RP2005: URBAN MICRO CLIMATES

MITIGATING THE URBAN HEAT ISLAND EFFECT WITH GREEN SPACE: POLICY PERSPECTIVES

Research Question

Whilst there is increasing research on the urban heat island effect, there has been less focus on policies for mitigating the effect or for retaining and maximising green space. In many cities, densification and sprawl are reducing green space. This research analyses how policies and policy processes contribute to retaining and maximising green space.
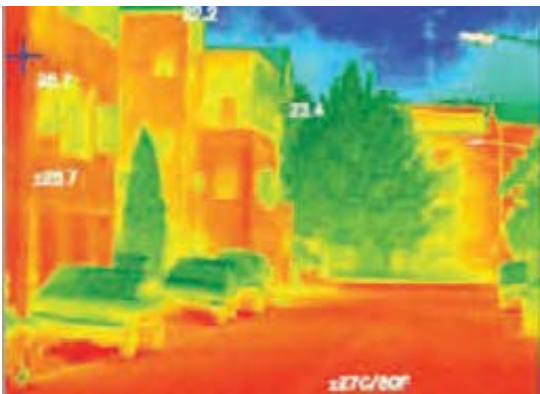

Figure 1: Thermal imaging at streetscape level. Source: City of Melbourne, 2012.

Methodology

The research reviews inclusion of urban heat island effect mitigation and green space in policies, identifies policy mechanisms, and evaluates the 'effectiveness' of these policies in retaining and maximising urban greenery. The analysis framework brings together theories of 'urban sustainability transitions', with policy research, to structure the criteria for analysing policies and policy processes. Data includes key policies and strategies, supplemented by interviews with policy-makers, and other policy-related speeches, reports and plans.

Results

Analysis focuses on three municipalities within metropolitan Melbourne: the adjoining Cities of Melbourne, Moreland and Hume, representing inner, middle and outer-urban contexts respectively; supplemented by research of international cities, including London UK.

Urban trees and other green infrastructure are increasingly recognised as part of urban infrastructure, green infrastructure providing multiple functions and benefits, beyond the single-solution functions of grey infrastructure.

The development of green infrastructure approaches to addressing urban functions is still relatively new. The integration of green infrastructure in cities is part of the transition to more sustainable urban forms, and the development of green infrastructure policies is an important element of this urban sustainability transition.

Policies that incorporate a number of mechanisms are likely to be more effective: the suite of policy mechanisms includes knowledge development and diffusion, facilitating networks and communities of practice, establishing demonstration sites for innovative approaches such as green walls and roofs, incentives and regulations.

As well as effective policy mechanisms, successful policies and strategies require high-level leadership or 'championing', a broad sense of policy 'ownership' from across organisational departments, teams and communities, and courageous policy officers who actively seek opportunities to implement policies.

Figures 2 and 3: Urban green space: public (above) and private (below) realms. Photos: J. Bush
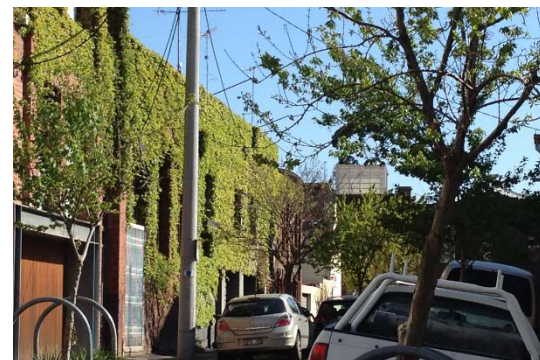
Conclusions

The research is developing understandings of what makes policies effective [a focus on policy process]; and which policies are effective [policy mechanism, and output or outcome]. Whilst there is increasing recognition of the substantial role played by urban green space in a city's sustainability, a stronger focus on policy development, and building collaborations within and between cities, and with researchers, will strengthen these processes.

Anticipated impacts

The research findings will support the ongoing development and implementation of effective policies for urban green space. The research will contribute to understandings of how broader policy processes contribute to successful implementation, as well as how research-practice collaborations can be strengthened and facilitated.

Retaining and maximising urban green space is an essential element in the transition to sustainable cities.

Further information

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