

RESILIENT URBAN FUTURES



Most New Zealanders live in cities. The Resilient Urban Futures research programme explores which of several possible urban futures in the new green economy will be most resilient, liveable and competitive.

OUR RESEARCH PROGRAMME

The Resilient Urban Futures research programme is supported by a 4-year grant from the Ministry of Business, Innovation and Employment, and began in October 2012.

Our programme of research brings together a multi-disciplinary group of researchers all focused on a key issue for New Zealand - how to develop vibrant, liveable, internationally competitive and resilient cities into the future.

Our research team is led by the New Zealand Centre for Sustainable Cities and links five universities (Otago, Auckland, Massey, Victoria and Canterbury), NIWA and Motu with end-users from local and central government, iwi, developers and community groups. The team includes social researchers, economists, scientists and expert practitioners, and has established international research links.

We are studying development in regional cities as well as the urban centres of Auckland, Hamilton, Wellington, Porirua and Christchurch. Overall, this research aims to deliver New Zealand's first comprehensive framework for considering urban futures – one that accounts for cities as complex systems and is informed by case studies – to enable decision-makers to have a clear idea of the broad consequences of various urban policy and investment decisions.

SELECTED PUBLICATIONS

S Bierre, P Howden-Chapman, L Early eds. (2013) *Homes people can afford*, Steele Roberts, Wellington

A Grimes, N Tarrant (2013) A New Zealand urban population database, Working Paper 13-07, Motu Economic and Public Policy Research, Wellington

I D Longley, G Olivares (2013) What is sustainable air quality? *International Journal of Sustainable Development*, 16(3/4): 235-245

J Moores, S Harper, C Batstone, M Cameron (2013) Urban planning that sustains waterbodies (UPSW): Southern RUB case study, by NIWA and RIMU for Auckland Council, Working Report WR2013/006

S Opit, R Kearns (2014) Selling a natural community: Exploring the role of representations in promoting a new urban development, *NZ Geographer*, 70(2): 91

C Shaw, S Hales, P Howden-Chapman, R Edwards (2014) Health co-benefits of climate change mitigation policies in the transport sector: Systematic review, *Nature Climate Change*, May, 4(6): 427-433

P Zhao, R Chapman, E Randal, P Howden-Chapman (2013) Understanding resilient urban futures: A systemic modelling approach, *Sustainability*, 5: 3202

www.resilienturbanfutures.org.nz



RESEARCH STRANDS

DRIVERS OF URBAN CHANGE

- Identifying and analysing the important drivers of urban change in NZ
- Led by Philippa Howden-Chapman, NZ Centre for Sustainable Cities, and Guy Salmon, Ecologic

COSTS, BENEFITS, RISKS OF COMPACT VS DISPERSED URBAN DEVELOPMENT

- Examining key outcomes of two urban development trajectories: transportation energy; CO₂ emissions; emissions to air and water; active travel, physical activity and health; housing and transport affordability; and access to social amenities
- Led by Ralph Chapman, Victoria University of Wellington

RESIDENTIAL CHOICE AND URBAN COMMUNITY FORMATION

- Seeking to understand the types of urban environments that New Zealanders want to live in and the neighbourhood characteristics that contribute to wellbeing
- Examining medium density case studies
- Led by Karen Witten, Massey University

HOW INFRASTRUCTURE LINKS CAN SHAPE URBAN DEVELOPMENT IN NZ

- Exploring issues of agglomeration and appropriate infrastructure investments
- Considering the impact of transport links on urban development, the role of broadband, and the nature of governance and planning in shaping future urban environments
- Led by Arthur Grimes, Motu

INTEGRATED LAND-USE, TRANSPORT AND ENVIRONMENT MODEL

- Creating an integrated model for the Wellington region (WILUTE) that can be extended for use in other cities, and using it to evaluate transport and land use policies and scenarios, with a focus on transport-related environmental and health effects

- Led by Pengjun Zhao, NZ Centre for Sustainable Cities

MODELING AIR QUALITY, TRAFFIC EMISSIONS AND ENERGY USE

- Working towards wide availability of an integrated framework (TOTUS) enabling NZ urban planners to quantitatively incorporate air quality, traffic emissions and energy use as evaluation parameters to develop and implement growth strategies
- Led by Gustavo Olivares, NIWA

URBAN WATER BODIES

- Planning for and managing the effects of urban development on the values and resilience of urban water bodies
- Developing an operational decision support system for assessing the effects of urban development scenarios
- Led by Jonathan Moores, NIWA

ACTIVE STUDY – CYCLING AND WALKING INFRASTRUCTURE AND ENCOURAGEMENT

- Examining if walking and cycling habits, attitudes and perceptions are changed in Hastings and New Plymouth as a result of the Model Communities Programme (infrastructure, information and education for active travel funded by NZTA)
- Led by Michael Keall, University of Otago

TAONE TUPU ORA – MĀORI INVOLVEMENT IN URBAN PLANNING AND DEVELOPMENT

- Asking what are the barriers, opportunities, and expectations for increased Māori involvement in urban development
- Looking at how iwi and hapū with Treaty settlement resources are participating in urban development, finance and governance, and their future role
- Led by John Ryks, Aria Research