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Urban trees and policy

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Acknowledging Traditional Owners



<https://aiatsis.gov.au/explore/articles/aiatsis-map-indigenous-australia>

Urbanisation processes – and space for trees?



(a) 1996



(b) 2018



(e) 2010



(f) 2018

Figure 3: Historic vs recent growth patterns in established urban areas in Melbourne's eastern region



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Cities and urban trees



Cities and urban trees

Urban development stages:

- Precinct and street planning and design
- Construction
- Planting, establishment and maintenance

Challenges and constraints:

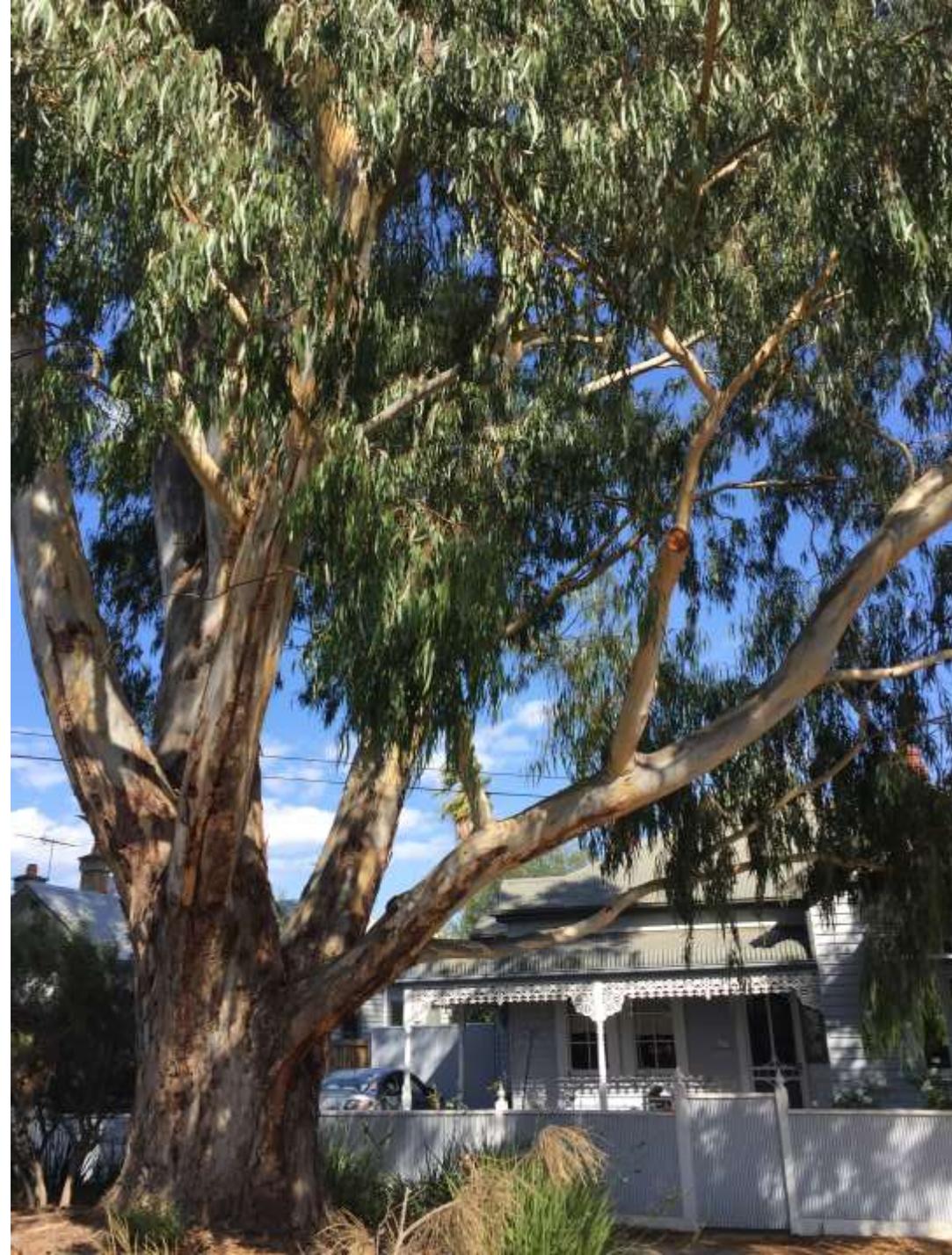
- Lack of space (above and below ground)
- Poor growing conditions: soil and surrounding surface, water, adjacent uses
- Wrong species (temperature & water tolerances)
- Damage, disturbance, vandalism

