

The Hooshmand Report
Knowledge of Urban Parks & Green Spaces

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Hooshmand is also a member of the Large Urban Parks Committee (Co-Chair Knowledge and Research WG) and Society of Iranian Architects & Planners (<http://www.siap.org>).

Each month, Dr. Hooshmand Alizadeh will provide a range of interesting articles from around the world.

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This month's articles you must read are:

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Defining greenspace: Multiple uses across multiple disciplines

Authors: Taylor, Lucy, and Dieter F. Hochuli

Journal: Landscape and Urban Planning, Volume 158, February 2017, Pages 25-38,
<https://doi.org/10.1016/j.landurbplan.2016.09.024>

Abstract

Greenspace research has been driven by an emerging interest in the impact that biodiversity and ecosystem function has on life in urban areas. Studies from multiple disciplines across the life, physical and social sciences investigate the interactions with or within greenspace, creating a wide range of potentially related, but disparate findings. In order to understand whether these unconnected findings might be integrated, it is important to be able to make comparisons and build meta-analyses. In a review of journal articles about greenspace, we found that less than half of the 125 journal articles reviewed defined what greenspace was in their study; although many articles implied a definition. In those that provided a definition, we identified two overarching interpretations of greenspace using six different definition types. Perhaps arising from how the term has been lexicalized, this suggests that researchers do not have the same understanding of greenspace and limits the ability of researchers to draw meaning from multiple contexts or create syntheses. Rather than suggest a single, prescriptive understanding of greenspace, we propose that researchers construct a definition of greenspace for the context of their research that utilises both qualitative and quantitative aspects.

Keywords: Greenspace, Nature, Urbanization, Biodiversity, Literature review, Green space

Who has access to urban vegetation? A spatial analysis of distributional green equity in 10 US cities

Authors: Nesbitt, Lorien, Michael J. Meitner, Cynthia Girling, Stephen RJ Sheppard, and Yuhao Lu.

Journal: Landscape and Urban Planning, Volume 181, January 2019, Pages 51-79,

<https://doi.org/10.1016/j.landurbplan.2018.08.007>

Abstract

This research examines the distributional equity of urban vegetation in 10 US urbanized areas using very high resolution land cover data and census data. Urban vegetation is characterized three ways in the analysis (mixed vegetation, woody vegetation, and public parks), to reflect the variable ecosystem services provided by different types of urban vegetation. Data are analyzed at the block group and census tract levels using Spearman's correlations and spatial autoregressive models. There is a strong positive correlation between urban vegetation and higher education and income across most cities. Negative correlations between racialized minority status and urban vegetation are observed but are weaker and less common in multivariate analyses that include additional variables such as education, income, and population density. Park area is more equitably distributed than mixed and woody vegetation, although inequities exist across all cities and vegetation types. The study finds that education and income are most strongly associated with urban vegetation distribution but that various other factors contribute to patterns of urban vegetation distribution, with specific patterns of inequity varying by local context. These results highlight the importance of different urban vegetation measures and suggest potential solutions to the problem of urban green inequity. Cities can use our results to inform decision making focused on improving environmental justice in urban settings.

Keywords: Urban vegetation, Environmental justice, Green equity, Health, Climate change, Cities

Measuring walkability for distinct pedestrian groups with a participatory assessment method: A case study in Lisbon

Authors: Moura, Filipe, Paulo Cambra, and Alexandre B. Gonçalves

Journal: Landscape and Urban Planning, Volume 157, January 2017, Pages 282-296,
<https://doi.org/10.1016/j.landurbplan.2016.07.002>

Abstract

Walkability has been defined as the extent to which the urban environment is pedestrian friendly. By measuring it, planning professionals may be able to address the quality of the pedestrian environment, supporting more objective, effective and comprehensive walking-related strategies and interventions.

This work presents a participatory framework for the assessment of walkability based on local circumstances and expertise, replicable on distinct urban contexts. The framework takes into account distinct pedestrian groups (adults, children, seniors and impaired mobility pedestrians) and trip purposes (utilitarian, leisure), expressing walkability in terms of seven key dimensions (7C's layout). From this conceptual framework, a methodology to evaluate walkability through GIS-based and street auditing indicators is presented. It was applied to an area in central Lisbon, Portugal, in order to evaluate the ease or difficulty that different types of pedestrians can face in their walking activities and, potentially, providing an insight for intervention and improvements.

The results show clear differences in walkability scores for different pedestrian groups, namely between adults and seniors or impaired pedestrians. Besides, a validation of the results is presented by comparing street performance, as measured by our process, with home-based surveys conducted within the study area. Validation results confirm that the evaluation framework proposed is reliable in the representation of the pedestrian environment qualities as perceived by the public.

