



Older People's Housing Futures in 2050: Three Scenarios for an Ageing Society

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**Prepared for
Centre for Housing Research Aotearoa New Zealand**

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EXECUTIVE SUMMARY

- i. In 2050 there could be over 800,000 households headed by older people in New Zealand. The population of people aged 65 years or more is likely to be in the region of 1.35 million. That is, about a quarter of the population will be older people. Most older people will live in their own homes, but the numbers of households headed by an older person in the rental market will more than double. Older people will be more diverse ethnically than today, and there will be more older people entering their eighties and nineties. Older people will typically live alone or with an older partner. More than a million older people will not be in paid labour and well over half a million can be expected to have a disability that impairs their mobility. Around 325,000 older people will not have a drivers licence and even more are likely to be dependent on public transport, walking or on others.
- ii. The challenge is how to ensure that older people have the sort of housing that keeps them well, keeps them connected, and keeps them productive. In 2050, the impacts on wider society of the housing conditions in which older people live will not be able to be ignored. The housing future of older people is the housing future of New Zealand. The scenarios presented here are designed to help us actively mould a positive future.

The Research

- iii. This research has involved developing three realistic scenarios of the possible futures for older people's housing. Those scenarios have been built through:
 - Analysing critical socio-demographic and housing trends that are likely to impact on older people's housing needs over 2010-2050.
 - Modelling possible impacts on older people's housing demand of savings and consumption behaviour in the context of different policy and market conditions by applying an equilibrium lifecycle model.
 - Reviewing domestic and international research, evaluative and policy literature on key housing issues affecting older people's housing futures.
 - Workshopping housing futures with key populations and stakeholders.
- iv. By developing these scenarios of older people's housing futures, this report is designed to provoke reflection and allow stakeholders, decision-makers and advisers to leave their current short-term focus to look at the opportunities and challenges presented by an ageing society well into the future.

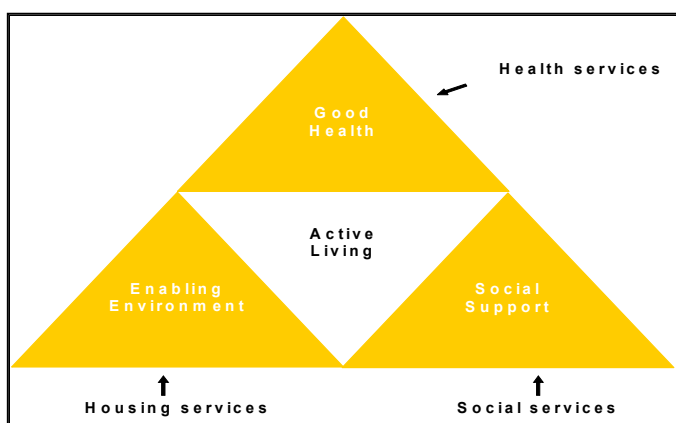
Alternative Futures

- v. Some of those futures do not look particularly desirable.
- vi. The **Business As Usual Scenario**, for instance, portrays a future in which New Zealand continues current levels of investment and innovation in the new housing and existing housing stocks. It is a future in which there is little improvement in neighbourhood design and settlement connection and in which the social and health supports for older people are largely de-coupled from housing support and policy. That Business As Usual Scenario will see a future in which funding streams related to older people's housing remain fragmented. Co-ordination between housing, health and social services will be patchy. The building industry and housing sectors will respond to housing demand but not to older people's housing needs. The housing stock will have a higher proportion of better

performing dwellings because of performance requirements set in place in the first decade of the 21st century. But most of the stock, already in place in 2009, will still perform relatively poorly. Industry and public good investment will be limited and the industry will use similar production chains as currently. Housing affordability instruments such as home equity release and shared equity will be minimal, not well understood, and not subject to strong protections. Older people's tenure in the rental market will be relatively insecure with continuing high churn of dwellings between the rental and the owner occupied market. Thermal performance of dwellings in the rental market will be poor as landlords have previously shown low take up of retrofit assistance and current new grants under the 2009 budget are not available for landlords. New and existing neighbourhoods in urban settlements will be largely dependent on private cars for connectivity.

vii. A significantly more desirable future is presented in the **Integrated Response Scenario**. That scenario presents a world in which New Zealand has made a considerable shift in the approach to housing in an ageing society.

viii. The Integrated Response Scenario sees a reprioritisation of housing for older people in the mix of older people's services. It embeds the idea that good housing is the bedrock of older people's lives and the pathway to avoid significant and costly dependency. In this future, housing and the built environment are seen as fundamental to older people remaining both socially and economically active. Maintaining older people's independence as long as possible through the provision of enabling environments and services will be determined as the best way to optimise funding investments.



ix. As a consequence, there will be both central and local government initiatives to promote life time design in both housing and neighbourhood design. This will involve mandatory requirements on all new dwellings with or without public investment to be built to lifetime design standards. Regional and local government will assess plans for new and redeveloped neighbourhoods, transport development plans and services, against a nationally agreed checklist for age-friendly settlements. In urban settlements the choice of transport mode will increase and residents in fewer neighbourhoods will depend solely on private cars for connectivity to the rest of the city. Industry and public good research monies will be directed to developing affordable, life time housing, street and transport design and associated technologies. Integrated funding streams for dwelling retrofit and dwelling modification will be established using evidence-based and consistent assessment tools across all sectors. Housing stock typologies will be diversified and neighbourhoods will be functionally mixed with a variety of different densities.

x. The third scenario sees a future in which New Zealand's response to an ageing population structure is characterised by **Fragmented Innovations**. This is a

future in which there may be significant innovation effort but the benefits are less than optimal. Housing innovation will be confined to the premium end of the housing market and residential developments. There will be a diversification of housing typologies, but the dominant housing form will remain detached dwellings and housing sizes will stabilise. The problem for older people of finding dwellings to which they can downsize to release equity and to reduce housing burdens will remain. Non-owner occupier tenures will have increased. The use of financial instruments such as home equity release will be available. Protections around those instruments will be established. Those protections will have been developed in response to the financial crisis experienced in 2008 and 2009 and the successive failure of finance companies rather than because of a coherent approach to older people's needs. Older people's tenure in the rental market will be relatively insecure with continuing high churn of dwellings between the rental and the owner occupied market. Funding streams for dwelling retrofit and modification will remain separate and a fragmented patchwork of services and housing assistance will prevail.

Striving for a Good Housing Future in an Ageing Society

- xi. Although the demographics of ageing may be inexorable and challenging, the response to ageing can be purposeful. We know from international responses that that sort of mobilisation is possible. Ensuring a decent future for older people's housing and one in which the costs of ageing are mitigated involves actively recognising housing as a fundamental determinant to wellbeing.
- xii. If New Zealand wishes to bridge the gap between older people's housing need, housing demand and housing supply as portrayed in the Integrated Response Scenario, purposeful action will be required. A multi-sectoral mobilisation of central and local government, the private, public and community sectors in housing, the building industry, and health and social services will be needed. New Zealand will need to:
 - Rationalise funding streams directed to housing related services to reduce confusion, compliance and transaction costs and to optimise the effective use of investment.
 - Implement formal mechanisms to increase cross-sectoral integration around housing and services for older people including:
 - Developing and adopting impact assessment, needs assessment and performance assessment tools across sectors that impact on the housing and well-being futures of older people.
 - Joint contracting and commissioning of older people's services.
 - A comprehensive range of housing and service solutions which can be tailored to need through robust information and advice services.
 - Implement a two-pronged strategy to improve the diversity, affordability, performance and functionality of **both** new stock and existing stock.

Research for Positive Futures

- xiii. Just as New Zealand has a choice about the future of older people's housing, it also has a choice around its research in this area. New Zealand can take a business as usual approach characterised by a patchwork of research that adds to our knowledge and understanding but too frequently does not address the key knowledge needs across stakeholders. Or we can seek a more integrated knowledge platform. If we want to drive a good future research needs to focus on:
 - The housing, health and welfare interface. In particular:

- The housing conditions needed to facilitate improved health and well-being outcomes for older people.
- The value of delivering of care in home-base settings relative to other settings.
- The relationship between dwelling accessibility, independence, productivity, and care costs.
- The relationship between older people's housing needs, housing demand and housing supply. In particular:
 - Quantifying the gap between need, demand and supply in relation to:
 - tenure
 - affordable housing costs
 - dwelling typology
 - dwelling connectivity to neighbourhoods and city systems
 - dwelling condition and functionality.
 - Affordable solutions to meeting older people's housing needs including:
 - Establishing the size of marginal costs of lifetime design and cost-effective options for lifetime design builds.
 - Identifying intermediate housing instruments suitable for older people.
 - Establishing affordable repairs, maintenance and retrofit options and services.
- Future-proofing the new-build stock in New Zealand. In particular:
 - Establishing the value case for lifetime design for key stakeholders:
 - Government
 - Industry
 - Households
 - Identifying and testing systems, products and processes that would encourage industry supply of life time design dwellings.
 - Evaluating the efficacy of various incentive, regulatory and investment models to promote lifetime design.
- Making good the existing New Zealand housing stock: In particular:
 - Establishing the condition, performance and functionality of New Zealand dwellings.
 - Establishing the value case for retrofit specified to both thermal and amenity performance of dwellings.
 - Identifying and testing systems, products and processes that would encourage industry supply of life time design retrofit in existing dwellings.
 - Evaluating the efficacy of various incentive, regulatory and investment models to promote retrofit.
- Increasing older people's connectivity and activity with a particular focus on age-friendly neighbourhoods and settlement systems.

xiv. In developing this research response, New Zealand needs to learn from overseas. We also need New Zealand specific data to know what is applicable and useful in New Zealand conditions, given the particular characteristics of our ageing population, ethnic diversity, regional/local distinctions, our government structures, current and historical policy settings, and characteristics of the housing market. There is much to be done.

1. INTRODUCTION

- 1.1 This research is concerned with the patterns of housing futures likely to be evident among people 65 years and older between 2010 and 2050. It is directed to improving New Zealand's ability to plan for and respond to the changing housing demands of older people over the next forty years by:
- Identifying the key factors current and emerging that are likely to impact on the housing needs of older peoples and their patterns of consumption.
 - Providing scenarios of housing demand among older people.
 - Setting out a plan for future research that will provide a more robust evidential base of knowledge for responding to the changing housing demands of older people.
- 1.2 The report presents three scenarios around housing futures for older people in the context of an ageing society. Those are:
- Scenario 1: Business as Usual;
 - Scenario 2: Integrated Response; and
 - Scenario 3: Fragmented Innovations.
- 1.3 Those Scenarios are not intended as predictions of the future. They are vehicles to investigate current issues and provide insights that will inform policy and practice decisions. They are designed to allow stakeholders, decision-makers and advisers to consider options and possibilities that might not otherwise be considered. Scenarios allow people to go outside usual operational boundaries, and reflect on old problems in new ways.
- 1.4 The report is divided into three parts in addition to this introduction which sets out the context and focus of this report. Those three parts can be read separately or as a whole. The material in Part 2 is intended to provide an additional resource for all those interested in responding to the housing needs of older people. Part 3 deals with the research base needed to drive an effective evidence-based response to older people's housing futures.
- 1.5 The report is structured as follows:
- Part 1 consists of three sections and presents the:
 - Method used for scenario-building (Section 2);
 - Conditions and assumptions that underpin the scenarios (Section 3); and,
 - Three housing futures for older people in 2050 (Section 4).
 - Part 2 consists of four sections which are the inputs that have informed the older people's housing futures scenarios presented in Part 1 of this report: Those sections present:
 - Critical socio-demographic and housing trends (Section 5);
 - Results of life cycle equilibrium modelling (Section 6);
 - Data generated from consumer and sector workshops (Section 7); and
 - The findings of a review of international responses to the challenge of older people's housing in ageing societies (Section 8).
 - Part 3 sets out a research plan directed to improving the knowledge base for effective housing responses for older people in an ageing society (Section 9).

Research Context

- 1.6 The focus of this research on older people's housing demand reflects four significant realities for New Zealand in the first half of the 21st century. Those are:
- New Zealand's complex ageing population dynamic;
 - the diversity of housing pathways associated with different age cohorts and ethnicities;
 - the importance of house performance for older people's health and well-being; and
 - the extended life expectancies of people living in New Zealand.
- 1.7 Each of these issues is addressed in more detail in subsequent sections of this report. However, in summary it is important to note that New Zealand like many countries has an ageing population. By around 2030 the number of people living in New Zealand who are 65 years or more is expected to exceed one million and by 2061, New Zealand can expect its older population to be about 1.44 million. Between now and 2050, the proportion of the population aged 65 years or more is expected to increase from 12 percent to about a quarter of the population.
- 1.8 But while New Zealand's population structure is ageing overall, the population structures of some populations in New Zealand are considerably younger than others. The 'European or Other' population structure¹ is ageing more quickly. The Maori and Pacific population structures have a younger profile. Maori aged 65 and over are likely to make up 9 percent (71,000) of the Maori population by 2026. Only 7 percent of the Pacific population will be 65 years or older in 2026. However, the groups falling within the Asian population will have about 12 percent of their population aged 65 years or older in 2026 compared to only 5 percent in 2006. The median age of the European or Other population will increase 4.7 years by 2026 compared to a 7.5 year increase in the median age in the Asian population, a 2.4 year increase in median age for Maori and an increase of 1.6 years in the median age for Pacific peoples.
- 1.9 That complex demographic picture interfaces with housing patterns in New Zealand, which also show differences across ethnic groups and over age cohorts. Overall, New Zealand has falling rates of owner occupation, but some groups have longstanding concentrations in rental housing in New Zealand. Moreover, the conditions around housing access have changed considerably over the years. This is quite evident when the situation of those who will be 65 years in 2010 is compared with the situation of those people who will be 65 years in 2050. The latter are the 23 year olds of today. The 65 year olds in 2010 were 23 year olds in 1968.
- 1.10 As Infobox 1.1 shows, the conditions faced by 23 year olds today, the 65 year olds of 2050, are very different.

¹ Statistics New Zealand base the 2006 national ethnic population projections on four broad ethnic populations of New Zealand: European or Other (including "New Zealander"), Maori, Pacific and Asian. Statistics New Zealand, 2008d, *Projections Overview*, www.stats.govt.nz.

Infobox 1.1: Comparing the Housing Related Conditions of 65 yr-olds of 2010 with the 65 yr-olds of 2050²

Indicator	1968	2008/09
Govt Home Ownership and Other Housing Assistance	<ul style="list-style-type: none"> ▪ State Advances mortgages (56,368 loans approved to 31 March 1967) ▪ Family Benefit capitalisation (5,289 advances 1967-68) ▪ Mortgage Guarantee Scheme for housing ▪ State rental housing (49,424 rentals) ▪ State house building programme (rising; 1,657 units 1968-69) ▪ Sale of state houses to tenants ▪ Housing assistance through Maori Affairs 	<ul style="list-style-type: none"> ▪ Welcome Home Loan (1,070 loans 2006-07) ▪ Accommodation Supplement (income tested, strongly targeted and restricted to payment of a portion of the 'unaffordable gap') ▪ Housing-related components of Kiwi Saver ▪ Shared Equity Pilot ▪ State rental housing (approx 66,000) ▪ New state houses (926 units 2006-07)
Average Dwelling size ³	(1976) House 121m ² ; Flat 83m ²	House 205m ² ; Flat 137m ²
Average number of occupants per dwelling	3.52 (1966)	2.7 (2006)
Home Ownership (with and without mortgage)	69% (1966)	66.9% (2006, included family trusts)
Average rate of interest on mortgage	6.74% (Market) 3% (State Advances)	10.6% – 10.9% (floating)
Age of marriage	Bride: 23.29; Groom 26.33 (average)	Bride: 30.2; Groom 32.5 (median)
Age of mother at birth of first child	23.39 (average)	28 (median)
Birth rate	2.61 per woman	2.1 per woman
Life expectancy at birth	Females: 74.30; Males: 68.19	Females: 81.9; Males: 77.9
Tertiary Education Assistance	Scholarships and bursaries providing allowances. Matriculation providing automatic waiver of university fees.	Student loan (average student loan leaving debt \$15,590 in 2005) Student allowance (for under 25 allowance is parental income tested; for 25+ is income tested)
Retirement	Age Benefit from 60 years (income tested) Superannuation from 65 years (not income tested)	Superannuation from 65 years (taxed at higher rate if receiving other income) Kiwi Saver (optional)
% of Population Aged 65 yrs or more	8.3% (1966)	12.3% (2006)

1.11 In 1968, young people's lives were characterised by early formation of independent nuclear families. There was a policy of full employment. There was substantial assistance to families wishing to enter home ownership and home ownership tended to be funded by a combination of government loans, inheritance and capitalisation of the Family Benefit. Household debt was largely limited to house purchase and credit options for other forms of consumption were limited. The tax regime was strongly progressive and complex.

² Data drawn from Statistics New Zealand 2006 Census, Housing New Zealand Corporation and Work & Income websites, New Zealand Official Yearbooks for 1968, 1970.

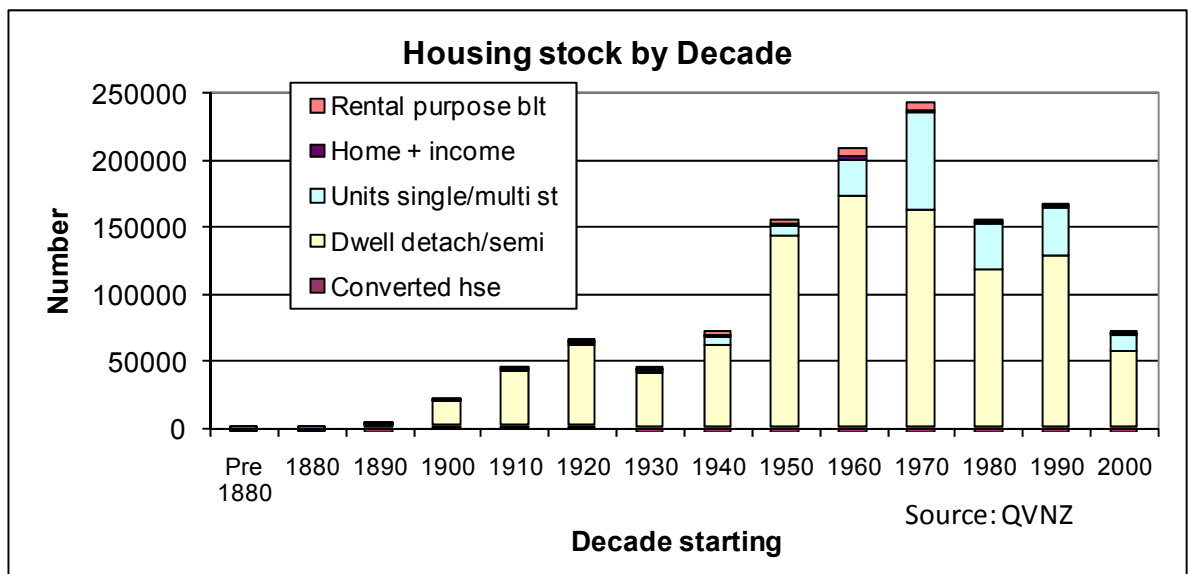
³ Saville-Smith, 2008a.

- 1.12 Dwellings were smaller, households were larger and health care and education costs were largely funded by the state. Fewer young people accessed tertiary education. Moreover, post-secondary school training was typically waged and not funded by student debt. Trainee teachers, nurses and other health ancillary staff, such as occupational therapists, and trade apprentices were all paid and many were provided with low cost housing as well. Low cost housing, including staying with relatives, a shortage of housing stock, especially rental stock, contributed to young people entering home ownership in expanding new housing suburbs in the late 1960s and 1970s.
- 1.13 Now, employment levels are driven more directly by the market. There is very limited assistance associated with entry into home ownership. Levels of personal debt are high and savings until very recently have been relatively low by international standards. Housing affordability problems have been acute in both the rental and the home ownership markets. While housing prices have pulled back a little in the context of the global financial crisis, access to credit is also being tightened.
- 1.14 The building industry is oriented towards larger houses in the middle and higher end of the housing market.⁴ Household formation and child bearing is delayed. A higher proportion of young people are in rental housing, despite continued expressed aspirations to home ownership. Comparatively high levels of debt are found among young people. Tertiary training is generally supported by loans or grant payments.
- 1.15 Two further conditions have prompted concern about the housing demand of older people between 2010 and 2050. Those are longer life expectancies and the condition and configuration of New Zealand's housing stock.
- 1.16 Older people in New Zealand are likely to be older for longer. Extended life expectancies have profound, although not always straight forward, implications for older people's incomes and living standards and their levels of health and disability. International research suggests that older people of the future are likely to be healthier and less disabled longer than older people of today and in the recent past. Nevertheless, it is agreed internationally that ageing populations combined with increased survival for accident victims and those with disabling conditions, will increase the prevalence of people in the community with impaired mobility. The impacts on housing demand associated with those changes could be profound, particularly because of the condition and configuration of New Zealand's housing stock.
- 1.17 By its very nature the typology of the housing stock changes slowly. Even in the building boom of the last decade, only about 22,000 stock units were annually added to the overall stock, which stands at about 1.4 million dwellings. Those effects are inevitably long lasting. Figure 1.1 shows that New Zealand has a substantial number of dwellings in excess of fifty years old.⁵ The dwellings built in the 1970s, 1980s, 1990s and in the first decades of the 21st century can be expected to dominate the stock between 2010 and 2050. This raises significant issues around the suitability and performance of that stock and stock likely to be built in the near future for an ageing population.

⁴ DPMC, 2008.

⁵ Ryan, 2008.

Figure 1.1: New Zealand Housing Stock Age and Configuration



1.18 The externalities associated with unmet housing need combined with the persistent inter-generational effects of housing demand mean that policy and planning require a long term horizon. It also requires, however, that housing demand in the short and medium terms is not neglected. CHRANZ has recognised this in setting the focus of this research not simply on 2050 but on the period from 2010 to 2050.

1.19 The importance of meeting the changing housing needs of older people now and in the future is recognised in key national strategies: The National Housing Strategy; the Positive Ageing Strategy and associated Action Plans; and the NZ Disability Strategy. Those strategies recognise the external costs if older people’s housing needs are unmet, and, conversely, the wider public as well as individual and familial benefits of housing that is accessible, adaptable and performs well for older people.

1.20 It is also increasingly being recognised at the policy level that the housing choices of older people can have significant inter-generational effects. In the past, the assets that older people built up in their dwellings have been passed to younger generations. Those assets have played an important part in improving the life chances of families across generations, including the ability of those younger generations to enter home ownership.⁶ In addition, some commentators have argued that housing assets themselves will become devalued as the bulge of baby boomers ages, downsizes and dies leaving a housing glut and the collapse of house prices.⁷

Research Objectives and Questions

1.21 In setting its objectives for this research CHRANZ has identified a sizeable list of issues and questions that it wishes to explore through this research. In essence, those can be distilled into four key aspects of older people’s housing experiences and demand patterns. They are:

- Patterns of dwelling consumption both in relation to housing types and the tenure conditions of housing access.

⁶ Pearson and Thorns, 1983.

⁷ Sichelman, 2008; Myers and Ryu, 2007.

- Patterns of investment into housing assets (both as primary homes and secondary dwellings or investment rentals) and the use or subsequent liquidation of those assets.
- The use value of dwellings as homes in the context of older people's:
 - own changing aspirations for their lifestyles;
 - perceived responsibilities and obligations to their children and grandchildren, particularly where older people and their housing acts as a 'stable node' for their wider kin group and extended families;
 - aspirations regarding legacies and inter-generational transfer of property; and
 - liabilities for the costs of health care and services.
- Housing demand in the context of increased diversity among the population of older people including:
 - increased socio-economic diversity and resource inequality;
 - life stage diversity with differences potentially becoming more defined between 'young older people', 'middle older people' and 'old older people';
 - more variation in the older population in relation to disability conditions, type and levels of disability, and age of disability on-set ;
 - ethnic diversity among older people with the pronounced ageing of the Maori, Pacific and Asian population structures; and
 - locality determined access to services.

PART 1: OLDER PEOPLE'S HOUSING SCENARIOS

2. BUILDING HOUSING SCENARIOS

- 2.1 This section provides an overview of scenario approaches, their use and limitations. It then presents a brief overview of the way in which scenarios have been used internationally to explore housing futures. Finally, this section sets out the research and analytic activities that were used to build the three older people's housing futures scenarios presented in Section 4 of this report.

Scenarios: Purpose, Use, and Effectiveness

- 2.2 Scenarios articulate "many futures".⁸ In doing so they present a challenge to existing perspectives, policies and plans which are often based on some taken for granted assumptions about how the world works, what is possible and what is inevitable. The purpose of scenarios is to allow stakeholders, decision-makers and advisers to consider options and possibilities that might not otherwise be considered. Scenarios allow people to go outside usual operational boundaries, and reflect on old problems in new ways.
- 2.3 Scenarios are not intended as predictions of the future. They are vehicles to investigate current issues and provide insights that will inform policy and practice decisions.

Scenarios vs Forecasts

- 2.4 Scenarios are not forecasts or projections although they may use forecasts and projections in defining key elements of social, economic or demographic change. Using scenarios provides a way around some of the problems associated with forecasting, particularly the problems that arise from being embedded in quantitative trend data.
- 2.5 Forecasts, because they tend to be based on forward projections of measured trends, have difficulties in accommodating long-term changes in cultural norms, social, economic and political processes, and changes in institutional practices and policy settings. Forecasts effectively reduce the complexity of social and economic life to a few, measured parameters. In addition, because forecasts project into the future from past trends, forecasts have difficulty in dealing with the impacts of 'shocks' or crises.
- 2.6 By definition scenarios are concerned with understanding in the context of uncertainty and change. They build a picture of a world which incorporates a wide variety of information. Scenarios incorporate data around quantitatively measured trends. But they also incorporate information, knowledge and speculation around social and economic practices and institutional behaviours, some of which can be measured independently and some of which are constructed out of the experience and perspectives of stakeholders and social and economic commentators.

⁸ Wilkinson, 2009.

Strengths and Weaknesses of Scenarios

- 2.7 That scenarios are, in a sense, a product of the imagination underpins both their strengths and their weaknesses.
- 2.8 The strengths of using scenarios as a tool in policy development and planning are that they can help to understand futures that are expected to be characterised by complexity, turbulence, uncertainty and ambiguity. They encourage re-thinking, adaptability and attention to challenges. Constructive disagreement can be included, through development of multiple scenarios. Scenarios also allow consideration of alternatives, through multiple stories that are plausible, possible and probable.⁹
- 2.9 Scenario building is by no means unproblematic.¹⁰ Some of the key problems that have emerged in the application of various approaches to scenario building over the years are:
- The tendency for the process by which scenarios are created to become an end in itself, rather than a means by which substantive issues in a sector such as housing can be identified and illuminated.
 - The potential for scenarios to become detached from the actual possibilities and dynamics that drive social and economic life and, consequently, become unrealistic and irrelevant.
 - The potential for scenario methods to reduce diversity and fail to recognise divergent views. This includes the problem of 'group think' where group dynamics homogenizes perspectives to the point that participants can no longer identify alternative pathways.
 - The risk of generating highly abstract or generalised readings of the future which fail to provide any guidance to policy and sector responses.
 - The risk of not adequately distinguishing aspirations or desired futures from expected futures.

Our Method for Building Scenarios

- 2.10 A number of housing scenarios have already been generated both here and overseas. The main themes of those scenarios are summarised in Appendix A and demonstrate the diversity of scenario building approaches. The three scenarios presented in this report have been constructed out of four data collection and analytic activities. Those are:

Component 1: Describing the critical socio-demographic and housing trends that are likely to impact on older people's housing needs over 2010-2050.

Component 2: Modelling possible impacts on older people's housing demand of savings and consumption behaviour in the context of different policy and market conditions by applying an equilibrium lifecycle model.

Component 3: Reviewing domestic and international research, evaluative and policy literature on key housing issues affecting older people's housing futures.

Component 4: Workshops with key populations and stakeholders.

