Spatial Analysis and Geovisualisation in Active Transport

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Abstract: Geographical information science (GIS) is widely used in public health care and transport planning in its spatial analysis and visualisation aspects. However, in active transport to school (ATS) research, including the BEATS Study so far, GIS has only been used as a mapping tool for demonstration or for preparing variables for non-spatial statistical analysis. This PhD research will apply quantitative spatial analysis tools, visual analytics and other geovisualisation methods in GIS to ATS to BEATS and BEATS-2 Study data.

Distribution, density and flow maps and indicators will initially help mapping and analysing the spatial patterns and distributions of adolescents' ATS behaviours (employing kernel density estimation, clustering analysis and local indicators of spatial association). Geographically weighted regression modelling will be used to examine the relationship between adolescents' choice of ATS and relevant factors, supported by the application of visual analytics. In addition to the direct effects of the ATS correlates, a Decision Making Trial and Evaluation Laboratory will be used to evaluate the level of influence between ATS factors which might have indirect effects on ATS. Because of the 5-year time gap between BEATS and BEATS-2 Study, spatio-temporal analysis will be used on spatio-temporal variables of ATS. Geovisualisation methods will be applied to create a decision making support package, to be presented to local government and schools. This package will include images, thematic maps, flow maps, web-based GIS applications such as ESRI Story Maps, non-spatial figures, plots, tables/charts, and description stories.

Highlights are: 1) The spatial patterns and distribution of active transport correlates will be mapped, 2) The relationships over space will be examined using visual analytics and local spatial analysis, 3) Indirect effects of active transport to school correlates will be analysed using DEMATEL, 4) Spatio-temporal analysis method will examine the change in variables over time, and 5) A decision making support package will be created for schools and local government.

12:00 noon, Thursday, 23 August 2018

L1 Lecture Theatre

School of Surveying

310 Castle Street

School of **Surveying** Te Kura Kairūri

UNIVERSITY of OTAGO
Te Whare Wānanga o Otāgo
NEW ZEALAND

Danish cohousing: a whirlwind tour and some lessons for contemporary papakāinga

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Abstract: The words 'communal living' tend to evoke images of long hair, free love and campfire dancing around the communal vegetable patch. But cohousing as a development model for communal living is helping us reimagine the way we think about public and private space in housing.

Cohousing typically strives for "an old-fashioned sense of neighbourhood", combining extensive shared facilities with fiercely guarded private space to foster a strong sense of community and combat loneliness. Residents are encouraged to actively participate in the community and place the responsibility to the wider collective over the individual ego. This style of development draws similarities to the modern take on papakāinga and Māori housing, which often strives for a traditional village-style of life to re-connect residents.

Considered the 'home' of the cohousing movement, Denmark offers a unique opportunity to look at long-term lived experiences of residents in this form of collaborative housing. This presentation will take you on a whirlwind tour of my visits to six Danish cohousing communities to get a glimpse of how these communities thrive and survive, and to see what lessons they might offer for fledgling urban papakāinga here in New Zealand.

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