



How Infrastructure Links Shape Urban Development in NZ

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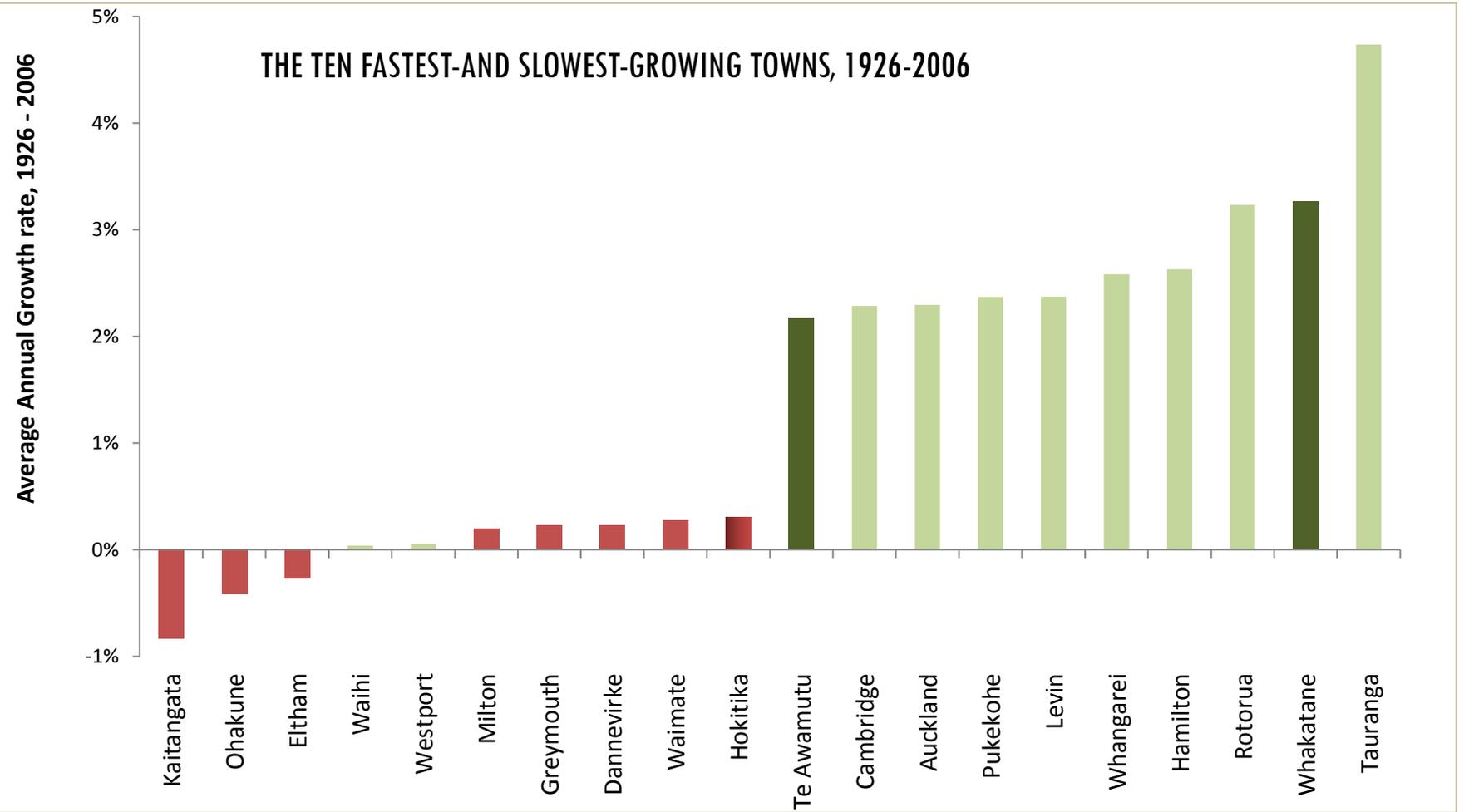


