Integrated Approaches to the Expansion of Green Cities

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Annotation: In this article, we will consider the main principles of building and developing cities in a natural and environmentally friendly way based on the direction of urban planning in architecture. For green cities to become mainstream, we must first learn from local successes and scale up. We will talk about this in detail below.

Key words: greening, ecological processes, integration, green cities, ecosystem services, green infrastructure, integrated approach, landscapes, urban planning.

Introduction: Greening our cities has become one of the biggest global imperatives of the 21st century, including the fight against climate change. And Australia's car-centric cities are slowly changing to embrace green or living infrastructure.

Green cities combine elements of architectural design and urban planning, often combining plants and built infrastructure to meet human needs, such as our love of nature. Greening our cities has become one of the biggest global imperatives of the 21st century, including solving problems. Climate change. And Australia's car-centric cities are slowly changing to embrace green or living infrastructure.

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Trees, vegetation, waterways and wetlands help cool cities by improving the climate and reducing the effects of urban heat islands. They also absorb carbon dioxide, filter wastewater, and create habitats.

From individual buildings with green walls and roofs to city-wide strategies, living elements can be integrated with built infrastructure. Cities have a set of strategies that lead to a greater integration of biological elements and ecological processes.

In recent months, we've looked at examples of Australian living infrastructure that illustrate some of Australia's approaches to green infrastructure development, from Melbourne's laneway greening to Canberra's urban forest. These cities are already redesigning their water systems and implementing urban forest strategies to create green belts and protect and restore waterways.

Melbourne and Canberra provide some useful examples of the green city movement, but to make it mainstream, these methods need to be widely adopted through policies that support more holistic and better integrated urban planning.

Why do we need urban forests?

Percival Alfred Yeoman was one of the early pioneers of Australian urban forestry. In 1971, he outlined a clear vision for repopulating cities with trees.

Local governments in Adelaide, Brisbane, Melbourne and Sydney are implementing his ideas and looking to expand their urban umbrellas. Their goal is to increase from 25% to 40%.

This renewed interest in urban forestry stems from its well-documented potential to accelerate the transition to climate-friendly cities.

The social, ecological, and economic benefits of urban trees, or "ecosystem services," are well recognized for their recreational and cultural values, among others.

Melbourne and Canberra are leading Australia's green cities movement.

Melbourne

Melbourne has a rich heritage of urban parks and green belts thanks to planning decisions made in the city's early years.

These parks underpin a new wave of urban greening with projects that address climate change, biodiversity, and community health and well-being.

The Melbourne green infrastructure plan includes:

✓ Green infrastructure planning,

✓ Providing practical advice to the public and business groups on design and maintenance,

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✓ Creating a "Growing Green Guide",

✓ Implementing a greenway strategy based on three decades of commercial revitalization of Melbourne's roads.

Corridors with greening potential were mapped and a demonstration project developed to demonstrate techniques for turning them into more vibrant green spaces for businesses, tourists and local residents.

The Urban Forest Strategy will cover the overall target of 40% canopy cover by 2040. Between 5 and 8 million trees will be planted for the great metropolis of Melbourne over the coming decades.

Canberra

Canberra is often described as a "city within a landscape" and "the capital of the bush". But its altitude, hot dry summers, and cold winters pose a number of challenges for green infrastructure.

Canberra is an urban forest with over 800,000 trees planted. But these trees require special care and attention as they age and suffer from hotter, drier climates.

Forest fires are also a major threat in areas where urban and rural areas are connected. This means Canberra needs urban forests to cool the city in the warmer months without increasing the risk of bushfires.

The ACT Government has committed to taking action against climate change by legislating targets for 100% renewable electricity by 2020 and carbon neutrality (no net carbon emissions) by 2045.

A comprehensive approach is needed to expand green cities.

Greening cities requires a holistic approach, for example the health of waterways should not be left entirely to water engineers.

Urban greening is not just a technical problem. Changing the form and function of urban systems through urban forests and other living infrastructures requires greater leadership and political commitment, integrated planning and community engagement, and long-term thinking.

A comprehensive approach to urban greening involves mapping different opportunities and mobilizing support for community change. For example, urban stormwater can be a productive resource when used in constructed wetlands or to irrigate urban forests.

And often urban drainage lines and wasteland can be turned into green spaces, but it must be recognized that there is strong competition for space for housing.

But institutional support within local governments and metropolitan water and planning agencies is needed to make integration more widespread.

Conclusion: *So, to expand the infrastructure for living in our urban landscapes, we need to learn from local successes, do more research, and better understand how to address climate adaptation and mitigation challenges.*

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