LOCI (2018) Soils for urban landscapes. Better Best Practice Note

<https://www.loci.melbourne/better-best-practice/list-better-best-practice-notes/>

LOCI (2021) Sizing tree pits for multiple benefits. Better Best Practice Note

<https://www.loci.melbourne/better-best-practice/list-better-best-practice-notes/>





Cities and urban trees

Success factors

- Clear **objectives, goals and targets** for canopy cover
- **Space** for trees: above ground; below ground
- **Species** selection (climate resilient, sufficient canopy size & shape)
- **Precinct/street design**: Vehicle access and lot frontage widths support large canopy trees
- **Growing conditions**: soil quality and quantity; water; pest and disease management; permeable surfaces and surrounds
- **Community and organisational** support; funding and resources for ongoing maintenance



BUSH, J. 2020. The role of local government greening policies in the transition towards nature-based cities. *Environmental Innovation and Societal Transitions*, 35, 35-44.

HURLEY, J., AMATI, M., DEILAMI, K., CAFFIN, M., STANFORD, H., ROWLEY, S. & AZIZMOHAMMAD, S. (2020) Where will all the trees be? - an assessment of urban forest cover and management for Australian cities, prepared for Hort Innovation by the Centre for Urban Research, RMIT University, Melbourne.

NITSCHKE, C. R., NICHOLS, S., ALLEN, K., DOBBS, C., LIVESLEY, S. J., BAKER, P. J. & LYNCH, Y. 2017. The influence of climate and drought on urban tree growth in southeast Australia and the implications for future growth under climate change. *Landscape and Urban Planning*, 167, 275-287.

PARKER, J. & SIMPSON, G. D. 2020. A case study balancing predetermined targets and real-world constraints to guide optimum urban tree canopy cover for Perth, Western Australia. *Forests*, 11, 1-19.

SOMERVILLE, P. D., FARRELL, C., MAY, P. B. & LIVESLEY, S. J. 2020. Biochar and compost equally improve urban soil physical and biological properties and tree growth, with no added benefit in combination. *Science of the Total Environment*, 706.



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Policy mechanisms



Policy mechanisms

- Government provision and demonstration
- Information and community engagement
- Incentives, awards, grants
- Regulations

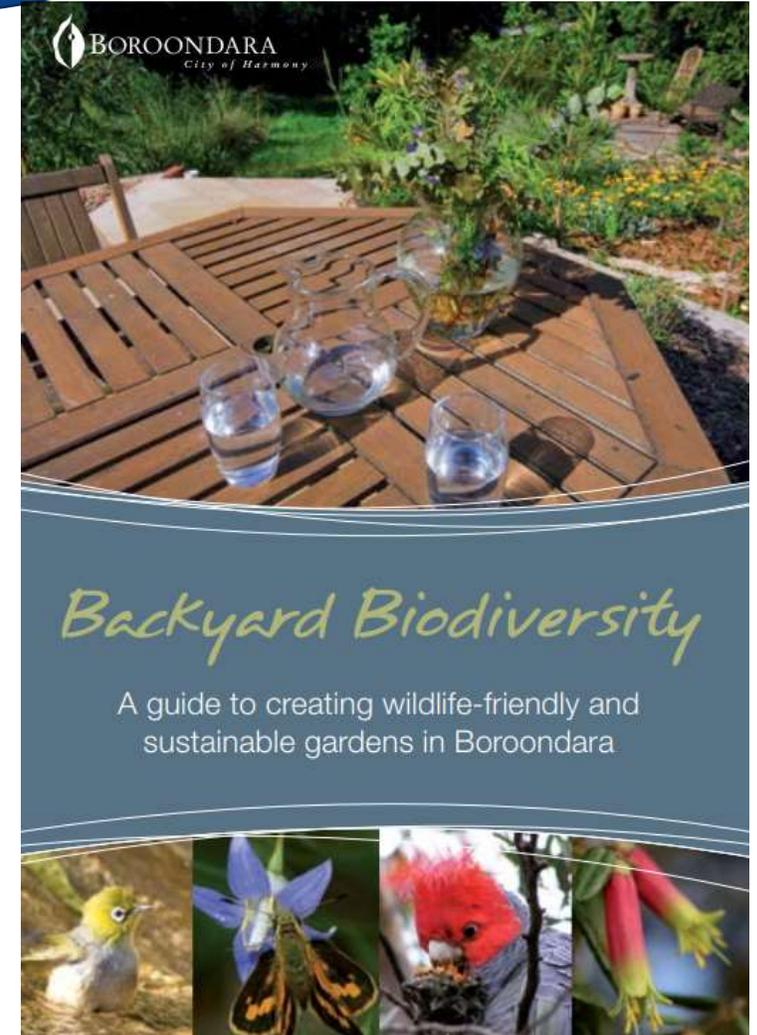
A single mechanism is unlikely to be sufficient for environmental policies that aim to address sustainability issues in complex systems



