

AGEING
WELL

Kia eke kairangi ki te
talkaumatatanga

Housing: Homes or energy sinks?

Kay Saville-Smith

Centre for Research Evaluation and Social Assessment

20 November 2019

AGEING
WELL

Kia eke kairangi ki te
talkaumātuatanga

Housing acts to:

- Mediate between:
 - The fragility of the human body throughout our lives
 - The power of the bio-physical environment
- Position us:
 - Within our communities
 - A network of social and economic activities, services, and goods
 - Unaffordable built environments
- Embrace our intimate relations
- Connect the need for shelter to the ontological desire for 'home'

AGEING
WELL

Kia eke kairangi ki te
talkaumātuatanga

Housing is our legacy for good or bad

- Houses and the spaces they generate:
 - Act to bring us together or keep us apart
 - Can serve us or enslave us
 - Enable or disable us
 - Make us vulnerable or resilient
 - Generate a crushing or light footprint on our natural world

AGEING
WELL

Kia eke kairangi ki te
talkaumatatanga

Housing in New Zealand

- Two defining characteristics:
 - Environmentally unsustainable – it's associated with:
 - Degradation and depletion of:
 - Soils
 - Fragile ecological systems – wetlands, coastlands, riparian verges
 - Water
 - Air quality
 - Carbon hungry
 - Thirst for expansion rather than retrofit
 - Shifting urbanism unlike shifting cultivation is not about renewal – we avert the eye from dilapidation and decline
 - Demographically dysfunctional
- Ill-adapted to meeting challenges presented by New Zealand's big trends:
 - Structural ageing
 - NZ's tenure revolution
 - Crisis of affordability

AGEING
WELL

Kia eke kairangi ki te
talkaumātuatanga

Housing Pivots Environment & Energy

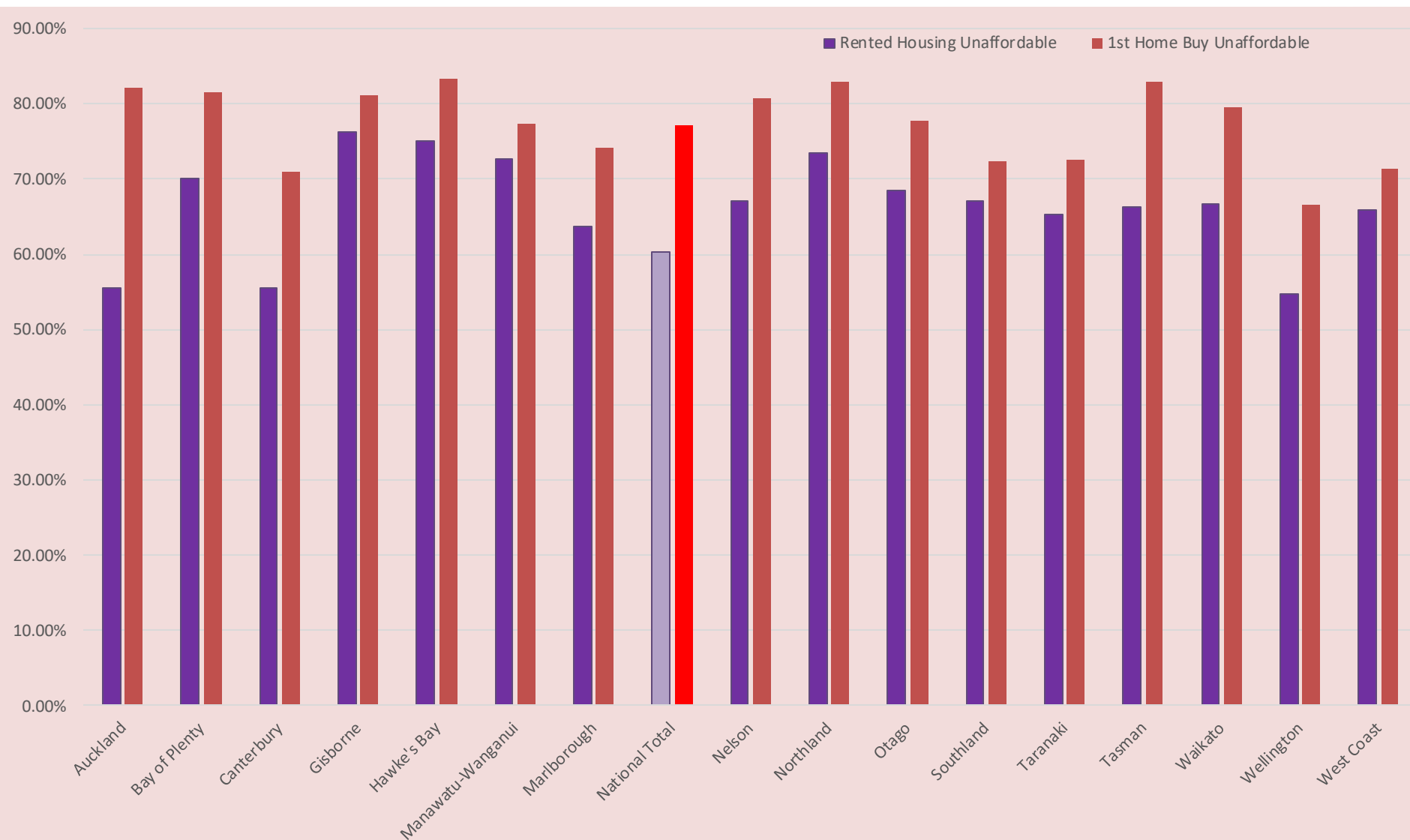
- Energy and the dwelling:
 - Embodied energy – build and disposal
 - Within house energy consumption
- Dwellings and the city
 - Embodied energy in the built environment
 - Out of house energy consumption

AGEING
WELL

Kia eke kairangi ki te
talkaumātuatanga

Energy, the Dwelling & the Home

- NZ reluctant to improve the energy performance of housing
 - Spot heaters
 - Double glazing is not universal – new build requirements in 2012
 - Levels of insulation relatively low
- Traditional narrative:
 - Increased building performance
 - Increased building costs
 - Reduced housing affordability
 - Fuel poverty is energy cost related
- Let's start with housing affordability



