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Double-layered health benefits: green space as a Third Place for everyday active mobility trips

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The present paper addresses the timely need, across research and practice, to ask: how do we plan sustainable and healthier cities in a synergetic way for everyday life? Currently, urban dwellers are facing significant health challenges, especially physical inactivity. There is increasing awareness of the need to initiate active living strategies for urban dwellers to confront this challenge. Active mobility—walking and cycling—is the core of active living strategies and is promoted as both a type of physical activity and a mode of transport. However, uptake of active mobility faces many barriers, including lack of motivation and longer travel times. This paper unfolds the potential of green spaces as Third Places that can potentially counteract the challenges and in return, deliver double-layered health benefits. The sensory experiences provided by urban green spaces and associated health benefits have been largely investigated; yet, little is focused on how these experiences can be integrated as a part of daily living activities. This paper gives voice to everyday practice and discusses how these experiences can be utilized as planned motivations for the use of active mobility. This paper aims to contribute to the knowledge for future research and practice, and bring forward an open debate about healthier cities, which can bridge all related professions across urban sectors.

KEYWORDS

health benefits, active mobility, Third Place, urban green space, daily trip

Introduction: What if we nudge daily active mobility trips into urban green spaces?

Urban planning and public health are interconnected, as the built environment in cities influences the health and wellbeing of each urban dweller (Rydin et al., 2012). The awareness of this interconnection can be traced historically. Over the course of the early 19th century, cities faced a wide range of challenges, including a lack of sanitation, inadequate water supplies, and air pollution, all of which contributed to the spread of disease and unhealthy living conditions in cities (Kenzer, 2000). At this time, urban planning was rooted in the public health sector and primarily concerned with the prevention of epidemics (Harris et al., 2022). Only later did urban planning evolve into a distinct discipline. In recent decades, the whole world has witnessed rapid urbanization (UN, 2018). Expansion of the built environment, mechanization of work and daily tasks, and increased use of motorized transport have in combination led to more sedentary lifestyles, which pose a major health

concern due to physical inactivity (Tremblay et al., 2010). The WHO (2018) indicates that, globally, 23% of adults do not meet their recommendations for physical activity, and this percentage is notably higher in Europe as 36% (Nikitara et al., 2021). Meanwhile, more contemporary reflections on urban planning and public health have produced a new framework known as active living, which is understood as a way of life that integrates physical activity into daily routines and leads to healthier lifestyles (Edwards and Tsouros, 2006).

Active mobility is a core component of active living strategies for healthier lifestyles, as it can be an important contributor to reaching daily physical activity goals (Lavizzo-Mourey and McGinnis, 2003). Active mobility is regular physical activity undertaken as a mode of transport, which often includes walking, cycling and other vehicles requiring physical effort to get moving (Gerike et al., 2016). In this paper, active mobility refers to walking and cycling. Scholars widely accept that active mobility delivers health benefits to the individual and the public in a direct way (Saunders et al., 2013). Moreover, walking and cycling, as space-efficient, flexible, and accessible modes of transport, can cover almost all mobility needs, and thus contributes indirectly to transport planning ambitions to reduce greenhouse gas emissions (Rissel, 2009). Additionally, other transportation-related problems, such as air and noise pollution and road safety, can be eased (Koszowski et al., 2019). Despite these positive effects, urban dwellers face barriers to being active, including lack of motivation and time (Gerike and Parkin, 2015). It is important to understand how to counteract the barriers and invite the use of active mobility in cities.

Health promotion is tightly linked to achieving sustainable urban development (Kjrgard et al., 2014). In order to promote a healthier city, designers, planners, politicians, and other professionals investigate how cities can co-exist with natural environments that help create opportunities for healthy living conditions (Kivits et al., 2019). Green space scholars are becoming increasingly engaged in these efforts. Recent decades have witnessed a growth of phrases incorporating an ecological planning approach to the built environment, including green infrastructure, biodiversity, and nature-based solution (Vujcic et al., 2017; Grabowski et al., 2022). Many studies have been established to explore the relationship between green spaces and public health (e.g., Kessel et al., 2009; Richardson et al., 2013; Wolch et al., 2014; Zhang et al., 2022). Results from this research show that frequent access to green spaces provides urban dwellers with mental and physical benefits, leading to a higher quality of life (Keniger et al., 2013; Lee et al., 2015)¹.