Keywords: Walkability, Walkability score validation, Pedestrian planning, Urban design, Built environment

Challenges of urban green space management in the face of using inadequate data

Authors: Feltynowski, Marcin, Jakub Kronenberg, Tomasz Bergier, Nadja Kabisch, Edyta Łaszkiewicz, and Michael W. Strohbach

Journal: Urban Forestry & Urban Greening, Volume 31, April 2018, Pages 56-66,
<https://doi.org/10.1016/j.ufug.2017.12.003>

Abstract

Effective urban planning, and urban green space management in particular, require proper data on urban green spaces. The potential of urban green spaces to provide benefits to urban inhabitants (ecosystem services) depends on whether they are managed as a comprehensive system of urban green infrastructure, or as isolated islands falling under the responsibility of different stakeholders. Meanwhile, different urban green space datasets are based on different definitions, data sources, sampling techniques, time periods and scales, which poses important challenges to urban green infrastructure planning, management and research. Using the case study of Lodz, the third largest city in Poland, and an additional analysis of 17 other Polish cities, we compare data from five publicly available sources: 1) public statistics, 2) the national land surveying agency, 3) satellite imagery (Landsat data), 4) the Urban Atlas, 5) the Open Street Map. The results reveal large differences in the total amount of urban green spaces in the cities as depicted in different datasets. In Lodz, the narrowly interpreted public statistics data, which are aspatial, suggest that green spaces account for only 12.8% of city area, while the most comprehensive dataset from the national land surveying agency reveals the figure of 61.2%. The former dataset, which excludes many types of green spaces (such as arable land, private and informal green spaces), is still the most commonly used. The analysis of the 17 other cities confirms the same pattern. This results in broader institutional failures related to urban green infrastructure planning, management, and research, including a lack of awareness of green space quality (e.g. connectivity) and benefits (ecosystem services), and the related political disregard for urban green spaces. Our comparison suggests that a better understanding of green space data sources is necessary in urban planning, and especially when planning urban green infrastructure.

Keywords: Green space availability, Green space classification, Informal green spaces, Lodz, Urban green space, Urban green space data, Urban planning

The role of socio-economic factors in planning and managing urban ecosystem services

Authors: Wilkerson, Marit L., Matthew GE Mitchell, Danielle Shanahan, Kerrie A. Wilson, Christopher D. Ives, Catherine E. Lovelock, and Jonathan R. Rhodes.

Journal: Ecosystem Services, Volume 31, Part A, June 2018, Pages 102-110,
<https://doi.org/10.1016/j.ecoser.2018.02.017>

Abstract

How green spaces in cities benefit urban residents depends critically on the interaction between biophysical and socio-economic factors. Urban ecosystem services are affected by both ecosystem characteristics and the social and economic attributes of city dwellers. Yet, there remains little synthesis of the interactions between ecosystem services, urban green spaces, and socio-economic factors. Articulating these linkages is key to their incorporation into ecosystem service planning and management in cities and to ensuring equitable outcomes for city inhabitants. We present a conceptual model of these linkages, describe three major interaction pathways, and explore how to operationalize the model. First, socio-economic factors shape the quantity and quality of green spaces and their ability to supply services by influencing management and planning decisions. Second, variation in socio-economic factors across a city alters people's desires and needs and thus demands for different ecosystem services. Third, socio-economic factors alter the type and amount of benefit for human wellbeing that a service provides. Integrating these concepts into green space policy, planning, and management would be a considerable improvement on 'standards-based' urban green space planning. We highlight the implications of this for facilitating tailored planning solutions to improve ecosystem service benefits across the socio-economic spectrum in cities.

Keywords: Socio-economic factors, Urban green spaces, Urban ecosystem services, Urban planning and management

Ecosystem services in urban planning: Comparative paradigms and guidelines for high quality plans

Authors: Woodruff, Sierra C., and Todd K. BenDor

Journal: Landscape and Urban Planning, Volume 152, August 2016, Pages 90-100,
<https://doi.org/10.1016/j.landurbplan.2016.04.003>

Abstract

Ecosystem services are a powerful tool for land-use and environmental planning, which can help decision makers better understand the tradeoffs between different development scenarios. However, there is limited guidance about how ecosystem services should be used in the land-use and environmental planning context. While existing plan quality guidance for sustainability recognizes benefits of ecosystems by promoting conservation and green infrastructure, it fails to provide specific direction on the type of ecosystem service information to collect and how it should be incorporated into land-use planning processes. We explore this gap by using criteria from American Planning Association (APA) Sustaining Places guidance to analyze two comprehensive plans: Damascus, Oregon, which uses ecosystem services as an organizing framework, and Cincinnati, Ohio, which has received recognition for advancing the science and art of planning. In addition, we compare the extent to which the plans incorporate ecosystem services (both concepts and language) into their goal setting, fact base, policies, and public participation process. We find that incorporating ecosystem services into land-use planning may help achieve sustainability goals by elevating the importance of conservation and providing a lens to link multiple community objectives. APA rewards these attributes of Damascus' plan, but fails to identify the plan's strong ecosystem service strategies or weak analysis of ecosystem service information. Based on these findings, we propose additional metrics to help practitioners incorporate ecosystem services into comprehensive plans.