Policy mechanisms

Guidelines, brochures

- Government provision and demonstration
- Information and community engagement
- Incentives, awards, grants
- Regulations



<https://gardensforwildlifevictoria.com/>

<https://www.boroondara.vic.gov.au/waste-environment/sustainability/biodiversity/create-wildlife-friendly-garden>

Policy mechanisms

- Government provision and demonstration
- Information and community engagement
- Incentives, awards, grants
- Regulations

Awards, incentives, rebates

Support/resources for tree
management



CELEBRATING 20 YEARS OF LEADERSHIP



Policy mechanisms

- Government provision and demonstration
- Information and community engagement
- Incentives, awards, grants
- Regulations

Awards, incentives, rebates

Support/resources for tree management

Tree Stewardship award?



LANDSCAPE ARCHITECTURE AWARD WINNER

Research, Policy and Communications
[City of Melbourne's Green Fac](#)

Each year we recognise people across Boroondara through awards.

<p>Boroondara Citizen Awards</p> <p>Recognising citizens who have made an exceptional contribution to our community.</p> <p>→</p>	<p>Boroondara Literary Awards</p> <p>The awards celebrate writers and poets within the City of Boroondara and nationwide. We encourage entries from young people.</p> <p>→</p>	<p>Boroondara Sports Awards</p> <p>Recognising sporting clubs for the important role they play in our community.</p> <p>→</p>
<p>Boroondara Urban Design Awards</p> <p>Our awards recognise Boroondara's best urban design projects.</p> <p>→</p>	<p>Boroondara Volunteer Awards</p> <p>Recognising volunteers and volunteer programs that have made an exceptional contribution to our community.</p> <p>→</p>	<p>Citizenship ceremonies</p> <p>The ceremony is the final phase of becoming an Australian citizen.</p> <p>→</p>



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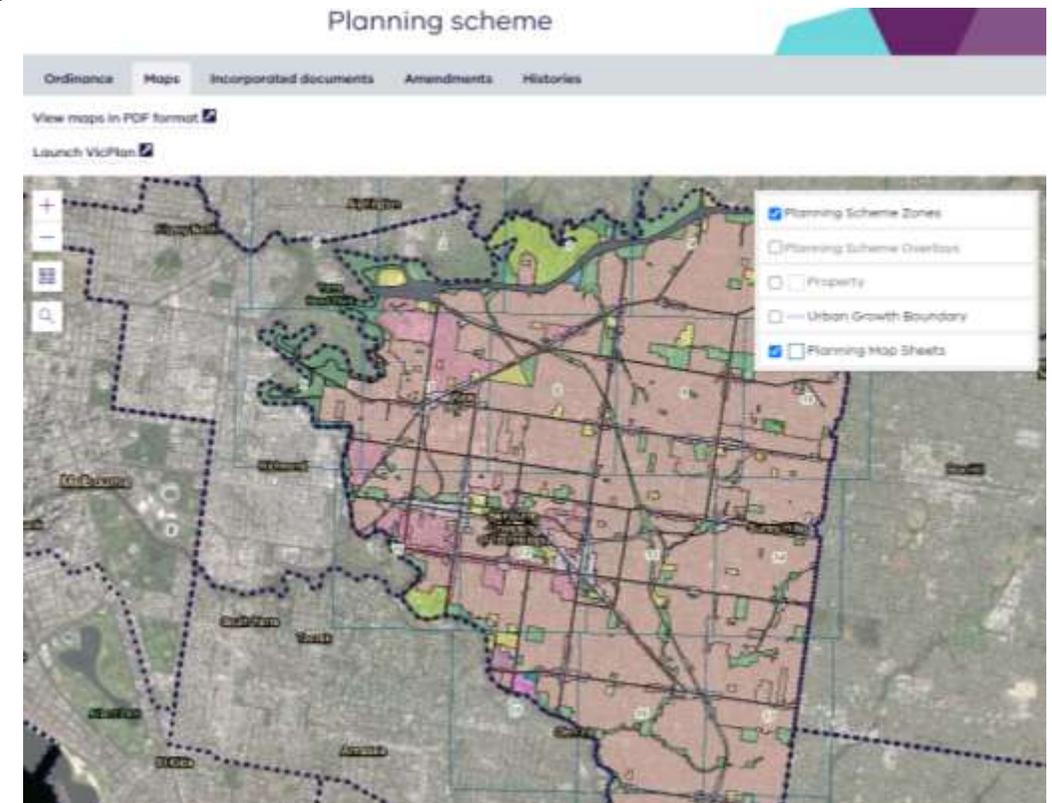
Regulation requires enforcement to be effective