Although urban green spaces deliver health benefits, research shows declining use of green space, and decreased human-nature connection in urban dwellers' daily lives (Soga and Gaston, 2016). Thus, we ask, what if we nudge daily walking and cycling trips into urban green spaces? In this way, urban dwellers spend physically active time in green spaces, walking or cycling as part of their necessary daily commute. While doing so, people can reconnect with nature and benefit from higher quality of life through improved health and the restorative capacity associated

with natural environments. We expect that high-quality green spaces will motivate active mobility by enhancing the physical attractiveness of active mobility infrastructure through delivery of multiple nature experiences. We elaborate this thesis in the following sections.

Green space as a Third Place for active mobility trips

The Third Place (Oldenburg, 1999) is the social surroundings separating the two usual social environments of home ("first place") and workplace ("second place"). The examples of the Third Place include coffee shops, churches, gyms, and restaurants. Genuine connection and accessibility were understood as key attributes of these Third Places (Natalia and Ratnaningrum, 2020). Green spaces, as important structures in cities, are increasingly integrated into urban infrastructure. Today, nearby green spaces between homes and workplaces plays an important role of generating better wellbeing (Ekkel and de Vries, 2017), and different types of green spaces support various uses for urban dwellers with different sociodemographic status (Fagerholm et al., 2022; Nordh et al., 2022). Green spaces are listed as Third Places, and Jeffres et al. (2009) argued that green spaces should be Third Places where people can interact and derive pleasure from its use. However, the relevance of urban green spaces being Third Places to health and daily living activities is under-researched, and there is a need to investigate (Finlay et al., 2019; Zhang et al., 2020).

The understanding of Third Place supports the idea of nudging daily trips into green spaces. Before elaborating, however, we must discuss our understanding of urban mobility. Currently we live in a car-dominated society, where we are able to effortlessly travel far, fast and intensively. We sit in a car and experience the movement through the side window, thus losing the meaning of mobility—it is a pure trip from A to B (Ascher, 2007), following cities' linear systems and arranged in sequence (Shane, 2005). Jensen (2006) argues that there is a need to rethink the flow of people and vehicles in cities, and frame urban mobility in a more contemporary context. The new mobility paradigm (Sheller and Urry, 2006) points out that the physical body is present in place and experiences or carries out the actual movement. The co-existence of bodies, landscapes and mobility systems together construct the meaning of the movement, which highlights the importance of the body-environment relation (Morinière and Hamza, 2012). We focus on the materiality of green spaces as a way to attach positive meanings and experiences to body-environment relations, thereby leading to increased pleasure and attractiveness associated with active mobility trips (Jensen, 2009).

We understand urban mobility as a bodily-embedded behavior within mobility systems, and we now engage the question of integrating green spaces as part of the mobility system for daily trips. Regarding green space as a Third Place calls for interaction and pleasure, which are often perceived in a multi-sensory manner (Zhang et al., 2019). Green spaces nourish the senses, provide appreciation, pleasure and relaxation (Beery et al., 2017), while at the same time delivering health benefits and general wellbeing. Many of these benefits, including stress release and overall improvement of health conditions and wellbeing, can be achieved

¹ WHO (2017). Urban green spaces and health - a review evidence.pdf.

solely by viewing green spaces (Velarde Ma et al., 2007). Natural soundscapes are also positively correlated with mental restoration (Uebel et al., 2021), and similar effects have been discovered in relation to other senses (Zhang et al., 2019). Nudging walking or cycling trips into green spaces provides the possibility of sensory interaction with natural environments, which in turn, improve urban dwellers' health.

Voicing everyday active mobility trips within green spaces: From able to invited

The sensory experiences and associated health benefits of green spaces have been investigated in various research projects, and the importance of these experiences and benefits is clear. These academic investigations, however, are largely within the outdoor recreational context (e.g., Frances, 2006; Godbey, 2009), or within wild areas (e.g., forests) that can be far away from cities (e.g., Zwart and Ewert, 2022). Often, recreation walking and cycling trips are less destination-oriented (Skov-Petersen et al., 2021), which means people do not necessarily have to consider end points; therefore, there are no fixed routes or distances associated with their trips (Koemle and Morawetz, 2016). However, people who use active mobility for everyday commuting are likely to have a fixed end point, such as a school or workplace. In addition, they might experience pressure to arrive on time and thus need to limit the total distance of the trip.

Yet, we lack knowledge about how mobility systems in cities can be planned with green spaces to facilitate walking or cycling as part of the everyday commute. Frequently, everyday activities are perceived as trivial and have less influence in urban planning. In the words of Freudendal-Pedersen (2022), “the ambiguity of everyday life and all its different rationalities made a clear system opaque, and as such, rejecting its importance became the solution.” In this study, we characterize walking or cycling for commuting as time-limited but with the desire for nice experiences. In response, urban planners, specifically green space planners, should design and plan

green environments embedded in the active mobility network for everyday uses.

