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Place (un)making through soft urban densification: exploring local experiences of density and place attachment in Tehran

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ABSTRACT

The relationship between urban density and social conditions in urban areas has received increasing attention in recent research. However, there is a lack of understanding of the dynamics between urban densification and these social conditions from a place-specific perspective, taking into account the institutional, socio-cultural, and contextual complexities. This paper seeks to enhance this understanding by unpacking the relationship between soft densification and place attachment in Tehran, Iran. The paper develops a framework for studying 'soft densification' as a process of incremental place change by prioritising local knowledge. The findings suggest that soft densification impacts place attachment by disrupting the everyday functionality of place, eroding its physical characteristics, erasing some of its collective and personal memories, and altering its socio-demographic structure. The paper highlights the importance of thinking 'procedurally' and 'topologically' about urban densification and calls for incorporating local knowledge and experiences into policy planning and urban decision-making.

Introduction

Urban transformations occur at an unprecedented scale and pace in today's cities to account for rapid changes in their social, political, environmental and economic systems (Crane et al. 2021). The spatial and temporal attributes of these transformations shape the experience of urban living and the relationships between people and their surroundings. Cities are increasingly becoming abstract geographies characterised by rapid transformation, temporary social forms and relationships, and conflicting structures of governance and planning. While there is extensive literature on the macro-level and city-level understanding of urban transformation, there is a lack of understanding of how these changes occur at the micro or neighbourhood level as perceived by residents and local communities. Thus, it is important to further our understanding of the local experiences and conflicts of neighbourhood change, as this knowledge

from the bottom explains and underlines wider city-level processes of change (Turcu 2013).

As one example of urban change, urban densification is mainly a localised response to population growth, rapid urbanisation and ensuing city transformation. Increasing urban density is seen to bring economic (Quigley 1998; Duranton and Puga 2020), environmental (Anderson et al. 1996; Mindali et al. 2004; Modarres 2013), and social benefits (Cavicchia and Cucca 2020). There is, however, a lack of attention in urban policy discourse and planning practice towards the differences between density as a metric and densification as a process of urban change, concepts which are often used interchangeably. While a quantitative metric offers a snapshot overview of density based on a mathematical ratio and at a specific moment of time, looking at densification as a process reveals a different facet of urban change, reflective of interactions between various forces and stakeholders which raises critical questions about the

local experiences of density and the validity of assumptions made about densification processes.

Most studies looking at the relation between densification and social conditions at the local level argue that the latter is determined by the former, that is to say, by the built form of cities (Dempsey et al. 2012; Hofstad 2012; Kyttä et al. 2016; Arundel and Ronald 2017; Hemani et al. 2017; Alawadi and Benkraouda 2019; Cavicchia and Cucca 2020; Yunda and Sletto 2020). However, it is argued that this relationship is not that clear-cut and it is important to also focus on the context- and place-based nature of urban social life via concepts such as 'place attachment', 'perceived density', 'placemaking', and 'context sensitivity' (Seghezzo 2009; Kyttä et al. 2016; Eizenberg and Jabareen 2017; Baldwin and King 2018; Ujang et al. 2018; Hamiduddin and Adelfio 2019; Shirazi 2020; Shirazi and Keivani 2021). Moreover, studies have started to look at how densification is 'experienced' and 'situated' in cities. The focus here has been predominantly on cities in the Global North such as London (Blanc and White 2020), Zurich (von Wirth et al. 2016; Emo et al. 2017, January), Amsterdam (Arundel and Ronald 2017), Vancouver (Quastel et al. 2012), Helsinki (Schmidt-Thomé et al. 2013; Kyttä et al. 2016) and Adelaide (Sivam et al. 2012); while only a few examples from the Global South have been investigated to date, for example, Mumbai (Rao 2007; Dave 2011). These 'situated' understandings of density and empirical insights into how densification is experienced and shaped on the ground are part of a current 'relational turn' in urban studies which argues that knowledge is diverse and dynamic, trans-disciplinary and intersectional, and continually unfolding (West et al. 2020; Crane et al. 2021).

Understanding urban change in Western Asian cities has received little attention to date, and Iran's capital, Tehran, is no exception. Urban densification and its impact on Tehrani's everyday lives has long been an area of academic, political and public controversy (Shieh and Shojaei 2008; Azizi and Moeini 2011; Zareyian 2015). In Tehran, densification is not viewed as a sustainable spatial and urban development strategy but rather as an ad-hoc response to housing demand implemented via informal channels. The informality of densification is unfolding from the bottom through incremental, mainly un-planned, privately-led and small-scale residential rebuilding and extension, which has been coined elsewhere as 'soft densification' (Bibby et al. 2020; Livingstone et al.

2021). This paper looks at the process of soft densification to unpack the dynamics between density and place, with the use of a place-based approach to urban social sustainability (Seghezzo 2009; Lara-Hernandez and Melis 2018; Dianati, 2021) **that incorporates both physical and non-physical aspects of built environments (Woodcraft 2015). More specifically, the paper asks how urban densification impacts place attachment at the neighbourhood level in Tehran and argues that physical and social dynamics of place change matter in the formation of multiple experiences of densification. Reciprocally, these varied experiences impact the nature and strength of people-place relations by disrupting the daily functioning of a place, degrading its physical characteristics, erasing some of its collective and personal memories, and transforming its socio-demographic makeup.

Following this introduction, section one provides a comprehensive overview of the concepts of density and place and how they are related. It also outlines the paper's theoretical framework, drawing upon a relational and topological reading of density and place. Section two provides an in-depth look at the research context and methods used to investigate the empirical evidence. Section three looks at the empirical evidence and results from Tehran, provides a detailed analysis of the findings and offers insights into the implications of soft densification on the formation of place. Lastly, the conclusion of this paper critically discusses the findings, and reflects on directions for future research and policy implications

Densification, place and everyday social life

Density is at the centre of debates on built form, change and policy debates in cities, as well as inequality, health and climate change action (Mouratidis 2018; Bibby et al. 2020; McFarlane 2020; Üçoğlu, Güney and Keil 2020). Increasing urban density is advocated by proponents of the agglomeration effect who argue that higher densities lead to the diversification of functions, scales and demographics and the creation of mixed land-use (Ciccone 2002; Glaeser and Gottlieb 2009; Fallah et al. 2011; Duranton and Puga 2020); brings about economic advantage (Quigley 1998; Nilsson 2017), transport efficiency (Newman and Kenworthy 1989; Handy 1996; Cervero 2002; Ewing et al. 2016), reduced energy use (Mindali et al. 2004; Modarres 2013), better access to public services

(Dave 2011) and, potentially, less social segregation (Burton 2001; Pendall and Carruthers 2003; Cavicchia and Cucca 2020). All the social, environmental and economic advantages of urban density have contributed to conceptualisations of the 'compact city' (Burton 2001; Neuman 2005), which has been used as a powerful argument for sustainable urban development. However, critics argue that whilst compact city development effectively promotes certain urban outcomes, it fails to recognise and address the relations, processes and meanings underlying such outcomes (Neuman 2005).

Density is more than a simple ratio of people or 'things' to space (Dave 2010; Brown 2014; Yunda and Sletto 2020). There is an intrinsic but neglected nexus between physical or objective density (e.g. the number of buildings or people per spatial unit of measure) and non-physical, subjective or perceived density (e.g. degree of social interaction, perceptual stimulation, sense of crowding and visual complexity). This latter understanding of density is viewed as socially constructed and context-dependent, shaped by accounts of individual knowledge and experiences, and speaks to relational, symbolic and temporal aspects of cities and the socio-cultural dynamics of local settings (Rapoport 1975). A relational lens distinguishes between a topographical and topological interpretation of density (McFarlane 2016). The former views density as apolitical, linear and numerical, a relatively abstract concept, while the latter views it as produced, experienced, perceived, negotiated, and contested in everyday life at the local level (McFarlane 2016). A topological approach understands density as an assemblage of ideologies, a representation of politico-economic structures and a response to structural shortcomings (Bibby et al. 2020; Keil 2020; McFarlane 2020). This implies that any objective measure of density carries social narratives and political undertones that influence the urban praxis and can 'instrumentalise' density to act as a political or market tool (Harper 2019; Pérez 2020; Giddings and Rogerson 2021). The political power of density is present in the concentration of people to a space which creates an urban *oeuvre* based on 'encounter, assembly and simultaneity' (Lefebvre 1991, p. 101) and, in turn, can act as a catalyst for urban protests and social movements (McFarlane 2020).