⁹ Wilkinson, 2009.

¹⁰ A review of some of those issues in relation to identifying housing futures is found in Burke, Slaughter and Voros, 2004.

Component 1: Critical Socio-demographic and Housing Trends

- 2.11 Key demographic, socio-institutional and housing sector trends have been analysed using a variety of data sources. For socio-demographic trends data has been drawn from the New Zealand census, demographic projections undertaken by Statistics New Zealand, Reserve Bank statistics on wealth, debt and savings. Data relating to travel and transport modes and various studies around household consumption patterns have also been used.
- 2.12 Housing trends in relation to stock growth, location, dwelling size, typology and occupancy were explored. The primary aim was to summarise the supply-side context of older people's housing demand. Census data, HEEP data, house condition data and data generated by CRESA's FRST funded programme on older people's repairs and maintenance needs and practices were analysed.¹¹ Consideration was given to the impact of changing stock characteristics on issues around the affordability of housing access for older people, the resource consumption implications and operating affordability for older people, and the implications of stock location for meeting older people's on-going community integration, care and service needs.

Component 2: Life Cycle Equilibrium Modelling

- 2.13 This modelling deals with the dynamics of housing demand amongst persons over 65 years in New Zealand in the next four decades. The focus is on the:
- income, consumption, saving, health, and housing demand choices made over the entire lifespan of those who will be over 65 years during this period, including the choices made before they turn 65 years;
 - quantity of different types of houses in New Zealand; and
 - income, consumption, saving, and housing demand choices made over the entire lifespan of those who will be under 65 years during this period.
- 2.14 This component of the research used the Coleman version of the Modigliani-Brumberg equilibrium lifecycle model which examines how the interaction of housing demand by people of different ages determines house prices in equilibrium, when they consciously save for retirement and when they choose different housing patterns throughout their life.¹² The model was extended to analyse in a stylised way the likely effect on housing demand following: an increase in average life expectancy; different rates of economic growth; different mixes of retirement saving and pension policy, including a possible increase in the age of retirement; changes in the ease with which retired people can release equity in their houses; changes in health expenditure in retirement; changes in the cost of housing construction and house price; declines in interest rates towards the levels prevailing in other countries; and, changes in the size and timing of bequests.

Component 3: Review of International Housing Responses to Ageing Societies

- 2.15 This component of the research consisted of a selected review of international and New Zealand research that illuminates patterns of housing demand among older people, the impacts of inadequate housing on older people, and inter-generational issues associated with older people's housing

¹¹ See www.goodhomes.co.nz

¹² Coleman, 2006; Coleman, 2007; Modigliani and Brumberg, 1954; Modigliani and Brumberg, 1980.

demand. The review of international research was mainly focused on the experience in the United Kingdom, Australia and North America.

Component 4: Housing Futures Workshops

2.16 This component involved structured workshops that engaged housing consumers and stakeholders in the housing sector and other sectors responding to the needs of older people.

Housing Consumer Workshops

2.17 The intention was to conduct six housing consumer workshops with 10-12 participants in each. The workshops were designed to: (a) explore the preoccupations and imperatives of age cohorts that will become 65 years or older in the period 2010-2050, and (b) capture the diverse housing experiences and expectations of population groups in New Zealand. Housing consumer workshops were proposed for:

- People who are currently 65-70 years.
- People who are currently 50-55 years and will be approaching 65 years or more in 2020.
- People who are currently 23-25 years and will be 65 years or more in 2050.
- Maori of mixed ages.
- Pacific people of mixed ages.
- Asian new settlers of mixed ages with residence in New Zealand of ten years or less.

2.18 Implementation of the consumer workshops resulted in workshops and interviews involving 79 people in Auckland, Wellington and Hutt Valley to obtain as wide a participation as possible given the time and resources available. They were as follows:

- 65-70 Age Group. Nine people participated in a workshop held in Auckland on 10 March 2009. The workshop included people living in owned, rented and supported accommodation. Their ethnic backgrounds included NZ European, Indian, English and European.
- 50-55 Age Group. Ten people participated. One workshop and interviews were held in late March/early April 2009 to access sufficient participants. Those participating were all employed, and all owned their own homes. They were either living with a partner, living alone or with children still living at home. They included NZ European, Maori, English and Australian.
- 23-25 Age Group. Six people participated in a workshop held in Wellington on 11 March 2009. Participants included NZ European, Maori and Pacific young people who were employed or fulltime tertiary students. One had children. The workshop consisted of a mix of those renting, home owners and living with parents.
- Workshops and interviews with 30 Asian new settlers in early March 2009. Participants' ages ranged from 30s-70s. Several methods were used to access a range of new settlers and to encourage different cultural perspectives to be expressed. Three workshops were held in Hutt Valley on 7 and 8 March 2009 with members of the Chinese, Indian and Filipino communities. In addition interviews with six Chinese people were held in Wellington on 13 March. One interview was also conducted with an older Indian resident of Wellington. People were contacted for the workshops

through the Hutt Ethnic Council, Hutt City Council, New Settlers Service and Wellington City Council.

- The Maori workshop was held on 18 March 2009 in Wellington. Fourteen people attended the workshop, hosted by Ara Tahi, the inter-iwi representative group of the Wellington Region, which includes the Kapiti Coast, Wellington, Hutt Valley and Wairarapa. The region's seven iwi authorities were represented, as well as others involved in Maori housing. Participants' ages ranged from 30s-80s.
- The Pacific workshop was held on 9 March 2009 in Manurewa. Ten people attended the workshop hosted by the Manukau City Council. The workshop consisted of community leaders from South Auckland Pacific communities including from the Samoan, Niuean, Cook Island and Tongan communities. Their ages ranged from 19 years to 60 years. They included a mix of home owners and renters.

Sector Workshops

2.19 This component involved structured workshops that engaged housing stakeholders in the housing sector and other sectors responding to the needs of older people.

2.20 For the sector workshop, it was intended to run four sector workshops, with up to 20 participants in each, depending on the range of expertise needed. The workshops were designed to engage critical stakeholders in the housing sector or at the interface between the housing sector and older people's health services, social services and policy. Those workshops focused on issues, barriers, risks and opportunities in responding to the housing needs of people as they age.

2.21 The proposed workshops were as follows.

- Policy workshop involving central government and local government officials involved in housing policy and officials involved in older people's policy and planning.
- Older people's services workshop involving health and service professionals and agencies involved in provision for older people's well-being.
- Residential building industry workshop involving developers, builders, designers, planners and regulators in the building industry.
- Housing providers workshop involving private sector, community sector and local and central government sector providers of housing and/or housing finance.

2.22 All these workshops were implemented in Wellington as planned. They comprised:

- The policy workshop, held on 13 March 2009, comprised six people from the Ministry of Health, Energy Efficiency Conservation Authority, Office of Ethnic Affairs, Te Puni Kokiri and Kapiti Coast District Council.
- The older people's services workshop was held on 26 March 2009. Six people attended from Grey Power, Presbyterian Support Otago, NZ Council of Christian Social Services, Enable New Zealand, Salvation Army and Wellington City Council.
- Seven people attended the residential building industry workshop held on 12 March 2009. Participants included the Lifetime Design Council, Master

Builders Federation, Summerset Group Limited, Beacon Pathway, Department of Building and Housing, and Energy Options.

- The housing providers workshop was held on 11 March 2009. Eight people attended from Housing New Zealand Corporation, Retirement Villages Association, Community Housing Aotearoa, New Zealand Bankers Association, Christchurch City Council, Wellington City Council and Local Government New Zealand.

2.23 Each workshop was conducted using a structured, facilitated process in which workshop participants were asked to:

- develop for 2010, 2020 and 2050 two types of futures for older people's housing:
 - aspirational futures; and,
 - expected futures.
- identify the conditions that are likely to generate or inhibit those futures
- identify the impacts of those futures for:
 - different population groups; and,
 - social, economic and environmental well-being.

2.24 Emphasis was placed on capturing areas in which participants within each of the workshops:

- articulate common or divergent futures;
- identify similar or dissimilar conditions and dynamics around those futures; and,
- have convergent or divergent perspectives on the impacts of those futures

2.25 Preliminary analysis undertaken in Components 1-3 were used as inputs into the workshops in Component 4. Workshop participants were provided with a powerpoint presentation and paper outlining demographics trends and projections and modelling analysis. Draft workshop feedback reports were developed for each of the workshops and finalised through an e-mail based iteration with workshop participants.

3. SCENARIO BASELINE & ASSUMPTIONS

- 3.1 Our futures are embedded in our past, but the same conditions can give rise to different futures depending on how key stakeholders respond. In this section, we set out the key baseline conditions and assumptions underpinning the three different scenarios for housing for older people's housing futures described in the next section.¹³

Older People, Housing and Services: The Current Baseline

- 3.2 All futures are embedded in a current baseline. All scenarios assume that the baseline or the start point is the same. It is beyond the scope of this report to provide a stock take or evaluation of older people's current housing and services or current policy settings across the sectors that relate to housing. However, some of the features of New Zealand housing and New Zealand's services to older people as they have been identified through the research and workshop processes are set out below.

New Zealand Housing, the Housing Stock and Older People

- 3.3 Most older people in New Zealand live in private dwellings. Most of those dwellings are detached or semi-detached dwellings. Dwellings within retirement village settings are a growing but still small part of the housing market. The community housing sector in New Zealand is beginning to focus on older people and the provision of independent living units. The extent of that provision and its national distribution is largely unknown and is clearly uneven.
- 3.4 Only small proportions of older people live in non-private dwellings such as rest homes or hospitals. Much of the small local authority housing stock in New Zealand is targeted to older people. Most older people live in owner occupied dwellings, although older people are one of the groups for which private landlords have a preference.
- 3.5 Although around 45 percent of older people report a disability and are likely to have compromised mobility because of it, the modified housing stock is under supplied in New Zealand. Some estimates place the under-supply for disabled people as being between 14,000 and 27,000 stock units in 2005.
- 3.6 Much of New Zealand's existing housing stock performs poorly thermally with the result that New Zealand has had a pattern of excess winter mortality. Older people are particularly vulnerable to cold temperatures. Recent research shows that substantial proportions of older people find it difficult to heat their homes adequately. At the same time, older people persistently overestimate the performance of their homes and under-invest in repairs and maintenance. Beacon Pathway has been assessing ways in which retrofitting existing homes might be most effectively accomplished.

¹³ The data and analysis from which the baseline commentary has been developed and material from which the assumptions around conditions in 2050 can be found in sections 5, 6, 7 and 8 in Part 2 of this report.

- 3.7 Both older people themselves and younger people looking towards their retirement overwhelmingly report wanting to stay in a home of their own in the community. Problems of access to affordable housing (especially for owner occupation) and problems of finding affordable and suitable housing for retirement are reported by consumers and sector stakeholders. Newly built housing, while typically providing better thermal performance, are also typically significantly larger than desired, often function poorly in relation to accessibility, and can have locational disadvantages.
- 3.8 There are emergent accreditation systems and/or assessment systems for the new home sector. The Lifemark which is specifically related to lifetime design, is promoted by the Lifetime Design Council. This is directly focused on the needs of households across their life stages and to the needs of disabled people. The Green Building Council, Beacon Pathway and Energy Efficiency and Conservation Authority (EECA) are all involved in promoting better resource and energy performance in new homes.

Services, Housing and Older People in New Zealand

- 3.9 Despite an Ageing in Place Strategy for older people, New Zealand has a strongly segmented approach to older people's policy and service delivery. Housing assistance can be provided through a variety of channels, most of which are not delivered with an older people's focus.
- 3.10 Housing affordability assistance can be provided by way of the Accommodation Supplement delivered through Work and Income within the Ministry of Social Development. There are some discretionary benefits that can also be provided for extraordinary housing-related assistance through the income support system.
- 3.11 Additional assistance for housing retrofit can be provided by way of community-based initiatives and partnerships funded variously by EECA, some Energy Trusts, some District Health Boards, and some local authorities. Housing retrofit initiatives are unevenly distributed throughout the country. Housing retrofit assistance is also unevenly distributed among households. There has also been some investment in Maori housing and rural housing through Special Housing Areas and the rural housing programmes. Again access to those programmes is both limited and uneven nationally.
- 3.12 Housing adaptations and modifications are a mix of national contracts and local delivery. That system is poorly understood by users and commonly criticised for inconsistency and problems with timeliness. There is no formal mechanism and little informal process to promote co-ordination between retrofit funding and adaptation/modification funding. Repairs and maintenance support is not a priority through any funding stream and services are limited. Both consumers and sector stakeholders recognise severe problems of co-ordination and integration.
- 3.13 Cross sectoral integration where it exists tends to be between health and social services. Where there are active attempts to co-ordinate between social services, health and housing, these tend to be in the context of local

and often informal initiatives. Despite an increasing recognition of the impact of poor housing on older people's health and safety, housing need assessment is not commonly employed in the context of health and rehabilitation assessments for older people except in relation to adaptations and modifications.

Key Assumptions in the 2050 Scenarios

3.14 In developing these scenarios a set of conditions have emerged around demographics, key socio-economic trends, consumption patterns and housing stock baselines that are assumed for all. There are also some variations around the way in which the costs of an ageing society will be managed by successive governments.

Demographic Conditions

- 3.15 The key demographic assumptions for 2050 are as follows:
- New Zealand's population will increase to around 5.48 million.
 - The number of households in New Zealand will increase from around 1.6 million to about 2.28 million.
 - The median age will be 43.2 years.
 - The old age dependency ratio will be 38.5 older people per 100 people.
 - There will still be a substantial young age dependency ratio of 28.5 young people per 100 population.
 - New Zealand will have around 1.35 million people aged 65 years or more.
 - New Zealand's older people will be more ethnically diverse but European/Pakeha will make up over 80 percent of older people.
 - The age profile of older people will be older than currently with 24.5 percent of older people aged 85 years or more.
 - Most older people will live in private dwellings, but population growth and population ageing will see more than 50,000 older people in non-private dwellings such as rest homes.
 - All regions will be affected by population ageing with Auckland the only region with a median age of less than 40 years.

Key Socio-Economic Conditions

- 3.16 The key socio-economic conditions for 2050 are:
- Older people's participation in the labour force will be greater than currently, but most older people will not be labour force participants.
 - Older people not in the labour force will number about 1.2 million.
 - Older people will be over-represented in low income households.
 - Household net wealth will stabilise with stabilised house price and attempts to manage household debt.
 - The value of household financial assets will only marginally exceed the value of household debt.
 - Most household wealth will reside in home ownership.
 - Ageing as a demographic process will have little impact on inheritance.
 - Inherited wealth will continue to be concentrated among high income and high wealth households.
 - Household size will fall to around 2.3 people per dwelling.

- Older people will continue to be over-represented in one-person and two-person households.
- Owner occupation will decline including owner occupation by older people.
- The numbers of households in rental dwellings with an older reference person will be possibly over three times the current numbers.
- The numbers of households in rental dwellings with an older reference person is assumed to be around 160,000 households.
- Around 607,500 older people will have disabilities that impair their mobility.
- Around 325,000 older people will not have a licence to drive and will rely on public transport and walking or will be transport dependent.

Housing Stock and Neighbourhood Characteristics

- 3.17 The key housing stock and neighbourhood assumptions for 2050 are:
- The housing stock will be around 2.4 million stock units.
 - Around two thirds of the dwellings in 2050 will be existing dwellings.
 - Most dwellings will be three or more bedrooms.
 - There will be a strong supply side desire to build larger dwellings.
 - Most people including older people will live in neighbourhoods that are already built today.
 - Older people will primarily reside in low and medium density neighbourhoods in urban settlements.

Housing Demand Implications of an Ageing Society

- 3.18 Based on the modelling undertaken in the course of this research each scenario is considered in the context of four variations of policy settings around dealing with the expenses of an ageing society. Those are:
- Case 1: Government maintaining current pension value and taxing all households to fund pensions with pensions reaching 5 percent of Gross Domestic Product (GDP).
 - Case 2: Government allows the value of pensions to fall and house prices remain the same.
 - Case 3: Housing supply does not meet increased population. There is an elasticity of 1 percent for both high and low value dwellings and house prices increase.
 - Case 4: Housing is under supplied with associated house price increases. High value house supply is less elastic than low value house supply.
- 3.19 It is assumed, however, that the major impacts on housing demand (as opposed to housing need),¹⁴ particularly the age of entry into home ownership and the rate at which the property ladder is ascended, will be, as it is now, most strongly determined by: house prices; interest rates; prudential requirements; and building costs.

¹⁴ Housing demand is a narrow economic term meaning the housing that individuals want AND are able to get that housing through a legal transaction. Housing need is merely the housing that people want whether they can access those housing needs or not. Meeting housing demand does not necessarily involve fulfilling people's housing needs.

4. OLDER PEOPLE'S HOUSING FUTURES – 2050

- 4.1 This section describes three scenarios generated out of the trend analysis, workshops, international review and modelling. They are:
- Scenario 1: Business as Usual;
 - Scenario 2: Integrated Response; and,
 - Scenario 3: Fragmented Innovations.
- 4.2 After each of the scenarios is presented, the discussion turns to a comparative analysis of the likely outcomes of those scenarios in relation to a set of seven parameters. Those are older people's:
- social integration;
 - economic integration;
 - standard of living;
 - service provision;
 - housing conditions,
 - need and demand; and,
 - health and safety.
- 4.3 Finally, the probability of each of these scenarios coming to fruition is considered. Particular attention is given to the conditions that would encourage step-wise change beyond the 'Business as Usual' Scenario.

Older People's Housing Futures – Three Scenarios

- 4.4 The main features of the scenarios are as follows:

Scenario 1: Business as Usual: This scenario essentially allows for societal ageing without significant additional actions or investments into responding to that process. This is not to suggest that there will not be gradual change in service delivery processes, or new initiatives and programmes. There is no doubt that retrofit programmes will slowly evolve as they have in the past. There will continue to be some market shifts, as there have been in the past in housing. But there is no radical departure or innovation. Funding streams related to older people's housing remain fragmented across the current range of sectors. The focus in services for older people will still be dominated by health and, to a lesser extent, social services. Co-ordination between housing, health and social services will not be any greater or less than currently. The building industry and housing sectors will respond to housing demand but not necessarily to older people's housing needs. The profile of the housing stock will remain largely supply driven with similar patterns of larger dwellings and traditional design prevailing. The housing stock will have a higher proportion of better performing dwellings because of performance requirements set in place in the first decade of the 21st century. Industry and public good investment will be limited and the industry will use similar production chains as currently. Housing affordability instruments such as home equity release and shared equity will be minimal, not well understood, and not subject to strong protections. Older people's tenure in the rental market will be relatively insecure with continuing high churn of dwellings between the rental and the owner occupied market. Thermal performance of dwellings in the rental market will be poor as landlords show low take up of

retrofit assistance. New and existing neighbourhoods in urban settlements will be largely dependent on private cars for connectivity.

Scenario 2: Integrated Response: This scenario makes a considerable shift in the approach to housing in an ageing society. There is a reprioritisation of housing for older people in the mix of older people's services. Housing and the built environment are seen as fundamental to older people remaining both socially and economically active. Maintaining older people's independence as long as possible through the provision of enabling environments and services will be determined as the best way to optimise funding investments. As a consequence, there will be both central and local government initiatives to promote life time design in both housing and neighbourhood design. This will involve mandatory requirements on all new dwellings with or without public investment to be built to lifetime design standards. Regional and local government will assess plans for new and redeveloped neighbourhoods, transport development plans and services, against a nationally agreed checklist for age-friendly settlements. In urban settlements the choice of transport mode will increase and residents in fewer neighbourhoods will depend solely on private cars for connectivity to the rest of the city. Industry and public good research monies will be directed to developing affordable, life time housing, street and transport design and associated technologies. Integrated funding streams for dwelling retrofit and dwelling modification will be established using evidence-based and consistent assessment tools across all sectors. Housing stock typologies will be diversified and neighbourhoods will be functionally mixed with a variety of different densities. Both neighbourhoods and dwellings will be designed to encourage intergenerational living. The needs of Maori, rural dwellers, Pacific peoples and new settlers will be better integrated into dwelling and neighbourhood design. Housing affordability instruments including shared ownership and equity release will be well-established and subject to protective regulation. Tenure diversification will be accompanied by a quality rental market providing older people with secure tenure, well-performing and accessible dwellings.

Scenario 3: Fragmented Innovations: This scenario involves a significant innovation effort in areas in which there is currently emergent innovation. There is, however, no coherent framework around responding to an ageing society. As a consequence, housing innovation is most pronounced where there is demand in an economic sense. That is, where people want and are able to purchase innovative goods, services and housing. Initiatives in relation to Green Building and Lifetime Design will drive considerable innovation in the premium end of the housing market. Those innovations will be accompanied by premium residential developments being developed according to life time neighbourhood design and neighbourhood sustainability principles. Some iwi and community organisations will develop and implement innovative housing options for inter-generational and kaumatua housing. The use of master planning in greenfield and brownfield sites will be prominent at the premium end of the market. However, those developments still struggle with connectivity because regional and local planning and funding are not shaped within a framework of age-friendly cities. There will be a diversification of housing typologies, but the dominant housing form will remain detached dwellings and housing sizes will stabilise but will average around 220 m². The problem for older people of finding dwellings to which they can downsize to

release equity and to reduce housing burdens will remain because of an under supply of smaller, quality dwellings. Non-owner occupier tenures have increased. These include rights to occupy in the context of retirement villages as well as shared ownership and co-housing arrangements. However the prevalence of those alternatives will be low. The use of financial instruments such as home equity release be available. Protections around those instruments will be established. Those protections will have been developed in response to the financial crisis experienced in 2008 and 2009 and the successive failure of finance companies rather than because of a coherent approach to older people's needs. Older people's tenure in the rental market will be relatively insecure with continuing high churn of dwellings between the rental and the owner occupied market. Integrated funding streams for dwelling retrofit and dwelling modification will remain separate and a fragmented patchwork of services and housing assistance will prevail.

Comparative Potential Outcomes of Older People's Housing Futures

- 4.5 In the context of this report, scenarios are being used as a device to think about how different housing futures might determine outcomes for older people. In New Zealand, as well as internationally, there is a commitment to older people ageing in place. That is, ageing in the communities with which they are attached and ageing actively rather than moving unnecessarily into high dependence, institutionalised living.
- 4.6 That commitment to 'ageing in place' is partly because there is a strong desire among older people themselves to stay in their communities and, indeed, within their existing homes. It is partly because there is a gathering body of evidence that service provision within institutional settings for older people is at least as costly as enabling service provision within communities. It is partly, also, because with increasing old age dependency ratios, there is an imperative to keep older people socially and/or economically productive.
- 4.7 It is also being recognised that 'success' and cost-effectiveness of ageing in place is closely associated with housing. Independence and activity are influenced by the extent to which the housing in which older people live: is enabling or disabling; promotes or compromises health and safety; connects or isolates; and, optimises living standards or is a burden on constrained incomes. In short, housing futures for older people matter because they have so many other impacts on older people, their families and the whole of our society. In 2050, when almost a quarter of our population is likely to be aged 65 years or older, the impacts on wider society of the conditions in which older people live will not be able to be ignored.
- 4.8 Infobox 4.1 sets out some of the potential outcomes of the Housing Futures Scenarios outlined above. Like the scenarios themselves, the identification of outcomes are not predictions. They are, however, embedded in current understandings, experience and research into the interaction between housing and older people's wellbeing. Those parameters are:
- Housing conditions – That is, the security, performance, affordability and functionality of dwellings in neighbourhood settings.
 - Housing need – That is, the extent to which housing supply meets the range of older people's housing needs.

- Housing demand – That is, the implications of ageing for housing demand.
- Social integration – That is, the extent to which older people can maintain active social, familial and civic interactions.
- Economic integration – That is, the extent to which older people can extend their productive lives through labour force participation, voluntary work and unpaid work in the home.
- Service coverage – That is, the impacts on social and health services.
- Health and safety – That is, the impacts on older people’s health and their exposure to disabling accidents.

Infobox 4.1: Potential Outcomes for Older People’s Housing Futures Scenarios

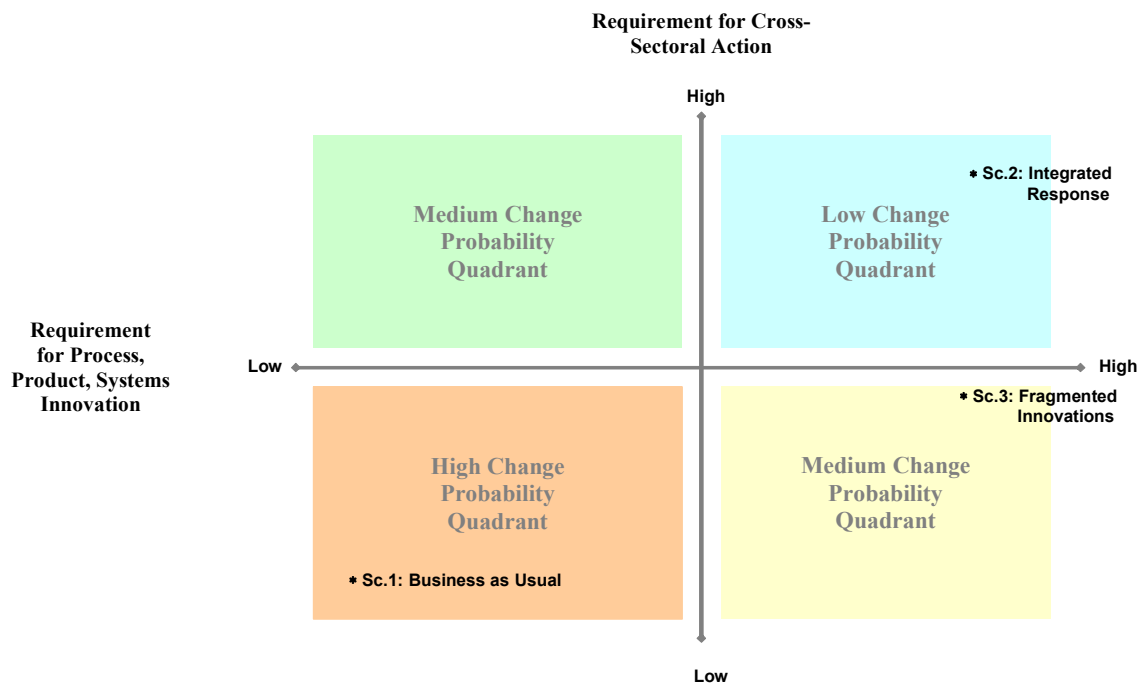
Outcome Parameters	Business as Usual	Integrated Response	Fragmented Innovation
Housing Conditions, Need and Demand	<ul style="list-style-type: none"> • Around 80,000 older renter households shift house on average every six years because of rental tenure insecurity. • Around 10,000 older rental households will be on waiting lists of local authority or community sector social housing. • Around 22% of dwellings rented by households with an older renter reference person will be uninsulated. • Prevailing average house sizes make new housing unaffordable. • Under-supply of smaller dwellings and the prices for smaller dwellings makes down-sizing and equity release difficult. • Modified houses will be undersupplied by 40,000-65,000 units. • Inconsistent provision of assistance for home modifications and assistive technologies. • Continued misalignment between social, health and housing assistance. • Continued under investment in repairs and maintenance by older people starts to have a negative trickle down effect on overall housing quality. 	<ul style="list-style-type: none"> • Rental market is diversified by type, dwelling and landlord. • Reduction in exposure of older renter households to rental market churn. • Increased social housing provision by the community sector. • Local authority housing performance and functionality improved. • Lower proportions of households with an older renter reference person will be living in poorly uninsulated dwellings. • Widespread adoption of life time design in all housing market segments of the owner occupied stock. • Increased take-up of retrofit assistance by older renter and older owner occupier households. • Better integration between social, health and housing services. • Consistent assessment of housing service needs. • Development of nationally consistent housing services. • Expansion of housing services to include: rapid repairs and maintenance and housing advisory services. 	<ul style="list-style-type: none"> • Significant proportion older renter households shift house on average every six years because rental tenure insecurity. • Around 10,000 older rental households will be on waiting lists of local authority or community sector social housing. • Around 22% of dwellings rented by households with an older renter reference person will be uninsulated. • Adoption of life time design for new dwellings in the premium housing segment and retirement villages. • Targeting of wealthier older people to release equity. • Targeting of retrofit and assistive technologies to wealthier older households. • Increased housing polarisation among older people. • Limited development of inter-generational housing developments. • Increased focus on developing non-mix residential developments for older people. • Continued misalignment between social, health and housing assistance.

