking spaces such as typology, length, width, seating, lighting, trees, and geographic context. The spatial and physical assessment was conducted through site visits (during 2015 and 2016).
4.2.7 Documents analysis of relevant studies, newspaper articles, and policy documents (Paper III)

The review process focused on: 1) the relevant studies and newspaper articles on urban walkscapes, walkability, and the municipality’s programme in Riyadh, which had been published between 2003 and 2017; 2) the policy documents published by the municipality during the initiation of the programme. This was done to understand the societal debate and reaction towards the municipality’s programme (via newspaper articles), men’s and women’s use and experience of public urban space (via relevant studies), as well as the spatial planning approach of the municipality’s programme (via policy documents). The findings were used to triangulate the data sources. The material consisted of 35 local newspaper articles about the societal reaction to the municipality programme, 11 research studies that specifically focused on women’s use of public space in Riyadh, and 8 policy documents (see Table 7).

Table 6: The reviewed studies and newspaper articles, adapted from (paper III).

<table>
<thead>
<tr>
<th>Policy documents</th>
<th>Research studies</th>
<th>Newspaper articles</th>
</tr>
</thead>
</table>

4.2.8 Ethical considerations

GPS tracking, spatial behaviour observations, and map-based workshops are the methods used in this thesis to gather and analyse data about men’s and women’s use and experience of the sidewalks. Hence, ethical considerations must be prioritised when conducting research that includes personal data (Bryman, 2008; Kumar, 2010; Oliver, 2010). Therefore, in order to maintain people’s anonymity and not to reveal any personal data during the process of gathering and analysing data, this thesis follows the regulations of the Danish data protection agency. According to Act 429 of 31 May 2000 on the processing personal data, participants’ anonymity must be maintained and personal data may only be processed when each participant has given his/her explicit consent. Through the process of data collection and analysis, participants have...
the right to access information processed about them, to be informed about the data being collected about them, and they have the right that incorrect data be erased or corrected. Therefore, in the GPS tracking and map-based workshops, two factors were considered when communicating with the participants as well as when handling and processing the data:

- **Transparency**: the methodology and research aims were explained to the participants prior to the start of the project. Participants were informed in advance about how their spatial behaviour data would be gathered and how it would be used throughout the tracking period. Each participant had the right to withdraw from the project at any time.

- **Anonymity**: participants were targeted as social group members, which means that there was no personal information relating to their identity. During the tracking period, each one of them had an anonymous/unique id number. Geo-data regarding participants’ homes were removed from the dataset to maintain anonymity. During the map-based workshops, data were analysed and presented collectively on the basis of gender split.

In the data analysis of the spatial behaviour observations of the sidewalk uses, men’s and women’s faces were blurred in the photos to maintain anonymity.

### 4.2.9 My position as a researcher in this study

In contrast to the traditional/positivist research approaches which seek complete objectivity in the production of knowledge, **critical realism** stresses the need to retain both the subjective and objective sides of knowledge (Bhaskar, 2010). Researchers are part of the living social world where they conduct their research. According to Hammersley and Atkinson “... *there is no way in which we can escape the social world in order to study it*” (2007, p. 16). Thereby, the socio-cultural contexts where the research is conducted might influence the researcher’s orientation and undermine the notion of objectivity (Cohen, Manion, & Morrison, 2011). In this sense, researchers, especially in social science, require self-awareness and explicit communication of the researcher’s **positionality** both in the research context and in the broader socio-cultural context (Bourke, 2014; Reid, Greaves, & Kirby, 2017). One of the key positions is whether the researcher is an **insider** or an **outsider** in relation to the researched subject, community, or culture (Bourke, 2014). However, there may not be a clear separation between these two positions; for instance when studying a social phenomenon (e.g., gender segregation) a researcher, who belongs to the same socio-cultural setting as the study area, cannot be simultaneously a male and a female. Hence, researchers cannot be either an **insider** or an **outsider** during the research process (Herod, 1999; Merriam et al., 2001). Instead, the researcher’s **positionality** should not be
thought of as single/fixed, but rather on a continuum and integrated during the research process (Mercer, 2007).

**Insider-outsider; integrated researcher positionality**

In the case of this thesis, I can position myself as both an insider and outsider. On the one hand, as a Saudi citizen who was born and grew up in Saudi Arabia, I have lived in and inherited the Saudi socio-cultural norms and values during my everyday life experience. This makes me an insider researcher who has a background in the complexity of cultural settings and relations as well as the hidden patterns and structures of social power. This actually gave me an advantage such as understanding the language, being aware of local values, traditions, and formal and informal power structures, and access to institutions including their rich datasets. On the other hand, the gender setting of city life in Riyadh makes me an outsider, especially when it comes to personal encounters with women such as during surveys, interviews, or workshops (a man entering the women’s world). Therefore, during the map-based workshops, I took the role of a *minimally participating observer* as described by Bryman (2008), and a moderate facilitator of discussions in order to avoid any cultural sensitivity among the female participants. This was not applied to all female participants as some of them came from more liberal families, which meant that they were comfortable answering personal questions and engaging in discussion with me. However, my background in the socio-cultural sensitivities and code-of-conduct allowed me to play a dynamic role during the discussions. During the walk-about exercise\(^{16}\) with the young women, while we were on-site, the session was interrupted by the religious police\(^{17}\); we were asked to leave as it was, according to them, an ‘illegal practice’\(^ {18}\). However, as an insider, I was able to minimise the interruptions of the religious police to a certain degree. Hence, we maintained the main goal and purpose of the site visit as we managed to stay for 45 minutes (the plan was one hour).

\(^{16}\) Refer to section 5.2.4 for the detailed map-based workshop activities.

\(^{17}\) Although the power of the religious police in Saudi Arabia was reduced by a royal decree in April 2016, they are still able to enforce gender segregation and other religious laws by reporting cases to the local police department (Zorthian, 2016).

\(^{18}\) The walk-about exercise did not violate the rules and regulations of Saudi Arabia. What was practiced by the religious police was not backed up by written rules. Religious police in Riyadh have been criticised for being very conservative and for forcing their own interpretation of *sharia law* on public life in urban spaces.
5 Introduction to the Scientific Papers

In this chapter, the three papers are introduced. The scope, aim, relevance to the research questions and the main findings of each paper are summarised below.

5.1 Mapping the Gendered City: investigating the socio-cultural influence on the practice of walking and the meaning of walkscapes among young Saudi adults in Riyadh (Paper I)

In response to the 1st research question, paper I investigates how walking as an urban activity takes place in Riyadh, where almost all public spaces are planned and involve gender segregation. In the urban design literature, the walkable city, the walkability of urban spaces, as well as the walking experience have been widely correlated with the quality of the spatial setting of urban space. Hence, the aim of this paper is to improve the understanding of the correlations between the practice of walking, the socio-cultural context, and the quality of the spatial setting by unfolding the influence of gender norms and religious traditions on young men’s and women’s walking experience, tempo-rhythm, sense of place, and range of walkscapes in Riyadh.

In the paper, the concept of walkscapes is used to embrace the physical setting of the actual practice and experience of walking. The methodology used in this paper is a combination of movement tracking data using GPS technology and map-based workshops, where participants could reflect on their walking behaviour and spatial preferences. The main findings of this paper reveal that men’s and women’s access to the urban walkscapes is bounded by gender norms and traditions. Thus, young men and women practise walking in different walkscapes because they have different socio-spatial needs. The mapping of walking practices revealed a city with a collection of gender-specific walkscapes; indoor environments, such as shopping malls, function as ‘urban shelters’ for women, so they use such spaces for walking. On the other hand, young men mainly walk in urban streets.