Densification is the process that employs density as a tool for urban change or transformation. Debates on density and densification are intimately related and evolve around discussions on hard versus soft processes of densification in cities. Hard densification refers to large-scale or city-scale development, usually undertaken by mass-developers and regulated by the urban planning system. In contrast, soft densification describes small-scale and incremental development at the neighbourhood level, usually led by private owners or small developers and taking place in the 'shadows' of or within a deregulated planning system (Bibby et al. 2020; Dunning et al. 2020). Soft urban densification occurs through infill development and can take various forms, from subdivision and consolidation of buildings, through plot-base rebuilding, to extensions and roof stacking. In cities with well-established planning frameworks, soft densification can occur in peri-urban areas where the lines between formal-informal planning regulation and public-private micro development are blurred (Touati-Morel 2015) or where it is allowed as 'permitted development' (Ferm et al. 2021). In cities with less established planning frameworks, it unfolds everywhere in the city – for instance, evidence from Turkey and Iran shows that this process is incremental, plot-based, informal and piecemeal (Üçoğlu, Güney and Keil 2020; Karampour 2021). Soft densification is difficult to monitor, and so it impacts urban infrastructure, governance landscapes, and accessibility of public services and facilities (Dunning et al. 2020). It also frames a unique model of 'place-change' which can spin-off unintended consequences for the everyday practices of residents and, more importantly, can impact their well-being, quality of life and social interactions (Pont et al. 2021).

The ways in which urban densification occurs in a particular city, the subsequent changes to the place, and the nature of people's attachment to the place all influence everyday practices. In rapidly transforming cities, these everyday practices may include individual or collective actions and associated 'tactics' of responding to place change (de Certeau 1988). When applied to urban transformations, these 'tactics' can involve various modes of adaptation, acceptance, or relocation (Zube et al. 1989; Devine-Wright 2009). Opting for each of these everyday life tactics or modes of response is closely dependent on the nature and strength of people-place bonding. Therefore, it is essential to understand the connection between density-based changes to a place and the everyday life trajectories of residents in order to grasp the impacts of densification on place attachment fully.

The intersection between physical, objective or hard densification, and non-physical, subjective-perceived and soft densification happens in 'place', defined here as a meaningful location that people are attached to in one way or another (Cresswell 2014). Place has been approached through a phenomenological lens by Tuan (1979), Relph (1976) and Seamon (2000) in order to unpack its relation to the human experience (Withers 2009). Relph claims that humanity is defined by 'being in place'. The connection between place and people is problematised in critical pluralism which views place as the sum of both the social activities and institutions, as well as the physical objects and events involved (Malpas 1999) while the physical and social realms are dialectically involved in their co-production (Soja 1980); and also in relational thinking, where place is continually unfolding through the multiplicity of co-existing interests, identities and experiences (Massey 2013), to describe a meaningful location to which people can become attached (Cresswell 2014).

This complex balancing act and the not-always-easy-to-pin-down dynamic between places and people is also discussed in some of the social sustainability literature, examples including Seghezzo's (2009) triangle of sustainability or Dempsey et al. (2011) model of community sustainability. Seghezzo takes 'place' and 'persons' as representatives of the objective, concrete reality and adds a new dimension, 'permanence', corresponding to the temporal aspect of social sustainability (Seghezzo 2009). This theorisation acts as the foundation of the place-based approach to social sustainability that acknowledges both physical and non-physical aspects (Dempsey et al. 2011; Woodcraft 2015), the plurality of definitions, and the multi-scalarity of the concept while emphasising on the locally-rooted and contextual attributes of its social conditions (Stedman 1999; Turcu 2012; Kyttä et al. 2016; Shirazi and Keivani 2019; Dianati, 2021). **The amalgamation of relational place and place-based social sustainability is reflected in the idea that the creation of 'better places' is linked to the creation of socially sustainable environments as people who develop an attachment to place would care about it and contribute towards their sustainable trajectories (Bramley and Power 2009).

Place attachment refers to the affective bond between people and spatial settings such as neighbourhoods (Low and Altman 1992; Hidalgo and Hernandez 2001). Theoretically rooted in attachment theory (Morgan 2010), place attachment signifies that it is possible for people to develop bonds with places (e.g. Low and Altman 1992; Giuliani 2003; Morgan 2010; Lewicka 2011). This connection is a fundamental human need (Relph 1976) which requires a physical location and a long and deep involvement with it (Shamai 1991). Some studies have assigned an explicit temporal dimension to place attachment by arguing that places become connected to the life path of individuals through length of residence, significant life events, milestones or frequent visits (Nanzer 2004).

These attributes co-construct place memory, a notion described as a glue that connects people to place (Lewicka 2013a). At the individual level, place memory is manifested in the continuity of the relationship with place with the hope to maintain it in the future (Crinson 2005). Collective memory or social memory (Halbwachs 1992), on the other hand, refers to a memory shared by a group and the meanings associated with it (Lewicka 2008; Lak and Hakimian 2019; Cittati et al. 2022). In urban context, the formation or dissolution of individual and collective memory are deeply intertwined with urban transformation (Crinson 2005). These transformations disrupt individual or collective place memory through various ways such as residential relocation (Brown and Perkins 1992) and could lead to alienation and engender the psychological function of nostalgia as a mechanism to restore the disrupted continuity (Lewicka 2013a).

The above discussion has three theoretical implications for the framing of this paper. First, place and, in accordance with that, place attachment are relational concepts and encompass physical objects, social relations and events (Malpas 1999; Cresswell 2014; Seamon 2014). The physical attributes of place attachment include factors such as accessibility, physical amenities responding to daily needs, and environmental qualities, while social aspects are mainly concerned with factors such as sense of safety and privacy, local social ties, cultural (dis)similarities, and place memory. Second, urban density is a topological concept dependent on lived and experienced aspects at the local level, alongside the underlying political and social processes behind its production (McFarlane 2016, 2020; Kjærås 2020). As a process of place change, urban densification is experienced, conceived, and interpreted in various ways by individuals depending on physical and non-physical factors such as traffic level, buildings' physical features and design

qualities, open spaces, urban greenery, sense of crowding, cultural homogeneity and privacy. Third, and building on the above understandings, the experience of densification is influenced by the totality of individuals' knowledge of a place, their perception of density as a formal attribute of the city, and their everyday experience of densification as a process of place change. This body of knowledge, experience and perception is contingent upon the urban planning policy framework within which densification unfolds, whether soft or hard. Particularly and as this paper is concerned, soft densification engenders a more complex set of individual experiences and encounters due to its temporality and under-regulated, piecemeal, and contingent nature. The relationship between people and the places they inhabit is intimate and interdependent, with significant impacts on the social sustainability of urban areas and neighbourhoods. Alterations to a place, through means such as soft densification, can diminish place attachment by eroding place memory, disintegrating social relations or undermining physical attributes of the environment.

The context and methods of research

The urban densification in Tehran, Iran's capital city, is the combined result of policy inconsistency, socio-political contestation and a weak planning system at multiple scales (Madanipour 2006; Ghadami and Newman 2019; Karampour 2021). The process takes the form of 'soft densification' characterised by piecemeal, plot-based, privately led and un-regulated residential development or demolition and re-development at a higher floor area ratio (FAR). The Detailed Plan of Tehran (2006) specifies the city's density and FAR thresholds at urban block and plot levels. However, municipalities and developers engage in 'selling and buying surplus density', which is of mutual financial benefit (Madanipour 2011; Nematollahi 2013; Karampour 2018) – the developers build at an increased FAR rate and, in turn, pay a development levy to the municipality, i.e. the more is built, the higher the levy paid. The underlying drivers of this monopolistic, clandestine practice could be found in the political fragmentation of urban governance structure, territorial spatial planning policies at the national level, migration patterns, and more importantly, the practices of the rentier state which promote speculation on urban land and property

(Khatam and Keshavarzian 2016; Ghadami et al. 2020). Tehran seems to be undergoing a process of soft densification across its neighbourhoods, although the reasons behind it are not well understood. One explanation can be that these neighbourhoods are suited for densification due to their gridiron structure which confers environmental qualities and accessibility, uniform street pattern and land division, and a modern landscape (Madanipour 1998). At the same time, flawed application of land use policies, lack of legislation to protect their architectural value, and the proximity of these areas to labour markets make them easy targets for speculation, re-development, and densification. Studies on the impact of density on urban sustainability in Iran have predominantly focused on environmental or energy aspects (Bokaie et al. 2016; Khoshnoodmotlagh et al. 2021; Roshan et al. 2021; Sedaghat and Sharif 2022). Some research has examined how factors arising from densification, such as in-migration to neighbourhoods, lack of urban services, and loss of privacy, can diminish residents' place attachment and lead to dissatisfaction with their neighbourhoods (Shieh and Shojaei 2008). High population density has also been found to be negatively correlated with social interaction between neighbours due to a lack of trust, kinship, and community attachment (Zareyian 2015).