Social Integration	Poor connectivity, isolation and participation generated by inaccessible housing and neighbourhoods that are not age friendly.	Optimise connectivity and participation through visitable homes and neighbourhoods and cities that are age friendly.	Polarisation of older people. Overall, connectivity and participation limited.
Economic Integration	Not optimised due to poor connectivity, isolation and participation generated by inaccessible housing and neighbourhoods that are not age friendly.	Optimised through maintaining connectivity with places of employment.	Polarisation between older people because of differential settlement connectivity. Tendency for older people in retirement villages and other specialised housing to exit from economic activity.
Health/Social Services Coverage	<p>Increased pressure for enabling services in home-based settings as the mal-adaptation of dwellings make functionality difficult and older people become isolated in under serviced and poorly connected neighbourhoods.</p> <p>Inability of social and health sector and older people and families to cope with these demands moves older people into higher dependency arrangements.</p> <p>Although overall costs are higher and benefits are lower than other alternatives, limited funding relative to expanding needs mean there is less funding available to develop alternatives.</p>	<p>Reduced pressure for enabling services in home-based settings as dwellings are well adapted and improvements in functionality are easily made.</p> <p>Neighbourhood and city connectivity encourages older people to be able to effectively access health and other services.</p> <p>Forward-loaded funding has allowed new services to be developed that reduce unit costs and improve value for money.</p>	<p>Pressure for enabling services in home-based settings as the mal-adaptation of dwellings makes functionality difficult and older people become isolated in under serviced and poorly connected neighbourhoods. Impacts are felt differentially by older people with households with histories of low incomes and low wealth unable to take-up improved housing opportunities and neighbourhoods. Inability of social and health sector and older people and families to cope with these demands moves vulnerable older people into higher dependency arrangements. Overall costs are higher and benefits are lower than other alternatives, limited funding relative to expanding needs mean there is less funding available to develop alternatives.</p>
Health & Safety	Continued excess winter mortality. The proportion and number of disabling accidents among older people in the home increases.	Reduction in excess winter mortality and cold associated health problems. The proportion of disabling accidents among older people in the home is reduced.	Continued excess winter mortality but concentrated particularly among older households with histories of low incomes and low wealth unable to take-up improved housing opportunities. Home-based accidents also become concentrated among vulnerable populations of older people – Maori, Pacific peoples and some Asian ethnic groups.

Probabilities of Scenario Fruition

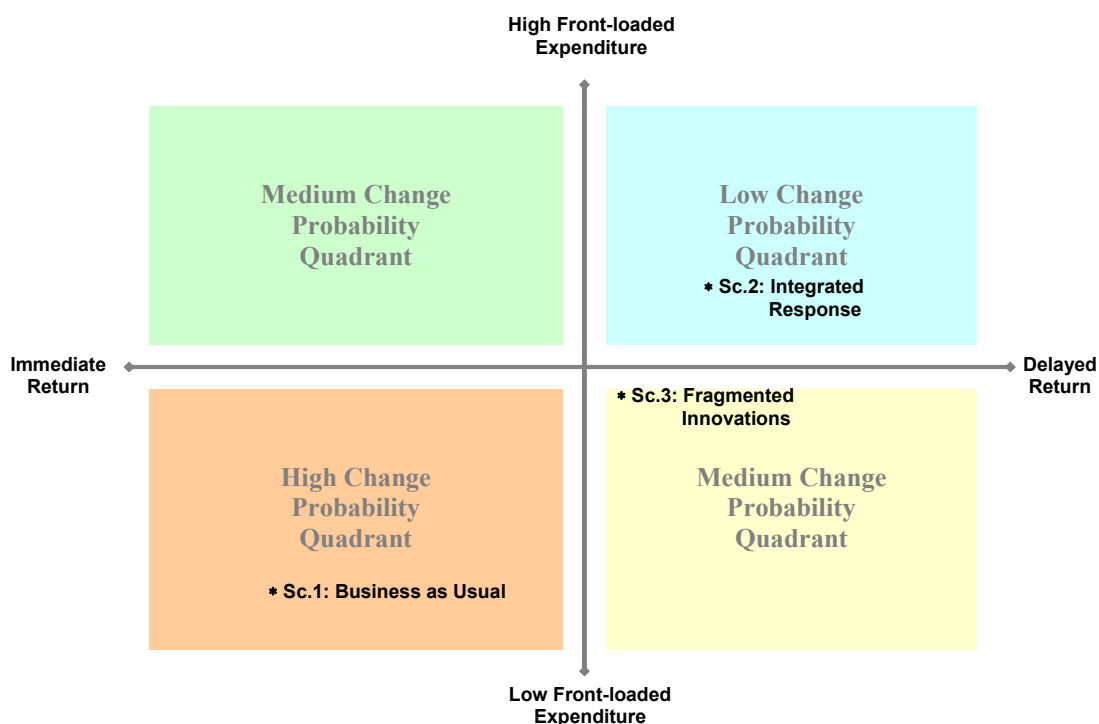
- 4.9 The issue that New Zealand faces with its ageing society is not whether there will be change and whether that change will impact on the housing futures of older people. The problem will be whether that change will be responded to in ways that optimise outcomes for older people and New Zealand as a whole.
- 4.10 The scenarios set out in this report can be arranged along a continuum of relatively poor outcomes to relative good outcomes. The Business as Usual Scenario is at the poor end of the continuum and the Integrated Response is at the optimised end of that continuum. This is not a continuum of no change to change. The Business as Usual Scenario is not a 'no change' scenario. It is a scenario in which change will undoubtedly occur but in a way which simply emerges out of: incremental adjustments in taste; fragments of innovation scattered across various sectors; and, out of demographic drivers which are effectively the unintended consequences of choices made by individuals and societal norms of generations past. Change is, thus, an inherent part of this scenario and the two other scenarios.
- 4.11 What the Business as Usual scenario does not involve is purposeful change. It does not involve the governmental, private and community sectors in changing the way in which things are done specifically to meet the challenges for an ageing society. By way of contrast, both the Integrated Response Scenario and the Fragmented Innovation scenario involve purposeful change in response to an ageing society. The Integrated Response Scenario requires sophisticated change actions, processes, products and investments which involve public, private and community organisations. It would require a cross-sectoral approach re-constructing the relationships between health, housing, social services, the energy sector, the building industry, and settlement planning. The Fragmented Innovation Scenario is less demanding of purposeful change in so far as the alignment between different sectors and the rate of change in different sectors is less critical. The Fragmented Innovation allows for change to be generated out of a single sector or even single organisational initiatives.
- 4.12 Notwithstanding that all the scenarios are, by definition, imaginative possibilities rather than predictions, the likelihood of one or other scenario coming to fruition can be assessed. Those probabilities relate to the:
- nature of the change required to meet generate the scenario;
 - extent to which conditions prompting change prevail; and
 - investment required to generate change.
- 4.13 Figure 4.1 and Figure 4.2 graphically present the probabilities of each of the scenarios being realised in the future. Figure 4.1 shows that Scenario 1, the Business as Usual Scenario, despite the negative outcomes associated with it, is most likely to emerge because it requires little innovation or re-engineering of existing products, processes or systems and it makes few demands for cross-sectoral action or co-ordination.

Figure 4.1: Probabilities of Scenario Fruition: Cross-Sectoral Action and Innovation Parameters



- 4.14 By way of contrast, Scenario 3, the Fragmented Innovation Scenario, has a medium probability of emerging. That scenario involves high levels of innovation but that innovation is not contingent on sector wide action or co-ordination. Scenario 2, however, has a low probability because an integrated response requires both high levels of cross-sectoral action as well as product, process and systems innovation.
- 4.15 If Scenario 2, the Integrated Response Scenario is the future for older people’s housing that New Zealand sees as desirable, very active leadership in all the relevant sectors as well as an active commitment to and investment in innovation and change will be required, It will not emerge organically from current dynamics.
- 4.16 Figure 4.2 provides another way of considering the relative probabilities of any of one of the three futures scenarios emerging by 2050. Figure 4.2 is based on two assumptions. The first assumption is that stakeholders tend to act if they perceive an immediate return, benefit or saving. The second assumption is that stakeholders are more likely to act if the investment needed to make change is not heavily front-loaded. That is, that the costs of change can be spread over the period of change or even beyond the actual transition period.
- 4.17 If those assumptions are accepted, then, again, Scenario 1, the Business as Usual Scenario, must be considered the most likely to emerge in the future unless there is active pursuit of an alternative. The Business as Usual Scenario does not require a radical shift in resource allocation and while it could be argued that the direct and indirect costs of staying with the current regime may be high in the future, the other scenarios present some degree of immediate investment to realise what some may consider as distant and possibly uncertain savings or returns (Figure 4.2).

Figure 4.2: Probabilities of Scenario Fruition: Timing of Expenditure and Return on Investment Parameters



Optimising Older People’s 2050 Housing Future

- 4.18 This raises the question of what purposeful actions could increase the probabilities of a future such as depicted in Scenario 2, the Integrated Response Scenario, coming to fruition rather than New Zealand meandering its way towards a Scenario 1 Business as Usual type future?
- 4.19 Typically purposeful change is generated by a series of inter-connected conditions. They are:
- Active and cross-sectoral leadership.
 - Recognition of shared costs of not acting.
 - Recognition of market, personal and societal opportunities in the change process.
 - Development and adoption of tools and mechanisms to promote, incentivise and put change into practice.
- 4.20 Generating those conditions is not straight-forward, but as the review of international responses in Part 2 of this report shows there are ways of developing the capacity to meet the challenge of housing in an ageing society. The platforms for that response are:
- Develop and use the evidential base (including overseas evidence) around the value for money of *both*:
 - current policy and programme settings, and
 - alternative policy setting, programmes and initiatives.

- Actively engage government, private sector, community sector, and older people and their families in identifying opportunities to improve local level responses to housing needs.
- Rationalise funding streams directed to housing related services to reduce confusion, compliance and transaction costs and to optimise the effective use of investment.
- Implement formal mechanisms to increase cross-sectoral integration around housing and services for older people including:
 - Developing and adopting impact assessment, needs assessment and performance assessment tools across sectors that impact on the housing and well-being futures of older people.
 - Joint contracting and commissioning of older people's services.
 - A comprehensive range of housing and service solutions which can be tailored to need through robust information and advice services.
- Implement a two-pronged strategy to improve the diversity, affordability, performance and functionality of *both* new stock and existing stock.

PART 2: SCENARIO INPUTS

5. AGEING NEW ZEALAND: PEOPLE & HOUSING

- 5.1 The scenarios presented in Part 1 of this report and the pre-conditions and baselines that underpin them have been informed by four activities. First, an identification and analysis of some key demographic, socio-economic and housing data. Second, theoretical modelling of the impacts of an ageing population on the overall shape of housing demand by 2050. Third, a series of workshops with consumers of housing and people involved in housing related sectors. Finally, a review of international responses to the challenge of older people's housing in the context of an ageing society.
- 5.2 This section presents data around the trends and societal characteristics identified as crucial to building realistic, albeit imaginative, future scenarios. Those trends and societal characteristics fall into three categories. They are:
- demographic data and projections;
 - socio-economic trends; and
 - housing stock characteristics.

Demographic Projections¹

- 5.3 New Zealand's population has been ageing as the baby-boomers age. The impact on New Zealand society of that bulge of baby-boomers was first felt in the demand for housing, maternity services and schools experienced in the 1960s to 1970s. Those cohorts are now going to have needs in the future to which New Zealand as a whole will have to respond.
- 5.4 An ageing population structure is not unique to New Zealand. Section 8 of this report sets out the way in which other countries are ageing and their response to the challenge of those ageing populations. A number of countries overseas have ageing structures similar to New Zealand including the demographic complexity arising from having ethnic populations that, while also ageing, have younger population structures.
- 5.5 In relation to New Zealand's ageing population three dynamics should be kept in mind:
- Firstly, the New Zealand population is complex because of the age profiles of Maori, Pacific peoples, and, to a lesser extent, Asian peoples. This is tied to ethnic differences in fertility and mortality (especially for Maori and Pacific peoples) and migration (especially for Asian peoples and Pacific peoples).²
 - Second, New Zealand's population increase has been driven off natural increase. That is, births exceeding deaths. Statistics New Zealand projections suggest that natural increase will decline with deaths exceeding births from about 2040. This will be associated with slowing population growth.
 - Third, despite the ageing of the population and the decline of natural increase, New Zealand's population is still projected to increase over the

¹ Most projections presented here are Statistics New Zealand's Series 5 projections which are based on a middle scenario of fertility and mortality. See the Glossary for further specification.

² Projections of aged dependency among different ethnic populations are complicated by the strong tendency in New Zealand for individuals, families and households to have multiple ethnic affiliations and identities.

next forty years. This places New Zealand in a quite different situation from countries which are facing falling populations. New Zealand's population is projected to increase from 4.18 million in 2006 to 5.48 million in 2051.³

Larger Numbers of Older People Who Are More Ethnically Diverse

- 5.6 New Zealand had about half a million people aged 65 years or older in 2005. It can expect to have 1.35 million older people by 2051.⁴
- 5.7 The greatest expansion in older people's numbers will be when the baby-boomers who were born in the 1950s and 1960s are 65 years and older. This will be from 2020 and stretch through the 2030s. This ageing effect will be emphasised after that period by the decline in births relative to deaths.
- 5.8 Statistics New Zealand has generated population projections for four categories of the population: European; Maori; Asian; and, Pacific but only until 2026. This reflects the difficulties and complexities of projections of subsets of the national population. By 2026, the 65 years and older populations of those ethnic categories are projected to be:
- European – 784,400;
 - Maori – 70,900;
 - Pacific – 32,700;
 - Asian – 90,900.⁵
- 5.9 Those projections suggest that older people in New Zealand will be more diverse ethnically. Although European ethnicities will dominate the cohort of older people in 2021, it is projected to fall from 92 percent in 2001 to 86 percent in 2021.

Increased Median Age

- 5.10 In 1971, the median age in New Zealand was 26 years. By 2021, it is projected that the median age will be 38.8 years and by 2051 it will be 43.2 years.⁶

Proportions of Older People and the Dependency Ratio

- 5.11 In the 1960s around 8 percent of New Zealand's population was aged 65 years or more. By 2050 that group will make up 23 percent of the population.
- 5.12 The growing proportion of older people in the population is associated with shifts in New Zealand's dependency ratio. Dependency ratios are a crude measure of the number of people that might be in the 'non-working' age groups relative to the 'working-age' population.
- 5.13 New Zealand's total dependency ratio is projected to be 66.9 per 100 people in 2050.

³ Statistics New Zealand Projected Population Characteristics, 2006 (base) – 2061. Series 5.

⁴ Statistics New Zealand Projected Population Characteristics, 2006 (base) – 2061. Series 5.

⁵ Statistics New Zealand Projected Population Characteristics, 2006 (base) – 2026. Series 6

⁶ Statistics New Zealand Projected Population Characteristics, 2006 (base) – 2061. Series 5.

- 5.14 This is lower than the total dependency ratio experienced in New Zealand in the mid-twentieth century which peaked at 71 people per 100. However, that peak was because of young age dependency. In 2050, the dependency ratio will be driven by old age dependency which is projected to be 38.5 per 100 people.⁷

The Old will Get Older

- 5.15 In addition to New Zealand's population having a substantial proportion of people in 2051 in the 65 years or more age group, that age group will also have an older profile. By 2051, it is projected that 6.1 percent of people will be aged 85 years or older. They will make up 24.8 percent of people aged 65 years or more.⁸ This is over twice the proportion found in 2005.

Older People Everywhere

- 5.16 There will be variations between the population age structures on a regional basis which is associated with ethnic concentrations in certain areas. Nevertheless, the Auckland region is projected to be the only region with a median age under 40 years in 2026. All territorial authorities are projected to have an increase in the absolute numbers of older people in their districts.

- 5.17 By 2031, we can expect that the following places will have half of their population aged 50 years or older:

- Waitaki District
- Thames-Coromandel District
- South Wairarapa District
- Hauraki District
- Buller District
- Horowhenua District
- Marlborough District
- Kaipara District
- Westland District
- Kapiti Coast District
- Kaikoura District
- Timaru District.

- 5.18 But some places will still have young population profiles. Manukau City, for instance, can be expected to have the youngest median age. Half their population can be expected to be older than 35 years in 2031 and the rest of the Manukau City population will be younger than 35 years old. The twelve districts with the lowest median ages by 2031 are:

- Manukau City
- Papakura District
- Hamilton City
- Palmerston North City
- Waitakere City
- Wellington City
- Porirua City
- Dunedin City
- Auckland City
- Otorohanga District

⁷ Statistics New Zealand, 2006.

⁸ Statistics New Zealand Projected Population Characteristics, 2006 (base) – 2061. Series 5.

- Rotorua District
- Waitomo District.

5.19 Although many of the current local authorities in the Auckland region have relatively low median ages, the number of older people in that region is expected to double over the next twenty-five years to around 329,300. For Auckland City this will reverse a trend of declining proportions of older people. For other local authorities in the Auckland region it will involve a significant jump in the proportion of older people (Table 5.1).

Table 5.1: Proportion of Population Aged 65 Years or More in the Auckland Region by Current Local Authorities 1991-2031⁹

Local Authority	Actual % of population 1996	Actual % of population 2006	Projected % of population 2031
Auckland City	13.0	9.4	15.4
Franklin District (Part)	9.6	11.1	22.2
Manukau City	7.7	8.3	15.4
North Shore City	11.5	10.7	19.0
Papakura District	8.2	10.0	16.9
Rodney District	14.0	15.0	23.8
Waitakere City	7.5	9.2	17.2

Households in an Ageing Society

5.20 Statistics New Zealand projections for households extend to 2031. Between 2006 and 2031, household numbers can be expected to increase by 34 percent to 2.09 million households. The proportion of households with an older reference person is also expected to increase. BERL and NZIRA project that by 2051, households with an older reference person with number between 672,00 and 827,000 households.¹⁰ That is, between 2.3 and 2.9 times the 288,990 households with an older reference person in 2006.

5.21 By 2031 it is expected that one-person households will account for around 30 percent of all households, an increase of 7 percent from 2006. Eighty percent of that growth is among people aged 55 years or more.

Some Important Socio-Economic Trends

5.22 There are a number of social and economic trends which need to be taken into account when reflecting on New Zealand's future. Some of those relate to the ageing population structure, some are changes in cultural practices and patterns, and some emerge out of a complex relationship between the two. This section comments upon three of those. They are:

- Labour force participation;
- Debt and savings;
- Housing tenure; and
- Mobility.

⁹ Statistics New Zealand, 2009b.

¹⁰ Nana *et.al.*, 2009.

Labour force participation

- 5.23 New Zealand has no legislative requirement that people retire from the workforce at a particular age. Around the period at which compulsory retirement was abolished, the issue of when New Zealanders should be able to access public pensions was being debated. Eligibility for superannuation support fell to 60 years in 1977. In 1991, the incoming National Government, raised the already agreed increase in the age of eligibility for New Zealand Superannuation to 65 years on an accelerated timeframe between 1992 and 2001. Reduced access to pension support tends to increase labour force participation, although not necessarily employment.¹¹
- 5.24 Statistics New Zealand projects that the number of older people in the labour force will increase from around 38,000 in 2001 to around 118,000 in 2026. Numbers are expected to subsequently stabilise.
- 5.25 Those increases are dwarfed, however, by the numbers of older people outside the labour force and, therefore, the numbers of older people likely to have constrained incomes. According to Statistics New Zealand in 2001 the number of older people outside the labour force was 420,000. That number is projected to increase to:
- 820,000 in 2026; and,
 - 1.2 million by 2051.
- 5.26 Labour force participation and employment are the primary sources of income for adults in New Zealand.
- 5.27 It can be expected, then, that the majority of older people will have constrained incomes and fall within the lowest income quartile. This has profound implications for older people's housing affordability and their ability to invest in their own health and welfare.

Debt and savings

- 5.28 Traditionally, New Zealand's older owner occupiers could expect to be largely debt free. In the last decade, however New Zealand households have become quite exposed to debt. This has been largely obscured by the fact that the net wealth of New Zealand households has increased.
- 5.29 In 1998 aggregate net wealth in New Zealand was \$266 billion. By 2008, household net wealth was calculated at \$575 billion. Household net wealth doubled over the decade. This was driven almost entirely off house values which shifted from \$216 billion in 1998 to \$568 billion by 2008. The extent to which New Zealand households increased their exposure to debt, however, is evident in the balance between total financial assets and total household debt.
- 5.30 In 1998, total household financial assets had a value of \$116 billion with household financial liabilities at around half that amount at \$63 billion. By 2008, the financial assets of households had increased 1.67 times to \$194 billion, but total household debt was 2.8 times the amount it was in 1998 at \$177 billion.

¹¹ Hurnard, 2005.

- 5.31 Overall, New Zealand's household net wealth declined threefold from \$53 billion in 1998 to \$17 billion in 2008. There is also some indication that equity has been actively withdrawn during the inheritance process.
- 5.32 Briggs estimates that in 2001, the value of housing based assets transferred through inheritance was \$5.5 billion. He suggests that because inherited property tends to descend to middle aged, relatively well off people, they tend to use that equity to increase their own consumption.
- 5.33 If older cohorts enter retirement in more debt, then it can be expected that intergenerational transfers will fall. More importantly, options to supplement post-retirement incomes through home equity release may be compromised. If debt becomes concentrated among younger cohorts whether through student loans or other non-housing debts, their entry into homeownership may be delayed even if house prices fall.

Housing Tenure

- 5.34 Most older people will live in private residential dwellings in the future, although Statistics New Zealand population projections suggest that the numbers of people in non-private dwellings is expected to increase by 51 percent by 2031 to around 130,000. Among the older old the numbers in non-private dwellings are likely to more than double from 23,000 in 2006 to 49,000 in 2031.¹²
- 5.35 Most older people, and most households with an older reference person, will also live in owner occupied dwellings. BERL and NZIRA projections suggest a slight fall in the proportions of households with an older reference person in owner occupied dwellings from 81.2 percent in 2006 to around 79.6 percent in 2051.¹³
- 5.36 The actual number of households, however will increase between 2.3 and 2.8 times the number of households with an older reference person in owner occupied dwellings in 2006. That is, from 288,990 households with an older reference person in 2006 to between 535,600 and 658,360 households with an older reference person by 2051.¹⁴
- 5.37 BERL and NZIRA¹⁵ projections suggest that the fall in proportions of households in owner occupation will combine with the ageing of the population structure to produce a significant increase in the numbers of households with an older reference person in rental dwellings.¹⁶ Those proportions suggest that the number of households with an older reference person and in rental dwellings will increase between 2006 and 2051 at least 2.5 times and possibly as much as 3.1 times. That is, from 54,220 households to between 136,400 households and 168,840 households.¹⁷

¹² Statistics New Zealand Projected Population by Living Arrangement Type and Sex 2006 (base) – 2031. See the Glossary for a definition of non-private dwellings.

¹³ Nana *et al.*, 2009.

¹⁴ Nana *et al.*, 2009.

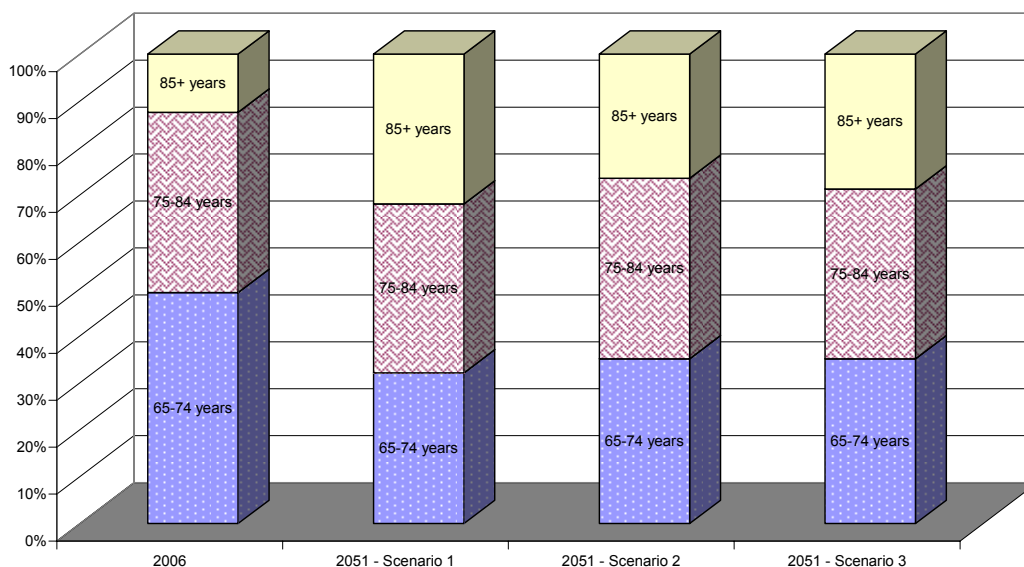
¹⁵ Nana *et al.*, 2009.

¹⁶ That analysis is marked by a less conservative population projection series than that used in the Statistics New Zealand projection 5 series usually used throughout this report. However, they also use tenure ratios based on those between 2001 and 2006. This is a more conservative approach than taking the tenure ratio found in the 2006 census alone.

¹⁷ Nana *et al.*, 2009.

- 5.38 The number of older renter households in the private rental market is projected by BERL and NZIRA to increase from 34,920 households in 2006 to between 89,540 and 112,260 in 2051. BERL and NZIRA project that up to 40,450 older rental households will occupy central government housing stock.¹⁸ The current Housing New Zealand Corporation stock consisted in the 2007/8 year of 68,664 properties.¹⁹
- 5.39 The BERL and NZIRA projections also suggest that up to 23,570 older households will be in local authority housing.²⁰ It should be noted that local authorities currently provide around 14,000 units in total and there is no indication of significant rising supply among local authorities.²¹ For that reason the projections in the BERL and NZIRA report needs to be treated with considerable caution.
- 5.40 Figure 5.1 shows the composition of those older renter households in the 2051 scenarios compared to the composition in 2006. Those projections suggest that the most pronounced increase among older renter households will be among households with a reference person 85 years or older. Despite that, under all the projections that group will remain a minority of renter households with a reference person 65 years or more.

Figure 5.1: Composition of Households in a Rental Dwelling with an Older Person Reference in 2006 with 2051 BERL NZIRA Projections²²



¹⁸ Nana *et al.*, 2009.

¹⁹ Housing Zealand Corporation, 2008.

²⁰ Housing New Zealand Corporation, 2008.

²¹ CRESA & Public Policy & Research, 2007.

²² Nana *et al.*, 2009.