Keywords: Ecosystem services, Sustainability, Environmental planning, Plan quality guidance, Land use planning

Attention restoration theory as a framework for analysis of Tweets about urban green space: a case study

Authors: Wilkie, Stephanie, Emine Thompson, Paul Cranner, and Kevin Ginty.

Journal: Landscape Research 1-12, <https://doi.org/10.1080/01426397.2020.1738363>

Abstract

In this study, the use of Twitter as a potential method to capture unsolicited views of urban green spaces was explored. Tweets were content analysed using attention restoration theory (ART) as the framework. Tweets about three city-centre urban green spaces in northern England were analysed for four attention restoration characteristics: being away, fascination, compatibility, and extent. Of 5,624 Tweets matching search parameters, approximately 10% were suitable for analysis after re-Tweets, advertising, and event-related matches were eliminated. Tweets most often referred to fascination or compatibility. Fewer than 5% of Tweets referred to being away and none referred to extent. Tweets associated with more biodiverse locations suggested they were also more fascinating. The thematic content in unsolicited Tweets about urban green space was consistent with characteristics central to attention restoration theory, reinforcing the positive potential of urban green spaces for attention restoration and Twitter as a potential data source.

Keywords: Urban green space, attention restoration theory, Twitter

A comparative flora of large urban parks: intraurban and interurban similarity in the megalopolis of the northeastern United States

Authors: Robert E. Loeb

Journal: The Journal of the Torrey Botanical Society 133(4), 601-625, [https://doi.org/10.3159/1095-5674\(2006\)133\[601:ACFOLU\]2.0.CO;2](https://doi.org/10.3159/1095-5674(2006)133[601:ACFOLU]2.0.CO;2)

Abstract

A comparative flora of ten large (≥ 400 ha) urban parks located in or bordering on Boston, MA; New York, NY; Philadelphia, PA; Baltimore, MD; and Washington, DC was created. Patterns of species presence or absence were analyzed to determine whether a common urban park flora exists; to determine interpark similarities; and the relationship between species diversity and human population of the counties in which the parks are located. The combined vascular flora for the ten parks contains 147 families, 599 genera and 1391 species, 490 of which are non-native. Fewer than 1% of the total number of species were present in all ten parks and less than 2.5% were present in nine or ten parks, indicating that a common urban park flora does not exist. Floristic similarity was related to the geographic proximity of the parks for both native and non-native species. However, the two parks in Bronx County, New York City had greater similarity to parks in Baltimore, MD and Washington, DC than the three parks in Kings and Queens Counties, New York City suggesting that species introductions and removals mask similarity related to geographic proximity. Linear regression analysis revealed a significant direct relationship between human population and non-native species diversity that may be a result of greater access to funds for plantings in more densely populated areas. Also, a significant inverse linear relationship was found between human population and native species diversity, which is likely caused by the higher intensity of trampling and vandalism causing a greater loss of native species.

Keywords: Large Urban parks, Intraurban, Interurban, flora



Book - Rethinking Urban Parks: Public Space and Cultural Diversity

Authors: Low, Setha, Dana Taplin, and Suzanne Scheld.

Publisher: University of Texas Press (November 1, 2005)

Abstract

Urban parks such as New York City's Central Park provide vital public spaces where city dwellers of all races and classes can mingle safely while enjoying a variety of recreations. By coming together in these relaxed settings, different groups become comfortable with each other, thereby strengthening their communities and the democratic fabric of society. But just the opposite happens when, by design or in ignorance, parks are made inhospitable to certain groups of people.

This pathfinding book argues that cultural diversity should be a key goal in designing and maintaining urban parks. Using case studies of New York City's Prospect Park, Orchard Beach in Pelham Bay Park, and Jacob Riis Park in the Gateway National Recreation Area, as well as New York's Ellis Island Bridge Proposal and Philadelphia's Independence National Historical Park, the authors identify specific ways to promote, maintain, and manage cultural diversity in urban parks. They also uncover the factors that can limit park use, including historical interpretive materials that ignore the contributions of different ethnic groups, high entrance or access fees, park usage rules that restrict ethnic activities, and park "restorations" that focus only on historical or aesthetic values. With the wealth of data in this book, urban planners, park professionals, and all concerned citizens will have the tools to create and maintain public parks that serve the needs and interests of all the public.

Keywords: Public space, Urban parks, Environmental psychology, Multiculturalism