Planning scheme provisions:

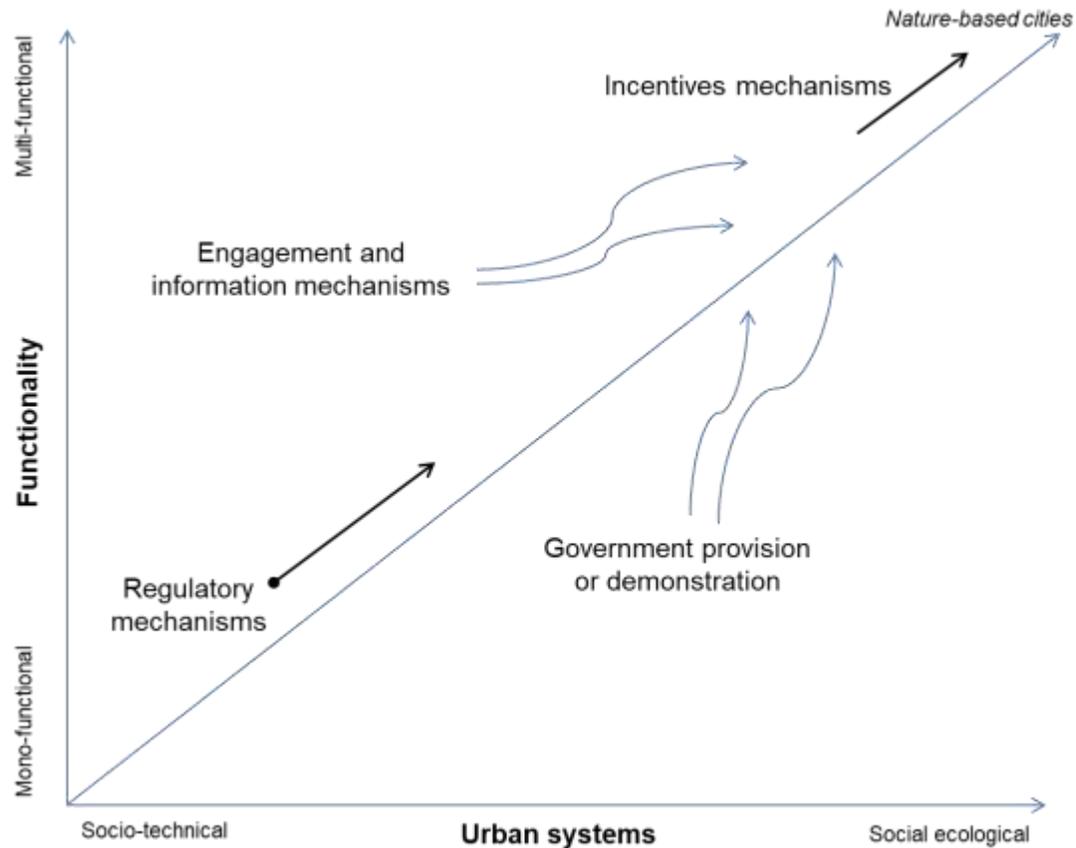
- zones and overlays;
- clauses for minimum area

Local laws: significant and canopy trees

Tree bonds (for construction periods)