- 5.41 A number of issues arise in relation to older people and the rental stock. Firstly, landlords have a preference for older people.²³ This implies that while older people may be given preferential access to stock, unless the availability of rental stock overall increases, the ageing of New Zealand society may see both: increasing pressure on the rental stock; and, exclusionary pressure on other groups that are less welcomed by landlords including large families, young people, refugees and sole parents.
- 5.42 The second issue in relation to the rental stock is its typology and condition. There is considerable churn between the owner occupied and private rental stock in New Zealand. The typology of the rental stock is very much like that of the owner occupied stock with many of its design and performance problems. These are discussed later. It suffices to note that New Zealand's housing stock is not currently well adapted to the needs of an ageing population irrespective of the stock tenure.
- 5.43 The third issue, which is also discussed later in this section, is around house performance, maintenance, and repair. A 2008 survey of 491 private landlords with 2,398 rental dwellings found that 75.4 percent of the stock had been built before 1978. Only 58.8 percent of their stock was reported as having ceiling insulation and over half the landlords reported that stock was draughty. Almost half the stock did not have hot water cylinder wraps. Over one third (39.9 percent) of the landlords reported that they set aside no monies for repairs or maintenance, although 84.1 percent of landlords reported having undertaken work on at least one of their dwellings to improve thermal comfort. Almost half (46.2 percent) of landlords reported a willingness to retrofit their rental stock if supported by central government. However, take up of subsidies for retrofitting by landlords is very low compared to take up among owner occupiers.
- 5.44 Under the conditions set out above, and with other studies showing poor performance in the private rental stock, there must be considerable question about the suitability of the rental stock for older people. Older people require higher levels of thermal comfort and are vulnerable to excess seasonal mortality associated with exposure to cold and damp.
- 5.45 Finally, the private rental sector in New Zealand has had a long history of instability with landlords exiting the sector relatively quickly after entry. Dwellings, too, are relatively rapidly churned between owner occupation and rental. As a consequence, there must be some question about whether older people in the private rental sector are likely to have secure tenure and the associated stability of access to support and health services they will require.²⁴
- 5.46 It is notable that the 2006 census found the median years in a residence of people in owner occupied dwellings or dwellings held in a family trust was 6.3 years compared to a median of two years residence among those occupying a rental dwelling (Table 5.2).

²³ Saville-Smith & Fraser, 2004.

²⁴ Saville-Smith & Fraser, 2004.

Table 5.2: Median Years at Usual Residence by Tenure of Household

Census Year	Median Years at Usual Residence	
	Owner Occupied/Family Trust Households	Rental Households
1996	6.9	1.9
2001	6.7	1.8
2006	6.3	2.0

Mobility and Disability

- 5.47 Ageing societies are confronted with critical issues of mobility. There is a close association between ageing and an individual's physical mobility. The main data source on disability prevalence in the New Zealand population is the Statistics New Zealand Disability Survey conducted in 2001. An earlier household disability survey was conducted in 1996. In addition, two general questions on disability were included in the 1996, 2001 and 2006 censuses. Statistics New Zealand (2003) points out that disability prevalence data needs to be treated with caution. There is systematic bias in disability surveys. These surveys tend to understate the level of disability among older people and mildly disabled people but possibly overstate moderate and severe disability.
- 5.48 The commonly accepted prevalence rate of disability of about 1 in 5 (20 percent of New Zealand's population) is based on the Household Disability Survey conducted by Statistics New Zealand in 2001 after the 2001 census. Disability increases with age, with 54 percent of people aged 65 and over reporting a disability. The 2006 census indicates that 45 percent of people aged 65 years or more reported a disability.²⁵ In 2001 it was found that the disability rates for Maori over 65 years was 61 percent, but the disability rates for older Pacific peoples was similar to those for the total New Zealand population.²⁶
- 5.49 Reduced physical mobility presents accessibility challenges for housing and neighbourhoods. Section 8 describes some of the overseas responses to those issues.
- 5.50 In New Zealand there is some limited regulation with regard to accessibility to non-residential buildings. There is no regulatory requirement around accessibility for people with compromised mobility to private dwellings. The Lifetime Design Council is, however, actively promoting accessible dwellings and is looking towards developing Lifetime standards for neighbourhoods and residential developments. Nevertheless, there is a substantial unmet need for dwellings that are accessible to people with mobility related disability. McDermott Miller estimated that in 2005 the market for accessible housing was under supplied by 14,000 to 27,000 dwellings.²⁷

²⁵ These variations may be artefactual arising from measurement changes and changes in the propensity to self-report.

²⁶ Statistics New Zealand, 2002.

²⁷ McDermott Miller, 2005.

- 5.51 The other aspect of mobility pertinent to ageing societies is around age differentials around travel and commuting. Recent analysis of the Ongoing New Zealand Household Travel Survey²⁸ shows that older people are likely to be walkers and users of public transport. It also shows an increasing propensity to own cars and to drive compared to older people in the 1990s. Despite this, older people have lower levels of both car ownership and car licences. Around 4.4 percent of those in the 65-74 year old age group do not have a car and 19.6 percent of people aged 75 years or more do not have a car. Among people 65 years and older, 24 percent do not have a licence to drive a car.²⁹
- 5.52 If those ratios prevail in the future, by 2051 it may be expected that around 181,180 older people will be reliant on transport by others to access services, amenities, employment, recreation or shopping because they do not own a car. Well over a quarter of a million older people (324,700) will not have a licence to drive a car and consequently will be reliant on other transport modes to connect with services, employment, recreation and shopping for basic amenities.
- 5.53 That implies that there will be considerable demand for housing in neighbourhoods well serviced with public transport, with walkable access to services, amenities and shops as well as neighbourhoods with walkable and safe streetscapes for older people.

Housing Stock in New Zealand

- 5.54 Dwellings last a long time. The Building Act is based on dwellings being functional for fifty years. But, in fact, there is a considerable amount of stock currently being used in New Zealand that is considerably older. Only small numbers of dwellings, around 2,000, are demolished annually and only about 3,000 dwellings are subject to major renovations annually.³⁰ In the context of an ageing society, then, two critical issues emerge. Firstly, the suitability and performance of existing dwellings for an ageing population into the future. Secondly, the ability of new stock to meet the needs of an ageing population.

Ageing Stock, Stock Performance, and Repair and Maintenance

- 5.55 The New Zealand housing stock, like the population that lives in it, is ageing. The age profile of the existing stock is set out in Figure 1.1 and indicates a stock of around 1.6 million dwellings servicing around 1.55 million households in 2006.
- 5.56 By 2031, Statistics New Zealand projects that New Zealand will have around 2.09 million households. On the basis of current population projections the number of households may well be around 2.4 million. On the basis of past stock trends and the supply response to housing demand, the number of dwellings in New Zealand may be around 2.5 million. Around two thirds of those dwellings can be expected to be already built. The future stock will be dominated by dwellings built in the 1960s and 1970s.

²⁸ O'Fallon and Sullivan, 2009.

²⁹ O'Fallon and Sullivan, 2009

³⁰ Page, 2007.

- 5.57 Existing dwellings in New Zealand tend to perform poorly in relation to thermal comfort and accessibility for those with compromised mobility. New Zealand's housing stock also is strongly dominated by detached dwellings with three or more bedrooms. There is considerable under investment in repair and maintenance in the dwelling stock.³¹ All of those problems raise issues for older people and a society that is likely to have around 1.35 million older people by 2051.
- 5.58 The problems with New Zealand's stock performance have been well rehearsed elsewhere. The major problems are: cold, damp and inaccessibility.
- 5.59 In addition, there is evidence that older people are under-repairing and under maintaining their homes. As a consequence, while older people tend to live in dwellings with better condition scores than younger people, that differential appears to be closing (Table 5.3). More importantly, older people's dwellings showed inferior ceiling insulation relative to the dwellings of younger people in the 1999 and 2004 House Condition Surveys undertaken by BRANZ. Ceiling insulation is, of course, critical to energy efficiency and ensuring thermal comfort.

Table 5.3: Distribution of Dwelling Average Conditions by Age of Householder – BRANZ HCS 1999 and 2004³²

Average Condition	2004 All Houses		2004 Older Householder's Houses		2004 Younger Householder's Houses	
	Number	Percent	Number	Percent	Number	Percent
< 2.5	1	0.2	0	0.0	1	0.2
2.5-2.9	16	2.8	5	3.5	11	2.7
3.0-3.49	82	14.5	19	13.3	62	15.2
3.5-3.99	207	36.6	53	37.1	147	36.0
4.0-4.49	164	29.0	42	29.4	119	29.2
4.5-5.00	95	16.8	24	16.8	68	16.7
Total	565	100	143	100	408	100
Average Condition	1999 All Houses		1999 Older Householder's Houses		1999 Younger Householder's Houses	
	Number	Percent	Number	Percent	Number	Percent
< 2.5	11	2.4	0	0.0	11	2.8
2.5-2.9	35	7.5	3	3.9	32	8.2
3.0-3.49	91	19.6	12	15.6	79	20.4
3.5-3.99	140	30.1	30	39.0	110	28.4
4.0-4.49	110	23.7	18	23.4	92	23.7
4.5-5.00	78	16.8	14	18.2	64	16.5
Total	465	100	77	100	388	100

- 5.60 In addition, the value of undone maintenance of New Zealand houses seems to be increasing among older people (aged 65 years plus) while decreasing among younger people (under 65 years). In 1999, the average cost for younger householders to bring their dwellings to an as new condition was \$9,214 compared to a \$5,755 average cost for older householders. By 2004, the average cost for younger householders was \$7,081. That compares to \$6,095 for older householders.

³¹ Saville-Smith, 2005a.

³² Saville-Smith, *et. al.*, 2008.

- 5.61 That is, unmet repairs and maintenance costs for older householders' dwellings increased by 5.9 percent between 1999 and 2004. In contrast, the value of unmet repairs and maintenance dropped for younger people's dwellings between 1999 and 2004 by 23.1 percent.³³
- 5.62 Overall, 58.9 percent of older homeowners made no expenditure on home maintenance or repairs in the twelve months prior to surveying in 2004. A quarter of older homeowners reported that they intended to expend no repairs and maintenance monies in the following year.³⁴
- 5.63 This is in part because older people persistently overstate the condition of their home despite experiences of poor performance. In the 2008 National Older People's Repair and Maintenance Survey in which 1,600 older people participated, 88.8 percent of older householders reported their dwellings as in *Good* or *Excellent* condition. However:
- only half reported that their heating system always keeps them warm in winter;
 - 34.4 percent of householders reported problems with damp, mould or condensation;
 - 24.7 percent reported that they have had slips or falls inside or immediately outside their home.
- These indicate a higher prevalence of poorly designed or maintained homes than older people themselves recognise.
- 5.64 In addition, the 2008 National Older People's Repair and Maintenance Survey found that 24.7 percent of older householders had had to make some sort of modifications to their dwelling to allow them to move around in their home.
- 5.65 Staying in their existing home was a strong desire among the older people participating in the 2008 National Older People's Repair and Maintenance Survey, even among those who reported that they felt that they had to move because of ill-health. Indeed, desire to move house was strongly related to house condition. Less than a fifth of the older people living in what they considered as dwellings in *Excellent* or *Good* condition reported that they intended to move. However, 25.1 percent of older householders in *Average* condition dwellings reported an intention to move. Among householders in dwellings reported as in *Poor* or *Very Poor* condition, 45.5 percent intended to move.³⁵

New Stock Suitability

- 5.66 In general, older dwellings have poorer thermal performance than newer dwellings. However, New Zealand's new dwellings are not necessarily adequate to meeting the housing requirements of an ageing society. Two problems emerge with the new housing stock being built in New Zealand:
- Average unit size is growing; and
 - House design is not matched to the accessibility needs of older people.

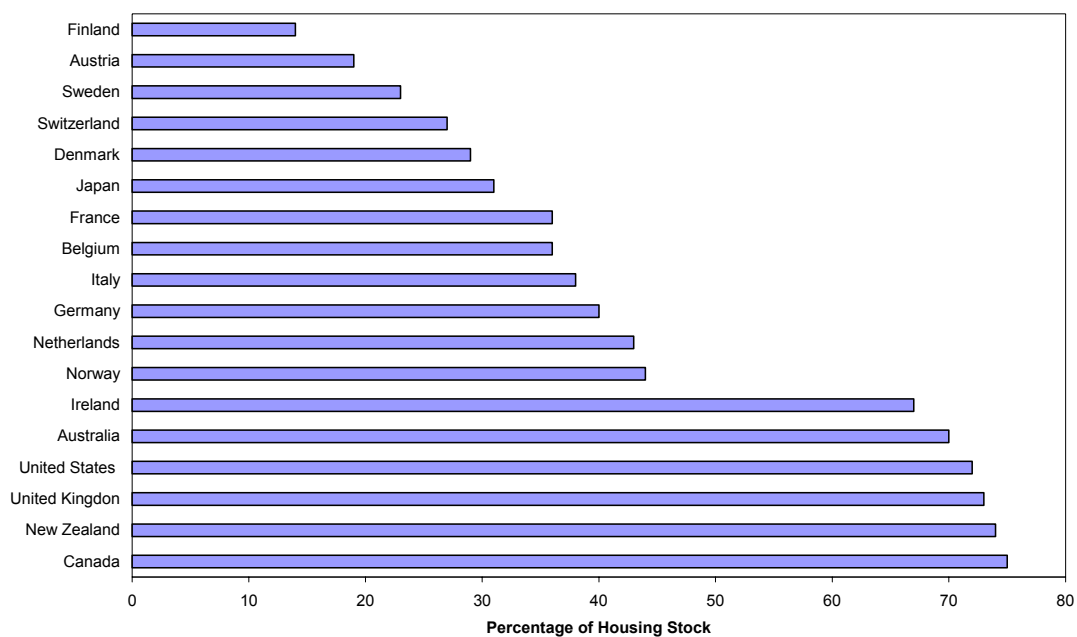
³³ Saville-Smith *et al.*, 2008.

³⁴ *Ibid.*

³⁵ *Ibid.*

- 5.67 In relation to size, in the 2006 census 27.6 of New Zealand's occupied stock had four or more bedrooms compared to only 22.3 percent of in 1996. Overall, 71.9 percent of the stock had three or fewer bedrooms in 2006 compared to 76.7 percent in 1996. The proportion of dwellings with eight or more rooms has increased from 15 percent of occupied dwellings in 1996 to almost a fifth of dwellings in 2006.
- 5.68 The consequence is that the proportion of smaller households living in larger dwellings has increased. Almost a quarter (24.1 percent) of households with one, two or three household members lived in dwellings with seven or more rooms in 2006. By way of contrast, only 18.4 percent of smaller households lived in these larger dwellings in 1996.
- 5.69 Compared with other countries New Zealand has the greatest proportion of dwellings with 5 or more rooms than the United States, the United Kingdom and Australia (Figure 5.2). With falling household sizes this means that more smaller households are living in larger dwellings. In 2006, 24.1 percent of households with one, two or three household members lived in dwellings with seven or more rooms. In 1973, an individual had an average of 32.5 sq metres housing space in a new home but by 2008 that average had increased to 73 sq metres.

Figure 5.2: Proportion of Housing Stock with Five Rooms or More by Country – 1st Decade of the 21st Century



- 5.70 Table 5.4 shows the average dwelling size for both houses and flats from 1976 to the March year 2008.

Table 5.4: Average Size of New Dwellings by March ended Year

March Year	Number of		Average Floor Area	
	Houses	Flats	Houses (m ²)	Flats (m ²)
1976	20,932	11,257	121	83
1980	11,687	3,510	133	93
1985	15,664	6,118	133	99
1990	21,365	1,486	136	88
1995	21,619	2,062	171	116
2000	21,386	4,472	177	105
2005	23,355	6,690	206	94
2008	22,422	2,811	205	137

5.71 There are some obvious difficulties for older people in larger dwellings. Firstly, they are both physically more demanding to maintain and more expensive to maintain. It is notable that the 2008 national survey of older people's repairs and maintenance practices found that of the 285 older people who wanted to move house, 38.9 percent reported that they wanted to shift from a larger to a smaller dwelling. This was the most commonly reported reason for older people wanting to move house.³⁶

5.72 There is also some evidence, albeit limited, from the Household Energy End-Use Project (HEEP) that energy use and expenditure are related to dwelling size. Table 5.5 provides an analysis of monthly winter energy expenditure for the HEEP dwellings by size. Table 5.6 shows the way in which energy costs increase with dwelling size even where the number of people living in a household remains the same.

Table 5.5: Estimated Monthly Winter Energy Costs by Size of Dwellings (HEEP)

Dwelling Size Sq Metres	Mean \$	Median \$	Minimum \$	Maximum \$
100 sq metres or less	\$107.23	\$100.00	\$38.00	\$250.00
101-150 sq metres	\$125.59	\$120.00	\$40.00	\$320.00
151-200 sq metres	\$158.40	\$150.00	\$50.00	\$450.00
201 or more sq metres	\$183.18	\$160.00	\$75.00	\$400.00

Table 5.6: Estimated Monthly Winter Energy Costs by Dwelling & Household Size (HEEP)

Floor Area Sq Metres	Household Size					
	1 person		2-3 people		4 or more people	
	Mean \$	Median \$	Mean \$	Median \$	Mean \$	Median \$
100 or less	\$85	\$75	\$97	\$95	\$139	\$130
101-150	\$104	\$105	\$122	\$120	\$139	\$140
151-200	\$150	\$150	\$153	\$150	\$168	\$152
201 or more	No data	No data	\$168	\$160	\$250	\$250

³⁶ Saville-Smith *et.al.*, 2008.

- 5.73 The dependence of an ageing population on reticulated electricity is likely to increase under the dual drivers of changed policy settings and physical restrictions associated with ageing. For instance, it can be expected that the take up of space heating options such as heat pumps will increase.³⁷ This is partly because some local authorities favour such options as a response to air quality issues and partly because older people see heat pumps as less physically demanding.³⁸ Older people are also more likely in the future to be reliant on electricity-based support systems in the home. Both those developments have implications for affordable electricity supply as well as security of supply.
- 5.74 The second aspect of stock suitability is around the accessibility of dwellings themselves. A separate report on disability and housing needs³⁹ found that in 2006/07 there was low awareness in the building and housing industries of the accessibility needs of disabled people including those whose disability is associated with ageing. Even those catering directly for the older person's market were frequently unaware of simple design features that would ensure dwellings would be flexible and adaptable to future needs over time.
- 5.75 More recently the Lifetime Design Council has instituted an accreditation process – the *Lifemark* – which provides an assurance to consumers that they are purchasing a dwelling that meets a defined standard of accessibility. The Lifetime Design Council has been actively engaging with developers and builders to build lifetime design homes. Infobox 5.1 provides a list of developers, builders and housing providers that have affiliated with the Lifetime Design Council.⁴⁰

Infobox 5.1: New Zealand's Lifetime Design Foundation Establishment Members

Sommerset Retirement Villages	The 3 rd biggest retirement village operator in New Zealand with over 1,000 residents in 12 villages in the North Island.
Generation Homes	Bay of Plenty and Waikato property developer and residential volume builder. 12 week-cycle building with a land development component in its service provision.
Greenstone Group	A North Island property company specialising in project and development management reported volume of work exceeds \$900 million.
G.J. Gardner (Rodney)	NZ franchise servicing area North Albany to Mangawhai Heads. Builds about 70 to 80 homes a year.
Davista Architecture Designs	A key architectural design firm for the Bay of Plenty specialising in residential and urban design.

³⁷ French, Issacs and Camilleri, 2009

³⁸ This does not mean that older people are satisfied with heat pumps or are able to manage them effectively. Fieldwork in the FRST funded Ageing in Place: Older People's Repairs and Maintenance programme suggests that many older people have considerable difficulty managing heat pumps efficiently and meeting levels of desired comfort. This data will be reported by December 2009 on www.goodhomes.co.nz.

³⁹ Saville-Smith, *et al.*, 2007.

⁴⁰ See www.lifetimedesign.org.nz

Neighbourhoods

- 5.76 The 2008 National Survey of Neighbourhoods undertaken by Beacon Pathway as part of its work on sustainable neighbourhoods involved 1,300 participants.
- 5.77 Of those, 313 reported that at least one member in their household was aged 65 years or more. That survey confirms a large minority (45.4 percent) of older people in New Zealand's main urban centres live in low density environment neighbourhoods. Over a third (37.1 percent) live in neighbourhoods that are medium density. Around 59 percent live in mixed neighbourhood environments compared to 60.2 percent of households with no household member aged 65 years or more.

6. THEORETICAL MODEL: HOUSING DEMAND & AGEING

- 6.1 This section⁴¹ uses a theoretical model to understand the impact of an ageing population structure on the housing purchase and consumption patterns of all New Zealanders in 2050. The model attempts to understand how the housing demands of working age people change as they anticipate living longer.
- 6.2 The model applies various conditions that working age people may anticipate for their older age or ways in which the costs of longer lives might be addressed. Those include paying more taxes or facing higher house prices. Using numerous imaginary couples, the model calculates how the combined housing demand of working age and older people may change as the population ages. The model is used to explore how housing patterns are likely to depend on the elasticity of housing supply and the way in which governments choose to fund health care and/or pensions through the tax system. The core findings are set out in Tables 6.1, 6.2 and 6.3.
- 6.3 The model also tests:
- The impact of non-ageing related conditions such as interest rates and inflation. The results for this are presented in Table 6.4.;
 - How housing demand depends on the house price to income ratio. The results are presented in Table 6.5; and
 - Impacts of reverse mortgage use. Those results are presented in Table 6.6.

The Model

- 6.4 The model is developed to explore how total housing demand and housing supply change as average life expectancy and the total population increases. A lifecycle general equilibrium model incorporating people of different ages is used because there are a lot of complex feedback effects linking the housing demand of older (retired) and younger (working age) households as the population ages. These feedback effects can be broadly categorized two ways.
- First, there is a direct contemporaneous effect on the housing demand of working age households because they live in the same world as older people. Since younger households pay taxes to pay for the pensions and healthcare of older households, and since they compete with older households to rent or purchase houses, an increase in the number of older households tends to reduce the demand for housing among younger households.
 - Second, there is an indirect effect, because young people anticipate living longer themselves, and are conscious of the need to save for longer periods of retirement. The model is designed to capture both of these effects in an internally consistent manner.

⁴¹ Modelling undertaken and reported by Andrew Coleman, Motu Economic & Public Policy Research.

- 6.5 The main results of the model are presented by showing what happens to equilibrium housing demand patterns amongst both working age and older households as average life expectancy in retirement increases from ten years to twenty years. An increase in life expectancy of this order doubles the fraction of the population that is retired, and increases the total population by 20 percent.
- 6.6 The features of this model of intergenerational housing demand are set out in detail in Appendix B. In summary, however, this is a dynamic equilibrium model that calculates the total demand for housing by a large number (1600) of decision-making couples that live through four different stages of life and who differ by age, income, and wealth. The model calculates housing demand functions for theoretical decision-makers at each stage of their lives before summing these separate demand functions into an aggregate demand function.
- 6.7 Four assumptions underpin this study:
- First, there will be more people in the country, particularly more people over 65, and this will mean there will be a need for more houses.
 - Second, these decision-making couples make sensible, forward looking decisions about their housing arrangements at different stages of their lives, and that they respond in a rational manner to financial incentives when making these decisions. The model assumes that they make decisions around whether and when to save a deposit, to delay buying a house when young if this would mean they would have very little to spend on other things, and to take inflation into account when choosing between lending money or investing in property.
 - Third, people and governments face binding long run budget constraints. In particular, decision-making couples cannot spend more than they earn over a lifetime. Governments are assumed to run balanced budgets. This means that if governments face higher expenses associated with population ageing such as higher retirement payments or medical care costs, they raise taxes to pay for them, and these taxes reduce the disposable income of working age people.
 - Fourth, young households are restricted in the amount they can borrow from banks to purchase housing. These restrictions significantly affect their housing choices. For this reason, the macroeconomic consequences of population ageing – particular the implications of ageing for house prices and tax rates – have a much greater effect on young adults than middle aged adults, for they are most affected by bank imposed borrowing restrictions. In general terms, the model finds that the combination of credit constraints and population ageing is likely to cause many young adults to delay their ascent of the housing ladder, and that these delays have aggregate implication for total housing demand in the economy. In particular, population ageing is likely to reduce home-ownership rates among young adults, although the extent to which this will happen will depend on the extent to which taxes are raised to pay for increased numbers of older people, as well as the supply elasticity of the construction sector.

- 6.8 The model analyses how the interaction of decision-makers who differ by age and income determines house prices, and how these prices affect housing allocations. Because the demand for housing depends on the age, wealth and income of households, a version of the Modigliani-Brumberg overlapping generations model is used. In the model, there is a plethora of decision-makers that differ by age, income, and marginal tax rate. They choose to consume goods and services, to live in large or small houses, and to rent or buy. They save for retirement, pay tax, borrow and lend, face realistic borrowing constraints, and choose whether or not to invest in housing. They leave their homes as inheritances, and some inherit from their parents. House prices are determined endogenously by matching the supply of houses with the collective demand for housing by owner-occupiers and landlords.

Agent Characteristics

- 6.9 The model comprises a set of overlapping cohorts who are born at different times. Each cohort comprised 400 theoretical decision-makers who differ in terms of income. Each decision-making couple passes through four distinct stages:
- two young stages,
 - one middle-aged stage, and
 - one stage in retirement.
- 6.10 The decision-makers have different income in each stage, and are allowed to choose a different type of housing – whether they share housing with their parents, rent a small house, buy a small house or buy a large house. They are, however, assumed to choose their most preferred houses, given their age, wealth and after-tax incomes, the cost (including interest charges) of renting or buying different houses relative to other goods, and their ability to raise a mortgage.
- 6.11 For a given set of housing prices, housing demand for each of the decision-makers during their four stages of life is calculated. These 1600 different housing demand functions are then added together so that the total demand for housing can be calculated. Because each stage can be a different length, the total number of houses will not be 1600; rather, if the first two stages were ten years long (representing, say, ages 25-35 and 35-45), the third stage was 20 years long (45-65) and the last stage 12 years (65-77), aggregate housing demand represents the demand of 400 times 52 or 20800 houses.

Housing Options, House ‘Quality’, and House Prices

- 6.12 The model shows how decision-makers ‘climb’ a housing ladder over the course of their lives. The model allows decision-makers to potentially pass through three stages before purchasing a high ‘quality’⁴² house. First, they can share housing with others – in this case, the model assumes with their parents. If they do so, the number of houses in the model will be less than the number of people, so if housing is in short supply some sharing will be necessary⁴³. Secondly, they can rent a low quality house. It is assumed that if

⁴² High ‘quality’ is the term used in this section to denote a larger, more desirable house and low ‘quality’ is used to denote a smaller house. Different ‘quality’ in this model does not denote differential performance.

⁴³ The model only allows young people to share with their parents. If they do so they get lower utility than if they lived by themselves, but they also pay no rent. However, it is also possible to model sharing by allowing them to share with each other, say paying half rent and getting less utility than living by

they do this they get slightly lower utility than if they own the house. Thirdly, they can purchase a 'low quality' house. If they purchase a high quality house, they can trade down in retirement.

- 6.13 How far they climb the ladder is largely determined by life-time income. Consumers with higher life-time income will be able to afford larger houses than households with low lifetime incomes. The speed of ascent is determined by four main factors: the steepness of the earnings profile; inflation and interest rates; the tax incentives facing both consumers and property investors; and the availability of credit from banks. Consumers will ascend slowly when they have a steep earnings curve (implying relatively low incomes while young), when credit is hard to obtain, and when tax laws favour property investors.
- 6.14 It should be stressed that throughout Section 6, high and low quality only refer to very broad characteristics of properties. High quality houses are assumed to give more pleasure to people, and to cost more, than low quality houses. Thus a "high quality" house might be a large house, or a house in a desirable suburb, whereas a "low quality" house might be a small house or a house in a less desirable location. Since the focus of this section is the broad macroeconomic implications of population ageing on housing demand, other microeconomic aspects of housing quality such as maintenance and heating are ignored.
- 6.15 The difference between the macroeconomic definition of quality used in Section 6 and the microeconomic definition of quality used elsewhere in this paper is most apparent in the results section where it is argued that population ageing will mean an increasing fraction of the oldest cohort will live in high quality – that is large or desirable – properties. This occurs because a large fraction of people live in high quality houses when they are middle aged and many of these people live in the same house for at least part of their retirement. As longevity increases, the fraction not trading down, or the fraction delaying trading down, increases. In macroeconomic terms, this is important because these houses are not "recycled" to younger families, and if young families wish to purchase a high quality (large, desirable) house, more of them will need to be built. This section of the paper ignores the microeconomic aspects of the quality of these larger houses, however. It is quite plausible that older people will spend a large fraction of their retirement in the large, desirable houses they lived in when middle aged, but that these houses deteriorate over time or are insufficiently heated.
- 6.16 Prices are determined endogenously in the model by equating the total demand for different quality houses with the supply of these houses. The cost of supplying each quality type will depend on the number of each type supplied. This is specified in the model. The model finds prices that equate the aggregate demand for those two different types of housing with the aggregate supply of these types of housing.

themselves. While this would be straightforward to implement in the computer programme, it is difficult to imagine much would be gained as the essential process of "sharing" is the same in each case.