This paper examines densification processes in two neighbourhoods in Tehran, Gisha and Afsariyeh, in detail (Figures 1 and 2). The two neighbourhoods were selected from among the inner-city neighbourhoods of Tehran and have similar characteristics, including age (built in the 1970s), street pattern (gridiron), building typology (apartment blocks), and land-use structure (residential). Gisha is located in a relatively central location, while Afsariyeh is located in the southeast of Tehran and has double the density of Gisha (455 people/hectare compared to 215 people/hectare, respectively).

This study employed a multi-faceted methodological design comprising three stages that blend qualitative and quantitative methods, including site visits and observation, a survey of 175 residents, and 16 semi-structured interviews with residents in Gisha and Afsariyeh. The residents were selected using quota sampling, a nonprobability technique, and drawing on the methodologies of similar studies (Turcu 2012). The survey questionnaire comprised 39 Likert-scale questions that were designed to gauge
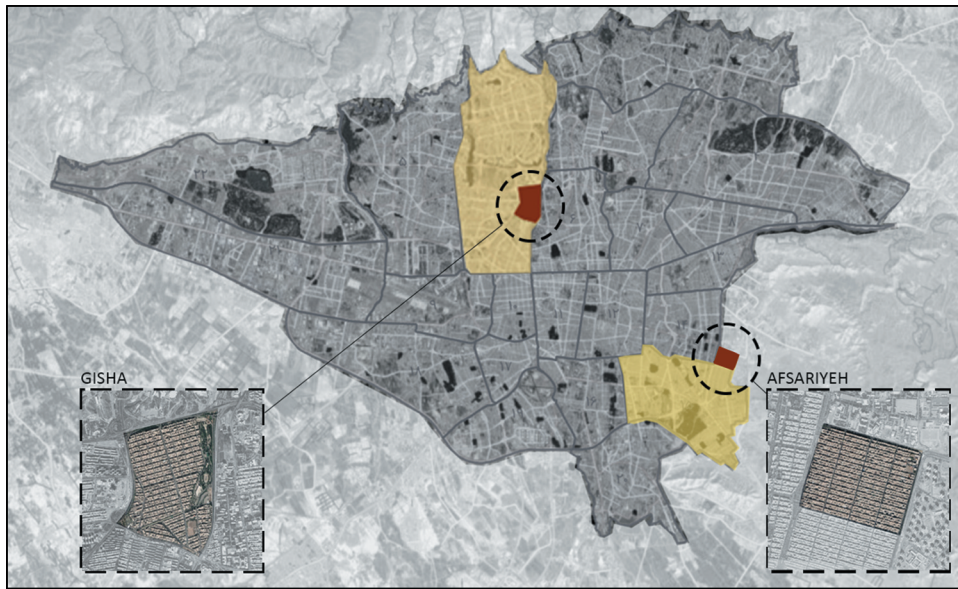
Figure 1. Location of the two neighbourhoods, Gisha and Afsariyeh in Tehran. The yellow areas signify the respective urban district boundaries. Source: the authors.

participants' experiences with densification (11 questions) and place attachment (28 questions). These questions were based on existing literature and focused on variables related to these two concepts. The survey data were analysed using the SPSS software package (Statistical Product and Service Solutions), and descriptive statistics were generated using the mean of variables to evaluate the residents' opinions, attitudes, and perceptions towards urban densification and place attachment. The analysis focused on the frequency distributions of responses to each question and identified a list of key themes/ variables with the highest level of agreement among respondents, either positive or negative. These variables indicated the objective and subjective attributes of density, the process of densification, and the construct of place attachment divided into physical and non-physical sub-categories (See Table 1).

The survey was used to understand the latent construct of the experience of densification and place attachment in Tehran. This situated knowledge was then used to address the research objective of understanding the interconnection between the experience of densification and place attachment through in-depth interviews with the residents. The identified themes/variables were used as the guiding topics of the interview protocol. A nested sampling model was employed to unify the sampling process through both survey and interview techniques, and so the interviewees were selected from the pool of survey respondents (Onwuegbuzie and Collins 2007). A total of 16 interviews were conducted, eight in Gisha and eight in Afsariyeh. The in-depth interviews lasted between 1.5 to 2 hours each. Eight women and eight men were interviewed, aged between 25 and 65. One limitation of this research design is the small interview sample size. This research has no claim towards generalisability of its finding and maintains its position as a context-dependent and locally rooted research endeavour towards gaining deep understanding of an exceptional case. Despite this limitation, the insights gained from the interviews are still valuable and contribute to the existing knowledge in the field. The fact that the interviews were conducted in-depth and were able to capture subtle differences or nuances in the data can compensate for the limitation imposed by the small sample size. The research design is summarised in Table 1.
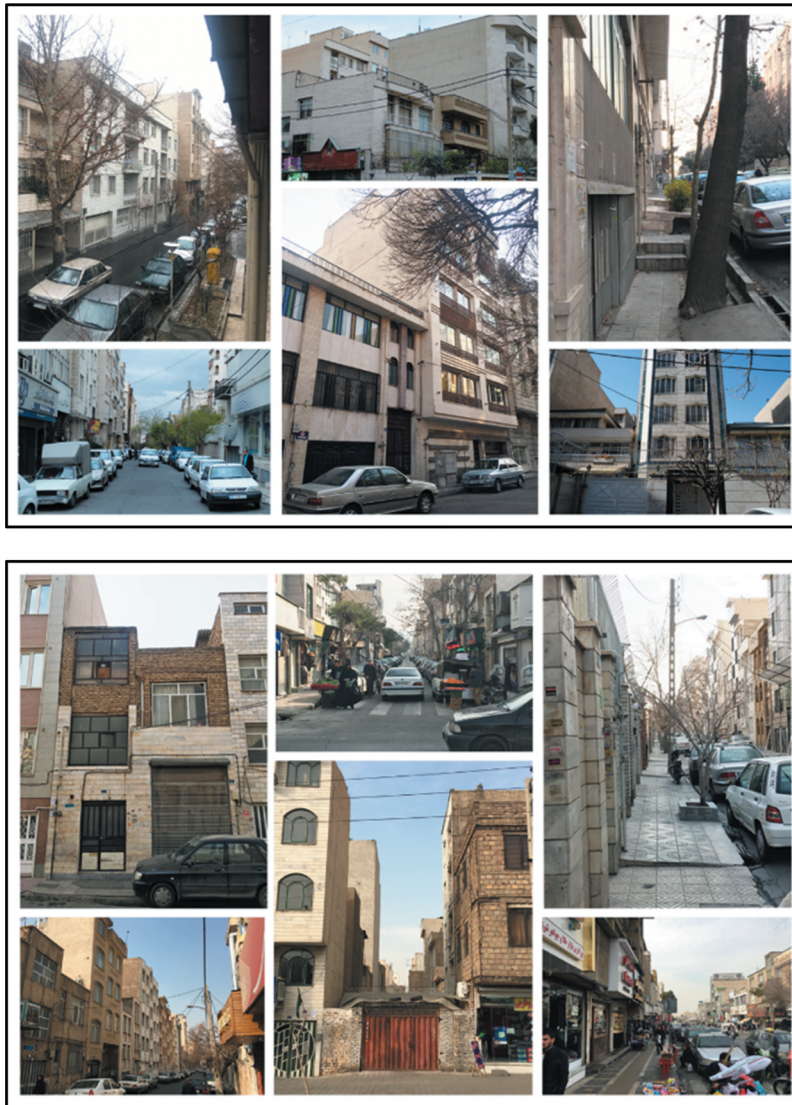
Figure 2. Gisha (top) and Afsariyeh (bottom) photos. Source: taken by the author in 2018.

Results

The qualitative analysis of the interview findings revealed connections between the residents' experience of density and their relationship with place, mainly around the two dimensions of place attachment as *place* and *process* (Scannell and Gifford (2010). The four identified themes concerned with *place* were (1) perceived environmental quality of place; (2) place dependence; (3) community loss; and (4) social turnover. In addition to these, two themes were identified affecting the *process* of formation of

place attachment: (1) place memory; and (2) place meaning.

Place as a physical and social construct

The most explicit link between the experience of densification and place attachment in Tehran was identified in relation to the perception of environmental qualities of place based on the experience of being in place (Rapoport 1982; Seamon 2000; Casey 2001; Macarthur 2001; Dempsey 2006;

Table 1. Research framework, research question and methods/data analysis.

Research Question: How does soft densification process impact place attachment at the neighbourhood level in Tehran?