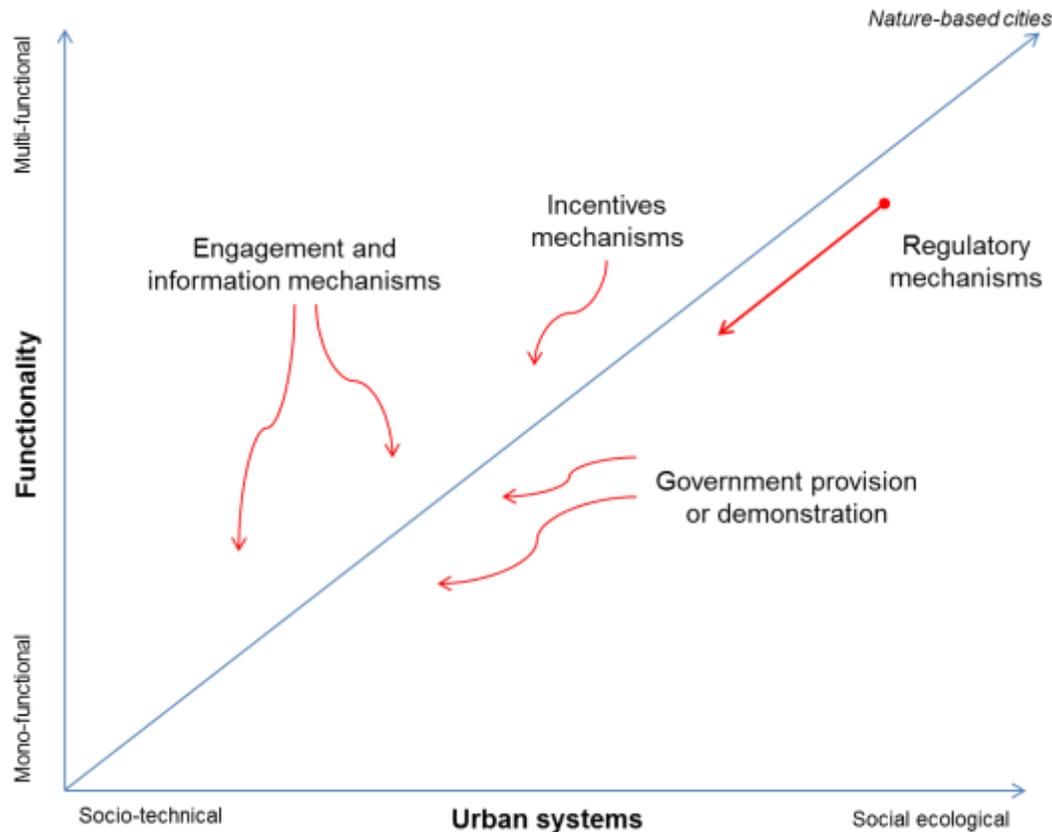


Policy mechanisms



Policy mechanism	Mechanisms that support the transition to nature-based cities
Regulations	<i>Set minimum standards, periodically recalibrated to increase performance</i>
Government provision and demonstration	<i>Utilise and inspire innovation, support development of industry skills and capacity,</i>
Engagement and information	<i>Inspire action and innovation, and empower recipients of information</i>
Incentives, awards and grants	<i>Recognise and reward innovation, best practice</i>