- 6.17 Housing prices are generated using a complex numerical routine that keeps choosing a new set of prices and then calculating the demand for each of the 1600 different households until a set of prices is found at which aggregate demand equals aggregate supply. For this equilibrium set of prices, it is then possible to calculate the overall demand pattern, including the number of young households that rent and the number of older households that live in 'high quality' and 'low quality' houses.

Taxes and Housing Finance

- 6.18 The model can assume different supply settings for each quality of housing. It can also adjust for:
- Various financial factors that influence the decision to buy, rent, or lease a house;
 - Conditions imposed by banks on those obtaining mortgage finance to purchase a house, including constraints on the minimum deposit and the maximum mortgage-repayment to income ratio. These constraints mean that young households may choose to rent rather than buy a house, even though the long term cost is the same, because they cannot obtain suitable financing;
 - Tax incentives facing landlords. Because there is no tax on capital gains, but the inflation component of interest income is taxed, landlords may be prepared to offer artificially low rents when there is inflation in order to obtain tax free capital gains;
 - Treatment of taxes by government. A key aspect of the model concerns what happens as the population ages and the government spends more on pensions and healthcare. In the basic version of the model, the government raises tax rates on income to pay for this expenditure. This lowers the after-tax income of working people, and reduces the amount they have to spend on housing and other goods when young. Other versions of the model examine the effect of different policies: for example, in one simulation the Government reduces annual per capita pension payments as the number of older people increases to ensure total pension expenditure is constant, leaving it to individuals to fund their additional retirement;
 - House price and rent changes. The model calculates the rate of property price appreciation as part of the process by which it calculates equilibrium prices. While this is normally the general inflation rate, it does not need to be.⁴⁴

⁴⁴ The model also assumes that households choose housing in a particular period while taking into account their remaining length of life, their future income stream, and their future housing patterns. Thus when choosing housing in their first period, a young person takes into account not only their current income, current house prices, and interest rates and rents, but the fact that their income is likely to rise as they get older and more experienced, that they are likely to want a larger house when they have more money in the future, and that houses are likely to get more expensive. Depending on a variety of factors including taxes and the inflation rate, and bank imposed mortgage lending criteria, this may lead them to delay purchase, or it could lead them to purchase a large house quickly.

Housing Supply

- 6.19 The model allows housing supply functions to be varied. Three main variations have been used:
- The first variation assumes that housing supply is almost perfectly elastic. That is, there is no price response (other than an inflation adjustment) as the number of houses in the economy increases. In this version, the price of 'high quality' and 'low quality' houses differ by a fixed amount.
 - The second variation assumes that the prices of 'high quality' and 'low quality' houses increase as the number of houses increase by about 1 percent for each 1 percent increase in the number of houses.
 - The third variation assumes both 'high quality' and 'low quality' house prices increase as the number of houses increases, but 'high quality' prices increase at a faster rate than 'low quality' houses because they are increasingly difficult to make (perhaps because of a shortage of suitable building sites).

Applying the Model

- 6.20 Tables 6.1, 6.2 and 6.3 show how population ageing affects the housing market in the model as major economic parameters or policy options are varied. Each table shows what happens to different aspects of the housing market as average life expectancy in retirement increases from 10 years to 20 years, and the population increases.
- 6.21 The tables show equilibrium house prices, the number of high quality and low quality ('large' and 'small') houses, the homeownership rate of young households, and the fraction of each cohort living in high quality ('large') houses. It also shows the fraction of new houses that need to be high quality to keep the market in equilibrium. For convenience, the population is normalised so that there are 1000 households when life expectancy in retirement is 10 years, 1200 when it is 20 years.
- 6.22 In Table 6.1 the supply of housing is almost perfectly elastic, with prices rising by only 1 percent for every ten percent increase in the number of houses. This set of supply parameters is called Supply Curve 1.
- 6.23 In this case, the price of low quality houses is approximately three times the median income of middle-aged households, and high quality large houses are approximately half as much again.

Table 6.1: Supply Curve 1: Both Curves Very Elastic

Length of last period	10	12	15	17	20
Total decision-makers	1000	1040	1100	1140	1200
Taxes raised to pay additional pension expenses					
Number small houses	405	415	422	434	443
Number large houses	565	593	643	668	717
Total number houses	970	1008	1064	1102	1160
% new houses large		74%	83%	78%	80%
Price small house	199,000	200,000	201,000	202,000	203,000
Price large house	317,000	318,000	321,000	323,000	325,000
% cohort 0 owning	56%	54%	52%	49%	48%
% cohorts 0-1 large	36%	34%	32%	30%	27%
% cohort 2 large	95%	95%	94%	93%	90%
% cohort 3 large	19%	32%	48%	53%	62%
% total large	58%	59%	60%	61%	62%
Taxes increased to pay additional medical and pension expenses					
Number small houses	405	418	438	446	467
Number big houses	565	588	624	652	686
Total number houses	970	1006	1062	1098	1152
% new houses large		63%	64%	68%	66%
Price small house	199,000	200,000	201,000	202,000	203,000
Price large house	317,000	318,000	320,000	322,000	324,000
% cohort 0 owning	56%	54%	50%	47%	43%
% cohorts 0-1 large	36%	34%	29%	27%	25%
% cohort 2 large	95%	94%	93%	91%	88%
% cohort 3 large	19%	32%	46%	53%	59%
% total large	58%	58%	59%	59%	60%
Taxes constant, no increase in total pension payment					
Number small houses	409	412	414	420	430
Number big houses	562	599	656	690	741
Total number houses	970	1011	1070	1110	1171
% new houses large		91%	95%	92%	89%
Price small house	200,000	200,000	202,000	202,000	204,000
Price large house	317,000	319,000	322,000	323,000	326,000
% cohort 0 owning	56%	55%	56%	57%	57%
% cohorts 0-1 large	36%	36%	37%	37%	37%
% cohort 2 large	95%	95%	94%	92%	89%
% cohort 3 large	18%	31%	45%	52%	60%
% total large	58%	59%	61%	62%	63%

6.24 In Table 6.2 there are upward sloping supply curves, so house prices increase as the population increases. This is called Supply Curve 2. When the length of the final period is 10 years, house prices are the same as those in Supply Curve 1, that is low quality houses costs approximately three times as much as the median income of middle aged households, while high quality houses cost 4.5 times as much. Prices of both types increase by approximately 1 percent for each percent increase in the number of houses, or by approximately 20 percent as the final period increases from 10 to 20 years (Supply Curve 2).

Table 6.2: Supply Curve 2: Both Curves Upward Sloping

Length of last period	10	12	15	17	20
Total decision makers	1000	1040	1100	1140	1200
Taxes raised to pay additional pension expenses					
Number small houses	409	416	423	422	428
Number large houses	556	582	624	658	700
Total number houses	965	998	1047	1080	1128
% new houses large		77%	82%	88%	88%
Price small house	200,000	209,000	223,000	233,000	246,000
Price large house	311,000	321,000	336,000	347,000	362,000
% cohort 0 owning	52%	47%	40%	37%	31%
% cohorts 0-1 large	35%	32%	27%	25%	23%
% cohort 2 large	95%	94%	93%	92%	91%
% cohort 3 large	18%	33%	48%	56%	61%
% total large	58%	58%	60%	61%	62%
Taxes increased to pay additional medical and pension expenses					
Number small houses	405	417	425	435	442
Number large houses	559	580	619	639	677
Total number houses	964	997	1044	1074	1119
% new houses large		65%	75%	73%	76%
Price small house	199,000	209,000	222,000	231,000	244,000
Price large house	311,000	321,000	336,000	345,000	359,000
% cohort 0 owning	52%	46%	38%	33%	29%
% cohorts 0-1 large	35%	31%	26%	23%	21%
% cohort 2 large	95%	94%	93%	91%	89%
% cohort 3 large	20%	34%	49%	53%	59%
% total large	58%	58%	59%	59%	60%
Taxes constant, no increase in total pension payment					
Number small houses	409	413	404	402	410
Number large houses	556	588	648	685	730
Total number houses	965	1000	1052	1087	1140
% new houses large		89%	105%	105%	99%
Price small house	200,000	210,000	225,000	235,000	250,000
Price large house	311,000	322,000	339,000	350,000	366,000
% cohort 0 owning	52%	48%	43%	43%	42%
% cohorts 0-1 large	35%	33%	32%	31%	29%
% cohort 2 large	95%	95%	93%	93%	90%
% cohort 3 large	18%	32%	49%	57%	64%
% total large	58%	59%	62%	63%	64%

6.25 In Table 6.3, the slope of the high quality supply curve is much steeper than the slope of the low quality supply curve, to reflect what happens if there is a scarcity of premium location land. In this version of the model, a 1 percent increase in the number of low quality houses leads to a 1 percent increase in their price, but a 1 percent increase in the number of high quality houses leads to a 3 percent increase in the price of high quality houses. This combination is called Supply Curve 3. In the remaining tables some other parameterisations are explored.

Table 6.3: Supply Curve 3: High Quality Supply Curve Steeply Upward Sloping

Length of last period	10	12	15	17	20
Total decision makers	1000	1040	1100	1140	1200
Taxes raised to pay additional pension expenses					
Number small houses	398	424	460	480	517
Number large houses	567	574	588	599	610
Total number houses	965	998	1047	1079	1127
% new houses large		22%	25%	29%	27%
Price small house	199,000	209,000	223,000	232,000	246,000
Price large house	309,000	323,000	345,000	361,000	381,000
% cohort 0 owning	52%	47%	39%	35%	30%
% cohorts 0-1 large	36%	31%	25%	23%	19%
% cohort 2 large	96%	94%	92%	87%	82%
% cohort 3 large	21%	32%	41%	47%	51%
% total large	59%	58%	56%	56%	54%
Taxes increased to pay additional medical and pension expenses					
Number small houses	398	424	461	470	517
Number large houses	567	573	584	599	603
Total number houses	964	997	1044	1069	1120
% new houses large		20%	21%	31%	23%
Price small house	199,000	209,000	222,000	229,000	244,000
Price large house	309,000	322,000	342,000	358,000	374,000
% cohort 0 owning	52%	46%	38%	41%	25%
% cohorts 0-1 large	36%	30%	24%	22%	18%
% cohort 2 large	96%	94%	91%	86%	81%
% cohort 3 large	21%	33%	41%	50%	52%
% total large	59%	58%	56%	56%	54%
Taxes constant, no increase in total pension payment					
Number small houses	398	424	461	487	524
Number large houses	567	576	592	601	616
Total number houses	965	1000	1052	1088	1140
% new houses large		26%	28%	27%	28%
Price small house	200,000	210,000	225,000	235,000	250,000
Price large house	310,000	325,000	349,000	364,000	388,000
% cohort 0 owning	52%	47%	45%	41%	40%
% cohorts 0-1 large	36%	32%	27%	26%	24%
% cohort 2 large	95%	94%	90%	87%	80%
% cohort 3 large	21%	30%	41%	45%	50%
% total large	59%	58%	56%	55%	54%

Impact of Different Policy Options

6.26 Tables 6.1, 6.2 and 6.3 are divided into sections that show the results of the different policy options as population ageing occur: The first section of each table shows what happens when taxes are raised to maintain government pensions at initial levels in real terms. The second section of each table shows what happens if taxes are increased further to pay for increased medical expenditure as well as pensions over a longer period. The increase in medical expenditure is modelled at approximately 3 percent of Gross Domestic Product (GDP). The length of pension payment is increased from 10 years to 20 years. The third section of each table shows what happens if there is no change in total pension expenditure and no change in taxes. Under those conditions, it is assumed that households save enough during their working lives to pay for their additional years in retirement.

- 6.27 For example, consider the first section of table 6.2, which shows what happens to the housing market as longevity increases and (i) the supply of both high and low quality houses is elastic and (2) the government raises taxes to pay for additional pensions. The first column shows the housing market outcomes when life expectancy in retirement is 10 years, while the last column shows the outcomes when life expectancy is 20 years.
- 6.28 When life expectancy in retirement is 10 years, the population is normalised to 1000, and there are 965 houses of which 409 are low quality ('small') and 556 are high quality ('large'). When life expectancy is 20 years, the population has increased by 20 percent to 1200, and the number of houses increases to 1128, of which 700 are high quality. This means 88% of the new houses that were constructed were high quality houses. The increase in the number of houses means the price of low quality houses increased from \$200,000 to \$246,000 in real terms, while the price of high quality houses increased from \$311,000 to \$362,000.
- 6.29 When life expectancy in retirement is 10 years, 52% of cohort 0 and cohort 1 (young households) own their own houses; this figure drops to only 31% when life expectancy is 20 years. The fraction of these two cohorts living in high quality ('large') houses declines from 35% to 23%. There is little change in the fraction of cohort 2 (middle aged) households living in high quality houses: it declines from 95% to 91%. However, there is a large increase in the fraction of cohort 3 (retired) households living in high quality houses: this increases from 18% to 61%. Overall, the fraction of high quality houses in the economy increases from 58% to 62%, as the increase in the number of retired households living in these houses is offset by a decrease in the number of younger households renting and living in small houses.

Impacts on Housing Demand in the Core Tables

- 6.30 This section presents the results from the model's application in relation to three different policy options. Those are where:
- Taxes are increased to pay for additional pensions;
 - Taxes are increased to pay for additional pensions and health care; and
 - There are no changes in taxes or pension expenditure.

Taxes Increased to Pay for Pensions

- 6.31 Table 6.1 indicates what happens when the construction sector is very elastic so that there is very little change in prices as the population ages (Supply Curve 1). The table is normalised so that the population is 1000 when the length of the final period is 10 years, increasing to 1200 when the final period is 20 years.

- 6.32 As longevity increases and the population both ages and increases in size, the total number of houses increases, although by slightly less than the increase in the number of decision-makers. (The total number of houses increases by 190 houses or 95 percent of the increase in decision-makers). Approximately 80 percent of these new houses are high quality. The increasing demand for these new high quality houses largely comes from retired people, because as longevity increases there is a sharp increase in the number of older decision-makers who wish to live in a large house – or, to be more precise, there is a steep fall in the fraction of decision-makers trading down, for most people live in a high quality house in their middle ages. As explained above, fewer decision-makers trade down as longevity increases because the annual consumption gain from such a move falls compared to the benefit gained from living in a large house.
- 6.33 The rise in taxes necessary to pay for higher pensions leads to an increase in the average time it takes households to ascend the housing ladder. The increased delay represents two factors: an increase in sharing and renting amongst the youngest cohorts, and thus a reduction in home ownership rates among this group (from 56 percent to 48 percent); and a reduction in the fraction of cohort 0 and cohort 1 households purchasing a large house (from 36 percent to 27 percent). Not all young households are affected, but the effects are felt up and down the income distribution. Some low income households are affected by having to share rather than rent by themselves; some middle income households delay the purchase of a small house, choosing to rent instead; some relatively high income households wait to middle age before upgrading to a large house.
- 6.34 In Table 6.2 it is also assumed that taxes are raised to pay for additional pension expenditure as the population ages, but in this case house prices rise as the total number of houses increases (Supply Curve 2).
- 6.35 The results show small house prices rise in real terms by 23 percent (from \$200,000 to \$246,000) while large house prices rise by 16 percent (from \$311,000 to \$362,000).
- 6.36 Three points should be noted:
- First, because both high and low quality house prices increase by a similar amount, there is little additional benefit for a retired decision-maker to trade down as the population ages. Thus the number of older households choosing to live in high quality houses increases at the same rate as in Table 6.1.
 - Second, fewer new houses are built, because the higher price induces more sharing among young cohorts. New houses are only built for 82 percent of the increased population, not 95 percent. However, a slightly greater fraction of these new houses are large because of the demand from older households.
 - Third, there is a significantly larger reduction in the fraction of cohort 0 that purchases a house, and the fraction of cohorts 0 and 1 that purchase a large house, as the population ages. As longevity increases from 10 to 20 years, home ownership among cohort 0 drops by 21 percentage points rather than by 8 percentage points, and the fraction of cohort 0 and 1 owning a large house drops by 12 percentage points rather than 9 percentage points. From these results, it would appear that the increased house prices associated with population ageing will have its biggest effect on young households by making it more difficult for them to purchase a new house.

- 6.37 In the first section of Table 6.3 it is also assumed that taxes are raised to pay for additional pension expenditure as the population ages, but in this case prices rise more sharply for large houses than small houses as demand increases (supply version 3). This produces a twist in the results compared to Table 6.2.
- 6.38 The increase in the total number of houses, and the decline in home ownership among cohort 0 is almost the same (for at the margin these households are affected by the price of small houses and this is the same in supply versions 2 and 3), there is a much smaller increase in the total demand for large houses. Only 25-30 percent of new houses are large houses, in contrast to the 85-90 percent figure in Table 6.2 when the supply curves for small and large houses had the same slope. In turn, this means that the fraction of large houses in the society declines as the population ages.
- 6.39 As longevity increases from 10 to 20 years, there is a smaller increase in the fraction of retired decision-makers living in large houses (up 30 percentage points rather than 43 percentage points) and a larger decrease in the fraction of cohorts 0 and 1 living in large houses (down 17 percentage points rather than 12 percentage points.) There is also a sharper reduction in the number of middle aged households living in large houses as the population ages, down 13 percentage points rather than 5 percentage points. Even in this case, however, more than 80 percent of middle-aged decision-makers live in a large house.

Taxes Increased to Pay for Pensions and Medical Care

- 6.40 The second sections of Tables 6.1, 6.2 and 6.3 show what happens when there is an increase in government funded medical expenditure as well as pension expenditure. Medical expenditure increases by 3 percent of GDP as longevity increases from 10 to 20 years, somewhat lower than the approximately 5 percent increase in expenditure on pensions.
- 6.41 In each case, the results are very similar to the previous tax approach, home ownership rates among the young cohorts are slightly lower.
- 6.42 The similarity of the results partly reflects the modelling choice that as the population ages the increase in medical expenditure on those aged 65 and older will be smaller than the increase in pension expenditure. This is because annual per capita medical expenditure on those over 65 is currently much lower than annual per capita pension expenditure. But it also reflects differences in the way that the utility benefits of health care and pensions are modelled. In the model, health expenditure provides no income or utility in old age; rather it prevents large negative shocks to utility. Thus, unlike pension payments, medical expenditure does not alter the shape of the income or consumption profiles through time; rather the additional taxes that pay for higher medical expenditure merely lower disposable income, rather than tilt it towards older age. Consequently, these taxes do not intensify the effects of credit constraints on young households, and have very little effect on housing choices.⁴⁵

⁴⁵ Several variations with different values of the health expenditure variable were calculated. In all of the cases, the level of healthcare had very little effect on housing profiles.

No Changes in Taxes or Total Pension Expenditure

- 6.43 The third sections of Tables 6.1, 6.2, and 6.3 shows what happens when longevity increases, but total pension expenditure remains at its initial levels, and taxes are unchanged. Households must save for their own additional years of retirement if they wish to smooth consumption.
- 6.44 This does have an impact because the most tax efficient way of saving is to purchase a house and consequently young decision-makers have greater incentives to buy rather than rent at a young age. When the supply is nearly perfectly elastic (Supply Curve 1) the increase in longevity leads to an increase in the total number of houses and the number of older people living in large houses, as before. However, the fraction of cohort 0 owning, and the fraction of cohorts 0 and 1 living in large houses scarcely changes as the population ages.
- 6.45 In supply versions 2 and 3, the number of young decision-makers owning houses or purchasing large houses still decreases, because of the increase in house prices, but the decline is much smaller than when the government raises taxes to pay for additional pensions. In Table 6.2 the fraction of cohort 0 who own their own homes declines by 10 percentage points, not 21 percentage points, as longevity increases from 10 years to 20 years, and the fraction owning large houses decreases by 6 percentage points rather than 12 percentage points. In Table 6.3 the results are similar.

Summary of the Core Results

- 6.46 There are four results that deserve emphasis:
- Firstly, the model suggests that population ageing will have little effect on most households' peak quality housing. Most of the changes in the housing demand of working age households will reflect the amount of time they spend in their high quality houses, rather than the size of their houses.
 - Second, population ageing is likely to see an increase in the demand for high quality housing among retired households.
 - Third, there is likely to be a fall in the number of young (25 – 45) households living in large houses.
 - Fourth, unless it is increasingly difficult to construct new high quality houses compared to new low quality houses, as the population ages the decline in the demand for large houses by working age people will be much smaller than the increase in the demand for large houses by older people. Consequently, population ageing will mean that the demand for most new houses will be high quality houses.

Impacts on Housing Demand for Other Cases

- 6.47 This section presents the results from the model's application in relation to some other cases. They are where there are changes in: Inflation and interest rates; housing supply; and, reverse mortgage use.

Inflation and Interest Rates

6.48 In Table 6.4, the effect of variations in interest rates and the inflation rate are explored, because these rates have significant effects on the rate at which households ascend the property ladder. The results are shown for the case that taxes are increased to pay for additional pension expenditure in Supply Curve 2 (c.f. section 1 of Table 6.2).

Table 6.4: Variations in interest rates and inflation rates for supply curve 2⁴⁶

Length of last period	10	12	15	17	20
Total decision-makers	1000	1040	1100	1140	1200
<i>Inflation = 0, real interest rates = 5</i>					
Number small houses	389	397	408	416	430
Number large houses	573	598	637	662	695
Total number houses	962	995	1045	1077	1125
% new houses large		74%	77%	77%	75%
Price small house	199,000	208,000	222,000	232,000	246,000
Price large house	311,000	321,000	336,000	346,000	361,000
% cohort 0 owning	75%	72%	67%	64%	59%
% cohorts 0-1 large	43%	40%	36%	33%	28%
% cohort 2 large	94%	93%	92%	91%	94%
% cohort 3 large	12%	27%	43%	50%	52%
% total large	60%	60%	61%	61%	62%
<i>inflation = 0, real interest rates = 4</i>					
Number small houses	411	427	447	457	488
Number large houses	564	583	614	639	658
Total number houses	975	1010	1061	1096	1145
% new houses large		55%	58%	62%	55%
Price small house	203,000	212,000	227,000	237,000	251,000
Price large house	314,000	325,000	340,000	351,000	366,000
% cohort 0 owning	51%	46%	35%	27%	22%
% cohorts 0-1 large	45%	42%	38%	35%	30%
% cohort 2 large	95%	95%	94%	93%	93%
% cohort 3 large	3%	15%	30%	38%	42%
% total large	58%	58%	58%	58%	57%
<i>inflation = 2, real interest rates = 4</i>					
Number small houses	434	438	438	442	450
Number large houses	545	575	624	654	696
Total number houses	979	1013	1062	1096	1146
% new houses large		87%	95%	93%	90%
Price small house	204,000	213,000	227,000	237,000	251,000
Price large house	315,000	325,000	341,000	351,000	367,000
% cohort 0 owning	9%	6%	2%	0%	0%
% cohorts 0-1 large	37%	34%	31%	28%	26%
% cohort 2 large	96%	96%	95%	94%	93%
% cohort 3 large	6%	24%	41%	48%	55%
% total large	56%	57%	59%	60%	61%

6.49 When real interest rates are 5 percent, Table 6.4 shows that a reduction in the inflation rate from 2 percent to zero will have large effects on the level of housing demand.

⁴⁶ In each section, taxes are increased as the population ages to pay for higher aggregate pension expenditure. When the elderly population doubles, pension expenditure increases by around 5% of GDP

- 6.50 There will be a large increase in homeownership rates among the youngest cohort (up by over 20 percentage points), a somewhat smaller increase in the fraction of cohorts 0 and 1 owning large houses (up by 8 percentage points when the period length is 10 years), and a small decrease in the fraction of the older households owning large houses. The latter decrease occurs because some households spend more of their lifetime income on large house when young, and cannot afford a large house at both ends of their lives. These are level effects, occurring at all values of the longevity parameter.
- 6.51 There is also a change in the speed at which young households reduce homeownership rates as longevity increases, but it is not particularly large. As longevity increases from 10 to 20 years, homeownership rates among cohort 0 decline by 16 percentage points when the inflation rate is 0 percent rather than 21 percentage points when the inflation rate is 2 percent. The difference in the rate at which young households reduce their ownership of large houses as the population ages is even smaller.
- 6.52 Overall, then, while these changes suggest that control of inflation will be an important factor in ensuring homeownership levels among the young are maintained as the population ages, inflation does not have a very big effect on the rate of change of young households' ownership patterns as the population ages.
- 6.53 The simulations in Table 6.4 suggest that the effects of changing real interest rates are more ambiguous. The model suggests a decline in real interest rates has a positive effect on the total number of houses (because rents are lower, inducing less sharing), a small positive effect on the fraction of cohort 0 and 1 that owns a large home (because finance costs are lower), and a large negative effect on the fraction of cohort 0 that owns a home (because of competition from landlords). In the simulations, a decline in real interest rates from 5 percent to 4 percent leads to an approximately 1.5 percent increase in the total number of houses, a 2 percent increase in the number of cohort 0 and 1 households owning a large house, and at least a 25 percent decrease in cohort 0 home ownership rate.
- 6.54 Real interest rates have very little effect on the rate at which the fraction of young households owning large houses changes as the population ages. The effect of real interest rates on the rate at which homeownership among cohort 0 declines as the population ages is more complicated, however. When real interest rates are 5 percent and the inflation rate is 2 percent, home ownership rates fall steeply as the population ages. When real interest rates are 4 percent and the inflation rate is 2 percent, homeownership rates among young cohorts are very low – under 10 percent – for all levels of longevity. Because they start so low, they cannot fall by much, and consequently population ageing has very little effect on homeownership rates among young households. The situation is different again when the inflation rate is 0 percent, for in this case homeownership rates for cohort 0 are initially high when real interest rates are either 4 percent or 5 percent and thus can decline as the population ages. In this case, the rate at which homeownership declines as the population ages is greater when real interest rates are 4 percent than when they are 5 percent.

- 6.55 While the model suggests real interest rates have very considerable effects on homeownership rates, the quantity of small houses is little affected by whether they are owner-occupied or owned by a landlord. From this perspective, real interest rates have relatively little effect on the how the total number of different quality houses will change as the population ages.
- 6.56 Consequently, the figures reported in Table 6.4 suggest that real interest rate levels have relatively little quantitative effect on the core results. Those are that as the population ages, the number of high quality houses demanded by older people will increase, and the number demanded by young people will decrease. Nonetheless, if there is a decline in real interest rates as well as population ageing over the next forty years, it is likely that an increasing fraction of the housing stock will be rented.

House Supply

- 6.57 Table 6.5 shows the results for three different changes in the housing supply functions. In each case, the slopes of the house supply functions are the same as Supply Curve 2, but the price levels have been increased. This means the house price/income ratio is higher in these economies than in the economies described by the core tables.
- 6.58 The first section of Table 6.5 has the results when the prices of small and large houses are increased, keeping quality the same, by approximately \$50000. In the second section of Table 6.5, the price of small houses is unchanged, but the price of the same quality large house is increased by \$50000. In the third section of Table 6.5, both the price and the quality of large houses are increased to reflect what happens as high quality houses become better.
- 6.59 The inflation rate and real interest rate in Table 6.5 are 2 percent and 5 percent respectively; little changes when the inflation rate is reduced to 0 percent.
- 6.60 Table 6.5 shows what happens if pension expenditure and taxes are increased as the population ages. As such Table 6.5 is directly comparable to section 1 of Table 6.2.
- 6.61 The results are broadly similar to those described already. The easiest case to consider is when both the quality level and the price of high quality houses is increased. In this case there is almost no qualitative or quantitative change in the effect of population ageing on the patterns of homeownership: as before, population ageing causes an increase in the fraction of older households living in large houses, and an increase in the fraction of young households renting and living in small houses. The only major difference is an increase in the fraction of cohort 0 households owning houses (at all levels of longevity) as it costs more money and a larger deposit to purchase a high quality house, and the most tax efficient way to save these funds is to start by buying a small house.

