

Sustainable Pathways II – An Overview

Associate Professor Marjan van den Belt, Deputy Director of NZCEE at Massey University, is the Science Leader for this 6-year, collaborative programme. Other Massey staff involved are Professor Murray Patterson, Vicky Forgie, and Derrylea Hardy. We will also collaborate with Dr Garry McDonald from Market Economics Ltd, and staff from Auckland Regional Council, Environment Waikato, Greater Wellington Regional Council; and the Research Institute for Knowledge Systems in the Netherlands.

Our aim is:

to develop an integrative (economic, social, environmental) scenario modelling capacity in NZ to enable planners and communities to more fully appreciate options for the future of their cities and regions. Auckland and Wellington are our two case study regions, with strong linkages into other cities/regions.

This builds on our previous FRST programme ‘Sustainable Pathways 1 (SP1)’ by introducing two ‘State of the Art’ modelling methods:

Mediated Modelling, which combines the best of ‘participatory and consensus based approaches to decision-making’ with the best of ‘dynamic systems modelling’; and

Spatial-Dynamic Modelling, which puts the non-spatial models that we developed in ‘SP1’ into a fully spatial modelling framework where crucial variables can be modelled spatially and dynamically.

This will be an important advance in NZ urban planning, as planners will be able to see spatial patterns of development linked into our existing integrative economy-environment models as, well as demographic and labour force models.

A final objective of the research is *Embedding Scenario Modelling into Urban Planning Practice*. This Council-led objective will enable urban planners to translate future visions of their regions into strategic long-term plans by using these new modelling tools. This objective will be heavily intermeshed with Objectives (1) & (2) to ensure that, at every stage in the programme, model development goes hand-in-hand with their application to real issues that councils seek answers to.

The research will provide urban planners with ‘State of the Art’ modelling methods to robustly and comprehensively plan for the future of urban areas. This will assist in delivering a number of favourable outcomes, particularly for Auckland and Wellington:

- (1) better land use and transportation planning leading to: the more efficient movement of goods and people, particularly in Auckland where this is a major problem; more eco-efficient and sustainable patterns of settlement with less environmental impact;
- (2) better infrastructure and growth management improving the competitiveness of the Auckland economy so that it will thrive, and thereby also providing spill-over benefits to other regional economies in NZ; and
- (3) better ‘triple bottom line’ (economic, social, environmental) outcomes.