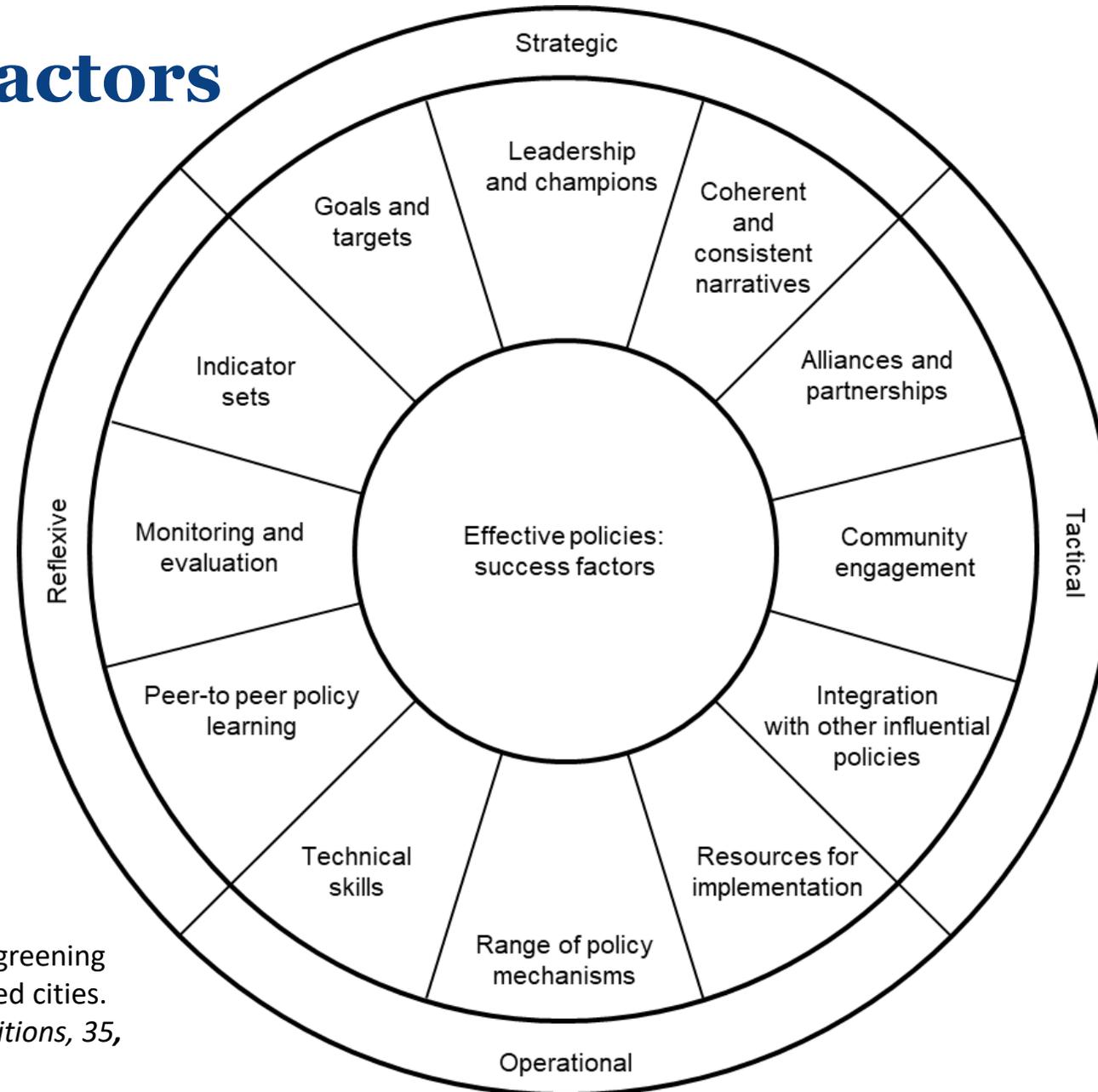
Policy mechanisms



Policy mechanism	Mechanisms that hinder the transition to nature-based cities
Regulations	<i>Specify maximum standards or 'ceiling' below which implementation must comply</i>
Government provision and demonstration	<i>Limited provision; demonstration of low standards; lack of innovative approaches</i>
Engagement and information	<i>Information that reinforces compliance with minimum standards; engagement and consultation that is limited to basic information provision</i>
Incentives, awards and grants	<i>Incentives, grants and awards that maintain business-as-usual approaches without fostering innovation and best-practice</i>



Policy success factors



BUSH, J. 2020. The role of local government greening policies in the transition towards nature-based cities. *Environmental Innovation and Societal Transitions*, 35, 35-44.



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Conclusions



Urban greening implementation and policy: public & private land

Planning needs to address space for nature in urban environments, including private land:

- During development
- Across the built environment's life stages
- During redevelopment

- Residential, commercial and industrial contexts
- Creating an urban nature network across public and private land





Greening cities

- Combine policies, planning schemes, local laws, and financial incentives
- Set (and enforce) minimum standards
- Incentivise positive behaviour
- Engage community and foster collective stewardship

Effective policy makers need to:

- Combine good evidence and effective narratives – stories of a better world
- Foster connections with nature and connections with place

Oke, C., Bekessy, S., Frantzeskaki, N., Bush, J., Fitzsimons, J., Garrard, G., . . . Gawlor, S. (2021). Cities should respond to the biodiversity extinction crisis. *Urban Sustainability*, 1. [doi:10.1038/s42949-020-00010-w](https://doi.org/10.1038/s42949-020-00010-w)

Bush, J., & Doyon, A. (2019). Building urban resilience with nature-based solutions: how can urban planning contribute? *Cities*, 95, 102483. [doi:10.1016/j.cities.2019.102483](https://doi.org/10.1016/j.cities.2019.102483)





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Thank you

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