How Infrastructure Links Shape Urban Development in NZ

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Key questions

• In what ways do infrastructure investments shape the system of urban settlements in New Zealand?

• And how do they affect people’s satisfaction with those settlements?
Population growth for 56 NZ towns/cities: 1926-2006 (% p.a.)

THE TEN FASTEST-AND SLOWEST-GROWING TOWNS, 1926-2006

Average Annual Growth rate, 1926 - 2006

-1% 0% 1% 2% 3% 4% 5%
Major city growth

Invercargill
Hamilton
Wanganui
Dunedin
Christchurch
Wellington
Auckland
Key findings: Urban growth*

- Four dominant factors have impacted on urban growth, especially since 1966:
  - Local land-use capability
  - Sunshine hours
  - Proximity to Auckland
  - Human capital

- Other than proximity to Auckland, infrastructure has not been a direct factor affecting urban growth
  - Human capital may relate to educational infrastructure

Key findings: Tertiary institutions*

- Universities have a positive effect on population and employment growth of their cities
  - Much less clear-cut for polytechnics
  - Underpins human capital contribution to growth
  - University presence often correlated with cultural amenities
  - Related research (Florida et al) shows importance of these ‘Bohemian’ amenities for city growth & incomes

Key findings: Residential satisfaction*

• Crowding has a negative effect on residential satisfaction
  – But only crowding in excess of cultural norm reduces satisfaction

• Impacts of density are complex
  – Negative direct effects, but benefits from being near dense areas (implies benefit from nearby amenities)

• People living in deprived areas benefit from living near affluent areas
  – But affluent areas suffer from living near deprived areas

• Last two results show the potential for NIMBY’ism

Key findings: Urban house prices*

- NZ city house prices are all affected by the same influences as are major Australian cities
  - But with different timing
  - And to a different degree
  - Effects mediated by planning and geographical constraints

Key findings: Other*

• Urban residents less happy than rural people in NZ
  — Internationally appears to be an Anglo-Saxon trait
  — Absolute and relative incomes important for life satisfaction (in urban and rural areas); so relativities matter

• Fibre broadband only has a productivity boosting effect for firms that also invest in new processes, management systems, etc [preliminary]
  — So may not greatly affect future urban/regional structure

• The degree of coordination of infrastructure investment (e.g. road, rail) affects economic outcomes (in complex ways)

*Range of papers; some forthcoming.
Conclusions

• Infrastructure has had some effects on the structure of NZ urban settlements, & on satisfaction with those settlements
  — However effects are perhaps less than expected

• Global economic & social forces appear to be more influential, especially agglomeration into larger cities

• Similar result found for Brazilian cities even after the massive “Brasilia + highways” experiment*