The survey (175 residents): Emerging variables	
Experience of densification	Place attachment factors
Physical	*Physical*
• *Accessibility*	• *Environmental qualities*
• *Car park*	• *Aesthetic qualities*
• *Traffic congestion*	• *Accessibility*
• *Building features and design quality*	• *Functionality*
• *Physical amenities*	*Non-physical*
• *Greenery*	• *Privacy*
• *Open space*	• *Safety*
Non-physical	• *Migration*
• *Privacy*	• *Local community ties*
• *Sense of crowding*	• *Getting used to the place*
• *Migration*	• *Cultural confrontations*
• *Residential relocation*	• *Relocation experience*
	• *Personal and collective memories*
Semi-structured interviews (16 participants): four identified themes	
• Perceived environmental quality of place	
• Place dependence	
• Community loss	
• Social turnover	

Lewicka 2011). One of the most tangible yet problematic consequences of residential rebuilding is the nuisances caused by demolishing the existing buildings and the reconstruction process. In their accounts of such nuisances, residents mentioned noise caused during the demolishing/construction process, road closures, and sidewalk obstruction. One interviewee sarcastically remarked:

> "the structure of the old house in front of our home was rock-solid, they couldn't easily demolish it … it took a very long time for them to finally tear it down. The demolition noise was brutal." (Male, 40s,Gisha).

These nuisances are not directly associated with densification per se but are consequences of an under-regulated, inept urban management system which not only enables soft densification at the city level but also is incapable of minimising the local implications of such transformation. Many residents were critical of these nuisances while they felt powerless to act:

> "what can I do? I call the municipality to complain, if I am lucky enough, they will give the developer a notice. But

eventually [developers] start over after a few days." (Male, 20s, Gisha).

Such challenges might seem minor and temporary; however, the situation worsens when two or more constructions simultaneously happen on a single street. The long-term psychological distress and functional disruption caused by such nuisances could negatively impact residents' quality of life and their relationship with place.

Moreover, the lack of control mechanisms, preliminary evaluations and impact assessments in the small-scaled re-developments lead to an array of adverse effects on the existing urban fabric. The newly constructed buildings cast a shadow on the existing buildings, block natural ventilation, views and sunlight, particularly for lower storeys, and, in general, impose their physical presence onto the existing urban fabric:

> "Our south-faced windows used to be full of sunshine. Until this building [six-storey apartment building] was built here … now I have no sunlight in our home after 10 am." (Female, 30s, Afsariyeh)

Degradation of the environmental qualities of place has consequences and affects the functionality of place or place dependence. A recurring, strong theme in the interviews was concerned with the functionality of the neighbourhood and its determining role in consolidating place dependence and subsequently, place attachment. Place dependence is a form of attachment referring to the degree to which local residents rely on the neighbourhood to satisfy their needs (Hidalgo and Hernandez 2001; Giuliani 2003). This type of attachment signifies the imperative role of the neighbourhood as the setting of daily life in offering a balanced set of services, functions, and accessibilities. Residents reported that the neighbourhood's ability to satisfy their daily needs was the primary determinant of their attachment:

> "I really do not care if they change the neighbourhood, as long as they don't touch the places that satisfy my needs such as some specific shops and stores … we cannot resist change." (Male, 20s, Gisha).

This account might be understood as an indication of a lack of an affective connection to the place. A closer inspection suggests that a strong form of attachment exists that is reliant on the functionality of place. The functionality of place also proved to be highly contingent upon adequate parking spots and the level of street congestion. The lack of enough parking spaces for the residents and the daily users of the services across the neighbourhood disrupts the residents' daily lives in various ways. One interviewee remarked:

> "the high number of cars in the neighbourhood is really annoying … double parking is very common … sometimes [drivers] park their cars on the sidewalk … it's frustrating in narrow alleys." (Female, 30s, Afsariyeh).

As explained by one participant, soft densification process exacerbates the car parking problem because:

> "land parcels are very small in Afsariyeh; when they build apartment blocks, they do not provide parking space for all the units. This is the root of the problem … residents have to park in the street and there is not enough space for this." (Female, 40s, Afsariyeh)

Although traffic congestion, car dependency and the lack of sufficient parking spaces are among the most discussed urban challenges in Tehran (Atash 2007; Shoorcheh et al. 2016), the above accounts suggest that soft densification directly disrupts the expected functionality of place at the local level. The pre-eminence of place dependence in the case of this research suggests that in Tehran, the relationship between residents and their place of living has mainly remained at the level of satisfying daily needs. Furthermore, it can be argued that as the functionality of place is not consolidated through time, the residents have no opportunity to develop a more complex, affective relationship with place.

The residents' evaluations of the transformation of place were not all negative. A noteworthy narrative was identified among the residents in favour of densification and the subsequent changes to place based on a pro-development, pro-renewal perspective. A resident alluded to the notion of renewal and said:

> "the landscape of our neighbourhood has changed a lot, but in a good way. It is more modern now, new buildings, new shops, it's classier!" (Male, 40s, Afsariyeh).

This is a common narrative where the renewal effect of urban densification is positively interpreted and thus contributes to enhanced satisfaction and place attachment. Arguably, there is a considerable difference between urban renewal and urban densification in objectives, implementation steps and outcomes. Residents seem to favour the renewal of the old, run-down, ostensibly low-quality and austere buildings, but the question remains if this positive outcome could be reached by a more sustainable, less place-undermining process.

The ramifications of soft densification go beyond the physical elements of place and expand into the social domain. These social ramifications of urban densification in Tehran include social turnover triggered by the constant relocation of existing residents, the influx of new population, and the subsequent disruptions of family ties, support networks, and community groups. Some residents expressed concerns about social turnover in their neighbourhood and shared their own experiences of losing social ties. For example, one resident explained her experience of moving out of the neighbourhood because of the discussed residential rebuilding as depressing and excluding:

> "I suddenly felt that I was left alone … all my friends were living in Gisha. It was very hard for me; I was depressed and lonely … I did not feel belonged to the new neighbourhood. Eventually we moved back to Gisha after a couple of years." (Female, 50s, Gisha).

This account suggests that residential relocations and disruption of local bonds are the common narratives which have unnoticed implications for community cohesion, local support networks and social engagement.

The analysis also uncovered a complex, concealed socio-gender dynamic associated with patriarchal norms and family ties. Most female interviewees in Afsariyeh explicitly referred to their existing family ties as the critical determinant of their place attachment. In an exemplar account, one interviewee remarked that:

> "I do not feel attached to Afsariyeh at all. I live here because I have to. My parents live here and we have strong family ties as well. we have changed our home within the neighbourhood but never left it." (Female, 20s, Afsariyeh).

This theme suggests that the strong presence of patriarchal structures within some households that enormously value the family institution and do not allow individual autonomy might affect how people-place relations unfold. Within this context, the question of the dynamics between density and place attachment descends from being at the society's level to a strictly constrained scale of family. The way Iranian women might develop a sense of attachment to place might not be influenced by social dynamics, spatial attributes of place and their transformation.

Social turnover and loss of local ties are also closely linked to the prevailing inter-country and inter-city migration patterns and the socio-cultural conflicts arising from it. Socio-cultural heterogeneity is regarded in the literature as contributing to a higher perception of density (Rapoport 1975). The internal migration issue in Iran is a symptom of an array of longstanding ill-defined spatial planning policies at the macro level alongside a multitude of geopolitical externalities. In this sense, the migrant must not be seen as a troublemaker in the analysis but rather as a victim. A common account among the residents in both neighbourhoods was regarding their locality becoming a migration target. One resident in Gisha described her recent experience of dealing with a migrant family in their building and commented:

> "I had a parking issue in our building. A new neighbour who had come from the country used to occupy other neighbours' parking spot. He had two cars . . . I told him several times, he kept doing this for three years. . . it was

unbelievable, I understand that he was from a different culture, but things are different in cities." (Female, 50s, Gisha).

The findings suggest a deep gulf between lifestyles, expectations, traditions, needs, and desires of the urban citizens, or as our participant said, *us*, and the newcomer migrants, *them*, which is very likely to trigger intergroup socio-cultural conflicts. Socio-cultural dissimilarities exacerbated by continuous waves of migration are not the direct result of soft densification. Rather, densification is a supply-driven response to this condition by providing more housing stock in the popular areas among migrants.

Process of people-place relations

The findings identified a temporal phenomenon related to the memory of place and the process of its diminishment through the change of place. Loss of place memory could affect an individual's cognition of place and distort the representations of the past within the place (Lewicka 2008; Scannell and Gifford 2010; Manzo and Devine-Wright 2013). Destroying the material traces of sites *'resets the clock on the embodied relationship between the individual and the environment.'* (Jones and Evans 2012, 2326). The metaphoric expression of 'resetting the clock' of place and the individual's relationship with it explains the situation where the destruction of the material elements of place leads to its erosion and the birth of a new place out of the ashes of the old. An intergenerational gap also exists with regard to place memory. As one of the participants put it:

> "I don't have my head in the clouds . . . it is true that the neighbourhood has changed and many memories [place-related] are lost, but I never say the old image was better. Now, the buildings are new, and I like it this way." (Female, 50s, Gisha).