Official Housing Affordability Measure by Region March 2016

AGEING
WELL

Kia eke kairangi ki te
talkaumatanga

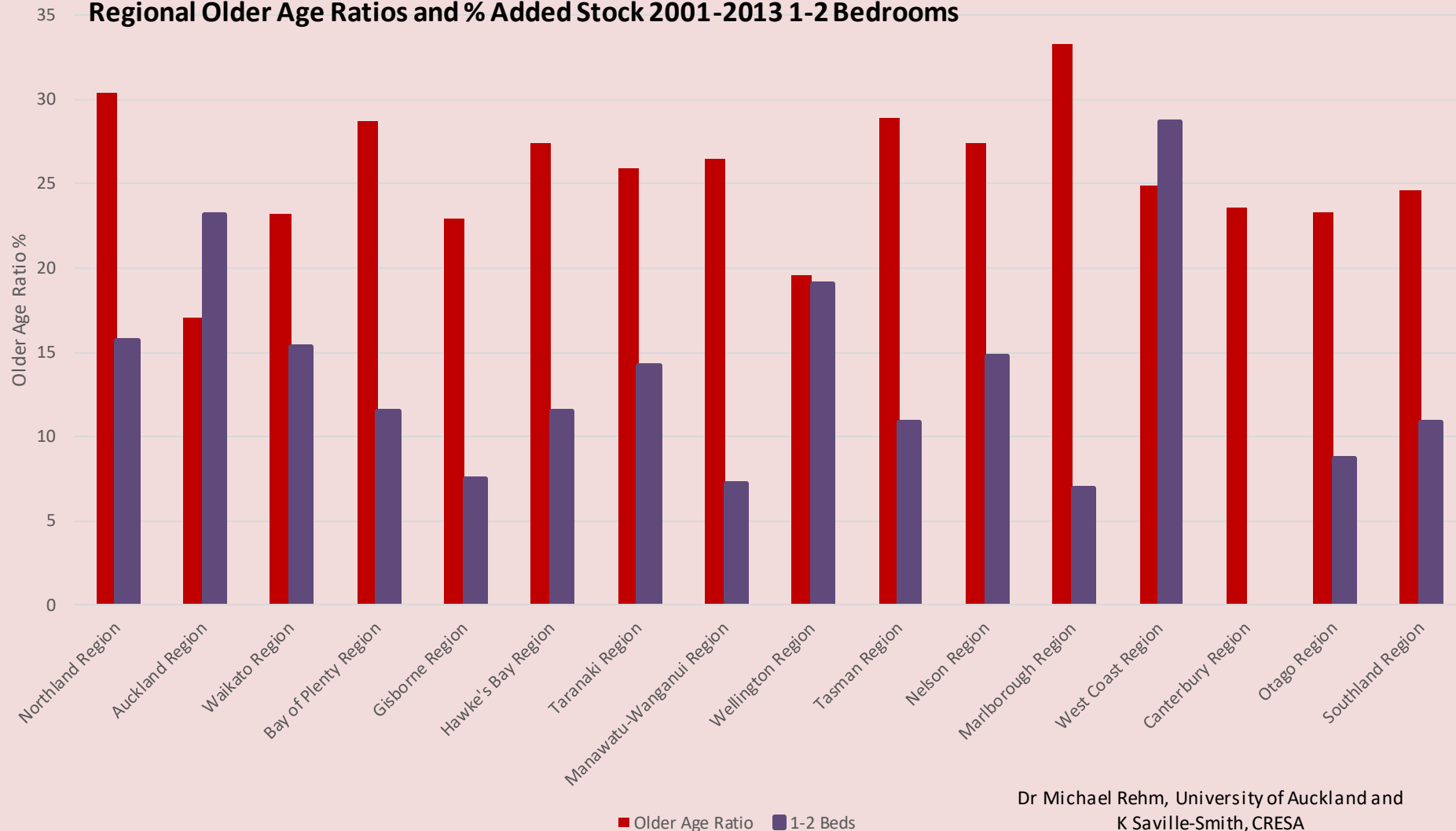
Affordable rents for superannuitants:

- \$90/wk – older people living alone
- \$134/wk – couples

Wellington Market Rents	\$ Weekly 1 April 2017-30 Sept 2017			
Dwelling Type	1-Room	1-Bed Apt	1-Bed Flat	2-Bed House
Kilbirnie/Lyall Bay				
Lower Quartile			\$275	\$400
Median			\$295	\$450
Porirua East Waitangarua				
Lower Quartile				\$248
Median				\$310
Taita/Naenae				
Lower Quartile	\$137		\$195	\$300
Median	\$165		\$195	\$330

Building Costs Reflect Changes in Dwelling Size

Regional Older Age Ratios and % Added Stock 2001-2013 1-2 Bedrooms



Dr Michael Rehm, University of Auckland and
K Saville-Smith, CRESA

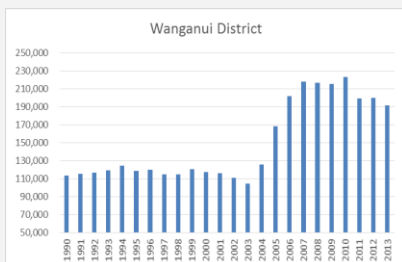
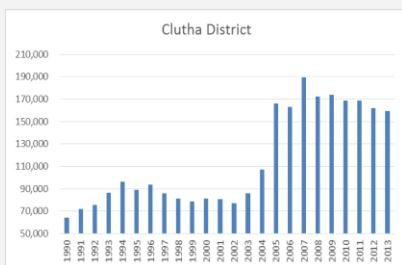
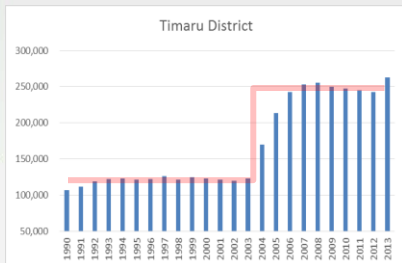


**AGEING
WELL**

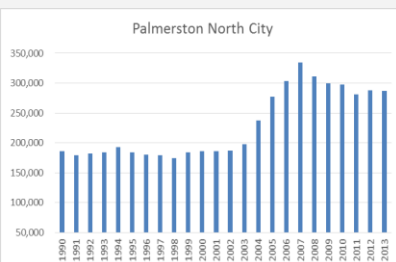
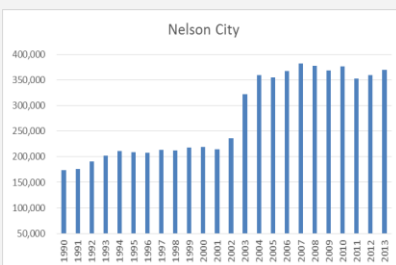
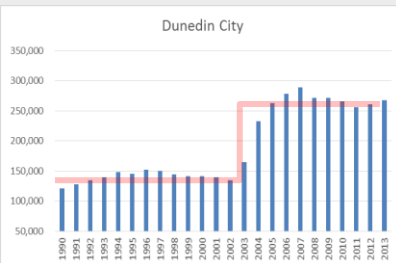
Kia eke kairangi ki te
talkaumatanga

