

PERCEPTIONS AND PREFERENCES OF URBAN GREENERY  
IN CITIES UNDERGOING DENSIFICATION  
– A CASE STUDY OF INNER MELBOURNE, AUSTRALIA

Katie Mai Skillington, GPSS-GLI, ID 47-156822

Advisor: Professor Atsushi Deguchi

Co-Advisor: Professor Makoto Yokohari

ABSTRACT

Globally, cities are facing simultaneous pressures from rapidly increasing urbanization and the negative effects of climate change. As a result, many governments and planners are pursuing sustainable urban design concepts (Jabareen, 2006). Increasing urban density (UD) and urban greenery (UG) provision are two such concepts, yet they have a dichotomous relationship (Ståhle, 2010; Hagan, 2014). Despite evidence outlining the social, economic and environmental benefits of both UD and UG, their collaborative application is hampered by culturally entrenched ‘city versus nature’ attitudes, land use conflicts, and spatial limitations in dense environments (Jim, 2004; Sanyal et al., 2012; SBEnrc, 2012). Existing literature suggests that successful collaborative applications of UG and UD require a needs-based approach, which incorporates resident populations’ perceptions and preferences of UG (Byrne & Sipe, 2010; Wang & Zhao, 2017). However, studies of UG preferences in the context of *densifying* cities are relatively novel in literature (Haaland & van den Bosch, 2015). There is also limited understanding of what associations may exist between urban context and preferences (Lo & Jim, 2010) despite their potential usefulness to UG planners. Furthermore, preference studies to date rarely reflect on the utilization of preferences in planning policy. In order to efficiently deliver contextually appropriate UG in cities undergoing densification, gaining an understanding of these issues is of critical importance.

Therefore, this study aims to identify residents' UG preferences in the context of a densifying city, compare these to urban characteristics of respondents' surrounds, and assess how preferences are/can be utilized in delivery mechanisms. Within the psychophysical paradigm (Zube et al., 1982), preferences are assessed by public survey across three areas: 1-preferred functional provisions of UG; 2-preferred aesthetic qualities of UG; and 3-preferences for implementation. The reported preferences are compared against the following urban characteristic factors to identify relationships or differences: population density, rate of densification, perceived densification, land coverages, and open space. Finally, the results are assessed against a content analysis of relevant policy documents in the case study area and interviews with stakeholders engaged in UG delivery. Recommendations are proposed to more efficiently satisfy UG needs and preferences within densifying contexts, and thus help overcome the dichotomy between UG and UD.

Whereas existing literature on UG preferences in the context of urban density focuses on cities with historically dense development, this study seeks to understand preferences in a city undergoing change. As such, the rapidly growing area of inner Melbourne, Australia was selected for the case study. Melbourne's population is forecast to almost double by 2061, with 70% of new housing to be located in existing areas through densification (ABS, 2017; DELWP, 2017). Whilst UG is currently a highly valued characteristic of the city, by several measures it is in decline (Hall, 2010; VLISA, 2011). Measurements of urban characteristics in the case study area confirm that UG is currently negatively correlated with UD, supporting the underlying basis for the research. The effect is amplified when considering per capita UG provision, which adds to concern for the future of UG as the area grows in population.

Results from the survey highlight what is commonly preferred by residents in the case study city. Key among these is a strong importance placed on UG's environmental functions, social functions such as space for relaxation, and beautification. Aesthetic preferences are for rich, complex landscapes with a diversity of heights, depths, and species. For UG implementation, the majority of respondents reported that they are willing to participate across planning, design or construction stages, but that individuals are the least responsible authority for UG when compared with government and community groups. It is deduced that in response to these overall preferences, delivery mechanisms should focus on building networked UG, incentives for UG installation, and support for citizen led initiatives.

Associations between physical urban characteristics and expressed preferences were generally not found, whereas several associations were identified between perceived urban characteristics, and residents' preferences for functional and implementation attributes. This suggests that densification where population is present (e.g. urban infill), should be approached differently to densification where population is not present/minimal (e.g. urban renewal). Furthermore, proposals for urban renewal densification must aim to deliver the same core needs and preferences for UG as those in lower density contexts. Considering the spatial constraints and additional environmental stresses that urban renewal possesses, this presents a significant challenge to planners working in these contexts.

Findings from the content analysis of planning policy and stakeholder interviews show that the incorporation of preferences in UG planning for the case study area is hampered by fragmented governance and policies. In particular, many of the environmental functions seen as very important by respondents rely on connected networks of UG, yet policy inconsistencies limit the ability to plan such networks effectively. Robust qualitative

measures combined with extensive public participation opportunities in the case study area means that public realm UG assets can largely accommodate public preferences, however the lack of a city-wide strategy for UG networks can undermine the original provision of space. Conversely, policy measures relevant to private realm development were found to lack the qualitative standards necessary to ensure UG quality, or meet the functional and aesthetic preferences of residents. As such, to better incorporate UG preferences in densifying cities, it is suggested that reforms to three areas (policy formulation, policy implementation and public engagement) are addressed.

Based on the analysis of preferences of UG in a densifying city context, policy recommendations are proposed to more efficiently plan UG that satisfies preferences and constitutes a needs-based approach. These include the introduction of a city-wide UG strategy/plan to network UG assets, balancing qualitative and quantitative regulation, creating UG awareness programs, performance-based assessment of UG applications, greater accountability on public and private agencies for meeting proposed UG targets, incentives for private realm UG development, and more opportunities for public participation in private realm UG.

*Key words:* Urban greenery, densification, urban planning, landscape preferences, Melbourne