The above remark offers a more holistic view towards the complex layers of place memory. Place memory is predicted – among several other factors – by socio-demographic variables such as education, age and length of residence. Whether individual or collective, the memory of place is more tangible and vivid for the older generations. Place memory does not have significant meaning for the young generation that composes a considerable proportion of the population in our case study areas. Our findings suggest that they commonly have an attitude in favour of perpetual

changes associated with their vision of modernity. As one young interviewee said, *'One cannot live with memories.'* The noted inter-generational variation corresponds with different personality types (Lewicka 2013b) and also the two modes of attachment as traditional and active attachments (Hummon 1992). The traditional type of attachment is conceived to be more pertinent in older generations with restricted mobility and social circles and most often leads to the formation of nostalgia (Lewicka 2013a). Nevertheless, normative evaluation of these attachment types and their associated personality types must be avoided. For one thing, nostalgia could function as a powerful psychological tool to restore the disrupted continuity of the place.

Discussion

This paper argued that the process of soft densification explicitly affects place attachment by shaping place and affecting people-place relationships. The findings suggest that soft densification functions as an alienating mechanism in Tehran, continually consolidating conceived space at the expense of undermining lived space at the scale of everyday life (Lefebvre 1991). The identified themes and variables were clustered around two dimensions of place attachment as *place* and *process* (Scannell and Gifford 2010). While place's social and physical attributes determine the degree of place attachment through social relations and functionality of place, the process dimension interactively co-constructs personal and collective memories of place while highlighting the temporality of urban densification and place attachment.

The place undermining, incremental and piecemeal process of soft densification in Tehran means that the urban fabric transformation and community loss stretch over a long period, impacting intra-generational people-place relations and memories. These conditions are not directly linked to the technical definition of density per se but instead could be interpreted as the inevitable consequences of an ill-performed planning policy. This complements the view that densification unfolds in cities, not in isolation but as a response to the broader politico-economic, institutional and governance landscape (McFarlane 2020; Karampour 2021; Livingstone et al. 2021). This argument underlines the context-

sensitivity of urban compaction processes and undermines the universalist approach towards accepting the good faith of high density. Unpacking soft densification opens space to integrate it into policy discourse as an urban reality, not merely as an 'unplannable', exceptional process outside the realm of planned and regulated urban development (Roy 2005).

The presented results show that place attachment is strongly linked to the functional attributes of place manifested in the residents' dependence on place to satisfy their daily needs. This complements the existing literature emphasising on functionality of place, arguing that a prerequisite of developing affective links with the neighbourhood is the ability of the place to contribute to a seamless flow of everyday life of its inhabitants (Talen 1999; Trentelman 2009). Residents could develop more complex relationships with place through the satisfaction of this genuine need (Giuliani 2003; Hernandez et al. 2013). In Tehran, soft densification undermines the functionality of place through intensifying uses and networks, overwhelming services, overloading urban infrastructure and disrupting the everyday life activities of the residents. The continuous increase of density beyond the recommended cap and in the form of 'selling surplus FAR' (Karampour 2018) leads to a condition where the urban provision of services and infrastructure cannot keep up with the development pace within the neighbourhood either because of the lack of available undeveloped urban land or due to the deficiency of planning system to anticipate needs (Næss et al. 2020; Dunning et al. 2020).

The results also suggested that semantically, the term density resembles a wide range of physical implications and perceptual conditions such as crowding, construction sites, nuisances, social turnover, traffic, and the dominance of buildings, development, and speculation over social aspects of life. This bears significant policy implications as it talks to a commonly neglected side of density discourse concerned with the variegated interpretations and experiences of the concept among the public.

While we discussed the experiences associated with density/densification, place and place attachment in Tehran, these might differ in other contexts. Nevertheless, the findings presented here may be

pertinent to other geographies in the fast-growing cities of the Global South, where the border between formality and informality is blurred. These underscore the significance of posing questions on the 'right' density in a place or city, or the 'right' way to implement densification.

Soft densification was also found to have implications for place meaning. The findings suggest that the meaning of place in Tehran's neighbourhoods is divided into two parallel metaphorical ideas: (1) an internal, socially constructed and more tangible idea of place at the micro-scale mainly corresponding to an individual's life events, everyday life, routine activities and lived experience; and (2) an external, structurally-formed idea of place connected to the changes occurring at the macro scale within which organisational forces, institutional regulations and governmental formalities seem to have more authority and control. The latter idea must still be considered a 'place' despite its seemingly disconnection from daily experiences and individualised meanings. In the two neighbourhoods, the residents perceive soft densification in relation to the latter idea of place; as a trajectory of change to which they have no authority to control, no way to influence and no right to challenge. Place changes – in the latter conceptualisation – are deemed inevitable and it is on the local community to resist or adapt to the massive consequences of change in multiple aspects of their daily lives (de Certeau 1988).

As a result of this ontological duality of place, the locals tend to interpret their neighbourhood as an untouchable, inaccessible urban superstructure that is being transformed based on an incomprehensible upper-level knowledge of technicity and unknown logic of governmentality (de Certeau 1988). This dualism points out the difference between the realm of everyday life or 'lived space' on the one hand, and the upper level of the state, institutions, and the realm of untouchable – 'conceived space'. The parallel lives of these places concomitantly carry on, although at different institutional levels and with the involvement of distinctive actors.

The case of Tehran showed that the current landscape of continual place change through soft densification portrays 'the devastating conquest of the lived by the conceived' (Wilson 2013). The individualised perception of the density level as a snapshot or a condition at a particular moment plays a less significant role in the formation of place attachment compared to the accumulated experience of densification. The precedence of *process* over *condition* in investigating urban density and densification is of utmost importance and hugely informs the research towards identifying sustainable urban forms or the ideal density level for creating a sustainable future.

Lastly, the emerging literature on the multiple dichotomous theoretical approaches to density, such as subjective vs objective, topological vs topographical, and soft vs hard not only indicate the complexity of this ostensibly straightforward urban concept but also signifies a 'qualitatively relational turn' in urban density scholarship (Kjærås 2020; McFarlane 2020). This epistemological break will have important implications for applying density models and their associated planning regimes at multiple scales and within different contexts. It will also challenge the established but disputed body of knowledge on the sustainability of higher densities by showing that neither sustainability nor densification happens in a vacuum. Therefore, densification in general and soft densification in particular, must be seen as relational processes of change that take various forms and trajectories depending on the reciprocities between multiple social, economic, political and cultural forces and stakeholders.

Conclusion

Tehran's ongoing soft densification process is influencing the everyday life of its residents and is anticipated to have long-term environmental and social implications for the city at large. This paper speaks to the subjective and qualitative nature of urban densification processes by unpacking the relationship between the experience of densification and place attachment. It contends that from the perspective of the residents of Tehran, density has become synonymous with 'change', incorporating various transformative trajectories, sometimes not even relevant to the technical connotations of the terms. Additionally, densification is perceived as an incontestable process of 'place change', which brings about social transformation and physical upheaval. As observed in Tehran and in accordance with evidence from other cities across the globe, soft densification is becoming a prominent mode of small-scale and incremental urban development at the micro or local level. While enabled by structural preconditions, the local experiences of soft densification as a process of constant

change are riddled with complexities and implications for everyday life.

The findings of this research make important theoretical, empirical and policy-related contributions. Theoretically, the paper developed a novel framework of place-based social sustainability, which is then tested in two neighbourhoods while adding to the relational perspectives on urban density as an experienced and topological phenomenon. Empirically, the paper contributed to the less developed body of studies focusing on Western Asian and Iranian urban contexts by unpacking local conditions at the neighbourhood level in the rapidly occurring and undocumented process of soft densifications in Tehran as an exemplar city in the South in terms of urbanisation pace. This contribution is particularly salient to the development of 'theory from the south' (Roy 2014; Lawhon and Truelove 2020) and the emerging trends of south-south and south-north knowledge transfer and bi-directional learning (Birch and Keating 2011; Parnell and Robinson 2012; Patel 2014). Policy-wise, the paper drew important lessons on the implications of planning policies and governance frameworks for the sustainability of urban communities, particularly those that facilitate and encourage soft densification. Such lessons could draw attention to the necessity of knowledge transfer from the everyday level to planning practice, and initiating more inclusive, context-sensitive approaches to urban decision-making. These lessons are also valuable to cities elsewhere, both in the Northern and Southern contexts, which undergo similar processes of soft densification driven by the deregulation of planning systems, financialisation of housing and municipal neoliberal agendas such as privatisation and entrepreneurism (Jessop 2002; Wang and Shaw 2018; Navarrete-hernandez and Toro 2019; Aalbers 2020).