5.2 The Sidewalk as a Contested Space: women’s negotiation of socio-spatial processes of exclusion in public urban space in Saudi Arabia; the case of Al Tahlia Street (Paper II)

In line with the 2nd research question, paper II aims to increase understanding of the relationship between socio-cultural norms and spatial programming regarding spatiotemporal inclusion or exclusion in public urban spaces. Of all the gender segregated public spaces in Riyadh,
sidewalks provide an optimal case study of a space where women and men may be co-present. Thus, the case study of this paper is the sidewalks of Al Tahlia Street. The street was developed by the municipality to be a model of a commercial urban street in the city. The refurbishment of the street in 2003 was highly influenced by universal characteristics of human-centred public urban space. By balancing traffic and pedestrian movements as well as encouraging restaurants and coffee shops to open along the street and use the wide sidewalk for outdoor seating, the street has become a major attraction for a wide range of visitors who come to the street to walk, eat, meet friends, and go shopping (Bin Ayyaf, 2015).

Accordingly, on a sidewalk segment of a total length of 460 metres with an average sidewalk width of 20 metres, the study of men’s and women’s use and experience of the sidewalk in relation to the spatial qualities was explored through: 1) spatial behaviour observation: including counting pedestrians, mapping lingering activities, tracking men’s and women’s movement on the sidewalk, photographing gendered encounters, and taking field notes; 2) map-based workshops to explore men’s and women’s perception of the sidewalk as a mixed-gender space.

The main results unfold the complex interrelationship between gender norms, religious values, gendered regulations, and generic spatial programming in the socio-spatial processes of exclusion. For instance, regulations limit the use of outdoor seating to men only. Therefore, sidewalks adjacent to, e.g. cafes function as mono-gender spaces dominated by men. However, this paper shows how young women negotiate spatially-bounded gender norms through their presence, behaviour, and dress. For instance, although sidewalks are conceived as men’s space, women account for nearly half of the users, but their use often goes unnoticed as women self-regulate their spatiotemporal and visible presence. Ultimately, this paper presents six types of women’s spatiotemporal behaviours with varying degrees of visible and invisible users.

5.3 Human-centred Public Urban Space: exploring how the travelling concept ‘re-humanising’ cities has been adapted and is experienced in the socio-cultural context of Riyadh

De-contextualised ‘travelling concepts’ in spatial planning (e.g. the ‘re-humanisation’ of cities and urban gentrification) have been adopted by many cities worldwide. Human-centred public urban space is described in urban design literature as being liveable, walkable, safe, enjoyable and inclusive to allow vibrant social interaction. However, spatial planning cannot be understood independently from its socio-cultural context. Using the “culturized planning model”, paper III
addresses the 3rd research question by analysing the extent to which the adaptation of ‘re-humanising’ city spaces as a travelling concept under Riyadh municipality’s programme, *Humanizing the City*, has created inclusive urban environments.

The results of this paper show that the “societal environment” (e.g. gender norms and religious traditions) in Riyadh play a significant role in reshaping spatial initiatives as well as constraining women’s use, experience, and access to public urban space. For instance, despite the influence of universal design guidelines for achieving urban quality on the spatial planning of the municipality’s programme, gender segregation was reproduced in the new parks and sports fields.

In addition, women’s use and access to the new promenades have also been contested by the spatially-bounded gender norms. Ultimately, this paper argues that spatial quality definitions and urban design standards, such as human scale, seating and walking opportunities, tree canopy and micro-climate, stimuli at the ground level, diversity, accessibility, proximity, legibility, and safety, may be ‘universal’, but they are insufficient for creating inclusive public urban spaces where men and women can be co-present in Riyadh. Women’s opportunities for inclusion in urban space is influenced by the presence of other women, the spatial programming (e.g. shops), as well as the level of control and management.
6 Summary of Results

This study aims to increase understanding of the complex relationship between the spatial, social, and cultural aspects of the human-centred planning of public urban space. This is achieved by unfolding the influence of socio-cultural norms on the use, experience, and provision of human-centred public urban space in Riyadh. This chapter summarises the results of the three papers according to the triangulation of the three thesis objectives; 1) unfold the influence of gender norms and religious traditions on men’s and women’s walking experience and the range of walkscapes; 2) explore men’s and women’s use and experience of the sidewalk and unfold the socio-spatial processes of exclusion; 3) reveal the challenges of adapting the travelling concept of ‘re-humanising’ urban spaces to create inclusive sidewalks in Riyadh.

6.1 The influence of gender norms and religious traditions on walking experience and the range of walkscapes (Paper I)

Gender norms and religious traditions prescribe gender segregation and regulate men’s and women’s use and access to public urban space. They severely hamper women’s opportunities for walking and the connected health and social benefits. The sub-sections below address the 1st research question and summarise the results from paper I about the range of walkscapes, patterns of walking, and the gendered experience of urban walkscapes.

6.1.1 Range of walkscapes and patterns of walking

Over six weeks of GPS tracking, walking is hardly practised in daily life - on average, 12 minutes per day is spent walking. Men’s general mobility in the city is less restricted than women’s, but the amount of time they spend walking on average per day is about the same. The locations where walking was conducted by both genders during weekdays and weekends show a diversity of space typologies: (1) Educational Spaces; (2) Gated Communities; (3) Urban Streets; (4) Neighbourhood Mosques; (5) Shopping Malls; (6) Parks; (7) Indoor Sports Facilities.

By analysing the tracking data on the basis of gender, the results paint a picture of a city with a collection of gender-specific walkscapes, female space and male space (see Figure 17). For instance, women walk in privatised environments, e.g. shopping malls, while men mostly walk in public urban spaces. The results also identify two types of patterns of walking in urban streets: (1) Promenading/strolling: a continuous walking activity within the space, and; (2) Purposeful
movement (from A to B): either from a car to a destination or from one place to another. While 40% of men who visit urban streets tend to promenade, only 4% of women promenaded on this typology of space. The remainder of the women who were tracked were registered as A to B movement, e.g. directly from cars to shops, while more leisurely walking was conducted in indoor spaces.

Figure 17: Both figures show the results of the GPS tracking. The figure above shows a heat map and a table showing the areas in the city where walking was mapped among young women during weekends. The figure below shows a heat map and a table showing the areas of the city where walking was mapped among young men during weekends. Source: (Almahmood, Scharnhorst, et al., 2017).
6.1.2 Gendered urban walkscapes

‘I think sometimes people make you not want to walk in street (...). They give you a look as if you are cheap and crossing the social boundaries (...). It is very hard to walk especially at night (...). That’s why my parents do not let me go to any crowded promenade’

(Women’s map-based workshop, Paper I)

Paper I shows that men’s and women’s experience of urban walkscapes is not only formed by the spatial qualities, but it is also socio-culturally constructed. For instance, streets and sidewalks are socially perceived as men’s space, while private and indoor environments are women’s space. Such a situation reduces the opportunities for men and women to be co-present, which leads to the masculinisation of public urban spaces. Consequently, women’s walking on streets and sidewalks has been socially and temporally contested. For instance, when on streets or sidewalks, women not only experience visual or verbal harassment, they may also be seen as ‘disreputable’ and blamed for any victimisation that occurs on the street. Therefore, avoiding being visible in public urban spaces has been the main spatial behavioural tactic among young Saudi women, especially at night. Despite the universal characteristics of walkscapes, paper I shows that women’s spatial behaviour in public urban space is self-regulated and bounded by gender norms and traditions. Consequently, women use privatised ‘public’ spaces such as shopping malls as spaces to walk, hangout, and socialise. In this regards, the findings of paper I show that in Saudi culture, shopping malls are considered to be socially ‘appropriate’ spaces for women; this social acceptance of shopping malls highlights how ‘shopping’ is more than just an urban activity; in fact, it provides a justified reason for Saudi women to be outside their homes. Therefore, shopping malls in Riyadh are considered meaningful walkscapes by young women because they offer such a justification, and they, therefore, become ‘urban shelters’ for shopping, walking, and social activities.