Table 6.5: Additional Variations in Supply Curves, Inflation = 2.

Length of last period	10	12	15	17	20
Total decision-makers	1000	1040	1100	1140	1200
Both house prices increased					
Number small houses	403	400	397	411	412
Number large houses	528	563	613	633	678
Total number houses	931	963	1010	1044	1090
% new houses large		109%	108%	93%	95%
Price small house	266,000	275,000	289,000	299,000	312,000
Price large house	377,000	387,000	402,000	412,000	427,000
% cohort 0 owning	22%	21%	20%	21%	19%
% cohorts 0-1 large	27%	25%	23%	21%	18%
% cohort 2 large	94%	93%	92%	91%	90%
% cohort 3 large	21%	38%	52%	54%	62%
% total large	57%	58%	61%	61%	62%
High quality house prices increased					
Number small houses	550	592	631	644	655
Number large houses	416	407	419	437	474
Total number houses	966	999	1049	1081	1129
% new houses large		-25%	4%	19%	36%
Price small house	200,000	209,000	224,000	233,000	247,000
Price large house	355,000	364,000	379,000	389,000	404,000
% cohort 0 owning	45%	42%	38%	35%	27%
% cohorts 0-1 large	23%	21%	19%	17%	15%
% cohort 2 large	81%	79%	76%	74%	70%
% cohort 3 large	0%	3%	13%	22%	33%
% total large	43%	41%	40%	40%	42%
High quality house prices increased and quality improved					
Number small houses	375	377	389	391	390
Number large houses	588	620	656	687	736
Total number houses	963	996	1045	1077	1125
% new houses large		96%	83%	86%	91%
Price small house	199,000	208,000	222,000	232,000	246,000
Price large house	359,000	370,000	385,000	395,000	410,000
% cohort 0 owning	63%	60%	55%	52%	44%
% cohorts 0-1 large	36%	33%	28%	26%	24%
% cohort 2 large	96%	95%	94%	93%	92%
% cohort 3 large	30%	45%	56%	62%	68%
% total large	61%	62%	63%	64%	65%

6.62 In the case that high quality houses are simply more expensive (without a commensurate increase in quality) the effect of population ageing on housing demand is again largely unchanged. In this case, however, there is one major difference in the level of homeownership: the model predicts that far fewer households will own large houses in their retirement, although the number does increase as longevity increases.

6.63 The model suggests that the amount of money that can be made from trading down compared to the benefit of living in a larger house is simply so tempting that most older decision-makers will do it. This prediction is clearly counterfactual. In the real world a large fraction of households never trade down in retirement. It suggests that the parameterization of the model could be improved to better reflect the desire of many (but by no means all) households to age in place even when the financial incentive to trade down is very large. Nonetheless, even though in this case the level effect may be

wrong, the model still suggests that as the population ages there will be a large increase in the fraction of older households choosing to live in high quality houses, and a significant increase in the fraction of young households living in low quality houses.

- 6.64 The results when the prices of both types of houses are increased, keeping quality unchanged, are again similar to before, with one exception. In this case, homeownership levels among cohort 0 are significantly reduced, because more households share and because more households rent rather than take out a much bigger mortgage⁴⁷. The simulations suggest that homeownership rates among cohort 0 are so low at all values of longevity that they scarcely decline as longevity increases, in contrast to the earlier result that increases in longevity reduce home ownership rates. Otherwise the fraction of older households who live in large houses, and the fraction of cohorts 0 and 1 who live in small houses, increase as the population ages at a very similar rate as suggested in Supply Curve 2.

Reverse mortgages and inheritance

- 6.65 In all of the analysis to this point, it is assumed that when an old decision-maker dies its house is left to a younger decision-maker. Under those conditions, the only way that a household can extract equity from housing is to sell a large house and buy a small house. However, retired households may be able to use reverse mortgages to extract some of the equity of their house and use the proceeds to increase consumption in the last period. If they were to do this, they could also reduce their saving in earlier periods in anticipation of taking out a reverse mortgage later on. Table 6.6 sets out the results of the model when reverse mortgage settings are used.
- 6.66 The main effect of a reverse mortgage is that a greater fraction of older households own large houses, for a reverse mortgage lets them have their house and eat it too. When life-expectancy is 10 years, the fraction of retired households owning a large house increases by 23 percentage points; when life expectancy is 20 years, so more households want to own a large house in any case, the increase is 11 percentage points. The increase in the number of older households living in large houses means that the fraction of large houses in the economy increases.
- 6.67 The effect on working age households is mixed. This is because for some households (those that do not receive an inheritance) the availability of reverse mortgages will reduce the amount they need to save for retirement, while for other households (those who do receive an inheritance) the availability of reverse mortgages will increase the amount they need to save for retirement. The latter effect occurs because the reduction in the inheritances they receive because their parents take out a reverse mortgage is greater than the reduction in their need to save because they will take out a reverse mortgage. Table 6.6 shows there is a small increase in the fraction of cohort 0 households owning a house and a small decrease in the fraction of middle aged households living in large houses, suggesting that the latter effect dominates. Nonetheless, the effects on working age people are outweighed by the increase in the fraction of older households who live in large houses.

⁴⁷ The higher house prices mean both rents and mortgages will be higher. Nonetheless, a mortgage costs more than rent, and the increase in mortgage payments reduces consumption so low that many households choose to rent rather than accept a deep cut in consumption.

Table 6.6: Reverse Mortgages and Inheritances; Supply Curve 2, Inflation = 2.⁴⁸

Length of last period	10	12	15	17	20
Total decision-makers	1000	1040	1100	1140	1200
Supply curve 2: standard inheritance, no reverse mortgage					
Number small houses	409	416	423	422	428
Number large houses	556	582	624	658	700
Total number houses	965	998	1047	1080	1128
% new houses large		77%	82%	88%	88%
Price small house	200,000	209,000	223,000	233,000	246,000
Price large house	311,000	321,000	336,000	347,000	362,000
% cohort 0 owning	52%	47%	40%	37%	31%
% cohorts 0-1 large	35%	32%	27%	25%	23%
% cohort 2 large	95%	94%	93%	92%	91%
% cohort 3 large	18%	33%	48%	56%	61%
% total large	58%	58%	60%	61%	62%
Supply curve 2: standard inheritance, reverse mortgage					
Number small houses	368	377	400	407	406
Number large houses	596	622	649	674	724
Total number houses	964	998	1049	1081	1130
% new houses large		75%	62%	67%	77%
Price small house	199,000	209,000	224,000	233,000	247,000
Price large house	312,000	322,000	338,000	348,000	363,000
% cohort 0 owning	54%	48%	44%	42%	40%
% cohorts 0-1 large	35%	32%	27%	25%	24%
% cohort 2 large	94%	93%	90%	88%	85%
% cohort 3 large	41%	52%	60%	65%	72%
% total large	62%	62%	62%	62%	64%
Supply curve 2: different inheritance, no reverse mortgage					
Number small houses	386	382	395	405	414
Number large houses	577	614	650	673	713
Total number houses	963	995	1044	1077	1127
% new houses large		114%	90%	84%	83%
Price small house	200,000	209,000	223,000	232,000	247,000
Price large house	312,000	322,000	337,000	348,000	363,000
% cohort 0 owning	56%	53%	46%	42%	35%
% cohorts 0-1 large	35%	32%	27%	26%	24%
% cohort 2 large	97%	97%	95%	93%	90%
% cohort 3 large	25%	42%	54%	58%	65%
% total large	60%	62%	62%	62%	63%

A Comment on Implications

- 6.68 The focus of the research has been to identify the main economic factors that will change housing demand for households at different stages of the housing lifecycle as longevity increases and the population ages.
- 6.69 Many of the factors considered in the model have large effects on housing patterns. Factors such as interest rates, inflation, tax rules, and building costs can dramatically change the level of homeownership at young ages, the speed with which households climb the housing ladder, and the overall fraction of high quality houses in the economy. Almost all of these factors are

⁴⁸ In each section, taxes are increased as the population ages to pay for higher aggregate pension expenditure. When the elderly population doubles, pension expenditure increases by approximately 5% of GDP

important because of the way they affect the credit constraints on young households, or the incentives to invest in housing rather than other assets.

- 6.70 A somewhat different picture emerges when focusing on factors whose effect on housing patterns changes as longevity increases and the population ages. Two of those were seen as most likely to be important. The first factor is the extent to which the government will increase taxes and its aggregate expenditure as the population ages, because it provides pensions and medical care to an increasingly large share of the population.
- 6.71 If the government maintains the annual per capita value of pension expenditure, by 2050 population ageing will result in a large increase in government expenditure, by approximately 5 percent of GDP. Increases in medical expenditure will raise this amount further. In most versions of the model it is assumed that taxes will be increased on *all* households to raise these funds.
- 6.72 As the increase in taxes reduces the disposable income of working age (and other) households, some young households will find it preferable to rent for longer and to delay their purchase of a large home. Consequently, population ageing is likely to lead to a reduction in aggregate housing demand by young households, and a substitution away from larger or better quality houses.
- 6.73 The aggregate effect of this tendency to delay the purchase of a better quality house is relatively modest, however, unless house prices increase quite steeply as the total population increases.
- 6.74 If house prices do not change, the model suggests that the tax increase needed to pay for expenses associated with a doubling of the older population will reduce homeownership rates and the fraction of younger households living in large houses by approximately 10 percentage points.
- 6.75 If the government did not raise pension or medical expenditure, or taxes, as ageing occurs, again holding house prices constant, the aggregate demand for housing by young people scarcely changes as the older population doubles in size, in contrast to the situation when taxes are increased and homeownership rates decline by approximately 10 percentage points. The difference occurs because households have greater incentives to save for retirement and because housing is a tax advantaged asset class. It is possible that homeownership rates among the young could increase in these circumstances, although in the scenarios analysed most additional saving takes place during middle age due to the joint impact of credit constraints and a steeply rising life-cycle wage profile.
- 6.76 The model suggests that changing the tax rate has little effect on the quality level of most households' peak quality houses – the houses in which people typically live when they are middle-aged. This is because New Zealand's tax laws generate large incentives to buy residential housing rather than interest earnings assets and mean most middle-aged households are better off if they hold their wealth as property. Since there are incentives for households to save for retirement in the model, because the pension level is much lower than average income, the tax system means that most households choose to live in a large house in their middle age. This seems unlikely to change as the population ages.

- 6.77 The second factor that appears likely to have a major effect on the demand for housing as the population ages is the supply elasticity of the construction sector. Population ageing will lead to an increase in the total number of people in the country, and unless the housing supply is extremely elastic this will mean house prices will rise.
- 6.78 The model indicates that these house price increases will choke off demand among young people, lowering home ownership and the fraction of young households living in large houses. These price effects reinforce the effects of higher taxes, and are quite large.
- 6.79 When the elasticity of supply is approximately 1 percent - which seems likely to be the value in New Zealand – population ageing causes price feedback effects on young people that are similar in size to the effect of the tax increases⁴⁹. Consequently, the total effect is about twice as large compared to the case that supply is perfectly elastic. Again, there is very little effect on the peak housing quality attained by most people.
- 6.80 When the supply elasticity for high and low quality houses is similar, the reduction in the demand for high quality houses by young people is much smaller than the increase in the demand for large houses by older people. Consequently, as the population ages the vast majority of new houses will be high quality.
- 6.81 If the supply of high quality houses is less elastic than the supply of low quality houses, there is an additional feedback effect. In this case the price feedback effects have a much larger effect on the demand for high quality houses than the demand for low quality houses, as the higher rate of price increase for high quality houses acts to curtail demand for this type of house. The effect is much greater on young households (who are credit constrained) than older households (who are wealthier); indeed, the supply elasticity for high quality houses only needs to be half as big as the supply elasticity for low quality houses for the decline in the demand for high quality houses by young people to almost completely offset the increase in the demand for high quality houses by older people. In these circumstances, population ageing will mean most new houses in the economy will be low quality houses, and population ageing will cause a substantial change in ownership patterns. In particular, high quality houses will be increasingly inhabited by older people.
- 6.82 If the dominant feature of a high quality house is location, and the convenient access it provides to high quality facilities, it is quite likely that the supply elasticity for houses in nice suburbs is much lower than the supply elasticity for houses in far-away or less desirable suburbs. In this case the housing ladder will be characterised by a shift from worse to better suburbs rather than from smaller to larger houses. As the population ages, the high quality suburbs will get “grayer”, while younger households will increasingly live in newer, less desirable suburbs as they cannot afford the better locations. In turn, this may generate a mismatch between the current location of public facilities such as schools and sport-fields and the location of the young households who will primarily use them, and an increase in the use of transport services.

⁴⁹ In New Zealand, for instance, the population increased by 54 percent between 1962 and 2002, while real house prices increased by 80 percent, implying an elasticity of 1.2.

- 6.83 These two scenarios are quite different. If the main feature that distinguishes high and low quality houses is the size of the house, the model predicts that while there will be a decline in the fraction of young households owning houses, and a decline in the fraction owning large houses, overall population ageing will lead to a large increase in high quality large houses. In contrast, if the main feature that distinguishes quality is location, the model predicts that population ageing will squeeze young households out of the more desirable housing markets, that most new houses will be built in less desirable locations. In both cases, however, the tendency of middle-aged households to live in better quality houses is unchanged.
- 6.84 It remains to discuss some of the weaknesses of the model. First, for technical reasons it has proved difficult to incorporate the effect of income growth into the model. Nonetheless, earlier work shows that the effect of successive cohorts earning larger and larger incomes is similar to the effect of a decline in real interest rates.⁵⁰ This intensifies the effect of credit constraints on young households, and is likely to reduce their home-ownership rates. Nonetheless, in this model a 1 percent decline in real interest rates has relatively little effect on the way population ageing affects the housing demand, and only a modest effect on the mixture of large and small houses owned by young households, changing the ratio by 2-3 percentage points.
- 6.85 Second the model explicitly assumes households are forward looking and that they smooth consumption over their lifecycles. While to some extent this assumption is likely to be realistic, the amount of information that agents are assumed to have is unrealistically large. Nonetheless, it is not clear that this is a problem. In the model, the housing patterns chosen by households are determined by their budget constraints as well as their preferences. The model is very careful to capture the way that credit constraints limit the housing choices of young agents, and the way that pension programmes affect disposable income through taxation. Since most of the model's results are driven by the way households respond to taxes and house prices when they are credit constrained, it is likely that the results would change little if different households took a different approach.

⁵⁰ Coleman, 2007.

7. NZ CONSUMER & SECTOR REFLECTIONS

- 7.1 This section presents the findings generated through the workshops with various consumer and sector groups respectively.

Consumer Aspirations and Expectations

- 7.2 The way we envisage our housing futures is shaped by our personal experiences, information, anxieties and desires today. It is also shaped by current policy settings, funding and planning decisions. Housing is lived and perceived, not just as a commodity, as a space to be used, or an asset, but as a component of identity, a lifestyle and a connection to family and community.
- 7.3 The consumer workshops considered that if today's housing issues for all ages are not addressed, desirable housing futures for older people will not be realised. The best possible housing outcomes in future for older people will be compromised. There was a view that today's housing situation, with growing housing unaffordability and questions about the continued viability of the housing stock is neither sustainable nor desirable in the long term. Across the workshops there was a growing sense of unease about housing and an appetite for action to improve housing for all age groups. If current housing problems are not resolved, the undesirable outcomes were seen to be urban environments that fail older people, increasing isolation of older people, compromised health and increasing inequalities between 'haves' and 'have nots'.
- 7.4 A wide range of current housing issues were identified in the workshops. These are summarised as:
- The suitability of dwelling size and design;
 - The need for affordable housing;
 - The need for more residential options for older people;
 - Problems with dwelling condition, performance and safety;
 - The need for supports to enable older people to remain in their homes;
 - A greater focus on good neighbourhood design and connectivity;
 - The need for improved housing information and advice.
- 7.5 The strong desire to remain in their own homes, and other current housing issues identified by the workshops were very similar to consumer perspectives reported in the United Kingdom and Australia.⁵¹

Dwelling size and design

- 7.6 Increased dwelling size was highlighted as a key trend. However, this was not necessarily seen as always a bad thing. The assumption that older people will want to or need to downsize was questioned in several workshops where participants commented that older people's dwellings need to be at least two-bedroom so that they can have family or whanau to stay, as well as live-in carers if needed.

⁵¹ Croucher, 2008; Olsberg and Winter, 2005.

- 7.7 However, some in the 65+ age group also commented that it was difficult to find suitable smaller homes in their areas, especially ones located close to services. They reiterated that many older people want to remain in the area in which they currently live, but may not be able to because there are no smaller homes, or the cost differences between larger and smaller homes is not great, so that it is uneconomic for them to downsize.
- 7.8 Workshops identified that housing design is a critical matter for some aged in their 50s and 60s who are caregivers to older relatives. Those in that situation, some of whom also have young dependents (including caring for grandchildren), commented that housing needs to cater for the whole family in its many shapes and forms, including people of all ages with disabilities.
- 7.9 Multi-generational households noted by Pacific, Chinese, Indian and Filipino in particular as the usual and preferred way of living, are often difficult in New Zealand houses that are not well set up for three-generation families. They are not big enough to allow all individuals to have their own space. Having only one kitchen and only one bathroom/toilet makes it difficult. Often dwellings are not well set up for older people who have difficulty moving around.

Dwelling size and design

I'm living in a 5 bedroom house, it's too big, I can not find anything ... I went to the council and HNZN ... I don't want to move out of this area (65-70s).

[when retired] a small section, three bedroom home – you've got to when you've got kids like we have! A brick home, low maintenance (50-55s).

Most houses are good for young people but not for old people. Need an ensuite bathroom ... ideal to have a granny flat, still independent but we still want to be useful to our family and close together ... houses are not set up for three generation. The biggest squabble is one kitchen, one toilet. Very hard (Filipino workshop).

A lot of Pacific families still want their elderly. But houses are not set up for that. It doesn't suit their physical ailments. We need bigger houses (Pacific workshop).

Yes they need 2 bedrooms, maybe 3. They need autonomy ... some places are too small for kaumatua who want the mokopuna staying (Maori workshop).

Affordable housing

- 7.10 Home ownership is set to continue as highly desirable in future. All workshops supported older people owning their own homes, and considered that young people should be encouraged into home ownership. However, home ownership is seen as a largely unachievable goal for some groups in the population, increasingly difficult for young people and the rise in older people who are not home owners is an acknowledged trend.
- 7.11 The Maori workshop noted that for Maori, home ownership is not just about the physical dwelling, it is about whanau, a way of life and cultural values, which are all interrelated. The Pacific workshop observed that a desire for and sense of home ownership, and pride in their homes is part of 'island' culture. The home is regarded as an asset to pass on to their children. Older Indian people also considered their home as an asset for their younger generation.

- 7.12 Most of those in the 23-25 age group workshop saw home ownership as achievable, regardless of current or future debt levels, and even though they expected house prices to rise over time. They did not see debt as limiting their choices.
- 7.13 Debt is something many young people are familiar with, given student loans and the ease of gaining credit through credit cards. Although most of the participants assumed they would own their own homes in the long-term, house buying was not something everyone thought about in the present. Education, career and lifestyle choices that preclude home ownership are more prominent concerns. Another young person in the Pacific workshop commented that young educated people expect to go overseas for a while.
- 7.14 Buying a home is envisaged in their late 30s or early 40s when they return to New Zealand. At this stage, many young people see renting as enabling freedom and flexibility in lifestyle. While the young people's workshop participants, in general, expected to own a home before retirement they varied in their intended strategies to achieve that end point. Their strategies ranged from saving, to investment (including in Kiwisaver), to moving overseas to earn more, to marrying well.

Home ownership

Own a piece of turf (Pacific workshop)

Renting is like putting money down the drain (23-25s)

What really helped us to get into our home was being able to capitalise on the family benefit. That's what we need for our young ones I reckon. That was a really big help ... it's up to them, but if they can not have that start like we had, it's impossible (50-55s).

- 7.15 All consumer workshops identified unaffordable housing as a pressing issue for both older home owners and renters. Several workshops noted the on-going costs of running a home, such as power, rates, insurance and maintenance. The Maori workshop reported that many older Maori are struggling to meet their housing costs, whether it be the rent, or outgoings on the home they own. Affordable rents for older tenants were identified as needed by the Pacific, Filipino and Chinese workshops.
- 7.16 Most workshops also voiced uncertainty and anxiety about the current economic situation, noting that people were experiencing their retirement funds dwindling and loss of equity in housing. Employment prospects were less certain. However, some in their 50s and 60s thought they would need to keep working for longer than they had envisaged a few years ago, to save enough for their retirement. These circumstances make planning for retirement difficult. Participants in several workshops said they would like to see more income and housing assistance given to wage earners and retired people. There was a feeling that there is not much help for working families struggling to get ahead.

- 7.17 While reverse equity has been mooted as a solution to assist older people with housing and other expenses, such as repairs, a great deal of caution was expressed about such schemes. Many were unclear about how they operated. Others were familiar with such schemes, but saw them as risky.
- 7.18 A lot of anxiety was expressed about current requirements and eligibility for the Residential Care Subsidy. Participants knew little about asset limits, and feared that their assets would be taken if they needed to enter rest home care. For some ethnic groups (particularly Pacific, Chinese, Indian and Filipino), this anxiety was linked to cultural practices of giving money and assets to their children. To be in a situation where they were unable to pass on their home and other assets to the next generation, was to them contrary to their way of living.
- 7.19 A point also made was that units in most retirement villages are unaffordable for older people with modest assets. Most of the consumer workshops noted that more reasonably priced own-your-own and license to occupy units are needed.
- 7.20 Workshops acknowledged an increasing number of older people needing rental housing, which is likely to continue as younger cohorts of renters age. Older new settlers are often in a position where they do not get any income support from the New Zealand government because they have not lived in the country long enough. Sometimes they have very modest pensions from their home country. Consequently, their financial situation limits their housing opportunities to renting.
- 7.21 The continued involvement of the public sector in providing affordable rentals for older people was widely supported, although questioned by a few who do not see housing as the business of councils. Support for public sector housing is not only because people consider that such housing must be affordable, but also because public providers are seen to have responsibilities to be accessible and open to public accountability. For example, the Maori workshop observed that councils divesting property management to council owned companies or private property management companies, has meant that older Maori tenants feel disempowered and believe they can no longer talk to the council about their housing. The Chinese workshop considered that both HNZA and council housing were preferred over private rentals because they are seen to be more open to renting to older migrants as well as being more affordable.
- 7.22 Given the likelihood in future that there will be more older renters, some workshops suggested alternatives to home ownership that would nevertheless provide older people with secure tenure. These options included long-term rentals, co-housing, affordable license to occupy units and shared ownership models.
- 7.23 Workshops identified strategies that families use to help their members with housing expenses. The Pacific workshop commented that some Pacific families share resources as a strategy for going into home ownership. Examples include young couples living with parents to help the parents pay off their mortgage. In other instances several family members pool incomes to buy a home. Other workshop participants talked about assisting their adult children into home ownership. It was noted that working age people face commitments to both older and younger relatives that include support for

housing needs, which may impact on their ability to invest in their own housing. The Pacific and Filipino workshops in particular observed that it is common for New Zealand residents in their communities to send money “home” to support older relatives. This may include purchasing a home for those relatives.⁵²

Housing affordability

Subsidies for rates are all very well except for the rigmarole to qualify. Subsidies ought to be automatic and extend to all essential including gas, electricity, telephone, water and transport (65-70s).

It's pretty difficult preparing for retirement, with expenses for the kids now ...I'm not expecting the children to be at home in future, but who knows. A lot of people don't have a lot of faith in retirement funds these days, it's quite a shock for my parents to see their retirement fund dwindling ...can we talk young people into putting their money away? Young people live for today (50-55s).

It's [reverse equity] like giving your freedom away, tying yourself up again. Family members have been burned with it (50-55s).

What government can do to help increase home ownership, looking at young and middle aged, assisting them so they won't be reliant on government for housing when they are old (Pacific workshop)

Residential options

- 7.24 In future there needs to be more options for older people's housing. This was a dominant theme identified in most consumer workshops. The ideal as many workshop participants envisage, is that older people should be able to stay in a safe, familiar environment for the duration of their lives and be able to progress through independent living, supported living (e.g. retirement village or rest home, co-housing, living with family), to hospital level care if needed. More options for tenure were also considered desirable.
- 7.25 Residential options for older people are regarded as limited at present. Whether this is because individuals are unaware of alternatives, or there are regulatory, fiscal or policy constraints, is unclear.
- 7.26 One of the key uncertainties identified in all consumer workshops was the willingness and ability of today's young people to care for their elders in future. For some older people and their families, living with family is the preferred option, however this may not eventuate. While some groups identified care for their elders, often within the same dwelling, as an important cultural practice, this is not necessarily expected to continue in New Zealand. Those from all ethnic backgrounds commented on the strong desire for older people to exert their independence, which includes living in their own dwelling if they wish.

⁵² See also James and Southwick, (forthcoming 2009), which cites research on the widespread Pacific practice of remittances and gifting. There is some evidence that such redistribution of resources increases with income. This suggests that younger Pacific people, as they enter higher earning levels may experience greater demands on their incomes.

- 7.27 Some workshops identified the importance of multi-generational households for housing and support of older people. The Chinese workshop noted that living in multi-generational households is common for new settlers and a cultural norm. One factor influencing the decisions of older Chinese from the People's Republic of China, is the one-child policy⁵³; the parents of only children who have moved to New Zealand are highly likely to want to move to New Zealand also, to live with those children. Older Chinese also prefer to live with or close to family due to their lack of familiarity with English language, with New Zealand systems, with New Zealand style housing, and for social and financial support. Residing with family is likely to continue as a preferred living arrangement for older Chinese settlers, at least in the medium term.
- 7.28 It is also usual for older Filipino to live with their adult children's families. Many older Filipinos have come to New Zealand to be with their families and to look after grandchildren. Many Pacific families also prefer to continue the cultural tradition of having older relatives living with them.

Living with children

Ideally, when I am old I will live with my children. This is my hope, but my children may want different (Chinese person).

Couples nowadays are busy with their work and career, who's got time to look after old people? (Older Indian person).

We want to grow old with our children, in a self-contained unit with the family ... when you're old, you want to be involved ... I can not go back to the islands because my children are here. I will go where they are (Pacific workshop).

- 7.29 Not all workshop participants would like to live with their children or be able to do so. Instead there was a view that if they could no longer look after themselves, they would want to go into some kind of supported living. However, there was a general consensus across the consumer workshops that there is currently a dearth of affordable and appropriate supported housing for older people.
- 7.30 Several workshop participants consider that retirement villages and rest home living can work well. They are ideal for people who want to move into a smaller dwelling, and these places provide support, including medical services, security and companionship. In some ways they are like a neighbourhood.
- 7.31 The 65-70 age group workshop considered that more retirement villages and rest homes with hospital facilities attached will be needed in future to meet a growing demand. This is especially important for couples, because if one partner needs hospital care, both can stay in the same complex. More co-housing options like Abbeyfield will also be needed. Another idea raised in the workshop is to develop smaller community facilities offering 24 hour care. Instead of large rest homes, these places would cater for around seven people in a house with live-in carers.

⁵³ The one child policy was introduced in 1979, and most parents affected by the policy are under 60 years of age. Increasingly, this policy may affect the decisions of older Chinese considering New Zealand as a settlement destination.