House Prices – Auckland and Other Markets

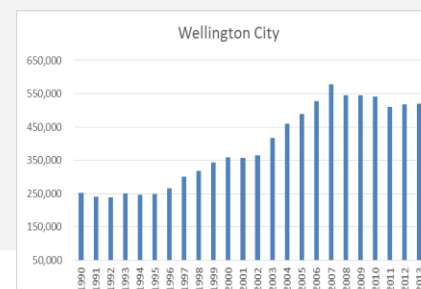
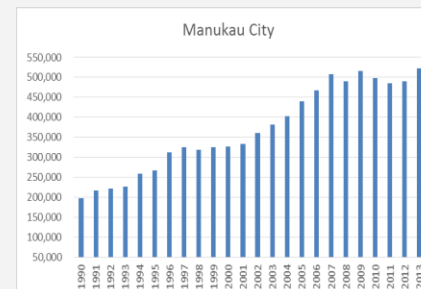
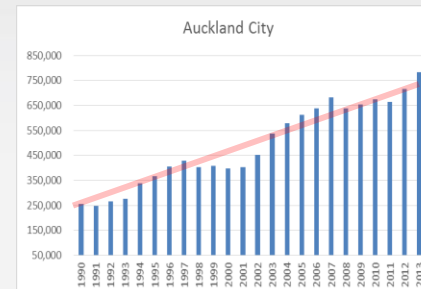
Rural Areas



Small Cities



Large Cities



Dr Michael
Rehm and
Professor Larry
Murphy



**A Quarter
Acre, Pavlova
Paradise**



AGEING
WELL

Kia eke kairangi ki te
talkaumatanga

Energy, Income and Warmth

Household Income Quintile	% Households Expending <10% Monthly Income	% Households Expending >10% Monthly Income
Quintile 1 (Lowest)	72%	28%
Quintile 2	97%	3%
Quintile 3	100%	0%
Quintile 4	100%	0%
Quintile 5 (Highest)	100%	0%

Mean Living Room Winter Evening
Temperature of Households
Spending Less than 10% of Monthly
Income is

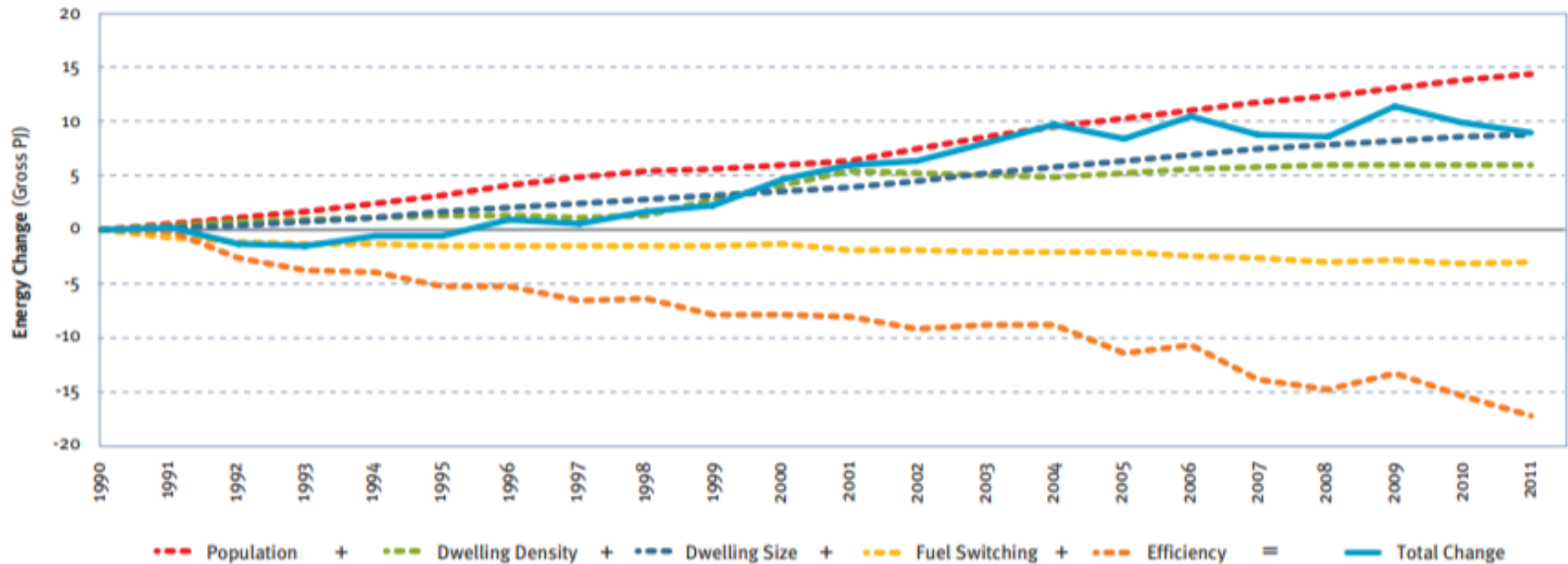
1.3° C Higher than

Mean Living Room Winter Evening
Temperature of Households
Spending More than 10% of
Monthly Income