Re-occurring or daily routine trips within green space increase opportunities for people to have contact with nature, and frequent, high-level connection with nature has been shown to trigger further pro-environmental behaviors (Mayer et al., 2009; Tam, 2013; Liu et al., 2023). In this case, we can then expect a mobility modality shift from car to frequent usage of active mobility. This outcome is in line with the Theory of Planned Behavior, wherein Ajzen (1991) states that the intention of a certain behavior is determined by three aspects, including “subjective norm”, “attitudes toward the behaviors” and “perceived behavior control”. The aspect of “attitudes toward the behaviors” can be subdivided into instrumental motives, such as less time and fewer cost, and affective motives, such as the positive emotions and benefits of a certain behavior (Marquart et al., 2020). Therefore, the health benefits and positive wellbeing perceived by walking or cycling in green spaces can act as a planned motivation for more active mobility in cities. In other words, the atmosphere and benefits provided by green space enhanced active mobility infrastructure can potentially invite more active mobility trips when compared to sidewalks and bicycle lanes that only enable walking or cycling alongside car traffic (Figure 1).

Rethinking the cyclist city: Copenhagen

Copenhagen's extensive bicycle infrastructure (Carstensen et al., 2015), such as the green cycle routes, reinforce its identity as the best cycling city in the world. As the name indicates, the green cycle routes connect parks, lakes, informal green spaces and various green and blue oases². The green cycle routes are not historically part of the cycling infrastructure in Copenhagen. Rather, they were developed during a prolonged process that resulted in a municipal decision in 2009 to welcome cyclists into two larger city parks—Fælledparken and Østre Anlæg. Before this decision,

² City of Copenhagen (2015). *Københavns Grønne Cykelruter.pdf*.

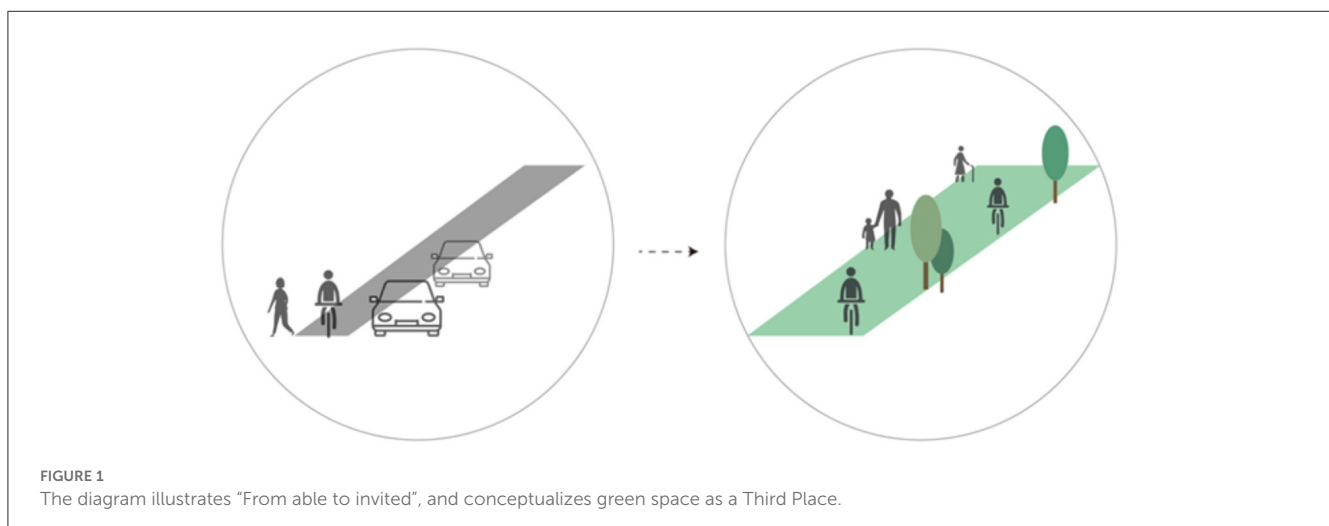




FIGURE 2

(A) Amager Fælled in 2009 – Copenhageners had to walk their bikes through or park their bikes outside the entrance. **(B)** Amager Fælled in 2022 – designated paths can be used by both pedestrians and cyclists. **(C)** Jagtvej 23A in 2009 – as a car parking space. **(D)** Jagtvej 23A in 2022 – as part of the green route – Nørrebro-ruten, providing shortcut for people cycling and walking through urban green spaces. Source: Google map (accessed January 9, 2023).