- 7.32 Workshop participants pointed to the trend for people to enter rest homes at an older age, when they are frail and needing more care. This raises demand for rest homes to provide high level 24 hour care, and the associated need for the future workforce to be appropriately qualified and experienced in higher level care.
- 7.33 There was a common view among the new settler workshops that retirement villages and rest homes need to get better at catering for people of different cultural, ethnic and religious backgrounds. When older people can no longer cope and need constant care, they need to be able to go to rest homes that welcome people of different ethnic backgrounds, with staff who can speak their language, and with suitable food. Those in the Chinese workshop talked of older Chinese currently in rest homes who experience loneliness and isolation. As a consequence, their cognitive abilities and health may deteriorate more rapidly. The Indian workshop also talked of the need for a rest home to include a wing for older Indian residents.
- 7.34 The rest home model is not preferred by Filipino. Currently the belief is that if an older person goes to a rest home, they will die. Rest homes are seen as separating older people from their families and communities. Although rest homes provide for basic needs like food and shelter, it is not easy for them to provide a sense of belonging and self-esteem. Typically if an older Filipino person has to be in a rest home, they know no-one there and feel isolated.
- 7.35 The 65-70 and 50-55 age group workshops stressed the inappropriateness of some retirement village design and locations. It was noted that these villages are often isolated, and dominated by a narrow age range. They can end up being a “waiting to die” community of old people. Others commented that rest homes did not work well for those under 65 who, because of illness or disability, found themselves in such accommodation because nothing else was available.

Residential options

Many people may not be in a position to own their own, but still want security of tenure. Ideally they should be able to stay in a family like environment ... independent living, assisted living, hospital care. More options interlinked with progressive needs ... also community care, intergenerational living and home-based support (65-70s)

House condition and performance

- 7.36 A number of workshop participants considered that the houses they currently live in will not suit them as they get older, either because of the dwelling's location, or they would need modifications. Currently they live in homes with stairs, and their bathrooms/toilet areas are not easy to access for people with impaired mobility. Examples were also given of older people waiting months for needs assessment. This is frustrating and upsetting for the elderly and their families. It means that older people are living in their homes that they cannot get around easily and which are potentially unsafe.

- 7.37 Participants were adamant that accessible, 'barrier free' dwellings are needed now and in the future. Accessibility relates to moving around inside and outside of the dwelling, safe bathroom use, moving between the inside and outside and accessing cupboards and bookcases. Accessibility is important both for the householders and for visitors. It was suggested that regulations for accessible private dwellings (similar to those in the United Kingdom) should be adopted in New Zealand. Standards should ensure that different types of dwellings are suitable for older people who may have limited mobility. Houses built for an ageing population can benefit everyone.
- 7.38 All consumer workshops commented on the importance of older people living in warm, well insulated homes. The 50-55 age group workshop identified good thermal performance and energy efficiency as essential for a warm house that has free or low running costs. Critical requirements are orientation to the sun and building materials that reduce energy and maintenance costs. That workshop also suggested that public awareness of the importance of home performance needs to be raised. Only if they are aware of its importance, will consumers ask for products and design that can enhance their home's performance. Accordingly, the workshop advocated for better documenting of home performance, such as the requirement in some countries overseas for new houses to have an energy rating/performance rating.
- 7.39 The Maori workshop commented that a major issue for Maori housing is to increase repairs, maintenance and retrofitting of Maori homes. A clear distinction was made between the housing experiences of older Maori living in homes owned in general title, compared to a home that is in multiple-ownership. An older Maori person who owns a house in general title faces much the same repair and upkeep issues as any older person, such as being able to afford repairs and being able to get a quality job done.
- 7.40 But in contrast, an older Maori person living in a house that is multiply-owned faces issues that arise solely out of the unique system of administering and managing that type of ownership structure. To make any decision about a dwelling owned by many family members, including whether to do repairs or install modifications needed for mobility, requires the agreement of owners. Workshop participants said that there are many examples of essential home repairs and maintenance not being done and of homes dilapidating, because of the difficulties of negotiating agreements among multiple owners. The workshop considered this issue to be widespread in Maori communities and affects many whanau.
- 7.41 Comments were also made in the Chinese workshop about the need for home repairs and maintenance services to help older people. Currently, the problem of meeting the needs for repairs/maintenance was described as "a nightmare". One suggestion was for a home repairs and maintenance service especially for older people.

House condition and performance

The legislation isn't bad, but the building industry still does not value the thermal performance of a home ...my home to be dry and efficient so I can easily and cheaply stay warm when I'm older (23-25s)

No one in charge, too many owners. No one wants to take responsibility ...It takes a whole day meeting ... lots of whanau have this issue [needing home repairs] (Maori workshop)

No more leaky homes! Those systems have to work (Indian workshop)

There's some terrible dumps around the place. People can not afford to do them up. Then that's all that's available for the younger generation (50-55s)

Design and the energy side of things are important ...The sort of house we would want in our 80s would require minimal heating and minimal running costs. Things that don't need hard work to run. Easy to maintain and affordable. (50-55s)

Home supports

7.42 Currently many older people access and appreciate home-based support such as help with housework, personal care, gardening and lawns, and meals. While the workshops considered that such supports are essential both now and in the future to older people enjoying their homes and feeling safe in them, participants also identified several issues that need addressing.

7.43 Those are:

- The Maori and Pacific workshops commented that many of their older people are not accessing in-home support services. Older Maori do not feel comfortable with workers coming into their homes whom they do not know, and who do not understand Maori cultural practices. It was also reported that older people and their whanau find it difficult to get through the 'red tape' to access the service. Maori care workers have to work very hard to connect up kaumatua and kuia to in-home support services. The Pacific workshop also observed that older Pacific people and their families do not know how to access in-home support.
- Older people with mental health problems have significant housing and support needs that are not being met.
- There was a view in several of the consumer workshops that current policies and procedures prevent family members from taking on the care of their elders.

7.44 Workshop participants think that quality home-based care will continue to be needed into the future. There is interest in maintaining community care through facilitating intergenerational living and home-based support services. However, there is already a shortage of caregivers. The care giving workforce needs training and skill development and numbers increased.

Home supports

There seems to be an imbalance, government will spend on the rest home subsidy but what about giving the family a carers payment? The family wants to look after the older person in their home (Indian workshop).

Staying in your own home as you age keeps a sound mind especially with community and family around to help (23-25s).

I'll manage here as long as I can. I'm not that keen, but if I can not manage at home, a rest home is the best option. I'd rather have all the home help stuff first and stay where I am. It's flat and not a lot of garden. Someone to help with the garden and mow the lawns (50-55s).

It's important to get good flow between the community and kaumatua. Services need to engage in that flow. We should be being serviced ... there are huge waits for needs assessment ... he had to fend for himself (Maori workshop)

Neighbourhood design and connectivity

- 7.45 All workshops commented that it is important for older people's homes to be closely connected into their communities. In particular, the workshops considered it highly desirable that all ages are able to live close together. Most of the workshops expressed similar visions around intergenerational living in small-scale environments, such as villages, neighbourhoods and communities, where residents feel safe. Dwellings would be warm and designed with features to assist personal mobility and safety. They would be accessible to local amenities and services including health care services, social services, shops, recreation and entertainment, public transport, community gardens, informal meeting areas and venues and churches.
- 7.46 The 50-55 years age group workshop gave a high value to living where they could easily access facilities and services now, in a built environment that has a human scale. This human scale, with low buildings and streets that are not too wide encourages interaction. These preferences would not change as they aged, and for some would determine where they would live, e.g. remaining in an urban area where they could get medical care easily. The new settler workshops also commented that they were used to living in settlements where interaction with family and neighbours was easy.
- 7.47 In the 65-70 age group workshop Germany was cited as an example of a society with many intergenerational housing developments where older people and families live in neighbourhoods together, although residents are not necessarily related. That workshop thought that intergenerational living may appeal to those young people with children who live at a distance from their own parents, so that they have older people around for their children. That workshop suggested that older people risked loneliness, isolation and poor mental health if they could not access services and easily connect with others.
- 7.48 The Chinese workshop also advocated intergenerational neighbourhoods, with housing for older people close to younger families. They saw this as enabling older people to live independently, but with help nearby. This type of living environment provides companionship for older people and enables them to actively contribute to the community, for example by helping young

families with childcare. The Filipino workshop envisaged a village type neighbourhood of low-rise, medium density housing for all ages as a desirable living environment. Older people would live in a small self contained unit with help available from their surrounding family or others.

- 7.49 The Maori workshop agreed that homes for kaumatua and kuia need to be located close to amenities, accessible to medical services and other essential services and transport, and situated near whanau. Mixed ages in the neighbourhood are important for older Maori to feel part of the community and to get support but also to be independent. This workshop gave examples of instances where no attention to planning for viable neighbourhoods has resulted in poor housing for older people. It was the considered view of the workshop that over the years government Maori housing schemes such as papakainga housing have not worked because they were not designed for, and consequently have not met the real needs and circumstances of older people and their whanau. Dwellings have been poorly located at a distance from facilities and they are too small for whanau to stay. There are instances where the siting of such developments has resulted in difficulties attracting tenants, where there have been tenancy management problems and where dwellings have been demolished.

Neighbourhood design and connectivity

I envisage staying in my place after I retire because it's within walking distance to town and on a bus route. It gives me exercise (50-55s)

Want good access to local and neighbourhood facilities ... more community activities for older people like community gardens ... availability of free transport ... you've got to live somewhere where you feel safe (65-70s).

We don't want younger people being scared of growing old, we want them to know they can still be useful in their golden years ... it's planning for a whole village ... what's important is how those places are planned – accessible to services and a mix of ages (Filipino workshop)

When you're old you want to be involved, be close to your family (Pacific workshop).

Well connected apartment buildings of mixed ages ... mini-communities with organised neighbourhood events such as coffee mornings, progress dinners, BBQs, (50-55s)

Old people want to live close to services ... Kaumatua don't like to be divorced from their whanau and vice versa (Maori workshop)

Housing information and advice

- 7.50 Access to information is important so people know their options. The workshops said that older people and their families need more information and advice about:

- Housing opportunities provided by HNZC and councils for older people.
- Sources of financial assistance and advice for housing, including Accommodation Supplement, rates rebate schemes, home heating subsidies, Residential Care Subsidy, reverse equity and family trusts.
- Products and designs to improve home performance and energy efficiency.
- The range of services provided by retirement villages and rest homes, including the different levels of care available.

- Assistance and advocacy to deal with on-going housing problems. For example, one participant talked about tenants not knowing who to contact about regular dumping of rubbish around HNZA flats. Also, tenants are not sure who to ask about fixing repairs that are needed.
- Where and how to get modifications to improve accessibility of the home.
- Where and how to get home help and other services to enable an older person to remain in their home. There was confusion about whether caregivers could be paid to look after their own relatives.
- Older new settlers in the Pacific, Chinese, Indian and Filipino communities need help in communicating with agencies. New settlers need information about the types of housing and income assistance they are eligible for.

7.51 Several workshops suggested that many older people are too proud, shy, or ashamed to ask for help. Agencies need to tailor their approach to be more responsive to older people.

7.52 The 65-70 age group and the 50-55 age group workshops both commented that architects and urban designers need education about older people's housing needs, including increasing their knowledge about dwelling performance and urban design that promotes accessibility and connectivity.

7.53 The new settler workshops commented that the Asian communities are very diverse and it is difficult to access detailed data and projections on ethnic communities for planning purposes. Currently the available population projections for the Asian population are not disaggregated for the different Asian ethnic groups, such as Indian or Chinese.⁵⁴

Information needs

It's hard for [our parents] to communicate and they don't feel confident (Chinese workshop).

His caregivers don't know where to go for information about modifications. It's hard, takes time to access information. Language is a barrier. It needs to be easier for people to access information ... Pacific people don't easily go and ask for things. They are shy, ashamed to do that, especially if they haven't been in New Zealand for long (Pacific workshop).

Aspirations and visions

7.54 All the consumer workshops shared common aspirations and visions. They believed the future housing needs and wants of older people will be similar to those of older people now. In future, as now, older people need and want housing that is affordable, accessible, warm, safe and secure, and in the right location (near amenities, their families, and friends).

7.55 Several key themes emerged in the consumer workshops. These formed the basis for depicting a desired housing future for older people. The key themes were:

⁵⁴ After the workshop, enquiries were made to Statistics New Zealand about whether it is possible to get population projections for specific Asian ethnic groups. Their reply was that these population projections are not available, even in a specially customised form. While Statistics New Zealand acknowledge the heterogeneity of the Asian populations, they advise that for smaller ethnic populations it is difficult to derive robust measures of fertility and mortality and the other components of ethnic population change to enable robust and reliable projections to be readily produced. There is a risk of misinforming people if data is insufficiently robust. Statistics New Zealand says that it will continue to monitor this issue and review whether it will develop population projections for smaller ethnic populations in future.

- Older people will be meaningfully involved in making decisions about their housing. Older people and their families will have better information about housing.
- Older people will have flexibility and choices about their housing. These are choices around where they live, who they live with and how they live. Flexibility and choice will enable older people to move from one type of housing to another as their needs change, as well as to grow old and remain in their communities if they wish. Different cultural preferences will be accommodated.
- The public sector will continue to have a strong role in housing, but there will be a much more strategic approach, with public, private, community sectors and individuals all giving priority to and taking responsibilities for older people's housing.
- Housing will be affordable for all older people, regardless of their income and assets. Older people on low incomes will be able to access appropriate, affordable housing. This may be provided through assistance to home owners for home running costs, income-related rents and social housing specifically targeted to older people's needs.
- Housing quality will be a key priority. New dwellings will be built to lifetime design and environmental sustainability standards. Existing dwellings will be upgraded to perform better for residents and to meet energy standards. In some instances demolition of poorly performing and dilapidated dwellings may be the most efficient solution.
- Housing services and other services for older people will be integrated and focused on meeting individual needs.
- Older people will be connected to their neighbourhoods, communities and services by infrastructure, planning and management that are focused on developing vital and viable living environments.

7.56 Although strong similarities in future housing needs and wants were identified, the consumer workshops emphasised that New Zealand's older population is diverse and will be increasingly so in future. Participants from new settler communities and Pacific communities emphasised the cultural and ethnic diversities of those communities, as well as the differences between members of those communities whose families have lived in New Zealand for generations, compared to recent migrants and their children. Those different housing futures are outlined below.

New Settlers

7.57 Most participants in the new settlers workshop, regardless of their ages, saw themselves as staying in New Zealand long term. There was a strong view in the new settlers' and Pacific workshops that they would retire in New Zealand. New Zealand is where their children are. It is now home for them.

7.58 New settlers are more likely to be in rental accommodation, at least in the short term. However, while new migrants in those communities may rely on renting, home ownership rates among migrants do increase over time.⁵⁵ While there is a strong cultural tradition and preference for older relatives to live with their adult children, there is also an increasing demand for separate accommodation for grandparents. This includes a demand for rental accommodation for those older family members, and for rest home

⁵⁵ Strategic Social Policy Group, 2008: 93-95.

accommodation tailored to their cultural preferences. Furthermore, older new settlers need help with communication and accessing services.

- 7.59 New settlers of all ages acknowledge some older people wish to live in separate dwellings to their children, and that succeeding generations may prefer lifestyles that do not involve living in the same dwelling with relatives. However, there is a strong preference for intergenerational neighbourhoods well linked to facilities and services.

Pacific

- 7.60 The Pacific workshop articulated a vision to increase home ownership among Pacific people. However, it was acknowledged that big changes would be needed to increase Pacific homeownership. Given the present low level of home ownership among the Pacific population, the **expected** view is that in future, many older Pacific people will continue to live with family and/or rent – they will not be home owners nor are their extended families likely to be in owner occupied dwellings. .
- 7.61 The Pacific workshop thought that attitudes and expectations among young Pacific people are changing; they may not expect nor want their children to look after them in old age. It was acknowledged that the future housing scenario for educated young Pacific people, who expect good jobs and high salaries and will be able to enter home ownership, is very different to the likely housing futures of Pacific young people without educational qualifications. There is a concern that many Pacific young people today are struggling, and will not have the resources to look after their old people.

Maori

- 7.62 As an overarching principle, the workshop acknowledged the important role of kaumatua and kuia, and the responsibility of younger generations to their older people.
- 7.63 The workshop emphasised that Maori society is changing, which will affect the demand for housing in future:
- More Maori are reaching old age, and the mokopuna of today will have a greater life expectancy. In future there will be a larger group of retired Maori.
 - Maori are having fewer children. It is not a given that young people will look after their kaumatua and kuia in future, but they have the potential to.
- 7.64 The Maori workshop specifically reaffirmed that there **is** an issue with Maori housing, and it needs to be addressed. Fundamental to addressing the housing issues facing Maori, is to consider the implications of multiple land ownership structures in current and future policy and planning for Maori housing. The workshop also believed that a shift in mindset is needed among whanau, so that repairs and maintenance become important actions for preserving housing assets for the future.
- 7.65 Already a number of iwi have invested in housing, including investment in retirement villages. Treaty settlements could be used for future housing development, however, iwi capital and land needs to be protected. Any proposals for housing developments would be judged on their financial viability and their ability to meet demonstrated need in the community.

65-70 Age Group

- 7.66 This age group wants housing for older people to:
- Encompass a wide range of options including supportive living, intergenerational housing and facilities with hospital care.
 - Be accessible. More 'barrier free' dwellings are needed now and in the future.
 - Have good access to local and neighbourhood facilities.
 - Be affordable, with more modestly priced own-your-own smaller dwellings.
 - Have security of tenure.
 - Include quality home-based care.
 - Provide a safe home and neighbourhood environment.

50-55 Age Group

- 7.67 This age group considered that the housing aspirations of their contemporaries are hugely diverse, although there are some common themes. In summary those are:
- Those in their 50s have different values and life experiences to current retirees. They are rights focused, willing to be assertive and will take this approach into retirement.
 - Housing needs in their younger retirement years are much the same as currently, including the ability to accommodate children, grandchildren and visitors, space for hobbies, a garden and outdoor living. Downsizing is more likely to involve reducing the size of the section, rather than the size of the home. Most expect to remain in their current home as long as possible.
 - There is general agreement that people's housing needs are likely to change as they move into their 80s and beyond. That transition, however, is not age defined. It may be because of a major health event (e.g., a stroke) or a change in circumstances (e.g., widowhood) or in abilities (e.g., managing the home and garden, or maintaining a driver's licence). While some may downsize at this stage, some might move into retirement villages or rest-homes.
 - People need to plan ahead for housing transitions that may be needed otherwise decisions may be made on their behalf.
 - Dwelling design and performance elements that result in a low maintenance, easily accessible, warm house that has free or low running costs are critical considerations in housing decisions.
 - Preferred neighbourhoods are those that encourage walking, are close to amenities and services, and enhance personal relationships with family and friends.
 - There are anxieties about having enough income in retirement, and the affordability of health care. It is expected that fewer people will be reaching retirement age debt free.
- 7.68 This workshop thought that those currently in middle age would in future be interested in shared living options to reduce their costs such as flatting households, taking in boarders, and shared home ownership. The creation of a community of family and friends living in close proximity was also seen as important.

Housing futures for young people

- 7.69 Many workshop participants felt that it is hard to know what types of housing young people will need or want in the future, and doubted that many young people have given their own future housing needs much thought.
- 7.70 Participants of all ethnic groups thought that young people in their 20s and 30s today have different life experiences and expectations than their elders, and consequently are likely to want and expect different housing. Some key aspects that may be different for today's young people when they are 65 and older were identified:
- Today's young people have higher consumption and space requirements than their elders, which will affect the type of housing they want as they age.
 - Some young people are more interested in renting rather than buying. By choice they may reach 65 without owning a home.
 - There are fewer supports for young people to get into home ownership, compared to the home ownership schemes available when today's 50s-60s were young.
 - Family dynamics will be different. Young people might have children later or no children. In retirement, those with children may not want to live with their children.
 - The global dispersal of families may result in older people in future relying more on others (non-family) and the state.
 - Today's young people may look overseas for their retirement housing needs. Even now retirement villages are being built in India for South Africans, Canadians etc. New Zealand is regarded as relatively safe so others might migrate here to retire in future.
- 7.71 The young people who participated in workshops mainly expected to own their own homes. What they wanted in a home when they are in their 60s and 70s varied, however in many respects their preferences were similar to those identified by people in their 50s, and those 65+. Some young people emphasised the importance of the living environment, such as quietness, away from the city or at the beach. Others mentioned suitable size and design, including an expectation they would be looking for a smaller house and section. Often associated with design was a desire for a dwelling that is secure, easily managed and maintained. There was also a desire for living close to recreational amenities, shops, public transport and family.
- 7.72 Not surprisingly, it was difficult for the young workshop participants to think about their housing needs when they reached 75 years or more. Some used the experience of their grandparents to imagine their possible future needs. Some assumed, given good health, that they would be in their own homes (not necessarily a different home from that they lived in when they were younger) while others imagined they would need to make a move to something smaller and possibly supported. Personal factors such as whether they would have partners or owned their own home would also shape their likely housing choices.

Enabling Optimal Response: consumer workshop views

7.73 There was a general view in the consumer workshops that older people's housing is the responsibility of the whole community. It should be led by the community and widely involve people from all ethnic groups in discussion of what is needed. None of the consumer workshops considered it to be solely the responsibility of the public sector (government or councils) to provide housing for older people. However, it was widely considered that there is some need for government assistance and there are important leadership roles and resources that both central and local government can provide to assist in developing desirable housing futures for older people. These include:

- Role of central government:
 - Successive governments agree on and implement a common, collaborative approach to the provision of affordable housing. This would give people more certainty and security about their housing.
 - Continued income support for older people, particularly to ensure that those who need financial assistance can get it. Income assistance for home maintenance and home running costs, including subsidies for essentials such as rates, power, telephone, water and transport.
 - Continued requirements and schemes for the working age population to save.
 - Continued state assistance for healthcare.
 - Affordable housing initiatives for older people.
 - Assistance and incentives to increase home ownership, particularly among young people and groups with low rates of home ownership.
 - Assistance and support for community groups to establish housing for older people.
 - Continued assistance and supports for older people to remain in their own homes.
 - Ensure that the housing stock meets acceptable quality and performance standards.
 - Education of architects and urban designers to ensure better home performance and urban design that promotes accessibility and connectivity.
 - Provision of information to consumers about how to look after their homes and get them to perform well.
- Role of councils:
 - Ensure that there is appropriate infrastructure to help people stay in their homes and communities. This includes planning for facilities and services that older people can easily access, including neighbourhood centres.
 - Plan for and encourage the development of supported living.
 - Allow through district plans smaller dwellings, smaller sections and medium density housing.
 - Assisting householders, through streamlined consents processes and provision of information, to get needed modifications to their homes to help mobility.
- Public-private partnerships:
 - Central and local government, non-profit and community involvement in the establishment and running of retirement villages. Affordable supported living in retirement village type environments was seen as a particular gap in the market.
- Individuals and families can:

- Increase their opportunities for earning a good income through achieving educational qualifications.
- Save for home ownership and retirement.
- Pool resources to enter home ownership.

Sector Workshop Responses to an Ageing Population

7.74 Across the sector workshops, the following changes were identified as needing to happen to ensure good housing for the ageing population in future:

- Making older people's housing a strategic priority
- Improved housing affordability for older people
- Improved house performance, design and accessibility
- A greater range of housing options
- Improving the responsiveness of the rental market
- Improved information
- Improved agency working together
- Improved knowledge base for policy and practice.

Making older people's housing a strategic priority

7.75 The housing provider, residential building and older people's services workshops noted that currently there is a lack of a coherent and coordinated approach to housing. A strategic approach to planning for and implementing housing for older people is needed.

7.76 The housing provider workshop advocated for a collective vision to shape housing policy and provision. That workshop considered there is little or no integration between housing strategies at regional and local levels. There needs to be more alignment between strategies, which requires people talking to each other within and between agencies and between them and the private and community sectors.

7.77 The residential building workshop also considered that currently housing lacks priority. There is no clear responsibility or 'whole of government' approach to thinking strategically about housing. The idea of a 'housing champion' was mooted to ensure housing is a key priority, the critical issues are identified and strategies developed to address issues at a local level.

7.78 The older people's services workshop would like to see one government agency taking responsibility for older people's housing and giving it a key priority. That workshop would like the profile and importance of older people's housing raised in the New Zealand Housing Strategy.

Improved housing affordability for older people

7.79 All the sector workshops considered that housing affordability is a critical issue facing New Zealanders as they age.

7.80 The older people's services workshop commented that, in working with their clients, they find that current housing and income support policies do not match up with the diverse financial circumstances among the older population. Increasingly older people have mortgages, which reduces their disposable income. The number of older people renting is increasing. The number of older single people (whether they have never been married, or are divorced, or widowed) is also increasing, and their financial situations are

likely to be restricted. Many older people cannot afford to go into supported living arrangements such as retirement village housing. In some areas, older people cannot afford to downsize because of insufficient equity in their current home.

- 7.81 The housing provider workshop identified affordability as a challenging issue for the housing sector. Some of those retiring now have lost income as a consequence of the economic downturn. Although there are home equity release schemes available, up-take is low. The cost of maintaining housing, paying rates and other on-going costs places an onus on people in retirement. Many retired are asset rich but cash poor. Housing affordability will continue to be a critical issue for younger generations as they age. Today's young people may never save the deposit necessary to enter home ownership. Kiwisaver is potentially important for enabling young people to move into home ownership.
- 7.82 The housing provider workshop was adamant that quality should not be reduced to keep housing costs down. Housing quality needs to be maintained as poor housing creates costs elsewhere, such as in higher demands on health services.
- 7.83 Policy and funding issues that need to be addressed are:
- Currently there are few 'not for profit' providers that can provide units for those of modest means.
 - The rental market needs to be affordable, and to offer secure tenure for older tenants.
 - Reverse equity is not widely understood among older people. Although it is one option that should be available, older people need to be better informed about the costs, risks and implications.

Improved house performance, design and accessibility

- 7.84 All sector workshops focused on the need to improve house performance, design and accessibility.
- 7.85 Many of the homes of the future already exist. However, the workshops observed that the condition of some housing stock is declining. Overall, New Zealand's housing stock is old or poorly built and needs retrofitting. Heating and insulation is poor. The residential building workshop considered that often housing is perceived solely as an investment and other functions such as basic shelter requirements are ignored. Consequently, the need to ensure housing performs well throughout the lifespan is accorded little importance. This needs to change; there needs to be a switch in priorities as people age as home performance is essential to their health.
- 7.86 The residential building workshop commented that the capacity of people to be able maintain their homes over time is unknown. Many modern homes are not built to a high quality standard and are not designed for 'do-it-yourself' home maintenance. As maintenance has to be done professionally there are implications for the ability of home owners of all ages to maintain their homes themselves. The housing provider workshop considered that there could be more integration between social, community and private housing providers and consumers to achieve better home maintenance services for older people. Larger organisations could co-ordinate a pool of pre-approved,

qualified trades people that a range of organisations and individuals could access (e.g., property managers, HNZA, older people).

- 7.87 All the sector workshops suggested that those commissioning new homes will need to incorporate lifetime design so that residents can remain for as long as possible in a dwelling that can be easily reconfigured to adapt to their changing needs. Design elements that make a house suitable for older people can still be appealing to younger people (e.g. wet area showers are both fashionable and accessible). Those building new homes or undertaking renovations should prioritise home performance modifications such as heating and insulation. The older people's services workshop would like to see universal design standards adopted for all new housing and those making renovations encouraged to include universal design.
- 7.88 The residential building workshop considered that climate change, with a hotter, drier, wetter, windier climate predicted, and increasing energy costs are expected to drive the development of better performing homes that decrease running costs including energy costs.
- 7.89 Policy and funding issues that need to be addressed are:
- Problems with current funding regimes for modifications.
 - Currently many older people are unaware of assistance they may be able to access to fund repairs and maintenance.
 - Accessibility and environmental sustainability standards need to be developed for private dwellings.

A greater range of housing options

- 7.90 The sector workshops pointed out that older people want a range of housing choices as they age, including continuing to live in their own homes as long as possible, living in multi-generational households, supported living and neighbourhoods with mixed ages. Housing needs will vary across the older population, being affected by health and disability needs, cultural background, family circumstances and individual preferences.
- 7.91 The older people's services and policy workshops considered that currently choices are limited and the accommodation people move into when they get older isn't necessarily what they would like but what is available.
- 7.92 The housing provider workshop pointed out that there are some general principles to guide housing development. For instance, as people age, there will be a demand for compact single level and low maintenance dwellings, located near their families and near amenities like shops, health services and public transport.
- 7.93 The sector workshops agreed that:
- There are mixed expectations regarding the size of dwellings. Those involved in the retirement village industry commented that older people don't necessarily want to shift to a smaller house. The size of residential units has increased in response to changing demand, with larger units (2-3 bedroom units with a garage) more sought after. Often it is difficult to sell the smaller units. However, it was also expected that there will also be a greater demand for more small dwellings suitable for older residents.
 - Some homes need to be designed for multi-generational living.