AGEING
WELL

Kia eke kairangi ki te
takaumātutanga

Energy and Dwelling Size

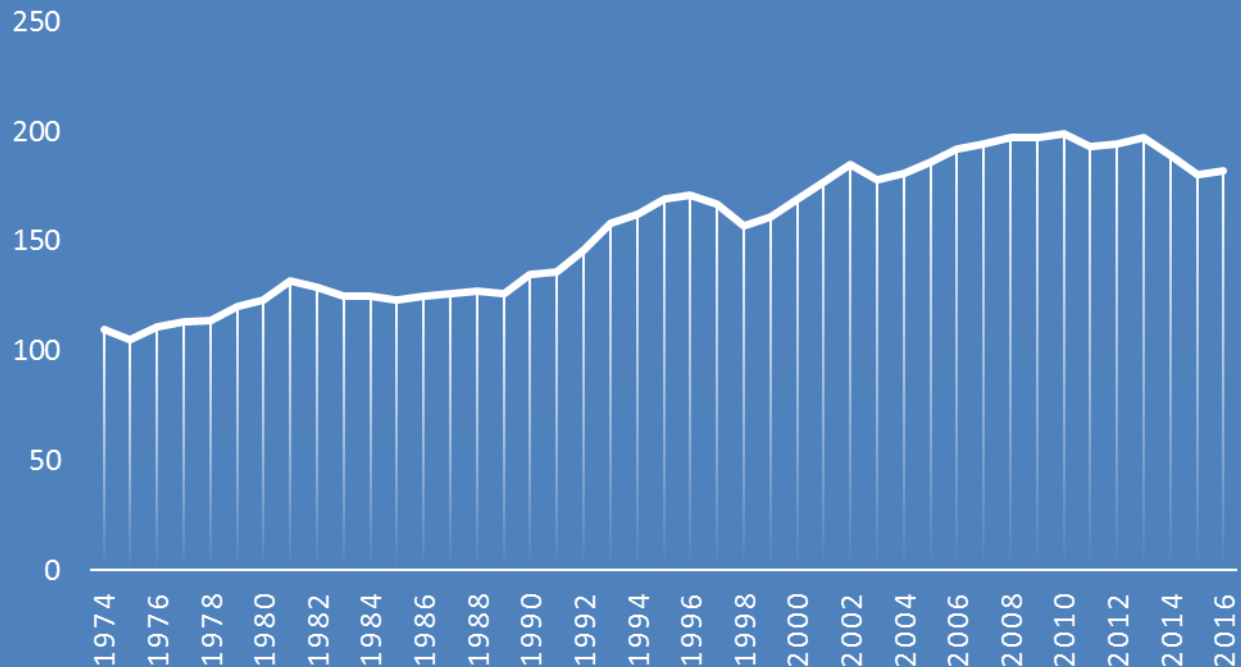


AGEING
WELL

Kia eke kairangi ki te
talkaumatanga

Dwelling Size

AVERAGE SIZE NEW DWELLINGS INCLUDING APARTMENTS (SQ METRES)



AGEING
WELL

Kia eke kairangi ki te
talkaumātuatanga

Homes, Energy & Our Settlements

- The land cost myth drives us to the edge:
 - Residential zoning prompts significant land price uplift on the edge
 - Residual land valuation sets bidding prices for land
 - Land prices reflect house prices not vice versa
- The 'edge' just drives us:
 - Car is king
 - Car displaces homes
 - King car is associated with energy consumption

AGEING
WELL

Kia eke kairangi ki te
talkaumatua tangā

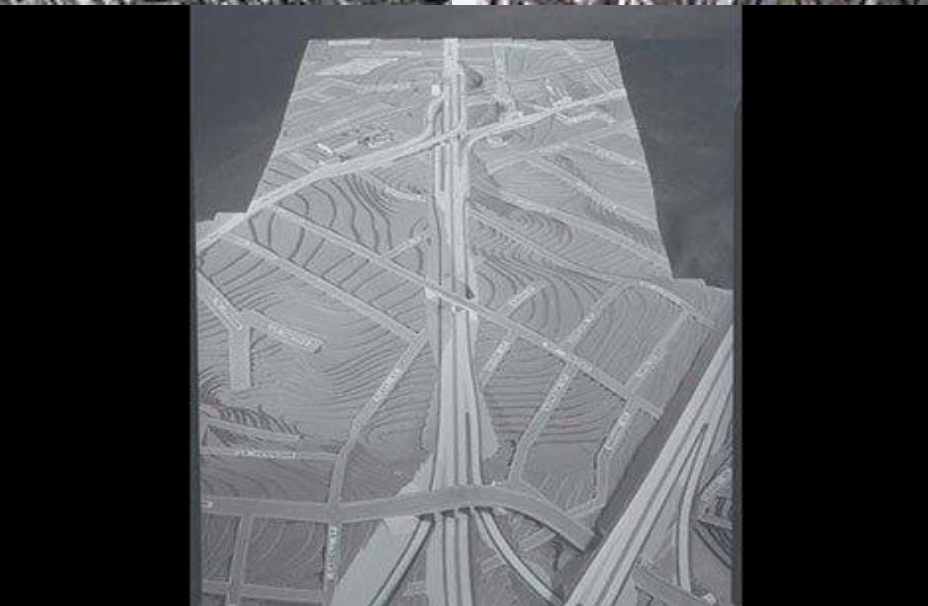
‘Car is King’ in Towns and Cities

A driver must not drive a mobility device on any portion of a roadway if it is practicable to drive on a footpath.



5% of Aucklanders have adequate access to public transport. Only 26.5% have access to both facilities and 2 or more transit trips per hour.

- Impacts on hard design:
 - Over provision of parking and garaging allocation requirements in district plans
 - Under provision and maintenance of footpaths
- Erosive effects on soft policy:
 - Erosion of footpaths for feet and as non-motorized spaces
 - Roading exceeds public transport funding
 - Dual funding regime (State Highways – Central govt) incentivizes highway rather than local road and public transport
- ‘King Car’ excludes older people
 - By 2051 if current rates of licensing prevail over 300,000 older people will be unlicensed
 - Injurious to children and young people
- Vicious circle:
 - Undermined public transport, restoration is struggling
 - Attenuated connectivity, increased travel times, costly infrastructure
 - Most vulnerable households burdened with travel costs
 - Old and young street users exposed to risk



‘King Car’ Displaces Homes

- 15,000 homes and about 50,000 people in Newton East replaced by Spaghetti Junction, Auckland
- Around 400 houses and 1,600 living people displaced, Foothills Motorway, Wellington (3,693 bodies interred in common grave)
- Up to 400 houses, Otaki Expressway proposal
- Around 59 dwellings, Waterview Tunnel

AGEING
WELL

Kia eke kairangi ki te
talkaumatatanga

Housing Affordability & the Edge

- The housing affordability crisis and the desire to build affordable housing heavily influenced by ideas that the edge is cheaper
- Reflects a series of problems:
 - How we define housing affordability – typically entry capital or rent
 - How we account for costs:
 - Excludes travel costs
 - Excludes externalized costs
 - Excludes sunk costs
 - How it diverts our attention from affordable housing production deficits and promotes myths