Key questions

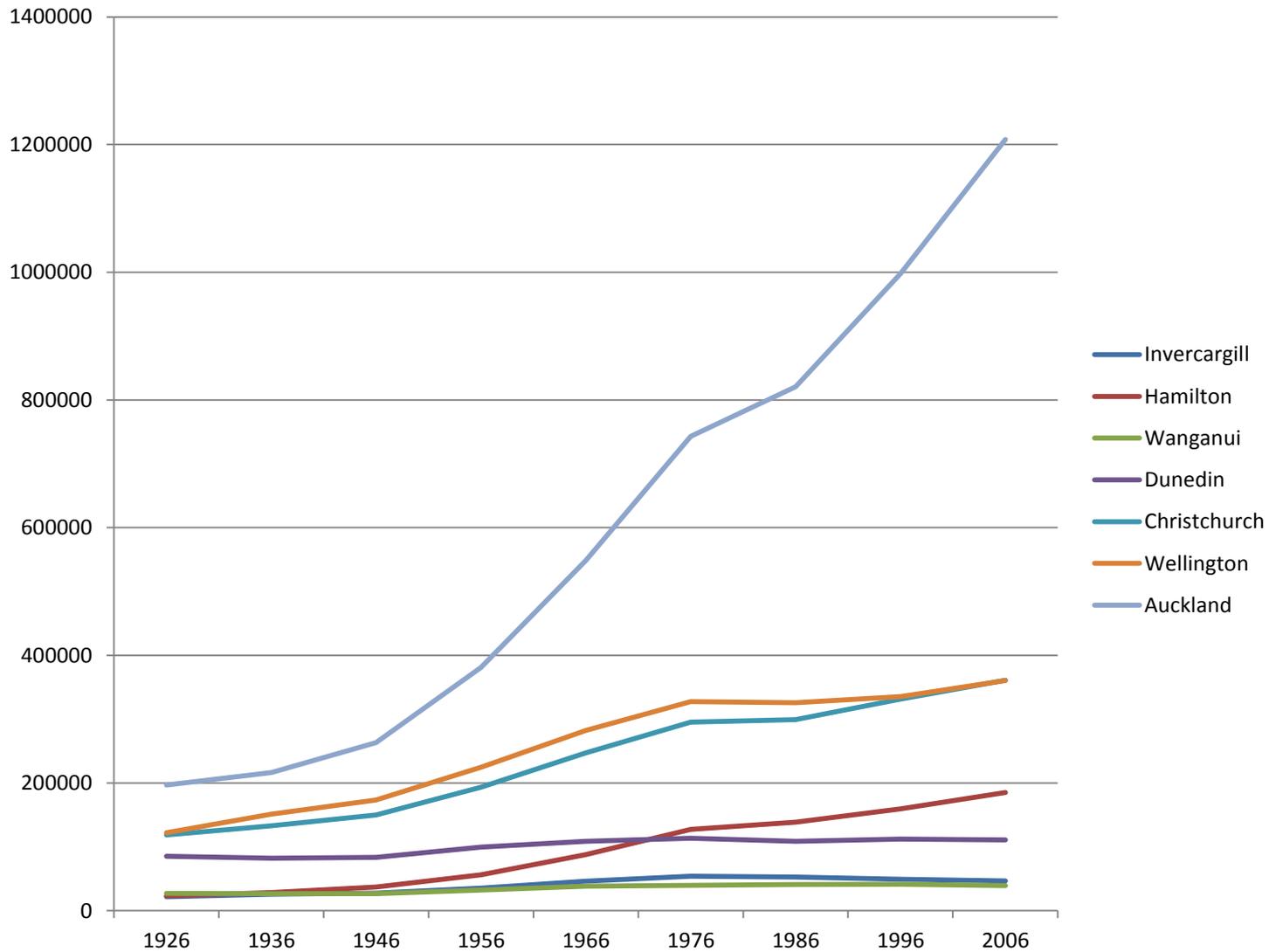
- In what ways do infrastructure investments shape the system of urban settlements in New Zealand?
- And how do they affect people's satisfaction with those settlements?