Urban policy should challenge the orthodoxy of an objective understanding of urban densification which is disengaged from the socio-cultural base of cities and nurture practice that builds on topological and relational 'readings' of density. Integrating lived experiences and local knowledge into the planning policy can be done through transdisciplinary and co-creation processes, participatory evaluations, post-occupancy assessments and social surveys (Turcu 2012, 2013; Crane et al. 2021). Future research must consider these aspects of urban densification in the rapidly growing cities of the global South. This could be coupled with explorations of the politics of soft densification in relation to its unplannable nature and the political ecology of sustainable densification. It is also relevant to examine the politics of the production of social space through urban densification at the national level and through a critical analysis of the dynamics between space, power and the state. Specifically, more research can be done by looking into density as a political tool driven by political values, planning ideologies, capital circulation trajectories, and social categorisations along gender, ethnicity and class divisions.

Disclosure statement

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References

Aalbers MB. 2020. Financial geography III: the financialization of the city. Prog Hum Geogr. 44(3):595–607. doi:10.1177/0309132519853922.

Alawadi K, Benkraouda O. 2019. The debate over neighborhood density in Dubai: between theory and practicality. J Plan Educ Res. 39(1):18–34. doi:10.1177/0739456X17720490.

Anderson W, Kanaroglou P, Miller E. 1996. Urban form, energy and the environment: a review of issues, evidence and policy. Urban Studies [Preprint]. [accessed 2017 Feb 17]. http://usj.sagepub.com/content/33/1/7.short.

Arundel R, Ronald R. 2017. The role of urban form in sustainability of community: the case of Amsterdam. Environ Plan B: Urban Anal City Sci. 44(1):33–53. doi:10.1177/0265813515608640.

Atash F. 2007. The deterioration of urban environments in developing countries: mitigating the air pollution crisis in Tehran, Iran. Cities. 24(6):399–409. doi:10.1016/j.cities.2007.04.001.

Azizi MM, Moeini M. 2011. An analysis of relationship between environmental quality and construction density, Honar-Ha-

Ye-Ziba: Memary Va Shahrsazi. Wegweiser. [accessed 2017 Aug 22] https://jfaup.ut.ac.ir/article_24680_en.html.

Baldwin C, King R. 2018. *Social sustainability, climate resilience and community-based urban development, social sustainability, climate resilience and community-based urban development*. doi:10.4324/9781351103329.

Bibby P, Henneberry J, Halleux J-M. 2020. Incremental residential densification and urban spatial justice: the case of England between 2001 and 2011. Urban Stud. 58 (10):0042098020936967. doi:10.1177/0042098020936967.

Birch EL, Keating AM. 2011. An assessment of how cities create and transfer knowledge: a landscape study. Philadelphia: Penn Inst Urban Res [Preprint].

Blanc F, White T. 2020. Life in London's changing densities. Urban Geogr. 41:1–8.

Bokaie M, Zarkesh MK, Arasteh PD, Hosseini A. 2016. Assessment of Urban Heat Island based on the relationship between land surface temperature and Land Use/Land Cover in Tehran. Sustainable Cities Soc. 23:94–104. doi:10.1016/J.SCS.2016.03.009.

Bramley G, Power SS. 2009. Urban form and social sustainability: the role of density and housing type. Environ Plann B Plann Des. 36(1):30–48. doi:10.1068/b33129.

Brown B, Perkins D. 1992. Disruptions in place attachment. Place Attachment. 279–304. doi:10.1007/978-1-4684-8753-4_13.

Brown D. 2014. Challenging the conceptual boundaries of the dominant EuroAmerican compact city paradigm. Sub-Saharan Africa: the need for Southern alternatives to compact urban form and high density. Development Planning Unit Working Paper Series, University College London [Preprint].

Burton E. 2001 Apr. The compact city and social justice. Hous Environ Sustainability. 18–19:1–16.

Casey ES. 2001. Between geography and philosophy: what does it mean to be in the place-world? Ann Assoc Am Geogr. 91 (4):683–693. doi:10.1111/0004-5608.00266.

Cavicchia R, Cucca R. 2020. Densification and school segregation: the case of Oslo. Urban Plann. 5(3):217–229. doi:10.17645/up.v5i3.3215.

de Certeau M. 1988. The practice of everyday life. Rendall S, translator. Berkeley, California: University of California Press.

Cervero R. 2002. Built environments and mode choice: toward a normative framework. Transp Res D Transp Environ. 7 (4):265–284. doi:10.1016/S1361-9209(01)00024-4.

Ciccone A. 2002. Agglomeration effects in Europe. Eur Econ Rev. 46(2):213–227. doi:10.1016/S0014-2921(00)00099-4.

Cittati V-M, Balest J, Exner D. 2022. What is the relationship between collective memory and the commoning process in historical building renovation projects? The case of the Mas di Sabe, Northern Italy. Sustainability. 14(19):11870. doi:10.3390/su141911870.

Crane M, Lloyd S, Haines A, Ding D, Hutchinson E, Belesova K, Davies M, Osrin D, Zimmermann N, Capon A, et al. 2021. Transforming cities for sustainability: a health perspective. Environ Int. 147:106366. doi:https://doi.org/10.1016/j.envint.2020.106366.

Cresswell T. 2014. Place: an introduction. doi:10.1139/h2012-055.

Crinson M. 2005. Urban memory: history and amnesia in the Modern City. London: Taylor & Francis.

Dave S. 2010. High urban densities in developing countries: a sustainable solution? on JSTOR. Built Environ. 36(1):9–27. doi:10.2148/benv.36.1.9.

Dave S. 2011. Neighbourhood density and social sustainability in cities of developing countries. Sustainable Dev. 19 (3):189–205. doi:10.1002/sd.433.

Dempsey N. 2006. The influence of the quality of the built environment on social cohesion in English neighbourhoods.

Dempsey N, Bramley G, Power S, Brown C. 2011. The social dimension of sustainable development: defining urban social sustainability. Sustainable Dev. 19(5):289–300. doi:10.1002/sd.417.

Dempsey N, Brown C, Bramley G. 2012. The key to sustainable urban development in UK cities? The influence of density on social sustainability. Prog Plann. 77(3):89–141. doi:10.1016/j.progress.2012.01.001.

Devine-Wright P. 2009. Rethinking NIMBYism: the role of place attachment and place identity in explaining place-protective action. J Community Appl Soc Psychol. 19(6):426–441. doi:10.1002/casp.1004.

Dianati V. 2021. The interplay between urban densification and place change in Tehran; implications for place-based social sustainability. Sustainability. 13(17):9636. doi:10.3390/su13179636.

Dunning R, Hickman H, While A. 2020. Planning control and the politics of soft densification. Town Plan Rev. 91(3):305–324. doi:10.3828/tpr.2020.17.

Dunning R, Hickman H, While A. 2020. Planning control and the politics of soft densification. Town Plan Rev. 91(3):305–324. doi:10.3828/tpr.2020.17.

Duranton G, Puga D. 2020. The economics of urban density. Journal Econ Perspect. 34(3):3–26. doi:10.1257/jep.34.3.3.

Eizenberg E, Jabareen Y. 2017. Social sustainability: a new conceptual framework. Sustainability. 9(1):68. doi:10.3390/su9010068.

Emo B, Treyer L, Schmitt G, Hoelscher C, 2017, January. Towards defining perceived urban density. In Proceedings of the 35th International Conference on Education and Research in Computer Aided Architectural Design in Europe: ShoCK. p. 637–646.

Ewing R, Hajrasouliha A, Neckerman KM, Purciel-Hill M, Greene W. 2016. Streetscape features related to pedestrian activity. J Plan Educ Res. 36(1):5–15. doi:10.1177/0739456X15591585.

Fallah BN, Partridge MD, Olfert MR. 2011. Urban sprawl and productivity: evidence from US metropolitan areas. Pap Reg Sci. 90(3):451–472. doi:10.1111/j.1435-5957.2010.00330.x.

Ferm J, Clifford B, Canelas P, Livingstone N. 2021. Emerging problematics of deregulating the urban: the case of permitted development in England. Urban Stud. 58 (10):2040–2058. doi:10.1177/0042098020936966.

Ghadami M, Dittmann A, Safarrad T. 2020. Lack of spatial approach in urban density policies: the case of the master plan of Tehran. Sustainability. 12(18):7285. doi:10.3390/su12187285.

Ghadami M, Newman P. 2019. Spatial consequences of urban densification policy: floor-to-area ratio policy in Tehran, Iran. Environ Plan B: Urban Anal City Sci. 46(4):626–647. doi:https://doi.org/10.1177/2399808317722168.

Giddings B, Rogerson R. 2021. Compacting the city centre: densification in two Newcastles. Build Cities. 2(1):185–202. doi:10.5334/bc.74.

