



Preservation of open and green spaces

Key points

- *The city can be a more liveable place via enhanced walkability, environmental resilience and attractive natural surroundings.*
- *Open and green spaces are vital in balancing out increasing urban density and ecological sustainability of cities.*

Open and green spaces explained

Urban green and open spaces can take a variety of forms, including parks, playing fields playgrounds, walkable squares and plazas and natural capital, such as wetlands, forestry and lakes. Building rooftops also serve as urban green spaces when land available for park is scarce.

How it works

Conserving and investing in natural capital inherent in cities such as wetland, park, forestry and lake can be turned into the place of leisure for the citizens, serving various purposes such as reduction of heat island effect or potential flooding. Although higher density and mixed-use policies are encouraged, they should be accompanied with the development of city parks, plazas, and the preservation of surrounding natural environments in order to improve the liveability. Parks and plazas with attractive landscaping, water features, or even entertainment venues help to significantly improve the appearance of an urban development or neighbourhood and even create a greater sense of security.

BOX: Selective green street design measures

Green street programmes include such strategies as the installation of swales, permeable paving and increasing the number of trees.

- Swales (vegetated open channels) can be designed to accept runoff and increase infiltration. These may be as simple as integrating grassy areas to capture water, or more complex forms that include amended soils, gravel storage areas, diverse thick vegetation and bio-retention soils. Additional bio-retention technologies can be provided in tree boxes, planter boxes, and curb retention.
- One of the most common and applicable technologies is permeable paving, which comes in a number of forms including permeable concrete, permeable asphalt, permeable interlocking concrete pavers, and grid pavers. Some systems may be modular and available for retrofit. All of these systems provide structural support, storm runoff, and assist in the removal of pollutants.
- Another accompanying strategy is to increase pavement albedo (reflectivity) to further reduce the heat island effect. Many cities have formal programs to develop and maintain sidewalk trees and tree boxes in the urban environment. The benefits of street trees include reducing the heat island effect and reducing storm water runoff, as well as the accompanying aesthetic improvements.

Strengths with open and green spaces

- **Increases environmental resilience:** Natural landscapes provide valuable ecosystem services to urban environments including clean air, storm-water management, and carbon sequestration. In Garland, Texas, tree canopies in the city saved up to US\$38 million by avoiding the construction of artificial infrastructure for storm water retention.¹
- **Reduces heat island effect:** increased urban vegetation and mature tree canopies contribute to the mitigation of the urban heat island effect by reducing the air temperature.
- **Enhances walkability:** Street trees, swales, and planters create an additional barrier between moving vehicles and the pedestrian, creating a higher level of safety and increased walkability.
- **Increases property value and business opportunities:** Parks and open areas can serve as gathering places, and contribute to the vitality and attractiveness of a community. New business such as leisure and tourism can thrive cantering around green spaces.

Challenges to preserving open and green spaces

- **Land is often scarce, expensive and difficult to obtain from existing communities.**
- **Conserving parks and green spaces is not a policy priority:** Cities often do not make an adequate commitment of finances and resources that it does to buildings, roads and other infrastructure.

Implementing strategies

Careful examination and planning: To develop open space within an urban area, careful analysis of the existing land use must be conducted. Recognizing abandoned properties and brownfield sites as well as undesirable industries or other land uses and determining if these properties are accessible and suitable for green space is a key process.

Set up or designate an institution for continuous management and maintenance of public spaces.

Provide for a dedicated source of funding to support the continued improvements and maintenance of public green spaces: Develop a strong marketing campaign to inform residents and visitors of the public assets and encourage their use.

Examples

Singapore's Active, Beautiful and Clean (ABC) Waters Programme: Water infrastructure management has been integrated as part of the planning and design of the city so that local communities can enjoy the waterways as engaging features in their urban landscape. In 2009, a set of ABC water design guidelines have been issued, to provide reference to developers and industry professionals on how to implement environmentally sustainable green features or ABC Waters design features in their developments.²

Further reading

Parks, People, and Places: Making Parks Accessible to the Community, by Deborah L. Myerson, ULI Community Catalyst Report Number 4, (Washington, D.C., ULI Urban Land Institute, 2006).

¹ American Forests. *Local Ecosystem Analysis Garland Texas: Calculating the Value of Nature* (Washington D.C., 2000). Available from www.americanforests.org/downloads/rea/AF_Garland.pdf (accessed 22 February, 2012).

² Lai Choo Malone Lee, *Active, Beautiful, and Clean Waters Programme in Singapore: Water Resource Management and Ecological Conservation, Case Study for Eco-Efficient and Sustainable Urban Infrastructure Development in Asia and Latin America Project* (Bangkok, UNESCAP and UNECLAC, 2009).