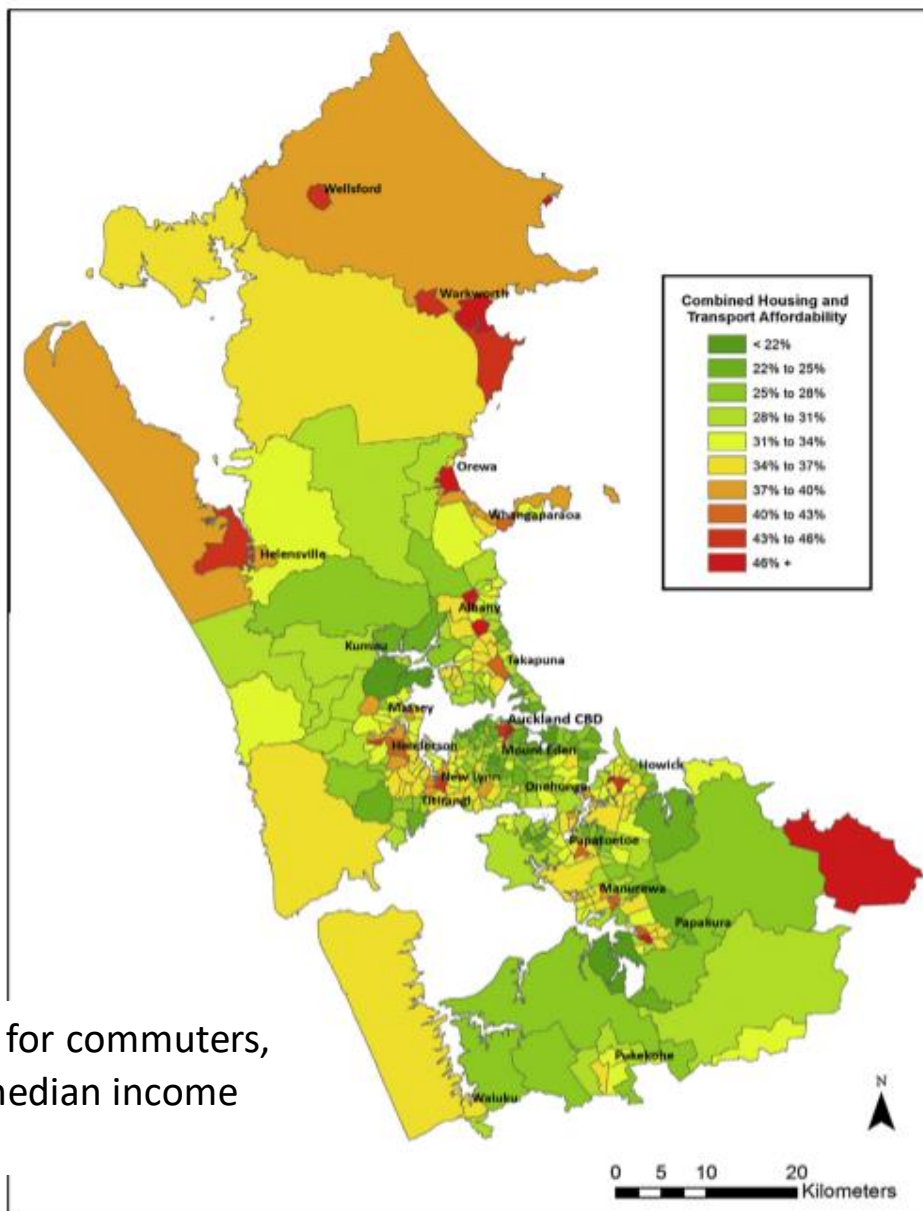
AGEING
WELL

Kia eke kairangi ki te
takaumātutanga

- Housing costs as % of median Auckland household income declines towards the edge.
- Inner city has low commuting costs, outlying areas high commuting costs.
- Some outer areas have 5x or more than transport costs than inner city – (transport costs reflect energy consumption)
- Combined Housing & Transport (CHT) presents a different view of housing affordability

**Mattingly &
Morrissey's
Auckland Study
2014**

CHT affordability for commuters,
using area unit median income
(CHT Index 1)