Giuliani MV. 2003. Theory of Attachment and Place Attachment. In: Bonnes M, Lee T, Bonaiuto M, editors. Psychological theories for environmental issues. London: Routledge; p. 137–170.

Glaeser EL, Gottlieb JD. 2009. The wealth of cities: agglomeration economies and spatial equilibrium in the United States. J Econ Lit. 47(4):983–1028. doi:10.1257/jel.47.4.983.

Halbwachs M. 1992. On collective memory. Chicago: University of Chicago Press.

Hamiduddin I, Adelfio M. 2019. Social sustainability and new neighbourhoods: case studies from Spain and Germany. Urban Social Sustainability: Theory, Policy Practicepolicy. doi:10.4324/9781315115740.

Handy S. 1996. Methodologies for exploring the link between urban form and travel behavior. Transp Res D Transp Environ. 1(2):151–165. doi:10.1016/S1361-9209(96)00010-7.

Harper C. 2019. Density: objective measure or critical tool of the neoliberal agenda? Footprint: Delft Univ Archit Theory J. 13 (1):31–54.

Hemani S, Das AK, Chowdhury A. 2017. Influence of urban forms on social sustainability: a case of Guwahati, Assam. Urban Des Int. 22(2):168–194. doi:10.1057/s41289-016-0012-x.

Hernandez B, Hidalgo MC, Ruiz C. 2013. Theoretical and methodological aspects of research on place attachment.

Hidalgo M, Hernandez B. 2001. Place attachment: conceptual and empirical questions. J Environ Psychol [Preprint]. [accessed 2017 May 3]. http://www.sciencedirect.com/science/article/pii/S027249440190221X.

Hofstad H. 2012. Compact city development: high ideals and emerging practices. European J Spatial Dev. 1(1):1–23.

Hummon DM. 1992. Community attachment. In: Irwin, Altman, Setha, M. Low, Editors. Place attachment. Boston, MA: Springer US; p. 253–278.

Jessop B. 2002. Liberalism, neoliberalism, and urban governance: a state–theoretical perspective. Antipode. 34 (3):452–472. doi:10.1111/1467-8330.00250.

Jones P, Evans J. 2012. Rescue geography: place making, affect and regeneration. Urban Stud. 49(11):2315–2330. doi:10.1177/0042098011428177.

Karampour K. 2018. Municipal funding mechanism and development process: a case study of Tehran.

Karampour K. 2021. Implications of density bonus tool for urban planning: relaxing floor area ratio (FAR) regulations in Tehran. Int Plann Stud. 26(3):219–235. doi:10.1080/13563475.2020.1802235.

Keil R. 2020. The density dilemma: there is always too much and too little of it. Urban Geogr. 41(10):1284–1293. doi:10.1080/02723638.2020.1850025.

Khatam A, Keshavarzian A. 2016. Decentralization and ambiguities of local politics in Tehran. Middle East Institute, Governing Megacities in MENA and Asia [Preprint]. http://www.mei.edu/content/map/governing-megacities-mena-and-asia.

Khoshnoodmotlagh S, Daneshi A, Gharari S, Verrelst J, Mirzaei M, Omrani H. 2021. Urban morphology detection and it's linking with land surface temperature: a case study for Tehran Metropolis, Iran. Sustainable Cities Soc. 74:103228. doi:10.1016/J.SCS.2021.103228.

Kjærås K. 2020. Towards a relational conception of the compact city. Urban Stud. 58(6):004209802090728. doi:10.1177/0042098020907281.

Kyttä M, Broberg A, Haybatollahi M, Schmidt-Thomé K. 2016. Urban happiness: context-sensitive study of the social sustainability of urban settings. Environ Plann B Plann Des. 43 (1):34–57. doi:10.1177/0265813515600121.

Lak A, Hakimian P. 2019. Collective memory and urban regeneration in urban spaces: reproducing memories in Baharestan Square, city of Tehran, Iran. City, Cult Soc. 18:100290. doi:10.1016/j.ccs.2019.100290.

Lara-Hernandez JA, Melis A. 2018. Understanding the temporary appropriation in relationship to social sustainability. Sustainable Cities Soc. 39:366–374. doi:10.1016/j.scs.2018.03.004.

Lawhon M, Truelove Y. 2020. Disambiguating the southern urban critique: propositions, pathways and possibilities for a more global urban studies. Urban Stud. 57(1):3–20. doi:10.1177/0042098019829412.

Lefebvre H. 1991. The production of space. Oxford: Blackwell.

Lefebvre H. 1991. Critique of everyday life: foundations for a sociology of the everyday. London: Verso.

Lewicka M. 2008. Place attachment, place identity, and place memory: restoring the forgotten city past. J Environ Psychol. 28(3):209–231. doi:10.1016/j.jenvp.2008.02.001.

Lewicka M. 2011. Place attachment: how far have we come in the last 40 years? J Environ Psychol. 31(3):207–230. doi:10.1016/j.jenvp.2010.10.001.

Lewicka M. 2013a. In search of roots. Memory as enabler of place attachment. In: L M., and Devine-Wright P., editors. Place attachment. Advances in theory, methods and applications. p. 49–60.

Lewicka M. 2013b. Place attachment, place attachment: advances in theory, methods and applications. doi:10.4324/9780203757765.

Livingstone N, Fiorentino S, Short M. 2021. Planning for residential "value"? London's densification policies and impacts. Build Cities. 2(1):203–219. doi:10.5334/bc.88.

Low S, Altman I. 1992. Place attachment. Place Attachment [Preprint]. [accessed 2017 May 3]. http://link.springer.com/chapter/10.1007/978-1-4684-8753-4_1.

Macarthur D. 2001. Place and experience: a philosophical topography. Philos Rev. 110(4):632–634. doi:10.1215/00318108-110-4-632.

Madanipour A. 1998. Tehran: the making of a metropolis. Chichester: Academy Press.

Madanipour A. 2006. Urban planning and development in Tehran. Cities. 23(6):433–438. doi:10.1016/j.cities.2006.08.002.

Madanipour A. 2011. Sustainable development, urban form, and megacity governance and planning in Tehran. 67–91. doi:10.1007/978-4-431-99267-7_4.

Malpas J. 1999. Place and experience. A Philosophical Topography [Preprint].

Manzo L, Devine-Wright P. 2013. Place attachment: advances in theory, methods and applications.

Massey D. 2013. Space, place and gender. Cambridge: Polity Press.

McFarlane C. 2016. The geographies of urban density. Prog Hum Geogr. 40(5):629–648. doi:10.1177/0309132515608694.

McFarlane C. 2020. De/re-densification: a relational geography of urban density. City. 24(1–2):314–324. doi:10.1080/13604813.2020.1739911.

Mindali O, Raveh A, Salomon I. 2004. Urban density and energy consumption: a new look at old statistics. Transp Res Part A: Policy Practi. 38(2):143–162. doi:10.1016/j.tra.2003.10.004.

Modarres A. 2013. Commuting and energy consumption: toward an equitable transportation policy. J Transport Geogr. 33:240–249. doi:10.1016/j.jtrangeo.2013.09.005.

Morgan P. 2010. Towards a developmental theory of place attachment. J Environ Psychol. 30(1):11–22. doi:10.1016/j.jenvp.2009.07.001.

Mouratidis K. 2018. Built environment and social well-being: how does urban form affect social life and personal relationships? Cities. 74:7–20. doi:https://doi.org/10.1016/j.cities.2017.10.020.

Næss P, Saglie IL, Richardson T. 2020. Urban sustainability: is densification sufficient? European Plann Stud. 28(1):146–165. doi:10.1080/09654313.2019.1604633.

Nanzer B. 2004. Measuring sense of place: a scale for Michigan. Admin Theory Prax. 26(3):362–382. doi:10.1080/10841806.2004.11029457.

Navarrete-hernandez P, Toro F. 2019. Urban systems of accumulation: half a century of chilean neoliberal urban policies. Antipode. 51(3):899–926. doi:10.1111/anti.12504.

Nematollahi S. 2013. An investigation into selling surplus density. فصلنامه علمی - پژوهشپژوهش و برنامه ریزی شهری. 7 (24):23–42.

Neuman M. 2005. The compact city fallacy. J Plan Educ Res. 25 (1):11–26. doi:10.1177/0739456X04270466.

Newman PG, Kenworthy JR. 1989. Cities and automobile dependence: an international sourcebook.

Nilsson P. 2017. Are valuations of place-based amenities driven by scale? Hous Stud. 32(4):449–469. doi:10.1080/02673037.2016.1219330.

Onwuegbuzie AJ, Collins KMT. 2007. The qualitative report a typology of mixed methods sampling designs in social science research. Qual Rep. 12(2):281–316. doi:10.1007/s11135-006-9000-3.