Even if legislation does not explicitly restrict women from using and accessing urban streets, the verbal harassment as well as the social stigmatisation of women for being in the ‘wrong place’ at the ‘wrong time’ constitute a temporal and spatial limitation that regulates women’s use and access to urban streets. Ultimately, paper I shows that walking experience, tempo-rhythm, sense of place, and range of walkscapes are not only determined by the universal characteristics of spatial qualities. In Riyadh, the socio-cultural setting has a significant influence on the spatiotemporal practice of walking; gender norms and religious traditions are continuously encountered when walking. For instance, women’s need for ‘urban shelter’ to socially justify their presence in the space has an impact on their access, safety and feeling of comfort.
6.2 Sidewalk use and experience (Papers II & I)

This section shows that the socio-spatial processes of women’s exclusion on the sidewalk are derived from the gendered perception of the public urban space, the gendered legislation of spatial programming, and young men’s appropriation of the sidewalk. Therefore, the sidewalks in Riyadh have become contested spaces for women. The following sub-sections address the 2nd research question and summarise the results mainly from paper II supported by the findings from paper I. The results are presented according to; 1) the use of the sidewalk during the day; 2) the sidewalk experience and women’s spatiotemporal presence.

6.2.1 Sidewalk use: the dynamic of life during the day

During 16 weekend days of spatial behaviour observations, which included pedestrian counts, tracking movement patterns, mapping lingering activities, photographing, and note taking, the results from paper II show no significant change in the patterns and uses of the sidewalk during the different seasons. On a typical weekend day, the flow of pedestrian movement peaks at night between 9:00pm and 1:00am when the flow of pedestrians reaches up to 55 passers-by per minute. Besides the micro-climate, which is moderate during the night, a possible explanation for this night-time peak is the prayer times of Islam\textsuperscript{19}. However, when splitting the total pedestrian flow by gender, it shows that 89% of the pedestrians are men, especially between 9:00pm and 1:00am (see Figure 18). It is very important here to highlight that the pedestrian count method only catches the movements along the sidewalk. Therefore, people who avoid walking on the sidewalk and instead walk from car to shop were not counted as they did not pass the counting locations\textsuperscript{20}. Therefore, to obtain a clearer picture of who uses the sidewalk, paper II applied another observational method - tracking the movements of men and women, which allowed the researcher to capture pedestrians who did not pass the counting locations. With a total of 354 pedestrians tracked per day throughout the sidewalk segment, the breakdown by gender shows 45% women and 55% men. The reason why this result is different to that obtained by the pedestrian count is that 82% of women’s patterns of movement was registered as purposeful movement (movement from A to B), e.g., from cars to shops - whereas only 18% of

\textsuperscript{19} Due to legislation, all commercial activities and shops have to close five times a day for about 45 minutes during each of the prayer times; the last prayer finishes around 8pm.

\textsuperscript{20} Please refer to section 4.2.3 in the Methodology chapter for more information about the methods and tools used for the pedestrian count.
women’s tracks were registered as strolling along the sidewalk (see Figure 19). Therefore, the majority of women did not pass the counting locations, but instead took the shortest and fastest route to their destinations. On the other hand, 64% of men’s patterns of movement were registered as strolling. Regarding men’s and women’s lingering activities, the results show that sitting and standing are the main activities practiced by both men and women. The outdoor seating of coffee shops and restaurants accommodates most of the men’s lingering activities; the regulations only allow men to use this type of outdoor seating. The observations show that there is a correlation between the locations of men’s lingering activities, especially standing and sitting, and the presence of women. Lingering activities at outdoor seating areas provide men with more opportunities to watch women as they move from shops to cars (see Figure 21).

One of the key findings of paper II is that although sidewalks and streets are socially perceived as men’s space, women account for nearly half of the sidewalk users. However, they remain invisible—present as they spend time inside cars, shops, or restaurants, and move quickly between these spaces. This is also supported by the findings from paper I, where 48% of female participants in the GPS tracking visited Al Tahlia Street, although their walking patterns were limited to walking from the car to the shop (see Figure 20).

Figure 18: Two graphs showing the gender split of pedestrian flow in the two counting stations on the sidewalk segment, adapted from (paper II).
Summary of Results

Figure 19: 82% of women tend to have a purposeful pattern of movement (from car to shop); taking the fastest and shortest routes, adapted from (paper II).

Figure 20: A map of Al Tahlia Street, an commercial urban street, showing the areas of male participants’ promenading activities (red colour) and the clustering of the women’s walking, which is concentrated in indoor environments (black colour) Source: (Almahmood, Scharnhorst, et al., 2017).
Figure 21: Against the background of widespread gender segregation in the city, outdoor seating areas on the sidewalk provide men with more opportunities to watch women as they move from shops to cars.

6.2.2 Sidewalk experience: women's spatiotemporal presence

‘I only go to Al Tahlia Street in the morning until 6.00pm, sorry, but at night it is impossible for a woman to walk alone; it is not safe. (……) After 9pm, it becomes really hard to cross the sidewalk; it is full of men. Some men will say something to you to make his friends laugh. Shopping malls, for example, are also crowded with people, but there is a balanced number of women in the space and it is a controlled and monitored space. (……) The image of Al Tahlia is that it is not a street for women. People will respect you more if you are not on the street after 10pm.’

(Women’s map-based workshop, Paper II)

The findings of paper II show that women’s spatial behaviour on the sidewalks changes dramatically between daytime and night-time. Through the observations of women’s use of the sidewalk during the course of the day, paper II describes six types of spatiotemporal presence and behaviour (see Figure 23). Type A is strolling. Women tend to stroll slowly and in some cases interact with men as they walk; this occurs in the early afternoon when the pedestrian movement is not at its peak. Type B is lingering. This does not include strolling, women comfortably linger with friends and remain visible for longer on the sidewalk; this also occurs in the early afternoon. Type C is evasive, whereby women try to avoid walking down the centre of
the sidewalk; instead they walk up against buildings or closer to the street kerb; this occurs after 6pm as the flow of male pedestrian increases. Type D is *purposeful movement*, which is a pattern of movement from (A) to (B); usually a short distance at fast speed. This type occurs throughout the day/night. Type E is *evasive clustering*, which is when women gather in groups to designate their spatial territory. This behaviour usually occurs when a group of women leave a shop and gather to wait for their driver to pick them up. Type F is *escorted movement*. Women here try to avoid crossing the sidewalk when they leave coffee shops or restaurants; instead, they stand next to the entrance and wait for one of their male family members to come over so that they can cross the sidewalk together.

The data from the map-based workshops in paper I & II showed that young women have a great interest in using Al Tahlia Street. However, the social stigma that is attached to being on the streets at night, the verbal and visual harassment they encounter from men, along with gender legislation that limits their lingering activities, illustrates the complexity of women’s spatiotemporal exclusion from the sidewalks in Riyadh. Nevertheless, although gender norms and religious traditions limit women’s use and access to the sidewalk, young women negotiate these spatially-bounded gender norms at certain times of the day through their visible-presence, behaviour, and dress. For instance, during the early afternoon, as women stroll, they interact with the men they encounter and engage in brief talks, exchange numbers, or flirt. Even though women’s spatiotemporal presence on the sidewalk is brief compared to men’s, this small window of opportunity where the meeting of the genders occurs influences how women dress and the way men and women like to be presented on the sidewalk. As observed in paper II, some young women negotiate the dress-code prescribed by gender norms and religious traditions by uncovering their faces and adding colour to their Abayas, which makes them look more ‘stylish’ (see Figure 22)
Figure 22: As the sidewalk puts men and women on display, it also influences how they present themselves. In contrast to the traditional Nikab in photo A, (Al Jazeera, 2013); women in Al Tahlia Street challenge these norms by uncovering their faces and adding colour to their Abaya, adapted from (paper II).