AGEING
WELL

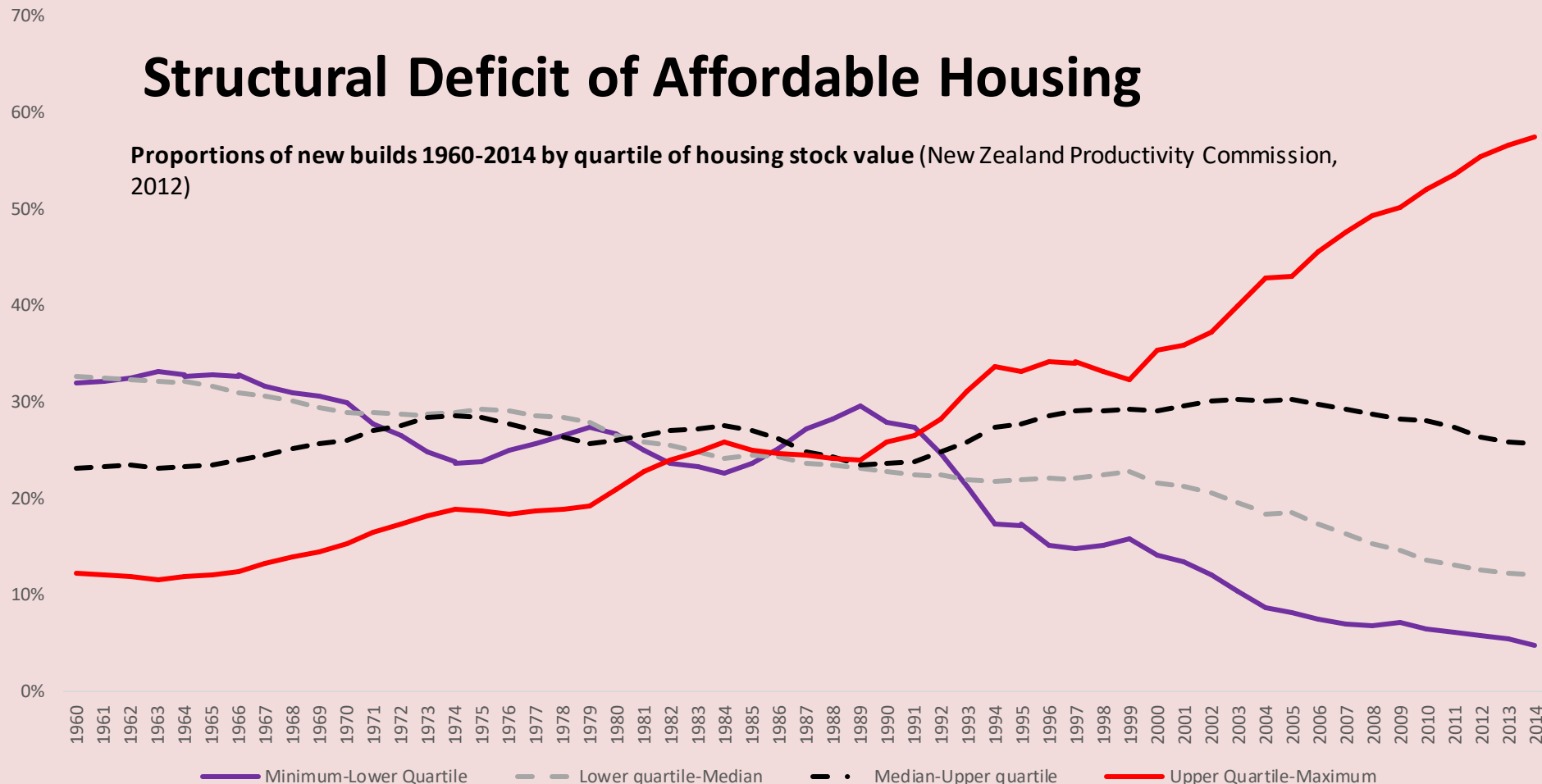
Kia eke kairangi ki te
talkaumātuatanga

Housing, Energy Sinks and Fuel Poverty

- CHT analysis is needed against income distribution to establish whether housing on the edge generates fuel poverty.
- Would we find:
 - Older people on fixed incomes on the edge and on the edge of isolation?
 - Working poor on the edge?
 - Layering of house performance related fuel poverty with elevated CHT related fuel poverty?
- And we need to attend to the drivers of unaffordability

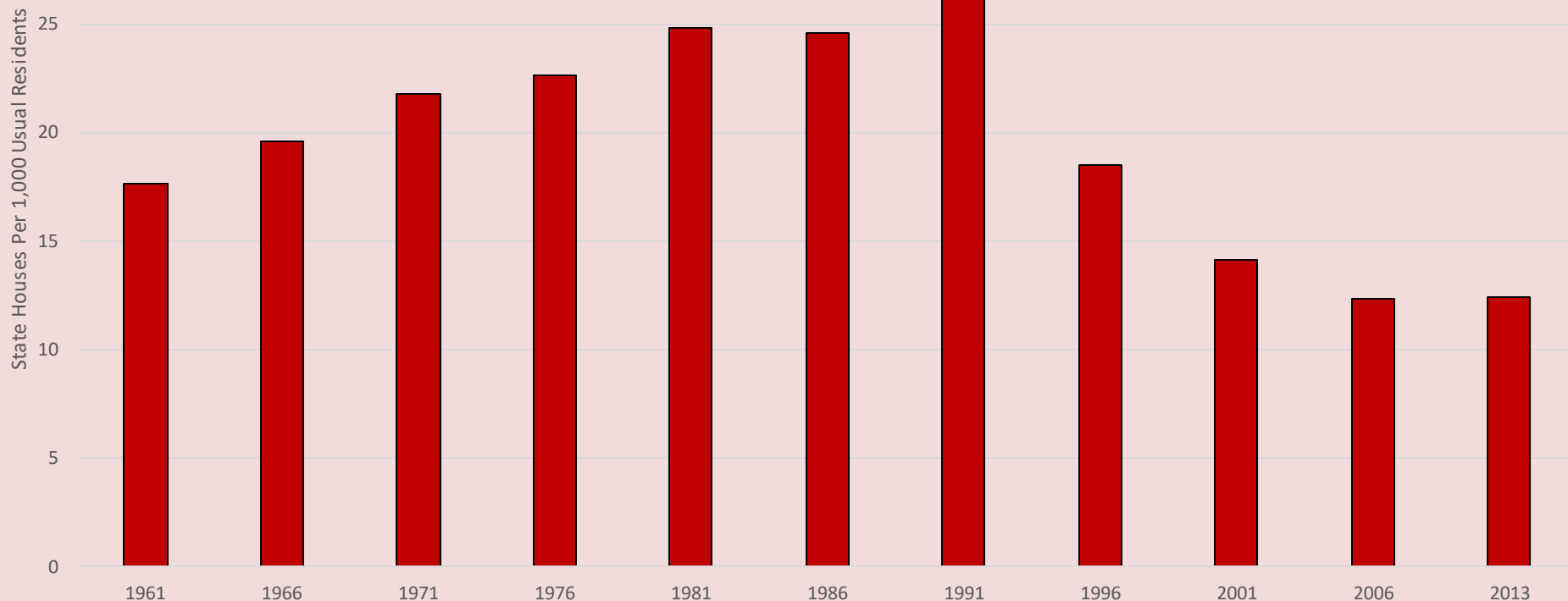
Structural Deficit of Affordable Housing

