

IMPROVING JUDGEMENT FOR LOCAL AREA  
POPULATION PROJECTION PRACTICE:  
A Conceptual Framework to Evaluate the  
Forces that Shape Future Urban Form

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### **Dedication**

This thesis would not have been possible without the love and support of the two girls in my life – my partner Kathryn and my Maltese Shih Tzu Missy.

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## **Abstract**

The development of local area population projection assumptions relies on judgement; the judgement of the projection practitioner, on expert opinion of likely levels and trends in demographic factors or on the contribution of a panel of experts. This judgement is made at a point in time, with limited information, and with the knowledge that reality is complex, uncertain and continually changing. This study aims to improve this judgement.

The underlying premise of this study is that the future distribution of the population will be reflected in future urban form – the structure and density of the built environment. To better understand future urban form requires an understanding of the forces that act on the urban system to shape future urban form outcomes. To better understand these forces, this study develops a conceptual framework to evaluate the substantive arguments that may support or negate scenarios of potential future urban form, using a modified argument-based approach (Lutz, 2006; Lutz, 2009).

This study adopts a mixed-methods approach to overcome some of the problems inherent in intuitive judgement, by facilitating the ‘objective judgement’ of a panel of experts. The complexity of the urban system is understood through the examination of possible economic, policy, environmental and lifestyle drivers of residential location choice and urban form outcomes. This approach provides an alternative view of likely future urban pathways that is plausible, defensible and potentially more accurate than assumptions based on intuitive judgement alone (Kahneman and Tversky, 1977).

Three perspectives on likely future urban form, and therefore the distribution of the population, are taken – an interpretation of the cross-disciplinary literature around this space; the opinions of a panel of experts; and an evaluation of the substantive arguments underpinning the forces that shape future urban form.

The results from the evaluation of substantive arguments differ significantly from the literature review and panel opinion. The most likely urban form outcome based on the modified argument-based approach is for continued fringe growth; and the least likely outcome is for Transit Oriented Development (TODs) and corridor development. This is an important finding given the prominence of TODs and corridor development in the literature – particularly relating to environmental imperatives - and within government planning strategies.

## **Declaration**

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will in the future be used in a submission for any other degree or diploma in any university or another tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

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Anthony William Melhuish: ..... Date: .....

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I would also like to acknowledge the original author of the ‘argument-based approach’ on which this study is founded – Professor Wolfgang Lutz. Without the advances in the field of applied demography made by academics such as Professor Lutz, studies such as mine would not be possible. I particularly admire academic work that is creative, groundbreaking and real-world. I hope this study contributes to this approach in an incremental way.

I would finally like to acknowledge that we are all standing on the shoulders of giants – vale Graeme.