However, the map-based workshop with male participants showed a critical perspective towards women’s spatial behaviour. While a group of young men pointed to a lack of law against harassment in urban spaces as the reason for the ‘misbehaviour’ of some men, another group of young men during the workshops argued that the socio-cultural norms should be obeyed - especially when it comes to the issue of the presence of women in public spaces - highlighting what is considered to be socially ‘appropriate’ spaces for women, mainly the indoor ‘public’ spaces.

Ultimately, both papers I & II highlight the complex relationship between spatial programming and socio-cultural settings in shaping socio-spatial inclusion or exclusion in public urban spaces. Paper II shows that the generic application of universal spatial qualities, especially space programming of ground floors, might instead contribute to the exclusion of women. As shown in paper II, sidewalks adjacent to coffee shops and restaurants in Riyadh function as mono-gendered spaces, which are dominated by men in the late afternoons and nights. Therefore, spatial programming should be supplemented by knowledge of the socio-cultural context in order to contribute to the formation of the human-centred public urban space.
Summary of Results

Figure 23: Six types showing women’s negotiation of spatiotemporal presence on the sidewalk, adapted from (paper II).
6.3 The challenges of adapting the travelling concept of ‘re-humanising’ urban spaces to create inclusive sidewalks in Riyadh (Paper III)

In the triangulation of the three sub-studies, paper III explores the extent to which the adaptation of the ‘re-humanising’ cities as a travelling concept under Riyadh municipality’s programme, Humanising the City, has created inclusive public urban space where men and women can be co-present. This paper draws on the three layers of the “culturized planning model” as an analytical framework to: 1) understand the degree to which the spatial planning of the municipality’s programme was influenced by the ‘travelling concepts’; 2) explore the extent to which the municipality’s programme was adapted to the socio-cultural context (e.g. gender norms); 3) understand how men and women use and experience the new public urban spaces. The subsections below address the 3rd research question and summarise the results mainly from paper III supported by the findings from papers I & II.

6.3.1 ‘Universal’ spatial qualities as a ‘re-humanisation’ strategy

‘Our design approach was simply to reclaim the human scale on the street. We applied the global guidelines of human scale and ensured right-of-way for both pedestrians and motorists……We produced design guidelines for the width of sidewalks, for lamp posts, street signage, shop signage, car parking, pedestrian crossings, tree canopy cover, and seating furniture. These guidelines were tested on the first promenade and subsequently applied as design standards to the new promenades.’

(Urban Designer, Paper III)

The ‘re-humanising’ approach to urban spaces by Riyadh municipality was based on spatial interventions, the aim of which was to promote walking and provide people with suitable spaces where they could engage in urban activities. Hence, the municipality’s programme focused on satisfying pedestrians’ basic needs, which led to the implementation of three major planned types of spaces for walking: 1) Promenades and Walkways (N = 61, combined length = 50,500m, and a total area of 1,035,000m^2); 2) Parks and Neighbourhood Gardens (N = 314, total area of 5,450,000m^2), and; 3) Neighbourhood Sports Fields (N = 56, total area of 590,000m^2). A typical promenade consists of three main zones: 1) Promenading zone: a clear, wide space for walking; 2) Building edge zone: defined as the space between the promenading area and the building edge. Used for lingering activities; for instance, in commercial contexts, this zone is used by cafes for outdoor seating; 3) Buffer zone: the space between the traffic and promenading zone, which includes raised on-street car parking that is paved with similar materials to the sidewalk. It also includes an area for patches of grass and street furniture such as benches, lamp posts, and sidewalk signage. However, paper III argues that people’s access to these walking spaces is still limited, e.g. the mapping of the promenades shows that they are fragmented and, thus, these
walking spaces represent destinations for walking rather than a pedestrian network. Hence, people still need to depend on cars to reach the promenades.

Ultimately, the interviews with municipality planners show that ‘universal ‘characteristics of public urban space such as, human scale, seating and walking opportunities, tree canopy and micro-climate, stimuli at the ground level, diversity, accessibility, proximity, legibility, and safety, are considered by the municipality as toolkits for the design of walking spaces. Hence, as these universal guidelines for achieving urban qualities had a significant influence on the planning environment, the ‘re-humanisation’ of public urban space in Riyadh has been understood by the municipality planners as the provision of adequate spatial settings.

6.3.2 Societal environment: spatial inclusion as a key challenge to ‘re-humanise’ public urban space

As described in section 2.2, gender norms and religious traditions have an influence on urban life in Riyadh at the level of legislation (e.g., gender segregation) as well as on men’s and women’s use and experience of public urban space (e.g., the gendered use of space). Hence, paper III analyses the influence of the societal environment at multiple layers: 1) the embeddedness of gender norms in the municipality’s programme; 2) gender norms and the societal reaction to the municipality’s programme; 3) the adaptation of ‘travelling concepts’ in spatial planning vs women’s need for spatial inclusion.

The embeddedness of gender norms in the municipality’s programme

Gender norms and religious traditions influenced the process of reshaping the municipality’s programme. At the start of the programme, a major player in the process was the municipal council21. Despite its limited decision-making power, it was led by a board of conservative Islamists who were in contact with the religious body of the country. Hence, to avoid any potential encounters with the religious body, Riyadh municipality maintained and reproduced gender segregation in the new parks and sports fields. Thus, at the management and operating level, gendered regulations have been assigned to the use of and access to parks and sports fields.

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21 The municipal council is a half-elected advisory board with limited decision-making powers on local and municipal issues. In 2005, Saudi Arabia started its first elections for the municipal councils for which Islamists won the majority (Kapiszewski, 2006).
For instance, sections for families where single men are not allowed have been designated in parks and gardens, while neighbourhood sports fields are for men only. In addition, gender norms and religious traditions have also had an influence on progressive initiatives. The interview with the former Mayor revealed that the municipality planned sports fields for women as well as the one for men. However, the plan was dropped from the planning agenda of the municipality’s programme to avoid any potential conflicts with the religious body at that time.

**Gender norms and the societal reaction to the municipality’s programme**

Paper III shows that introducing the new walking spaces to urban life in Riyadh was not only a spatial challenge as it also created a societal debate. On the one hand, there was a movement that supported the implementation of the promenades to promote a healthy lifestyle (see, Alriyadh 2010; Alweeam 2014; aawsat 2003; aleqtisadyah 2010). On the other hand, some articles and reports have levelled conservative criticism at the way in which the promenades provide young men and women the opportunity to be in a mixed-gender environment, which violates social and religious norms (3alyoum, 2015; Al Hayat, 2014a; Al-Naim, 2015; Alriyadh, 2010; Alyaum, 2005a, 2005b). The interviews with municipality planners also show that the municipality’s programme was significantly controversial in the beginning; Riyadh municipality became aware of the public’s reaction through the elected municipal council, newspaper articles, and direct letters.

After a decade of initiating and branding the walking spaces as places for healthy lifestyles, there has been growing interest in walking among citizens. Walking as an urban activity on these promenades has become part of the daily practices of city inhabitants. Hence, in line with the increasing number of pedestrians, paper III shows that the ‘muhtasibeen’ as well as the religious police have also increased their interference in young men’s and women’s spatial behaviour, dress-code, and their temporal co-presence on these promenades. As shown in papers I & II, this interference has influenced young adults’ use of public urban space and experience of walking in Riyadh. Ultimately, women’s access to the newly built walking spaces has only been correlated with inadequately programmed spatial settings, but it is also influenced by gender

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22 *Muhtasibeen* are conservative religious men who work voluntarily to ensure that public business and behaviour are conducted in accordance with *sharia law.*
norms, religious traditions, and gendered regulations, all of which act as external regulators of public behaviour, which contributes to the spatial exclusion of women.