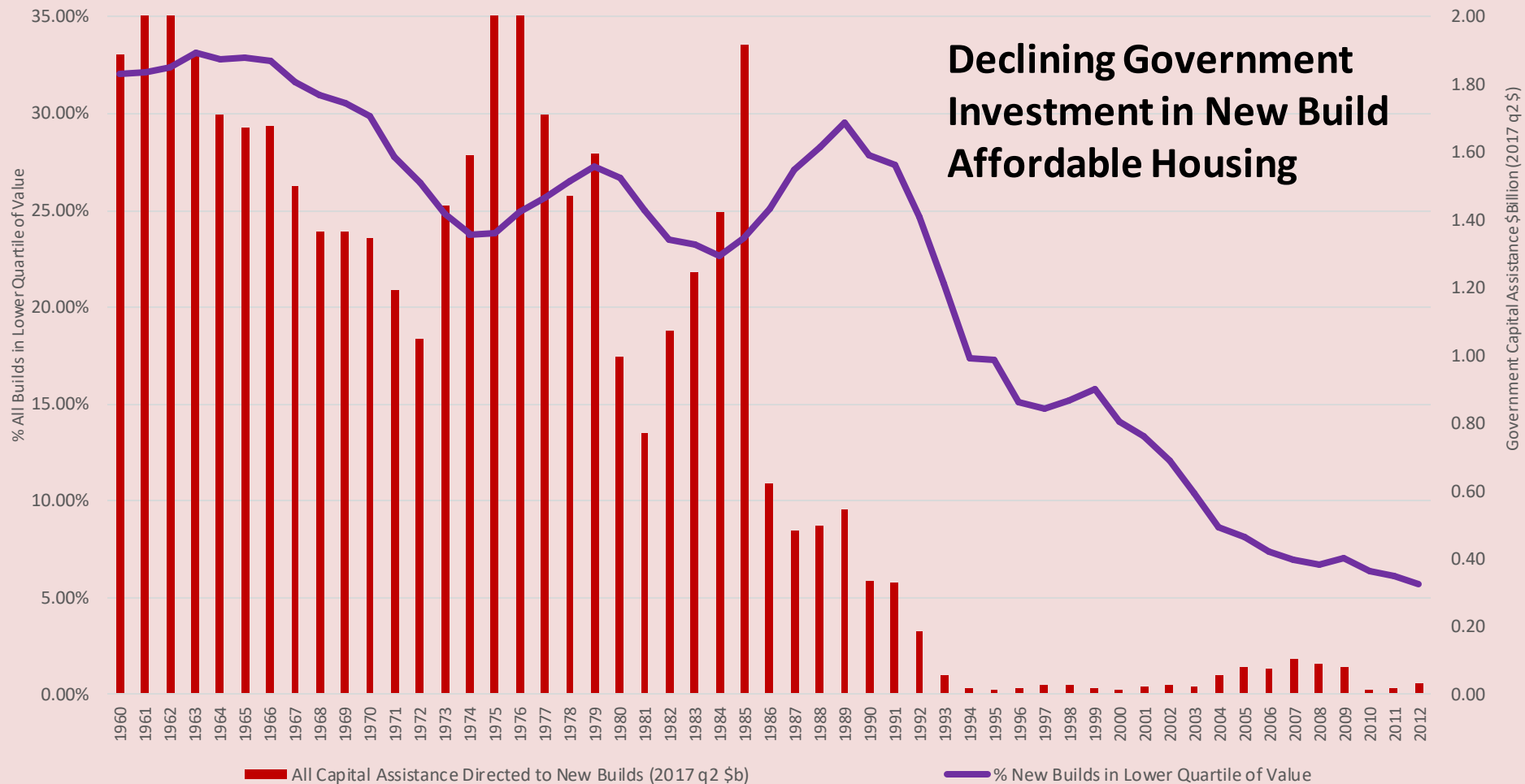
Proportions of new builds 1960-2014 by quartile of housing stock value (New Zealand Productivity Commission, 2012)



Disinvestment and Under-Investment in Affordable Housing

Investment per capita state housing stock 1961-2013





AGEING
WELL

Kia eke kairangi ki te
talkaumatanga

Homes as energy sinks?

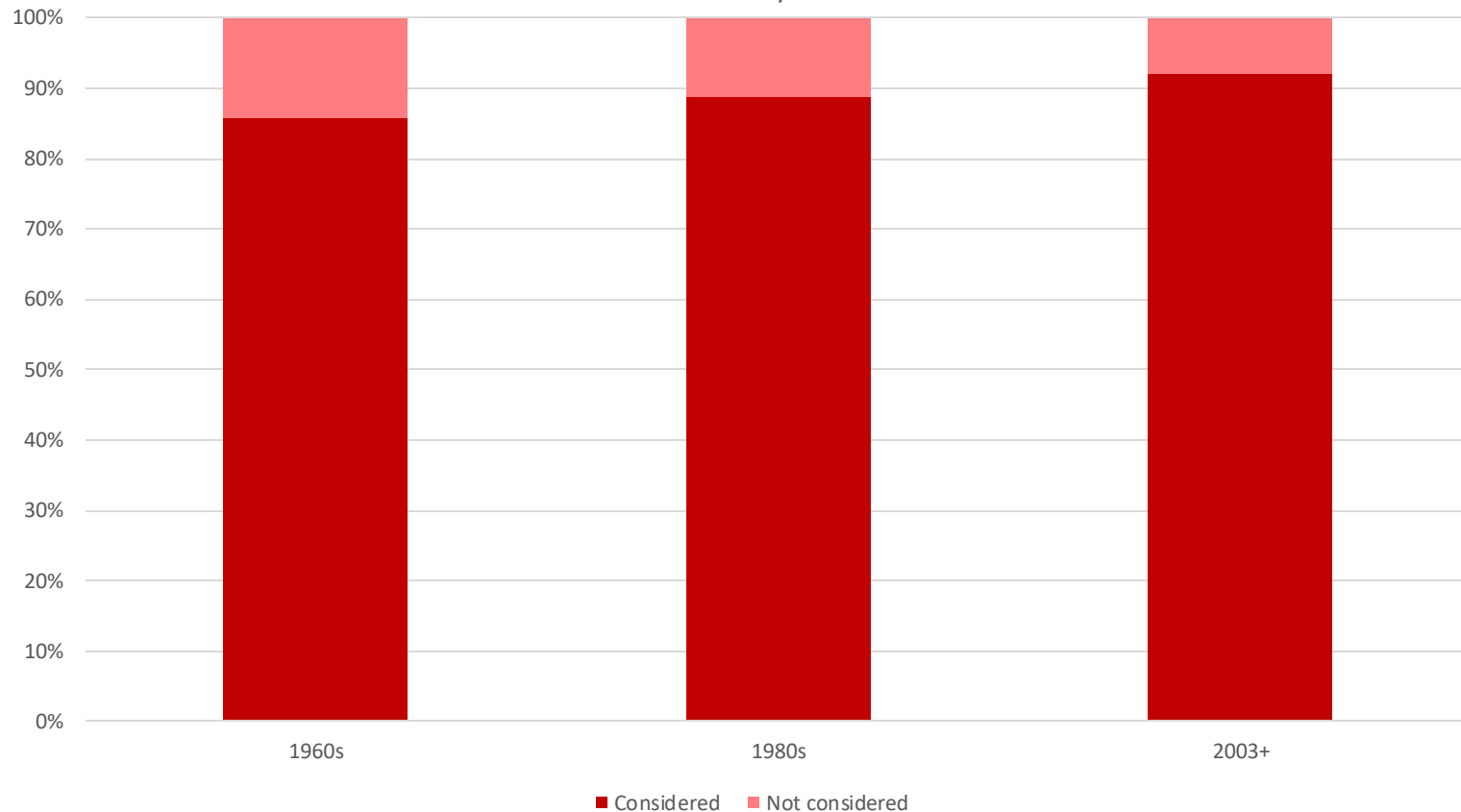
- The good news:
 - Dwellings are generally more thermally efficient
 - Heating is more energy efficient
- The bad news
 - We have bought into a raft of narratives:
 - Performance vs affordability
 - Energy costs are about energy pricing
 - Big houses are better investments than small houses
 - Resale
 - Per square metre
 - The edge is cheaper
 - Falling rates of home ownership
 - Rentals poor condition and poorly maintained
 - Moral hazard problem
 - The dung heap syndrome