Copenhagensers had to walk their bikes through or park their bikes outside the entrance (Figure 2A). Soon, the possibility of cycling extended to other types of green spaces, including urban cemeteries and nature parks (Figure 2B)³. These green cycle routes, which are set away from the busy street, indeed offer unique cycling experiences, but mainly to recreational users. The cyclists using bike lanes situated between the sidewalks and rows of parked cars can hardly experience the same. The perennially timely topic—reclaiming cycling space—is relevant in Copenhagen, where cars occupy more than half of the road space (Henderson and Gulsrud, 2019). Parked cars claim areas that could be designated for other purposes, e.g., widened sidewalks, cycling lanes, and green spaces. The removal of car parking requires political support, though. While we do see positive changes in Copenhagen, where car parks have been removed for active mobility infrastructure (Figures 2C, D), we suggest additional attention be placed on the societal value of green spaces, investing in active mobility infrastructure and adopting a synergetic planning approach to secure the aforementioned double-layered health benefits for urban dwellers.

Discussion

Planning our cities for enhanced health benefits is the starting point of this paper. The need to have a healthier city environment is an enduring one. Urbanization continues to increase, with more and more people moving into cities, and city infrastructures are facing greater demands than ever. Existing green spaces are under pressure (Boulton et al., 2020) and planners are challenged by growing transport demands (EEA, 2022). In 2020, the COVID-19 pandemic hit the world, triggering a new round of reflections about how to see and understand our city environments in a healthier, more livable and sustainable manner. At the same time, almost all professions are working strategically to apply diverse knowledge and create better living conditions for urban dwellers. Nonetheless, there is a need for creative and innovative thinking that can foster synergetic benefits. The idea of nudging walking and cycling daily commutes into green spaces opens discussions between mobility planners and green spaces planners, which can then inspire future collaboration between public health workers and planners. We are at a point where it is necessary to deeply understand that everyday life and the city environment are connected (Girardet, 2008), and it is urgent to transfer that understanding into practice. Investigating everyday life often falls into less powerful categories of urban planning, and is often assumed to be trivial (Freudental-Pedersen, 2022). However, if we give voice to everyday practices, bounded by habits and routines, then the changes can be massive. Nudging daily commuting trips into green space shows much potential for individual and public good, but it is not a goal that can be achieved in a few days. There are also challenges with this approach. As Liu et al. (2023) noted, one of the challenges is that, nudging daily trips into green spaces requires the conversion of green to gray surfaces for i.e., bicycling lanes, which may disrupt the ecological connectivity to some degree. We envision future active mobility networks connected with green spaces, and propose that this is a long-term strategy requiring synergetic

urban planning and promotion within all related professional and scholarly fields.

The urban forms and the status of green space and active mobility development will have an influence on achieving the suggested planning strategy. Copenhagen, as an example of compact cities (Bamford, 2009), consists of the dense and intensive street network, which can provide the opportunity to urban dwellers to choose the routes with perceived higher quality, in most of the case, referring to routes that are not accessible for motorized traffic and with greenery in the surrounding (Verhoeven et al., 2018). Therefore, the planning strategy suggested in this paper has the most potential in the cities with compact urban form, for example, Hong Kong. However, we acknowledge that each city has different planning priorities, so does the agenda in terms of urban mobility and green space planning. Copenhagen has established rather advanced active mobility infrastructure and green spaces structures, with the culture of cycling, which offer the possibility of seeking nice experiences (Liu et al., 2023) and connecting with urban greenery during the daily trips. But, cities like Copenhagen, should not take existing conditions for granted, but should pursue synergetic approaches to address current health challenges. Cities with less developed infrastructure, such as many in the Global South, will need to find holistic ways of planning urban mobility and green space development together from the beginning, and of addressing many other societal challenges in the process.

Conclusion

Urban green spaces of the future will have to offer new possibilities for public health. This paper unfolds the potential of green spaces to serve as a Third Place for everyday active mobility trips. In so doing, double-layered health benefits will be delivered to urban dwellers.

We propose key recommendations for future research: (1) which sense and nature experiences are the most valued by cyclists and pedestrians during the daily commuting trips within green spaces? (2) which are the planning determinants and barriers to nudge daily trips into urban green spaces?

For future policy-making and practice, we recommend politicizing Third Places in the health promotion agenda, voicing everyday perspective in urban planning process, and emphasizing long-term collaboration and coordination between urban sectors for synergetic outcomes.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

YL authored the draft of the manuscript. MM, HS-P, NT, and AO supervised, edited the paper, and contributed elements to

³ City of Copenhagen (2019). *Assistens Kirkegård*.

the final manuscript. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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