**The adaptation of ‘re-humanising’ urban space as a travelling concept and the degree of spatial inclusion**

In fact, paper III shows how the spatial planning of the walking spaces has included, to certain degree, Saudi women’s needs. For instance, Riyadh municipality planners allocated the newly built promenades in contexts where other women could be present (e.g., promenades adjacent to parks). The effort to adapt also includes improving lighting, as well as increasing the width of the sidewalk, both of which were understood by the municipality planners as the main points to address in order to meet women’s spatial needs. However, the findings of papers I & II show that, Saudi young women are more likely to walk in privatised environments, such as gated communities and shopping malls. The map-based workshops show that conventional public space (e.g. streets and sidewalks) are perceived as spaces for men, whereas shopping malls and indoor environments are considered to be appropriate places for women.

Papers II & III show that young men’s appropriation of the sidewalk has a significant impact of women’s feeling of safety. Women not only experience unpleasant visual and verbal harassment, they are also stigmatised for being in the wrong place at the wrong time, especially at night. Hence, the absence of laws against harassment23, social stigmatisation, together with socio-cultural and religious restrictions have constituted limitations on women’s capacity to walk in public urban spaces and illustrate the complexity of women’s exclusion in public urban spaces in Riyadh. Young men and women have different social and spatial barriers and needs that go beyond the physical settings of public urban space. For instance, a major finding of the three papers is that the presence of other women, the spatial programming (e.g. shops), as well as the level of control and management of public urban space contribute to women’s ease of access, feeling of safety, and function as external moderators of public behaviour.

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23 On September 29th, 2017, Saudi Arabia announced a new anti-harassment law to be implemented and enforced 60 days after the announcement (arabnews, 2017).
7 Discussion of Results: Spatial, Social and Cultural Dimensions of Human-centred Public urban space

“One key obstacle in the good design of public spaces is the assumption of a neutral universal user of space……this ‘neutral’ user is usually male……However, different bodies have different needs and experience space differently, depending on their gender, class, age, sexuality, and physical ability”
(Phadke et al., 2011, pp. 100–101)

This chapter contains two sub-sections. Firstly it discusses and contextualises the findings from the three papers in relation to other cases from the Global South, focusing on the influence of gender norms on people’s use and experience of public urban space. Secondly, it discusses the potential and need to understand the ‘re-humanisation’ of public urban space in a holistic manner that encompasses the spatial, social, and cultural dimensions.

7.1 The gendered use and experience of public urban space

In line with previous studies from the Global South (Morin & Guelke, 2007; Rieker & Ali, 2008; Whitzman et al., 2013), this thesis shows the significant influence of socio-cultural norms on men’s and women’s use and experience of public urban space. In culturally conservative societies, gender norms and religious traditions constitute spatial and temporal limitations on women’s use and access to public urban space (Gole, 2008; Khalili, 2016). As described earlier, gender norms in Riyadh prescribe behaviour and dress codes for women when in public space, which is also the case in other cities in the Global South, where women are socially expected to obey gender norms when in public urban space (see, Morin & Guelke, 2007; Phadke et al., 2011; Rieker & Ali, 2008). Hence, socio-cultural norms, especially in culturally conservative societies, have ultimately led to a gendered conception of public space. For instance, as presented in the results chapter, sidewalks and public urban space are perceived as men’s place, while privatized environments are women’s place. Thereby, the masculinisation of public urban space has become prominent in these cultural contexts (Jin & Whitson, 2014; Le Renard, 2013b). Consequently, in cities of the Global South, the range of conventional public spaces such as streets is limited for women. Instead they use shopping malls and indoor environments to hang out and socialise (Khalili, 2016; Sur, 2014).

As Madanipour (2010a) argues that accessibility is an essential quality of public space, this thesis, as well as the findings from other Global South cities, shows that women’s access to
Discussion of Results: Spatial, Social and Cultural Dimensions of Human-centred Public urban space

public urban space is not necessarily a spatial matter, it is also constrained by the socio-cultural settings. Hence, the ‘universal’ characteristics of spatial qualities might fail to address women’s socio-spatial needs, which are bounded to specific cultural contexts. Therefore, the definition of spatial qualities, e.g., accessibility, safety, comfort, and inclusiveness might need to be adapted to the socio-cultural setting.

7.2 Women’s negotiation of spatially-bounded gender norms

Whitzman et al. (2013) argue that women’s motivation to negotiate their presence in urban spaces plays a key role in the inclusiveness process of the space. In line with this, this thesis shows that against the background of widespread gender segregation, young men and women have been exploiting situations in the city where gender restrictions can be transgressed to interact and mingle with each other (e.g., they engage in talking, exchanging phone numbers, or flirting). These young men’s and women’s transgressive behaviour has also been observed by Al-Rasheed (2013) as well as Menoret and Samin (2013), but in shopping malls or when in cars as previously discussed in section 2.2.1. In addition, young Saudi women challenge gender norms in public spaces, such as (female) universities and shopping malls, through the way they present themselves, e.g. clothing (Le Renard, 2013b, 2014).

In the context of this thesis, the map-based workshop with young women highlights their complaints regarding the exclusion of women and their limited use and access to the sidewalk. Hence, they negotiate and challenge these spatially-bounded gender norms as they self-regulate their spatiotemporal presence through their visible presence, spatial behaviour, and dress. Thus, at certain times of the day, the sidewalk accommodates transgressive behaviour that challenges gender norms and religious regulations. For instance, during the early afternoon, as women stroll, they interact with the men they encounter and engage in brief talks, exchange numbers, or flirt. Therefore, while the findings of (Al-Rasheed, 2013; Le Renard, 2013b, 2013a, 2014; Menoret & Samin, 2013) show transgressive behaviour in shopping malls, this thesis highlights the role of the sidewalk as a powerful platform where such behaviour can be publicly seen and observed. Although this thesis shows that women’s spatiotemporal presence on the sidewalk is brief compared to men’s, this small window of opportunity where the meeting of the genders occurs influences how women dress. For instance, some young women negotiate gender norms
and spatial bounds by uncovering their faces and adding colour to their Abayas\textsuperscript{24}, which is a significant challenge to the gender norms in Riyadh that require women to wear a Nikab – an extension to the Abaya that covers all of the face apart from the eyes.

7.3 Women’s co-, purposeful-, and invisible-presence as spatial behavioural tactics

In the Global South, as women’s presence in public urban space is contested, they need to justify their presence while in the space in order to be socially accepted (Phadke, 2012; Whitzman, 2013). This thesis shows that avoidance and/or purposeful presence in public urban spaces are key self-regulating spatial behaviour tactics among women in Riyadh. For instance, women on sidewalks in Riyadh justify their presence through purposeful spatial behaviour such as shopping or walking fast towards a destination to avoid any unpleasant encounters with men. Also, as shown in this thesis and other studies on gender norms and the use of public space, women tend to avoid being visible in public urban space, especially at night in order to maintain their modesty and reputation (see, Phadke et al., 2011, 2013; Sur, 2014).