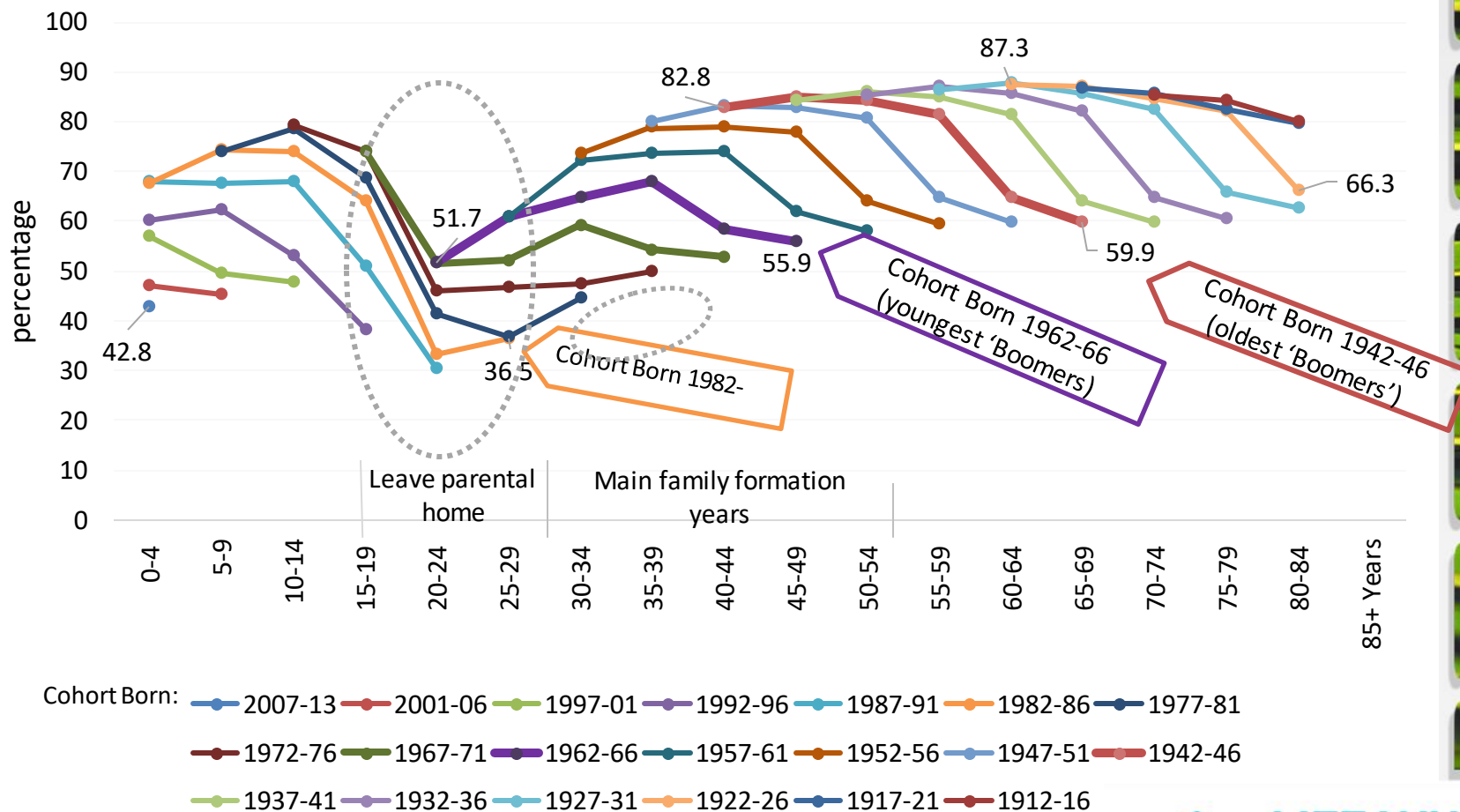
**AGEING
WELL**

Kia eke kairangi ki te
talkaumatatanga

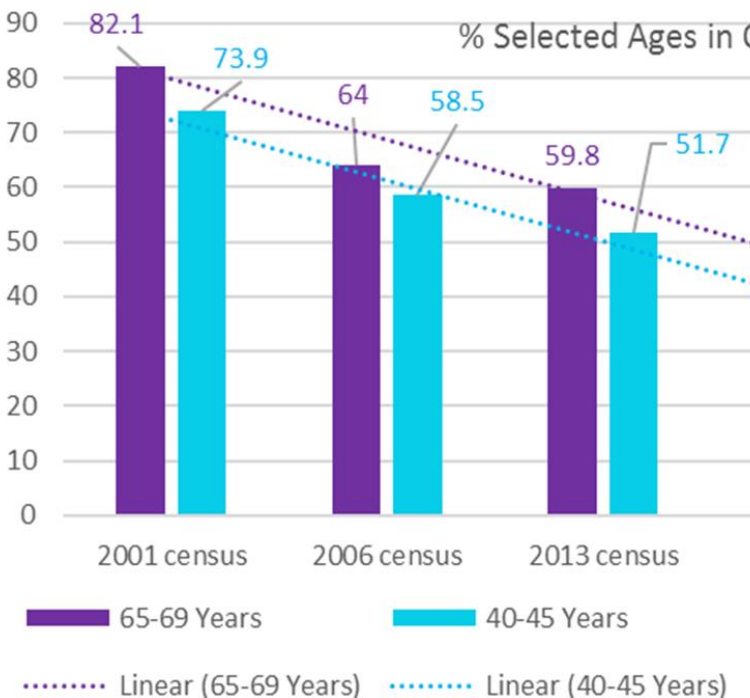
**Those that
can leave
renting**

1st Home Buyers considered "A home for you and/your family to live more comfortably than in a rental house" by decade



Home Ownership by Birth Cohort, **Total NZ**

% Selected Ages in Owner Occupied Dwellings



Overall level of maintenance of houses with an occupant aged 65 or over by tenure (NZ House Condition Survey 2015/16)

