CRC for
Water Sensitive Cities

Program A: Society | Project A4.2 | Project duration: July 2014 – July 2017

Mapping water sensitive city scenarios

Overview

Traditional approaches to managing urban water systems are based on planning large-scale centralised infrastructure that aims to reduce uncertainties and control variables such as water supply and demand. As pressures from climate change, urbanisation, pollution, resource scarcity and ageing infrastructure increase, so do the complexities and uncertainties of integrated water systems that support a city's sustainability, liveability and resilience. There is now growing recognition that new approaches and methods for urban water planning and management are required.

This project aims to develop tools that can support and influence strategic planning to enable a city's transition to a water sensitive future. These tools include methodologies for the participatory development of water sensitive city (WSC) visions and transition strategies, which together are known as transition scenarios, at different scales and by different stakeholder groups.

Key outcomes

By integrating perspectives from community, government, industry and research through novel participatory processes, this project will provide guidelines for how WSC transition scenario methodologies can be integrated effectively into formal planning processes of local, state and national scales. It will also deliver:

- city and catchment-scale transition scenarios for Melbourne as a future WSC, that include long-term aspirational visions and transition strategies to establish the enabling conditions for a WSC
- transition scenarios for Brisbane and Perth as future WSC, following the application of lessons and developed methodologies in collaboration with industry partners
- step-by-step guidance for developing transition scenarios and recommendations for how the process can be integrated effectively into formal policy development, strategic planning and decision-making activities at local, state and national levels to enable transitions toward WSC.

Insights into forming water sensitive cities transition scenarios

A pilot case study, undertaken as part of the former Cities as Water Supply Catchments program, developed WSC transition scenarios for two adjacent local government areas in Melbourne, Victoria. The research found that:

- social learning amongst participants of the process is as valuable as the documented outputs generated. Transitioning to WSC requires many different stakeholders to work together in new ways. Ensuring strategic and operational alignment across organisations is critical and must be facilitated through forums that encourage people to reach mutual understandings, recognise their interdependencies and challenge each other's perspectives.
- Involving a broad range of stakeholders is important to ensure the many relevant perspectives are incorporated into the visions and strategies that form the transition scenarios. Participants should come with a deep understanding of their operating context but need to be willing and able to think beyond any current constraints to bring a creative, strategic and aspirational approach to the process.
- Transition scenarios need to be translated to have value for different stakeholder groups so they can meaningfully consider how their activities can best support the transition to WSC. The scope, focus, language and visual representation of the scenarios need to be tailored to the audience which includes community members, engineers, designers, economists and politicians.
- Downscaling and upscaling between city-wide and local precinct transition scenarios is important to capture the full spectrum of strategic initiatives that will be necessary to enable WSC transitions in practice. Further research is needed to understand how integration across multiple scales can be done effectively so that different types of strategies and visions are accommodated in the scenarios. Careful consideration needs to be given to local synergies and trade-offs.

An Australian Government Initiative

CRC AUSTRALIA

Project design

The project will take an action research approach involving a series of participatory workshops to develop:

- detailed visions for how the societal, infrastructural and ecological aspects of a place would operate if the principles of a WSC were implemented
- transition strategies that will identify enabling institutional conditions and implement specific integrated solutions for transforming an urban water system's social elements (such as planning rules, engagement processes and institutional arrangements) and biophysical elements (such as stormwater technologies, public space designs and natural waterways) to achieve a WSC.

These strategies will also be designed to enhance the system's resilience to population growth, climate change and other extreme conditions.

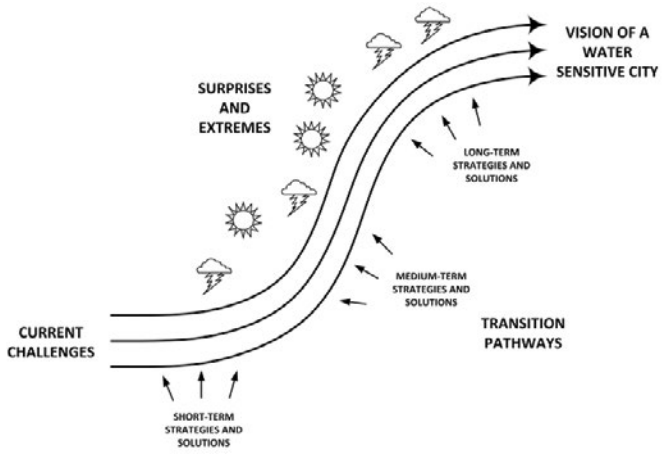

Figure 1. Transition scenario process (© CRCWSC).

The process will be facilitated for a local catchment in Melbourne and will trial novel methodologies developed during the project. Outcomes from this pilot process will be integrated with the existing city-scale scenarios for Melbourne, generated in the former Cities as Water Supply Catchments program.

Draft guidelines for how to develop integrated local and city-scale transition scenarios in participatory workshop settings will be prepared. Lessons from the Melbourne pilot will then be applied to Brisbane and Perth in collaboration with local industry partners, providing an opportunity for the guidelines and recommendations to be tested and refined.

Outlook

The early focus of the project will be to design the methodologies for developing and integrating WSC transition scenarios across community and city-scales and to trial them in Melbourne in 2015. From this work, an initial set of guidelines for developing integrated local and city-scale transition scenarios in participatory workshop setting will be prepared.

Activities to support industry partners in applying the lessons for Brisbane and Perth will commence at the beginning of 2016, with transition scenario results from these processes likely to be released by the end of 2016. The final stage of the project will refine the guidelines and develop recommendations for how transition scenario methodologies can be integrated effectively into formal planning processes at local, state and national scales to enable transitions toward WSC.

About the Cooperative Research Centre for Water Sensitive Cities

The Cooperative Research Centre for Water Sensitive Cities (CRCWSC) brings together interdisciplinary research expertise and thought-leadership from Australia and the world to address current urban water management challenges facing our cities and regions. In collaboration with over 80 research, government and industry partners, it develops and synthesises knowledge into powerful tools and influences key players aiming to achieve sustainable, resilient and liveable water sensitive cities.

Further information

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