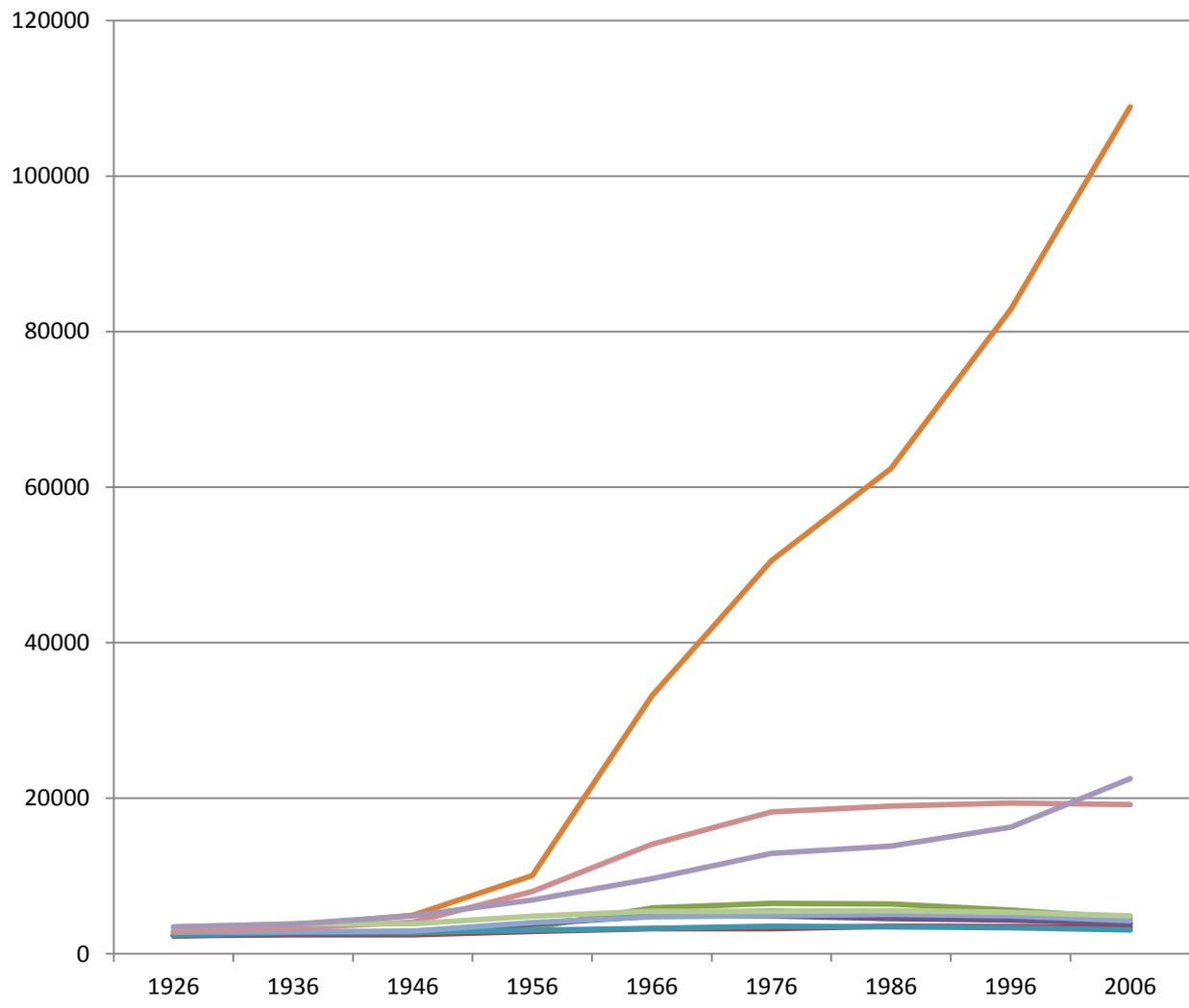


Population growth for 56 NZ towns/cities: 1926-2006 (% p.a.)



Major city growth





- Wairoa
- Te Aroha
- Taumaranui
- Te Kuiti
- Hokitika
- Tauranga
- Marion
- Levin
- Stratford
- Pukekohe



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

*Grimes, Apatov, Lutchman & Robinson. 2016. "Eighty Years of Urban Development in New Zealand: Impacts of Economic and Natural Factors", *New Zealand Economic Papers*, 50(3).



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

*Apatov, Grimes. 2016. “Higher Education Institutions and Regional Growth: The Case of New Zealand”, Motu Working Paper 16-11, Wellington: Motu.



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

*Torshizian. 2016. "Effects of crowding, density and deprivation on residential satisfaction". PhD dissertation. Univ of Auckland.

