

# YOU WANT WSUD WITH THAT? IDENTIFYING AND BREAKING BARRIERS TO UPTAKE

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## ABSTRACT

In September 2017, the Building Better Homes Towns and Cities National Science Challenge funded a research team to 'Activate Water Sensitive Urban Design (WSUD) for healthy, resilient communities'. The funding award reflected a recognition that, in the face of an impending residential building boom, New Zealand is at a critical point in the way urban development and stormwater management is implemented. We can either continue with conventional approaches, with a probable continued decline in the health of our urban streams and harbours, or follow a transformational pathway centred on the adoption of WSUD. Given the requirements of the National Policy Statement for Freshwater Management (NPS-FM) to maintain or improve water quality, WSUD appears to be the only realistic option. Getting it wrong and retrofitting later simply won't work.

The value proposition of WSUD is that it has the potential to deliver:

- Better environmental and ecosystem services outcomes, for instance through the provision of better water quality, flood resilience and moderating climate extremes;
- Better social outcomes, noting that environmental quality features strongly in urban liveability indices, including through its influence on sense of place, connectedness with nature and amenity values; and
- Better economic outcomes, through the avoidance of upfront infrastructure costs and avoided costs of environmental remediation associated with conventional development.

The research team contends that New Zealand is ideally placed to implement WSUD. We have a temperate climate, with generally well-distributed rainfall and moderate temperatures, enabling year-round plant growth and functioning of WSUD technologies. In addition, WSUD concepts align closely with 'clean green' kiwi culture and the kaitiaki values of iwi and a growing Māori development sector.

Despite these apparent advantages and the fact that WSUD is far from a novel concept in New Zealand, there remain significant barriers to its uptake. These include:

- Perceptions that it is a high cost alternative to conventional development, because differences in the full lifecycle costs are not well understood;
- A high maintenance burden, arising from poor implementation of WSUD (and some poor design practices);
- Inertia in institutional and industry buy-in – including the supply chain; and

- A lack of NZ evidence on its wide range of benefits, with cost-benefit analysis typically limited to capital costs and a narrow assessment of stormwater outcomes.

The focus of this project is to help activate the uptake of WSUD by conducting research that deals with these barriers. It involves:

- Giving WSUD's community of practice a central role throughout the project – first and foremost this research is about helping the people at the coal face;
- Delivering research on areas where there are 'quick-wins'; and
- Developing a strategic plan to meet longer-term research needs.

The project will do this in three phases. Phase 1 is our discovery phase. We will:

- Form an External Advisory Group, to guide the detailed design and delivery of the research;
- Activate a WSUD community of practice via action research workshops, including WSUD case study field sites; and
- Develop a co-designed, prioritised research plan that responds to the needs expressed through the workshops.

In Phase 2, we will conduct short term research that delivers on high priority 'quick wins' identified in Phase 1. Because we have been closely involved with WSUD practitioners for many years, we anticipate that the key topic areas are likely to include:

- Research that builds the NZ value case for WSUD, for instance:
  - Assessment of the full lifecycle cost differential between WSUD and conventional development; and
  - Assessment of the full range of direct and indirect benefits of WSUD, including culturally-specific benefits for Māori.
- Research that supports improved implementation of WSUD, for instance:
  - Addressing institutional accountability and resourcing; and
  - Optimising the design, implementation and maintenance of WSUD green technologies for NZ conditions.

In Phase 3 of the project, we will disseminate the research findings through a further series of regional workshops as well as research reports and guidance material. We will also deliver a co-designed and prioritised longer-term plan for the continued delivery and implementation of WSUD research, beyond the life of this project.

The first phase of the project will be completed by early 2018. In November and December 2017 the research team are holding workshops with key stakeholders to understand key barriers preventing the wide-spread implementation of WSUD and how these barriers may inform future research needs. In addition, a survey sent out prior to the workshops has asked participants to score barriers to implementation and requested feedback on those tools which could support them in their roles to more widely implement WSUD.

This presentation will report on the results of the workshops and surveys as well as describe the research that will be undertaken as part of Phase 2 of this study.

**KEYWORDS**

Barriers, Four Well-beings Outcomes, Implementation, Water Sensitive Urban Design; Value Proposition.