According to Phadke et al. (2011) and Klodawsky et al. (2013) the presence of women in urban spaces, especially in culturally conservative societies, is a key to the inclusiveness of public urban spaces. In line with this, this thesis has analytically unfolded women’s spatiotemporal presence through the day and night on the sidewalks of Al Tahlia St. in Riyadh. It shows that women’s presence varies from; 1) Co-presence, where women use the sidewalk comfortably while men are also present and participate in urban activities such as strolling and lingering; 2) Purposeful-presence, where women tend to engage in purposeful spatial behaviour such as shopping or walking towards destinations; 3) Invisible-presence, where women avoid being present on the sidewalk and remain inside cars or restaurant and move between shops very fast; here the sidewalk appears as a mono-gender space. Ultimately, this thesis concludes that women’s spatiotemporal presence and behaviour in public urban space is also key to their feeling

\textsuperscript{24} Abaya is typically black and covers a woman from head to toe. It is required by law to be worn by all women when in public.
safe, comfortable, as well as to their sense of inclusion in the space (see also, Ali, 2012; Whitzman et al., 2013)

### 7.4 Women’s safety and comfort in public urban space

In contrast to mainstream research and practice in urban design, which relates safety and comfort in urban space to the quality of the spatial setting and protection from traffic, accidents, and crime (Bosselmann, 2008; Gehl & Gemzøe, 2008; NACTO & GDCI, 2016), the masculinisation of space, as presented in this thesis, is a key factor in the feeling of insecurity among women. In this regard, this study argues that women’s safety is not necessarily only associated with experienced violence, ‘soft’ forms of verbal or visual harassment may also have a significant influence on their experience in public urban space (see also, Valentine, 2001; Viswanath, 2013; Whitzman et al., 2013). In line with other studies from the Global South, this thesis shows that women, when present in public urban space at night, encounter social stigma for being in the ‘wrong place’ at the ‘wrong time’. They are then blamed for any harassment that occurs in the space. Therefore, this thesis, which is supported by other cases from the Global South (see, Phadke, 2012; Sur, 2014), argues that a lack of adequate public infrastructure that fulfils women’s particular socio-spatial needs leads to the invisibility of women in public urban space. Hence, especially at night, indoor environments and privatized urban spaces are considered among women to be much safer, so they use them for social encounters with friends; a conclusion which is supported by (Khalili, 2016; Sur, 2014).

Ultimately, women’s safety in public urban space in the Global South is more complex and therefore needs to be addressed through more than just spatial settings. This thesis shows that women’s safety in public urban space in Riyadh is also socio-culturally constructed and, therefore, needs to be understood in connection with the degree of management control, the role of spatial programming and retail planning, and the presence of other women in the space. This is also supported by other studies on women’s safety in public space (Fenster, 2005; Koskela, 1997; Whitzman, 2013).
7.5 The multidimensional layers of exclusion in public urban space

“Attention to the spatial qualities of the city can help in fighting some of the key urban problems. But social exclusion is a multidimensional process and these problems are caused by a host of factors … … [therefore] it needs multidimensional responses, which include the provision of public spaces.”
(Madanipour, 2010a, pp. 127–129)

As presented in chapter 3, the ‘human-centred’ public urban space is described in the urban design literature as accessible, walkable, safe, delightful, comfortable, liveable, inclusive, and sociable. Of these qualities, inclusiveness is considered a core characteristic of the ‘human-centred’ public urban space (Carmona et al., 2010; Reijndorp & Hajer, 2001). Mainstream urban design research and practice, as shown in section 3.1, addresses inclusion through spatial interventions. However, the findings of this thesis show that women’s exclusion in public urban space is not only a spatial matter; it is also socio-culturally produced through gender norms and religious traditions. For instance, despite the influence of universal design guidelines for human-centred public urban space, spatial inclusiveness is the key challenge for Riyadh municipality’s programme, Humanizing the City. In this sense, Madanipour (1998, 2010b) argues that socio-spatial exclusion cannot be addressed through spatial interventions alone as it is derived from multidimensional layers.

In his ‘culturized planning model’, Othengrafen (2010) argues that the societal environment plays a key role in adapting and reshaping travelling concepts (e.g., ‘re-humanising’ urban space) to the cultural context. This thesis reveals the significant influence of the societal environment on the exclusion of women in the newly built walking spaces in Riyadh. For instance, although Riyadh municipality’s programme, Humanising the City, was highly influenced by the best practices and universal characteristics of urban quality, gender norms were embedded in the spatial planning process, e.g., the municipality maintained the segregation of the genders in the new parks and sports fields. Ultimately, in line with Madanipour (2010b), the exclusion of women in public urban space in Riyadh is not only a matter of spatial intervention; it is also derived from socio-cultural norms, religious restrictions, and gendered legislation.
7.6 Women’s spatial needs and the ongoing process of ‘re-humanising’ public urban space

As presented in the three papers, the spatial planning and the provision of ‘human-centred’ public urban space should be supplemented by knowledge of social-cultural settings. In line with Madanipour (1998, 2010c), the results of this thesis argue that the inclusiveness of public urban spaces requires a complex process with a set of multidimensional layers such as spatial, social, and cultural. In line with the criticism of urban design for relying on best practices and universal characteristics of urban quality as an ideal strategy to re-humanise public urban space (Lang, 2005; Madanipour, 2010a; Maloutas, 2017), this thesis shows that ‘universal’ spatial qualities are insufficient for creating inclusive public urban spaces in Riyadh because they fail to address Saudi women’s need for inclusion in space. In this connection, Phadke et al. (2013) argue that the lack of adequate public infrastructure that fulfils women’s particular spatial needs, leads to the invisibility of women in public urban space. Hence, this thesis reveals that Saudi women’s opportunities for inclusion in public urban space are associated with the presence of other women, the spatial programming (e.g. shops), as well as the level of control and management of public urban space (also found in, Le Renard 2013a; Al-Naim 2014; Al-Naim 2015; Almahmood et al. 2017).

Ultimately, in line with (Carmona, 2014c, 2016; Carmona et al., 2008), this thesis suggests that ‘re-humanising’ public urban space, should not be simply thought of as a spatial product, but also as an on-going process, which, on the one hand, acknowledges the multiple layers that affect people’s use and experience of urban space use (e.g., as spatial qualities, shared norms and values, and the subjective experience). On the other hand, it should ensure that all users’ needs and interests are included in the planning, design, implementation, and management of public space - management as a mechanism that regulates the uses and conflicts between users over time to ensure the inclusiveness of the space (Carmona et al., 2008).
8 Implications for Urban Design research and practice

This chapter highlights the theoretical and methodological contribution of this thesis, presents a number of implications and recommendations for urban design practice, and ultimately reflects on the limitations of the study.

8.1 Contributions to research on urban design

With regards to the analysis of the human dimension in space, Carmona (2014a, 2014c) and Madanipour (1996, 2010c) stress the need for a complex, comprehensive, and dynamic methodology that accounts for the spatial, social, and cultural aspects of public urban space. Hence, as presented earlier, this study seeks a better understanding of the causation of urban life in public spaces in Riyadh. Thus it takes a critical realist position in order to bridge the gap between Environmental Probabilism, which exemplifies the current practice and research in urban design in correlating the occurrence of public life with the spatial configurations, and Social Constructionism, which prioritises the role of cultural contexts and the interactions between people in the co-creation of meanings and behaviours. Therefore, this position has influenced the theoretical and methodological contribution of this thesis.

Theoretical contribution

This thesis has presented an in-depth study of the influence of socio-cultural norms on the use, experience, and provision of public urban space in Riyadh. Drawing on the literature on human-centred urban design and the growing body of literature on gendered use of space, chapter 3 presented a cross-cultural overview, which highlights the role of gender norms and traditions in the spatiotemporal processes of inclusion and exclusion in public urban space in the Global South. Although this thesis relied on a single case study, its aim and purpose was not to generalise the specific empirical findings in terms of men’s and women’s spatial behaviour to other geographic contexts. Instead, this thesis adopted a wider theoretical framework by reflecting on the extent to which socio-cultural settings affect and shape people’s spatial behaviour in Riyadh against the background of other relevant literature from the Global South (see chapter 7). Thereby, this thesis contributes to the so-called theoretical generalisation (see, Yin, 2014). In this sense, the findings of this thesis are not only relevant for the use, experience, and provision of public urban spaces in Riyadh, but are also beneficial to the extensive and growing body of literature on gender norms and the use of urban spaces, human-centred urban
design, spatial planning cultures, travelling concepts in urban design, socio-spatial exclusion in public space, especially in the Global South.