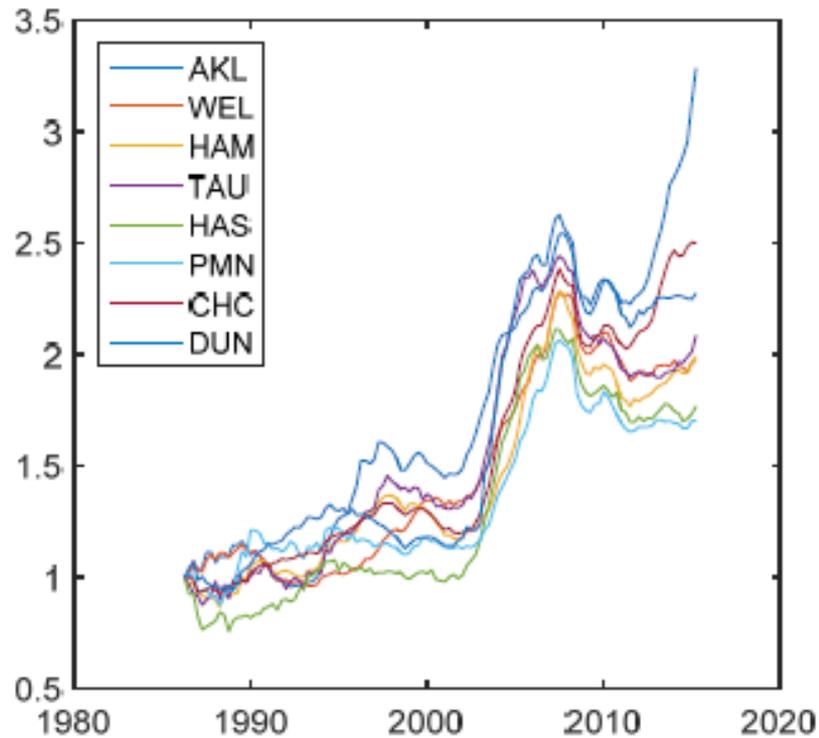
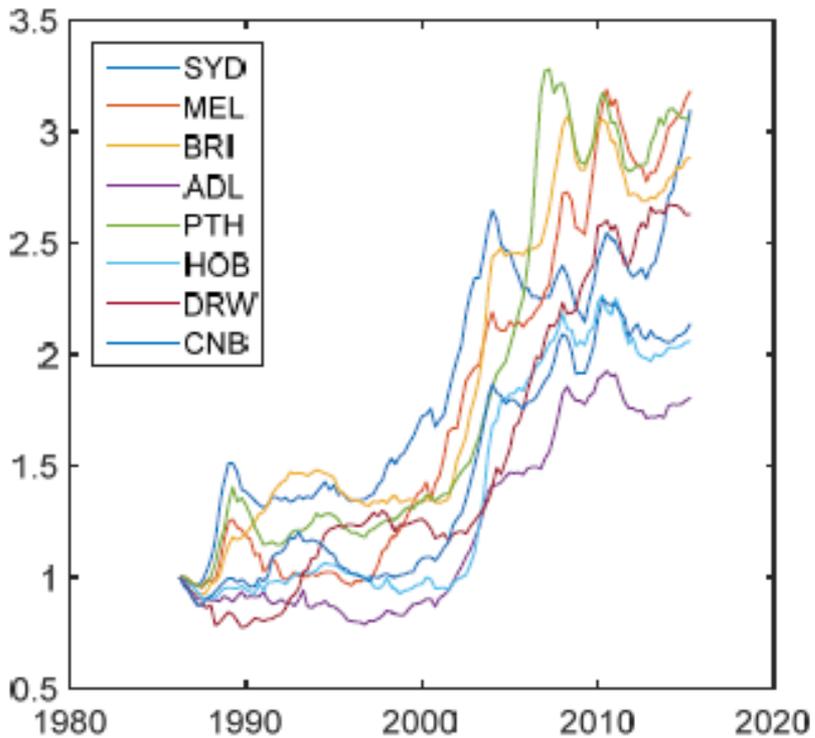


Key findings: Urban house prices*

- 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

*Greenaway-McGrevy, Grimes, Holmes. 2016. “Two Countries, Sixteen Cities, Five Thousand Kilometres: How Many Housing Markets?”, Motu Working Paper 16-04.





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*

*Grimes, Matlaba, Poot (forthcoming) “Spatial Impacts of the Creation of Brasília City: A Natural Experiment”, *Environment & Planning A*.