Parnell S, Robinson J. 2012. Re)theorizing cities from the global south: looking beyond neoliberalism. Urban Geogr. 33 (4):593–617. doi:10.2747/0272-3638.33.4.593.

Patel S. 2014. Is there a 'south'perspective to urban studies?. In: Susan, Parnell, Sophie, Oldfield, Editors. The Routledge handbook on cities of the global south. London: Routledge; p. 59–69.

Pendall R, Carruthers JI. 2003. Does density exacerbate income segregation? Evidence from U.S. Metropolitan areas, 1980 to 2000. Hous Policy Debate. 14(4):541–589. doi:10.1080/10511482.2003.9521487.

Pérez F. 2020. 'The miracle of density': the socio-material epistemics of urban densification. Int J Urban Reg Res. 44 (4):617–635. doi:10.1111/1468-2427.12874.

Pont MB, Haupt P, Berg P, Alstäde V, Heyman A. 2021. Systematic review and comparison of densification effects and planning motivations. Build Cities. 2(1):378. doi:10.5334/bc.125.

Quastel N, Moos M, Lynch N. 2012. Sustainability-as-density and the return of the social: the case of Vancouver, British Columbia. Urban Geogr. 33(7):1055–1084. doi:10.2747/0272-3638.33.7.1055.

Quigley JM. 1998. Urban diversity and economic growth. Journal Econ Perspect. 12(2):127–138. doi:10.1257/jep.12.2.127.

Rao V. 2007. Proximate distances: the phenomenology of density in Mumbai. Built Environ. 33(2):227–248. doi:10.2148/benv.33.2.227.

Rapoport A. 1975. Toward a redefinition of density. Environ Behav. 7(2):133–158. doi:10.1177/001391657500700202.

Rapoport A. 1982. Urban design and human systems: on ways of relating buildings to urban fabric. Hum Energy Factors Urban Plann: A Syst Approach. 161–184. doi:10.1007/978-94-009-7651-1.

Relph E. 1976. Place and placelessness. [accessed 2017 May 2]. http://library.wur.nl/WebQuery/clc/116180.

Roshan G, Sarli R, Grab SW. 2021. The case of Tehran's urban heat island, Iran: impacts of urban "lockdown" associated with the COVID-19 pandemic. Sustainable Cities Soc. 75:103263. doi:10.1016/J.SCS.2021.103263.

Roy A. 2005. Urban informality: toward an epistemology of planning. J Am Plann Assoc. 71(2):147–158. doi:10.1080/01944360508976689.

Roy A. 2014. Worlding the South: Toward a post-colonial urban theory. In: Susan, Parnell, Sophie, Oldfield, Editors. The Routledge Handbook on Cities of the Global South. London: Routledge; p. 31–42.

Scannell L, Gifford R. 2010. Defining place attachment: a tripartite organizing framework. J Environ Psychol. 30 (1):1–10. doi:10.1016/j.jenvp.2009.09.006.

Schmidt-Thomé K, Haybatollahi M, Kyttä M, Korpi J. 2013. The prospects for urban densification: a place-based study. Environ Res Lett. 8(2):025020. doi:https://doi.org/10.1088/1748-9326/8/2/025020.

Seamon D. 2000 April. A way of seeing people and place: phenomenology in environment-behavior research. Theor Perspect Environ -Behav Res. 157–178. 10.1007/978-1-4615-4701-3

Seamon D. 2014. Place attachment and phenomenology: the synergystic dynamism of place. Place Attachment: Adv Theory Methods Appl. 11–22. doi:10.4324/9780203757765.

Sedaghat A, Sharif M. 2022. Mitigation of the impacts of heat islands on energy consumption in buildings: a case study of the city of Tehran, Iran. Sustainable Cities Soc. 76:103435. doi:10.1016/J.SCS.2021.103435.

Seghezzo L. 2009. The five dimensions of sustainability. Env Polit. 18(4):539–556. doi:10.1080/09644010903063669.

Shamai SS. 1991. Sense of place: an empirical measuremen. Geoforum. 22(3):347–358. doi:10.1016/0016-7185(91)90017-K.

Shieh E, Shojaei R. 2008. The impacts of increasing urban density on neighbourhood's social qualities (In Persian).

Shirazi MR. 2020. Compact urban form: neighbouring and social activity. Sustainability. 12(5):1987. doi:10.3390/su12051987.

Shirazi MR, Keivani R. 2019. Social sustainability discourse: a critical revisit. Urban Social Sustainability: Theory, Policy Practicepolicy. doi:10.4324/9781315115740.

Shirazi MR, Keivani R. 2021. Social sustainability of compact neighbourhoods evidence from London and berlin. Sustainability (Switzerland). 13(4):2340. doi:https://doi.org/10.3390/su13042340.

Shoorcheh M, Varesi H, Mohammadi J, Litman T. 2016. Urban growth structure and travel behavior in Tehran City. Mod Appl Sci. 10(8):32. doi:10.5539/mas.v10n8p32.

Sivam A, Karuppannan S, Davis MC. 2012. Stakeholders' perception of residential density: a case study of Adelaide, Australia. J Hous Built Environ. 27(4):473–494. doi:10.1007/s10901-011-9265-2.

Soja EW. 1980. The socio-spatial dialectic. Ann Assoc Am Geogr. 70(2):207–225. doi:10.1111/j.1467-8306.1980.tb01308.x.

Stedman RC. 1999. Sense of place as an indicator of community sustainability. For Chron. 75(5):765–770. doi:https://doi.org/10.5558/tfc75765-5.

Talen E. 1999. Sense of community and neighbourhood form: an assessment of the social doctrine of new urbanism. Urban Stud. 36(8):1361–1379. doi:10.1080/0042098993033.

Touati-Morel A. 2015. Hard and soft densification policies in the Paris city-region. Int J Urban Reg Res. 39(3):603–612. doi:10.1111/1468-2427.12195.

Trentelman CK. 2009. Place attachment and community attachment: a primer grounded in the lived experience of a community sociologist. Soc Nat Resour. 22 (908553686):191–210. doi:10.1080/08941920802191712.

Tuan YY. 1979. Space and place: humanistic perspective. Philos Geogr. doi:10.1007/978-94-009-9394-5.

Turcu C. 2012. Local experiences of urban sustainability: researching housing market renewal interventions in three English neighbourhoods. Prog Plann. 78(3):101–150. doi:10.1016/j.progress.2012.04.002.

Turcu C. 2013. Re-thinking sustainability indicators: local perspectives of urban sustainability. J Environ Plann Manage. 56(5):695–719. doi:10.1080/09640568.2012.698984.

Üçoğlu M, Güney KM, Keil R. 2020. Form, function, density: understanding the legacies of a century of modernist planning and urbanisation in Istanbul. In: Margot, Rubin, Alison, Todes, Philip, Harrison, Alexandra, Appelbaum, Editors. Densifying the city?. Cheltenham, UK: Edward Elgar Publishing.

Ujang N, Kozlowski M, Maulan S. 2018. Linking place attachment and social interaction: towards meaningful public places. J Place Manage Dev. 11(1):115–129. doi:https://doi.org/10.1108/JPMD-01-2017-0012.

Wang Y, Shaw D. 2018. The complexity of high-density neighbourhood development in China: intensification, deregulation and social sustainability challenges. Sustainable Cities Soc. 43:578–586. doi:10.1016/j.scs.2018.08.024.

West S, Haider LJ, Stålhammar S, Woroniecki S. 2020. A relational turn for sustainability science? Relational thinking, leverage points and transformations. Ecosyst People. 16(1):304–325. doi:10.1080/26395916.2020.1814417.

Wilson J. 2013. The devastating conquest of the lived by the conceived. Space Cult. 16(3):364–380. doi:10.1177/1206331213487064.

von Wirth T, Grêt-Regamey A, Moser C, Stauffacher M. 2016. Exploring the influence of perceived urban change on residents' place attachment. J Environ Psychol. 46:67–82. doi:10.1016/j.jenvp.2016.03.001.

Withers CWJ. 2009. Place and the"spatial turn" in geography and in history. J Hist Ideas. 70(4):637–658. doi:10.1353/jhi.0.0054.

Woodcraft S. 2015. Understanding and measuring social sustainability. J Urban Regener Renewal. 2:133–144.

Yunda JG, Sletto B. 2020. Densification, private sector-led development, and social polarization in the global south: lessons from a century of zoning in Bogotá. Cities. 97:102550. doi:10.1016/j.cities.2019.102550.

Zareyian M. 2015. The social impacts of increasing urban density in Tehran (In Persian).

Zube EH, Friedman S, Simcox DE. 1989. Landscape change: perceptions and physical measures. Environ Manage. 13 (5):639–644. doi:10.1007/BF01874970.