**Methodological contribution**

In line with Carmona and Madanipour, this thesis used a comprehensive and dynamic method that accounts for the spatial, social, and cultural aspects of public urban space. Hence, this thesis presented a *triangulation* of studies, which provides multiple sources of evidence (see, Creswell, 2013; Yin, 2014). Using innovative and mixed methods including GPS tracking, spatial behaviour observations, map-based workshops, semi-structured interviews, spatial and physical assessment, and a review of relevant studies, newspaper articles, and policy documents, the thesis was able to unfold the spatial, social, and cultural dimensions of the use, experience, and provision of the sidewalks in Riyadh, Saudi Arabia. The triangulation of sources of evidence and the variety of methods used in this thesis helped validate the accuracy of the findings.

This thesis has presented an example of how to study urban life in public space in culturally conservative societies. Based on previous knowledge of the cultural context in Riyadh, this thesis used, modified, and customised the universal methods of spatial behaviour observations provided by (e.g., Gehl & Svarre, 2013; Mehta, 2013; Whyte, 1980). For instance, this thesis and especially paper II, argued that the design and execution of these methods requires context-specific customisation based on prior knowledge of the culture regarding the use of space. For instance, due to the influence of socio-cultural on women’s patterns of movement (see section 6.2.1), the pedestrian count was insufficient to provide accurate information about who and how many people use the sidewalk. In Saudi culture, streets and sidewalks are socially perceived as men’s space. Hence, as shown in paper II, at certain times of the day, women may avoid using or being visible users of such spaces. Therefore, this context-specific situation calls for a triangulation of methods that identifies women’s actual spatial behaviour on the sidewalks during the day. For example, pedestrian count methods are generally used to provide information about who, and how many, people walk in the space (Gehl & Svarre, 2013). In the case of Al Tahlia Street in paper II, this method alone was insufficient to provide accurate information about the sidewalk users due to the influence of the socio-cultural context on women’s patterns of movement. Therefore, the tracking of men’s and women’s patterns of movement and the mapping of lingering activities helped validate and paint a more precise picture of who uses the sidewalk (see paper II).
Ultimately, addressing a wider audience in urban design and spatial behaviour observations, this thesis may serve as a point of departure for further studies aiming to develop mechanisms and dynamic frameworks that help advance the current methods and techniques in order to study urban life in relation to its cultural context.

### 8.2 Implications for the practice of urban design

As shown earlier, women’s exclusion on the sidewalk in Riyadh is complex as it is derived from multidimensional layers such as spatially-bounded gender norms, religious traditions, the gendered perception of the sidewalk as a place for men, the gendered legislation of spatial programming (e.g., limiting the use of outdoor seating to men only), and young men’s appropriation of the sidewalk. The findings of this thesis also show that women’s opportunities for inclusion in public urban space are associated with the presence of other women, the spatial programming (e.g. shops), as well as the level of control and management of the public urban space. Therefore the following set of recommendations, at the policy, spatial planning, and design levels, aim to contribute to the process of shaping ‘human-centred’ sidewalks in Riyadh by increasing the potential for social inclusion where men and women can be co-present in the space.

#### At the policy and legislative level

Against the background of gender segregation in public space, which is prescribed by gender norms and religious traditions, this thesis argues that promoting the mixing of genders and encouraging women to be visible users on the sidewalk have a positive impact on women’s feeling of safety and comfort. Therefore, a key recommendation would be to allow women to use the outdoor seating of restaurants and coffee shops as this may balance the presence of women on the sidewalk compared to men. This should be combined with a set of regulations and laws against sexual harassment\(^{25}\) in public spaces in order to increase the level of behavioural control and sense of safety on the sidewalks. These policy recommendations might sound too progressive from an insider’s point of view as the concept of mixed-gender space is rejected by the religious body of the state and society. However, paper II shows that, today, women account

\(^{25}\) On September 29th, 2017, Saudi Arabia announced a new anti-harassment law to be implemented and enforced 60 days after the announcement (arabnews, 2017).
for nearly half of the sidewalk users. Therefore, there is a need to ensure safe and comfortable environments for them as well as for other users of space.

**At the spatial planning and design level**

Paper III shows that the adaptation of universal characteristics of urban space to the socio-cultural context by the municipality planners in Riyadh was insufficient to address women’s spatial needs. Therefore, although the municipal work in Riyadh does not require public engagement, this study argues that the ‘re-humanising’ of public urban space should be considered as an on-going process. It should acknowledge the multiple layers that affect men’s and women’s use and experience of urban space (e.g., as spatial qualities, shared norms and values, and the subjective experience). All users’ needs and interests should be included in a holistic framework that includes the planning, design, implementation, and management of public urban space.

In addition, papers I & II show that spatial programming (e.g., shops) can ‘socially’ justify Saudi women’s presence in public space. Hence, the role of spatial programming should be rethought so that it functions as a moderator of spatial behaviour to allow women to be more relaxed when using sidewalks. For instance, in line with (Roberts & Eldridge, 2007, 2009), by encouraging the establishment of different ground-floor functions along sidewalks to stimulate a wider variety of urban activities, especially shopping, which may invite more women onto the street as well as allow them to be more visible on the sidewalk. This is in line with the findings of paper II on women’s spatial needs, which show a clear correlation between women feeling personally safe and the presence of other women on the sidewalk. Therefore, in line with (Karssenberg & Laven, 2016), this thesis suggests that the scope of streetscape design should be broadened to go beyond the limits of right-of-way and put the ground floor level on the planning and policy agenda (see Figure 24).
8.3 Limitations of this thesis

Overall this thesis has revealed valuable knowledge about the spatial, social, and cultural dimensions of ‘human-centred’ public urban space. It unfolded the influence of socio-cultural norms on the use, experience, and provision of the sidewalk in Riyadh, Saudi Arabia. However, this thesis also acknowledges the trade-offs, delimitations, and shortcomings of the empirical studies presented earlier.

8.3.1 Context dependency and the generalisation of results

The empirical studies presented in this thesis were built on a single case study, which unfolds, analyses, and represents the specificity of socio-cultural setting in Riyadh, Saudi Arabia. In this sense, the results and discussions regarding the influence of gender norms and religious values on men’s and women’s spatial behaviour represents the Saudi culture and interpretations of religious principles and traditions. According to Yin’s (2014) rationale for case studies, it is an extreme and revelatory case. Therefore, the implications of socio-cultural norms on people’s use and access to public urban space might vary in other Arab or Muslim contexts. However, the thesis does not claim to generalise the specific empirical findings on people’s spatial behaviour to other geographic contexts. As explained earlier in this chapter, the findings of this thesis may contribute to a theoretical generalisation.
8.3.2 Gender norms and [the Saudi] women

The gender segregation and the concern of gender in public space is very special and unique in Riyadh, Saudi Arabia (Al-Hussayen, 1996; Meijer, 2010). Even though half of the population in Riyadh are foreigners, Saudi women are expected to obey gender norms and traditions. Their presence and access to public space, work, and educational environments have always been socially and culturally controversial (Al-Khidr, 2010; Le Renard, 2013b). Therefore, this thesis, when discussing women’s use and experience of the sidewalks, focuses on Saudi women as they are directly affected by gender norms and cultural traditions. Therefore, as it is outside the scope of this study, the map-based workshops did not cover the influence of socio-cultural norms on non-Saudi women’s use and experience of public urban space.

8.3.3 Young Saudi men and women

The sample group of the GPS tracking and map-based workshops consists of participants (n=45) who were young university students (19 to 24 years old). Therefore, the mapping of walking activities in paper I and the qualitative data from the map-based workshops in papers I, II & III do not represent the rest of the population of Riyadh. Although the findings provide insights into the influence of the socio-cultural context on the use and experience of public urban space in Riyadh, further research with different social and age groups is required.
9 Conclusion

The aim of this study was to shed light on the complex relationship between the spatial, social, and cultural dimensions of human-centred planning of public urban space. The ‘re-humanisation’ of the city is a travelling concept, which implies that public urban spaces are liveable, walkable, safe, enjoyable, and inclusive to allow vibrant social interaction. In the urban design literature, the inclusiveness of space is considered a core value in human-centred public urban space. However, social and spatial exclusion is a key challenge to the success of public urban space, especially in the Global South. Thus, drawing on the *culturized planning model* as an analytical framework, this thesis unfolded the influence of socio-cultural norms on the use, experience, and provision of public urban space focusing on the sidewalk in Riyadh. This was achieved by using quantitative and qualitative methods including GPS tracking, spatial behaviour observations, map-based workshops, semi-structured interviews, spatial and physical assessment, and document analysis. Hence, the study responded to the aim and objectives through theoretical and empirical work that included:

- Presenting a cross-cultural overview of the influence of gender norms on the use and experience of public urban space, especially in the Global South.
- Exploring the influence of socio-cultural norms on men’s and women’s practice of walking and experience of urban walkscapes in Riyadh.
- Unfolding how the sidewalk is used and experienced by men and women in Riyadh; highlighting the role of gender norms and religious traditions in the socio-spatial processes of exclusion in the sidewalk.
- Improving the understanding of the correlations between spatial planning and its cultural context.
- Understanding the relationship between socio-cultural norms and spatial programming regarding spatiotemporal inclusion or exclusion in public urban spaces.
- Examining the extent to which the ‘universal’ characteristics of human-centred public urban space can contribute to spatial inclusion on the sidewalk in Riyadh.
- Developing implications for the practice and research of urban design as well as related recommendations that contribute to the process of creating inclusive public urban spaces where men and women can be co-present in Riyadh.
The thesis studied the influence of gender norms and religious traditions on men’s and women’s walking experience, tempo-rhythm, sense of place, and the range of walkscapes in Riyadh (RQ1). The main findings revealed that walking in public urban space in Riyadh is much more than an act of movement; it is also a way to encounter, reproduce, and negotiate gender norms. Men’s and women’s access to the urban walkscapes is bounded by gender norms and traditions. The GPS tracking of walking practices revealed a map of Riyadh with a collection of gender-specific walkscapes; indoor environments, such as shopping malls, function as ‘urban shelters’ for women, so they use such spaces for walking. On the other hand, young men mainly walk in urban streets. Young men and women practise walking in different walkscapes because they have different socio-spatial needs.

Furthermore, the thesis unfolded how men and women use and experience the sidewalk as well as the way women negotiate socio-spatial exclusion on the sidewalk (RQ2). The findings unfolded the complex interrelationship between gender norms, religious values, gendered regulations, appropriation of space, and generic spatial programming and their influence on men’s and women’s use and experience of the sidewalk. It showed that regulations limit the use of outdoor seating to men only and, thus, sidewalks adjacent to, e.g. cafes function as mono-gender spaces dominated by men. In addition, streets and sidewalks are culturally perceived as men’s place, which places spatial and temporal limitations on women’s access. However, the in-depth spatial behaviour observations showed how young women negotiate spatially-bounded gender norms through their presence, behaviour, and dress. For instance, although sidewalks are perceived as men’s space, women account for nearly half of the users, but their use often goes unnoticed as they self-regulate their spatiotemporal presence. Despite the restrictions imposed by gender norms and religious traditions, young women negotiate these spatially-bounded gender norms at certain times of the day through their visible presence, spatial behaviour, and dress. Hence, this thesis presented six types of women’s spatiotemporal behaviour with varying degrees of visible and invisible users. Ultimately, the socio-spatial processes of exclusion of women on the sidewalks are derived from a set of multidimensional layers, which include the generic application of universal spatial qualities, especially spatial programming, along with the gendered policy and regulations, gender norms and religious traditions, as well as young men’s appropriation of space.

Moreover, the thesis analysed the extent to which the adaptation of the travelling concept – ‘re-humanising cities’ – in Riyadh municipality’s programme, *Humanizing the City*, has led to the
creation of inclusive public urban space, where men and women can be co-present (RQ3). The results showed that the societal environment (e.g. gender norms and religious traditions) play a significant role in reshaping spatial initiatives as well as constraining women’s use, experience, and access to public urban space. For instance, although the municipality’s programme, *Humanizing the City*, was highly influenced by universal design guidelines for achieving urban quality, gender segregation was reproduced in the new parks and sports fields. In addition, the findings showed that spatial quality definitions and urban design standards, such as human scale, seating and walking opportunities, tree canopy and micro-climate, stimuli at the ground level, diversity, accessibility, proximity, legibility, and safety, may be ‘universal’ but are insufficient for creating inclusive public urban spaces where men and women can be co-present in Riyadh. Women’s need for inclusion in urban space needs to be understood in line with the presence of other women, the spatial programming (e.g. shops), as well as the level of control and management.

In conclusion, this thesis suggested that ‘re-humanising’ public urban space should not be simply thought of as a spatial product, but also as an on-going process that includes spatial, socio-cultural, and temporal dimensions; a process that, on the one hand, addresses the multiple layers that affect people’s use and experience of urban space, while on the other, ensures that all users’ needs and interests are included in the planning, design, implementation, and management of public space.

9.1 Perspective for future research

The perspectives for future research are linked to the limitations of this thesis. This study focused on young men’s and women’s spatial behaviour (especially in GPS tracking and map-based workshops). Thus, the findings paved the way for conducting research with other social groups to draw a clear picture on men’s and women’s spatial behaviour in relation to socio-cultural norms. It is also important to indicate that Riyadh represents a conservative Saudi city. Hence, similar research in different Saudi cities, e.g., Jeddah or Dammam might reveal different findings as they are less conservative compared to Riyadh.

In addition, as explained earlier, the field work of this thesis took place during 2014 and 2015. However, since mid-2016, Saudi Arabia has been facing a progressive movement of change driven by the government, e.g., reducing the power of the religious police, allowing women to drive, announcing laws against harassment, and promoting entertainment in public space. As this
might have a significant impact on men’s and women’s use and experience of public urban space, a similar study in Riyadh could be conducted in the near future to understand the change in the culture of use of public space.

Ultimately, this thesis argued that ‘re-humanising’ urban space should be considered as an ongoing process that includes the management of space as a mechanism that regulates the uses and conflicts between users over time to ensure the inclusiveness of the space. Although the management of space was not covered in this study, future research is needed to understand the potential role of spatial management as a mechanism for maintaining the inclusiveness of space.
10 References


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11 Appendices
12. Paper I

Mapping the Gendered City: investigating the socio-cultural influence on the practice of walking and the meaning of walkscapes among young Saudi adults in Riyadh

Mohammed Almehmood, Eric Scharnhorst, Trine Agervig Carstensen, Gertrud Jørgensen, and Oliver Schulze

Journal of Urban Design

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http://dx.doi.org/10.1080/13574809.2016.1273742
13. Paper II

The Sidewalk as a Contested Space: women’s negotiation of socio-spatial processes of exclusion in public urban space in Saudi Arabia; the case of Al Tahlia Street

Mohammed Almahmood, Oliver Schulze, Trine Agervig Carstensen, and Gertrud Jørgensen

Planning Practice and Research
Status: Published
https://doi.org/10.1080/02697459.2017.1419652
14. Paper III

**Human-centred Public Urban Space: exploring how the ‘re-humanisation’ of cities as a travelling concept has been adapted and is experienced within the socio-cultural context of Riyadh**

Mohammed Almahmood, Natalie Marie Gulsrud, Oliver Schulze, Trine Agervig Carstensen, and Gertrud Jørgensen

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Re-humanising Public Urban Space
Unfolding the influence of socio-cultural norms on the use, experience, and provision of the sidewalk in Riyadh, Saudi Arabia