- Neighbourhood design needs to be improved to ensure older people are connected to services. Increasingly, retirement villages will need to connect to neighbourhoods as residents do not want to be isolated from their communities.
- Medium density housing may suit some older people. However, one workshop warned that medium density housing is not well understood by the public and there is concern about design of these dwellings and settlements. Such developments need to be well designed.
- Opportunities for brown fields development need to be taken up.
- The need for in-home supports is likely to increase as the older population increases.
- There is a growing demand for retirement villages to provide for a wider range of needs, including provision of intensive care facilities.

Improving the responsiveness of the rental market

- 7.94 All the sector workshops considered that more rental options will be needed as in future renting becomes a lifetime necessity or choice for an increasing number of people.
- 7.95 The residential building and housing provider workshops both raised the need for the respective roles of government, landlords, and councils in rental housing provision for older people to be clearly articulated and implemented. The housing provider workshop commented that councils may be expected to have a role in helping people into appropriate housing, although a general desire for councils to 'get back to basics' was noted.
- 7.96 Key issues identified were:
- Landlords with older tenants will have to provide for their particular requirements, such as accessibility features, a warm dwelling, a home that is affordable and cheap to run, and the need for long-term tenancy. Older people are also likely to be limited in their ability to carry out home maintenance tasks.
 - There is likely to be an increase in demand for particular rental properties that the private sector is reluctant to provide, such as to older people with physical disabilities, or with mental health problems. Social housing agencies and community housing providers need to be able to continue to rent from private landlords who may not be willing to let their places directly to those tenants. These sorts of arrangements provide security of tenure for the tenants and appeals to landlords who want to limit their interaction with tenants.
 - The demand for longer leases will increase. Currently, most landlords are reluctant to sign up for over 1-2 years as they are typically in the property business for the capital gains available and want to be able to sell when prices increase. Other countries such as Australia provide some useful models for incentives to landlords. Incentives for landlords to provide long-term tenancies could include:
 - Packaging up groups of houses as investment parcels that enable smaller investors to be part of a collective investment.
 - Tax incentives because investors in the rental property market are motivated by tax reductions.

Improved Information

7.97 All sector workshops commented that there are information gaps that need to be filled to enable the ageing population to better meet their own housing needs. Currently there is confusion about the range of organisations with a role in housing and their respective roles. This makes it difficult for those seeking information about older people's housing. More comprehensive, easily understood and accessible information on housing services, income support and other services related to older people ageing in place is needed. The housing provider workshop suggested a 'one-stop-shop' where older people can get information about where to access help. The workshops considered that older people need information about financial options such as trusts and equity releasing and Government assistance to improve the performance of their homes. The older people's services workshop suggested that education of architects, designers and planners is needed so that they better understand older people's housing preferences and needs.

Improved agency working together

7.98 The older people's services and policy workshops observed that currently services for older people, including housing services, are fragmented and need to be delivered more holistically. The sector workshops identified ways that sectors can work together more effectively:

- Share information through networking better.
- Agencies need to be aware of how their staff turnover impacts on their ability to communicate with others and take steps to manage this better.
- Within agencies, policy and operations should talk to one another more. Similarly, national offices should talk to regions.
- Improve information and understanding about the range of organisations that work with older people, and their roles.
- Look for opportunities to work with the private sector, such as private developers.

Improved knowledge base for policy and practice

7.99 The sector workshops suggested ways that New Zealand's knowledge base could be extended and improved by finding out about best practice and what works well in other countries. Successful models can be examined to see how they can be made to work here. For example, Enable NZ is considering how to use a checklist widely used in England. The point was made that New Zealand can learn from how countries with older age profiles are already responding to their changing population. However, it was also noted that New Zealand's central and local government structures and housing markets differ from those in other countries. Overseas models cannot be unthinkingly adopted here.

7.100 Some research and information needs were identified including:

- More information on ethnic population projections, including to 2051 is needed as this is a growing section of the population that little is currently known about.
- How can the current housing stock be improved to meet the needs of an ageing population?
- What are the housing affordability issues affecting older people?
- How can the market address quality issues?

8. AGEING SOCIETIES & HOUSING: INTERNATIONAL RESPONSE

- 8.1 New Zealand is not alone in experiencing an ageing population structure. Most European nations, Great Britain, Australia, Canada, Japan and the United States of America have population structures that are ageing. Indeed, many of those countries have population structures that are considerably older in profile than New Zealand. In this section, we:
- Briefly comment on how 'old age' and 'ageing populations' are defined.
 - Place New Zealand's ageing population structure within the global context.
 - Describe the international housing response to ageing populations.
- 8.2 The last of those discussions focuses on major trends and approaches to improving older people's housing. Particular attention is paid to the United Kingdom, the United States, Australia, Canada, Finland and Japan as countries providing some examples in which older people's housing delivery and its co-ordination with other key sectors can be improved.

Defining Ageing

- 8.3 Before commenting on the dynamics between ageing populations and housing, it needs to be noted that the concept of ageing itself is culturally bound. Definitions of ageing, and the categorisation of 'old age', vary from country to country. Some countries measure old age in terms of years while others use cognitive and/or function measures to assign people to the category of 'old age' or 'elderly' or 'older person'. Indeed, there have been some suggestions that chronology (age measured in years) is largely irrelevant and will become more so as people live longer, and continue to be active for more years.⁵⁶
- 8.4 The United Nations has developed a two-tier taxonomy to define 'old age'. The United Nations taxonomy defines those aged 60-79 years as 'seniors'. Those people aged 80 years or more are described, rather clumsily as the 'oldest old'. By way of contrast, the European Commission considers only those people aged 65 years or more as falling within the category of older people. This is in alignment with New Zealand definitions of 'old age' which tend to be tied to eligibility for New Zealand Superannuation.
- 8.5 The definition of 'old age' is only one aspect of the contingent nature of population ageing. There is also considerable diversity around the definition of what is an ageing population or population structure. In Europe, for instance, some countries define an ageing population as one in which 14 percent or more of the total population is 65 years or more. Others have begun to define an ageing population as one in which at least 20 percent of the population is 65 years or more. The latter has more or less become the benchmark in the European Community.⁵⁷

⁵⁶ National Advisory Council on Ageing, 1999.

⁵⁷ Commission of the European Countries, 2005.

Ageing Populations Internationally

8.6 Table 8.1 compares New Zealand's population with European countries, Australia, North America, and Japan. That data makes clear how comparatively older the European and Japanese populations are relative to the New Zealand populations. This Table also highlights the profound impact an ageing population structure can have on a society.

8.7 It is notable, for instance, that the projections for Europe suggest that the total population in Europe will increase gradually until 2040 but the population will decrease after 2050, albeit still with around 10 million people more than in 2008. That net increase in population is, however, projected to be concentrated in a few countries. Eleven of the twenty-nine European countries set out in Table 8.1 are projected to have lower populations in 2050 than they do in 2008. Table 8.2 indicates that many of those will experience significant increases in the old age dependency ratio.

Table 8.1: Ageing Population Indicators for Selected Countries⁵⁸

Country	Total Population (000s)		Dependency ratio 2050			Median Age 2050	% 2050 Population 65 yrs & over
	2008	2050	Total	Old Age	Young Age		
Australasia							
New Zealand	4143.3 [^]	5349	66.9	38.5	28.5	43.1	23.0
Australia	19855.3 [^]	28724	67.0	37.5	29.5	42.9	22.4
North America							
Canada	31612.89 [^]	44414	68.4	40.9	27.5	45.2	24.3
USA	304059.7 ^{**}	403932	65.6	34.9	30.7	41.7	21.1
Europe							
Belgium	10656.2	12193.9	70.69	43.87	26.82	44.7	25.70
Bulgaria	7642.2	5923.4	77.32	55.44	21.88	49.5	31.26
Czech Republic	10345.9	9891.9	77.14	54.81	22.33	46.2	30.94
Denmark	5475.8	5895.1	68.79	41.31	27.48	43.6	24.47
Germany	82179.1	74491.4	77.97	56.43	21.54	51.7	31.71
Estonia	1338.6	1181.4	72.11	47.19	24.91	43.0	27.42
Ireland	4414.8	6530.6	70.16	40.40	29.77	43.3	23.74
Greece	11216.7	11445.3	80.68	56.99	23.69	49.5	31.54
Spain	45283.3	53229.0	82.79	58.69	24.10	48.2	32.11
Metropolitan France	61875.8	71044.5	74.40	44.68	29.72	44.8*	25.62

⁵⁸ Giannakouris, 2008.

Italy	59529.0	61239.9	81.58	59.24	22.34	50.5	32.62
Cyprus	794.6	1251.5	62.07	37.65	24.42	44.4	23.23
Latvia	2269.1	1803.5	73.02	51.18	21.84	46.1	29.58
Lithuania	3365.4	2736.9	72.22	51.13	21.09	47.5	29.69
Luxemburg	482.2	697.2	64.46	37.82	26.64	42.1	22.99
Hungary	10045.4	9061.1	73.19	50.83	22.36	46.6	29.35
Malta	410.5	414.8	71.28	49.77	21.52	50.5	29.05
Netherlands	16404.3	16909.5	71.17	45.61	25.56	44.6	26.65
Austria	8334.3	9127.5	71.52	48.31	23.21	48.5	28.17
Poland	38115.6	33274.7	76.05	55.69	20.36	51.0	31.63
Portugal	10617.4	11448.6	75.82	52.96	22.86	50.4	30.12
Romania	21423.4	18149.2	74.61	54.00	20.61	49.5	30.93
Slovenia	2022.6	1878.0	82.74	59.40	23.34	48.7	32.50
Slovakia	5398.8	4859.1	75.33	55.46	19.87	49.5	31.63
Finland	5299.8	5448.4	73.89	46.61	27.28	44.8	26.81
Sweden	9182.9	10671.5	69.54	41.91	27.63	43.2	24.72
United Kingdom	61270.3	74505.8	65.40	37.96	27.44	42.5	22.95
Norway	4737.2	5897.5	69.84	41.43	28.41	43.7	24.39
Switzerland	7591.4	9096.3	69.44	45.74	23.70	44.9	27.00
Asia							
Japan	127768+	101659	95.8	71.3	24.5	55.1	36.4

* this figure is for all of France ^ based on 2006 census figure +based on 2005 census figure

** 2008 population estimate

Table 8.2: Old Age Dependency ratios in European Countries by Population Change⁵⁹

Country Population Change	Old Age Dependency ratio 2008	Old Age Dependency ratio 2050
Lower Populations in 2050		
Bulgaria	24.99	55.44
Czech Republic	20.59	54.81
Germany	30.29	56.43
Estonia	25.23	47.19
Latvia	25.02	51.18
Lithuania	23.02	51.13
Hungary	23.50	50.83
Poland	18.95	55.69
Romania	21.34	54.00
Slovenia	22.97	59.40
Slovakia	16.58	55.46

⁵⁹ Giannakouris, 2008.

Country Population Change	Old Age Dependency ratio 2008	Old Age Dependency ratio 2050
Higher Populations in 2050		
Belgium	25.80	43.87
Denmark	23.61	41.31
Ireland	16.31	40.40
Spain	24.15	58.69
Metropolitan France	25.33	44.68
Cyprus	17.69	37.65
Luxemburg	20.92	37.82
Malta	19.79	49.77
Netherlands	21.84	45.61
Austria	25.43	48.31
Portugal	25.91	52.96
Finland	24.80	46.61
Sweden	26.66	41.91
United Kingdom	24.27	37.96
Norway	22.10	41.43
Switzerland	24.10	45.74

International Housing Responses to Ageing Populations

8.8 In the international context, New Zealand is effectively following the demographic pathway of many societies. It is, therefore, in the enviable position of being able to learn from other countries' responses to the challenges of an ageing population structure. Many countries with ageing population structures are actively examining their labour market policies, health provision, and income policies. Responses in those sectors have and will continue to have flow on effects on the housing sector. The focus of the remainder of this discussion, however, is on the emerging international trends within the housing sector to ageing population structures.

8.9 While there is considerable diversity internationally, four major trends can be distinguished. They are:

- A focus on improved cross-sectoral co-ordination and interface;
- Initiatives to improve the performance and amenity of older people's existing dwellings;
- Initiatives directed to improving the performance and adaptability of new dwellings across the full life-cycle;
- Initiatives to improve the security and affordability of housing for older people.

8.10 In addition, there is also an emerging trend for the housing needs of older people to be addressed within the context of neighbourhood and city planning, connectivity and service provision.

Cross-sectoral co-ordination

8.11 The agenda for cross-sectoral co-ordination is manifest in the policy of ageing in place evident in many international jurisdictions. At the heart of that policy are two drivers:

- Firstly, it recognises that service provision for older people needs to be multi-pronged, carefully layered and comprehensive if older people are to optimise their independence.

- Second, it also recognises that older people's dwellings and neighbourhoods need to provide an environment that is amenable to supporting older people's changing needs. That is, that there is a profound interface between older people's social, health and welfare provision and the amenities provided by their dwellings, neighbourhoods and cities. Moreover, that that interface must be actively managed and co-ordinated.
- 8.12 The recognition of the interface between health, care, support and housing is relatively recent. But it is an inevitable outcome of the international trend towards providing health and disability services for older people in their homes rather than in institutional hospital or rest-home settings.
- 8.13 The health and disability sectors have seen a radical transformation in care priorities, paradigms and care regimes over the last three decades. Those changes have been prompted by new views about human capability, independence and care.⁶⁰ They have also been prompted by desire to reduce the fiscal liabilities, particularly for the state, of providing care for people needing support for everyday living in institutional environments.
- 8.14 Essentially, those changes have seen a decoupling of older people's care from the provision of accommodation in the form of non-private residential care. The outcome of that decoupling, however, has been the private home becoming the setting for health, disability and everyday living care.
- 8.15 Under those conditions, a number of countries have now recognised that if care is to be provided within the home, then the quality and performance of the home becomes critical to the health outcomes of older people. If care can not be adequately provided in the home, then, older people are likely to move in higher dependency environments. If dwellings perform poorly then older people's care and health needs increase.⁶¹
- 8.16 The provision of home-based care has highlighted the importance of better co-ordination and integration between the health, welfare and housing sectors. The challenge of better inter-sectoral co-ordination and the problems arising from poor inter-sectoral co-ordination have been longstanding themes in practice and research around ageing in place and older people's futures internationally.⁶² A number of countries have, consequently, sought to establish services dedicated to better co-ordination between housing, health, care and welfare services.
- 8.17 The most recent strategic response to this problem of inter-sectoral integration and co-ordination is found in the United Kingdom's national strategy for housing in an ageing society released in February 2008.⁶³ That strategy explicitly conceives of health, social support and housing in a 'triangle of independence' represented in Figure 8.1.⁶⁴

⁶⁰ Saville-Smith, *et.al.*, 2007.

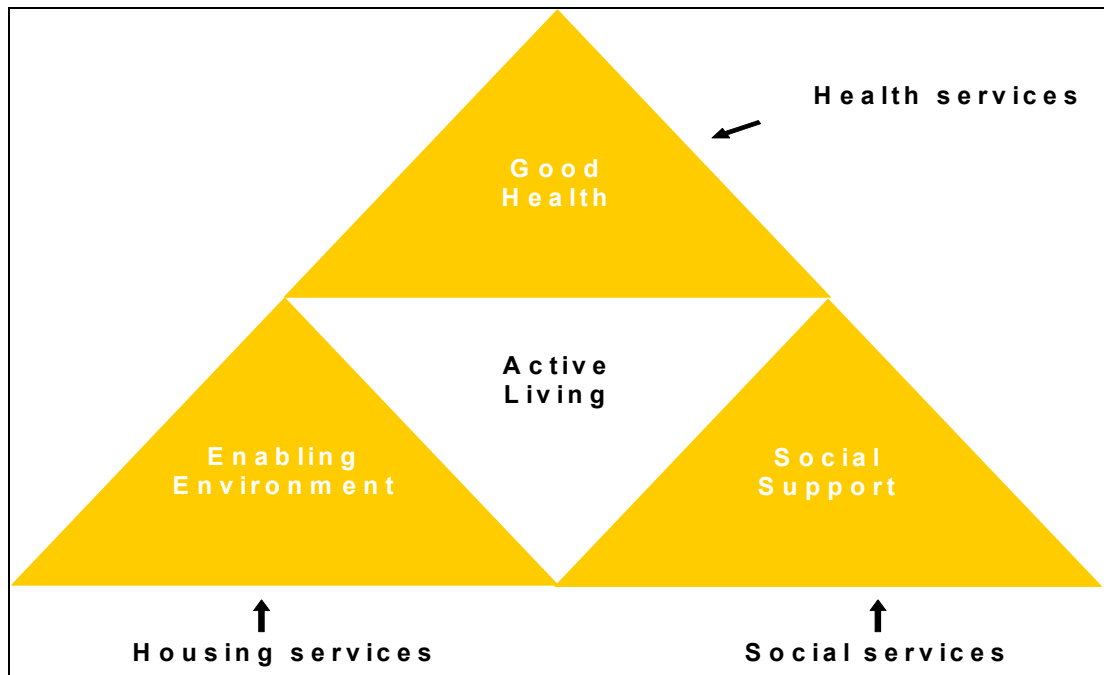
⁶¹ Gaugler *et.al.*, 2007; Bebbington, Darton, and Netton, 2001; Netton, Darton, and Curtis, 2001.

⁶² Communities and Local Government, 2008.

⁶³ *Ibid.*

⁶⁴ *Ibid.*

Figure 8.1: Triangle for Independence – 2008 UK National Strategy for Housing in an Ageing Society



8.18 The UK National Strategy for Housing in an Ageing Society highlights two critical problems:

- The complexity of the inter-sectoral interface makes arranging and providing adequate support across sectors complex for older people themselves, their families, and practitioners working with older people in each of those sectors.
- That housing has not been given adequate priority and has suffered from “separate decision-making, reactive approaches, and failure to prioritise the housing role in community care.”⁶⁵

8.19 In addressing the problem of integration and co-ordination, the strategy identifies three developments to be implemented in the United Kingdom which are intended to promote the importance of housing in the housing, health and care mix. They are:

- Joint commissioning;
- Implementation of health impact assessments; and
- Joint assessment.

8.20 Infobox 8.1 sets out the key focus and characteristics of each of those three developments.

⁶⁵ *ibid*: 124.

Infobox 8.1: Integrative and Co-ordination Instruments for Older People's Housing, Health and Social Support in the United Kingdom 2008⁶⁶

Instrument	Statutory Partners	Activities	Outcomes
Joint Commissioning	<ul style="list-style-type: none"> ▪ NHS ▪ Local authorities⁶⁷ 	<ul style="list-style-type: none"> ▪ Joint strategic needs assessment ▪ Joint funding ▪ Joint delivery purchase 	Older people have more effective integrated access to and choice in housing, health and care services.
Impact Assessment	<ul style="list-style-type: none"> ▪ Local authorities ▪ Housing providers ▪ Public Health services ▪ Care services 	<ul style="list-style-type: none"> ▪ Application of evaluative techniques to assess net benefits of new and existing services and service configurations 	Impact of housing, health and care service changes on older people's health outcomes evaluated and improved decision-making.
Joint Assessment	<p>Local & national agencies in:</p> <ul style="list-style-type: none"> ▪ Housing ▪ Health ▪ Care 	<ul style="list-style-type: none"> ▪ Activate local area agreements ▪ Integration of housing into a common assessment framework ▪ Implementation of a single assessment process 	Improved housing assessment and response.

Improved Existing Dwelling Performance and Amenities

8.21 It has been recognised internationally that housing stock that is dilapidated and/or has low levels of performance has considerable externalised costs. Such dwellings are likely to be cold, uncomfortable and unsafe. They are associated with fuel poverty, ill-health, neighbourhood decline, dependency and negative environmental impacts.

8.22 Overseas there is considerable research to show that poor housing stock:

- places at risk the value of previous private and public investment in the national infrastructure
- is a major impediment to sustainability
- reduces the energy efficiency of the stock with associated excessive demand for energy and/or fuel poverty problems
- risks the long-run degradation of stock functionality
- generates poor health, safety, educational and human capital outcomes, the costs of which are not confined to the individuals who live in poor housing
- is likely to expose governments to the costs of the poor social, environmental and health outcomes associated with poor housing condition
- increases the pressure to fund or provide social housing or, in the case of older people, residential care

⁶⁶ Adapted from Leather, 2000:18.

⁶⁷ In the United Kingdom local authorities have responsibility for housing related services and housing strategy development and implementation.

- de-stabilises households and communities
- encourages localised social and economic decline, and
- increases residential movement and instability.⁶⁸

8.23 Problems of dwelling repair, maintenance and renovation are found among many age groups (Infobox 8.2). However, English research shows that older people are the least likely to recognise poor house performance and are most likely to avoid repairs and renovation.⁶⁹

Infobox 8.2: Life Stages and Maintenance, Repairs and Renovation⁷⁰

Household Life Stage	Occupancy	Repair & Renovation Behaviour	Pressure Points
Young Household	Recent mover	Most active period. At minimum, dwelling is personalised but may refurbish.	Low equity and high exposure to mortgage repayments. Poor investment choices & undeveloped networks
Household with Children	Longer occupancy	Diminishing work with a reactive approach to repairs.	Competing spending priorities. Desire to reduce exposure of children to repairs and maintenance.
	Potential mover	Work to improve saleability.	Potential renovation costs of subsequent property.
Empty Nest – Pre-retirement	Reviewing for the long-term	'Finishes' personalisation. Seeks to reduce future maintenance. Works to meet outstanding aspirations.	Decision on whether to move.
Older Household	Long-term occupant	Diminution of work, little aspiration to do work and repairs neglected.	Cash poor, reduced contacts, diminishing DIY capacity and unwilling to face disruption associated with repairs, maintenance & renovation.
Household Dissolution	Dwelling recycled		

8.24 Older people are disproportionately exposed to dilapidated dwellings and dwellings that perform poorly. Overseas research shows that older home owners under-invest in repairs and maintenance and older tenants have difficulty in getting their rental dwellings properly maintained. Older people on low incomes, older people who are new settlers or of an ethnic minority, or older people living in rural areas, are most at risk of living in dilapidated dwellings and under-investing in repairs.⁷¹

⁶⁸ Parkes and Kearns, 2003; Forrest, 2004; Bridge *et al*, 2004; Scottish Executive, 2003; ODPM, 2002; Cole and Nevin, 2004; Terry and Joseph, 1998; Green *et al*, 2005; ODPM, 2003; Boelhouwer and Elsinga, no date; Scottish Executive, 2002; Leather, 2000; Mullins *et al*, 2004.

⁶⁹ Saville-Smith, 2005b.

⁷⁰ Adapted from Leather, 2000:18.

⁷¹ Saville-Smith 2005b.

- 8.25 The problem is not one simply of affordability. Overseas research suggests that older owner-occupiers underestimate the impact of dwelling related problems and miscalculate how long repair work can be delayed. They tend to be reactive to presenting problems rather than systematic in preventative maintenance and they often find it difficult to distinguish between cosmetic and necessary maintenance, repair and performance improvement.
- 8.26 At the same time, while older people appear to be least likely to recognise the need for improved house performance, older people are, like very young children and people with disability, least resilient and least able to cope with living in houses that are poorly repaired, cold, and expensive to run. Older people become unhealthy, stressed and at risk of injury. Dilapidated housing and the burden of maintenance and repair have been identified as major factors in prompting older people to disengage from their communities and shift into higher dependency residential environments.⁷²
- 8.27 It is in that context that many countries in Europe, North America and Australia have sought to improve the amenities, performance and maintenance of their stock including owner-occupied housing stock.
- 8.28 Of 27 European countries reviewed in 2005, 23 had programmes supporting owner occupiers to invest in repairs, maintenance and retrofit programmes. Canada, the USA and Australia also have such programmes. Table 8.3 sets out the nature and focus of those programmes as of 2005.⁷³

Table 8.3: Maintenance, Repairs & Renovation Assistance for Owner Occupiers in Europe, North America and Australia 2005

Focus of Assistance	Europe 27 (Incl. Great Britain)	USA, Canada & Australia
Renovation/Refurbishment	23 countries	3 countries
Repairs	14 countries	3 countries
Maintenance	12 countries	3 countries
Renovation/Retrofit Climate Change and/or Environment	5 countries	1 country
Neighbourhood Renewal	5 countries	2 countries
Specified Home Adaptation	3 countries	3 countries

- 8.29 Many of those programmes can be accessed by households at any life stage, but some countries have specifically targeted older people. Finland, for instance, specifically targets its assistance for repair, maintenance, renovation, adaptation and retrofitting to older owner occupiers. Older people are also targeted by initiatives and programmes.
- 8.30 The following discussion provides a summary of the range of provision in a small selection of countries – Finland, Canada, Australia, the United States of America, and the United Kingdom.

⁷² Ibid.

⁷³ Ibid.

Finland⁷⁴

- 8.31 The Housing Fund of Finland provides a wide range of grants and subsidies for older people through the Housing Finance and Development Centre of Finland. Four grants programmes are most important:
- Housing repairs for the elderly and the disabled;
 - Lift construction and repair;
 - Eliminating health hazards;
 - Energy grants.
- 8.32 The housing repairs grants for older people generally cover up to 40 percent of repair costs. However, if an elderly person would otherwise need to move permanently from their home if those repairs were not done or more cost-effectively substituted by in-house care, then grants can be provided to up to 70 percent of repairs. Those grants are provided through the local municipality.
- 8.33 In contrast, grants for lift construction and repair as well as grants to eliminate health hazards are provided through the Housing Finance and Development Centre of Finland directly. The grants for lifts are directed primarily at apartments and multi-units and can be up to 50 percent of approved costs.
- 8.34 The grants for eliminating health hazards are up to 40 percent of approved costs and may be used for any residential building. However, unlike other grants, the applicants must show an acute need for financial assistance. In the Finnish context that means that they would have to seek welfare support if they were to undertake the repairs. The repairs themselves must be extensive and have direct health or safety impacts. The latter includes rectifying exposure to damp.
- 8.35 Energy grants are provided to householders to improve the energy efficiency of their dwellings. Householders may apply for grants to undertake any of the following activities:
- Independent energy audits;
 - External repairs necessary to improved dwelling performance;
 - Improvements to ventilation and heating systems;
 - Installation of renewable energy sources.
- 8.36 Energy grants provide for 40 percent of the actual costs of an energy audit. However, the proportion of subsidy for other measures is considerably lower at 10-15 percent.

United Kingdom

- 8.37 Even before the release of the 2008 strategy on ageing society and housing, the United Kingdom had been increasingly investing in housing stock modernisations, adaptations and retrofit improvements for older people. This has focused on both the social housing stock and the owner occupiers. Those investments have been directed to:

⁷⁴ <http://www.ara.fi>

- Renovation and stock modernisation in the social housing stock – Decent Homes Programme;
- Addressing cold homes and fuel poverty – Warm Front Scheme;
- Reducing resource efficiency for both domestic energy and water use – Green Homes Service;
- Home modifications – Disabled Facilities Grants;
- Housing related support services – Supporting People Programme and Home Improvement Agencies.

Infobox 8.3 summarises those five programmes in relation to the activities, investment and targeting in the United Kingdom.

Infobox 8.3: Core Housing Related Programmes in the United Kingdom 2008⁷⁵

Programme	Activities	Funding, Coverage & Targeting – 2008
<i>Decent Homes</i>	Repairs, maintenance and renovation	2001-2008 public housing stock upgrades
<i>Warm Front Scheme</i>	Heating, insulation and benefit support	1.6 million households since 2000, over half with older people
<i>Green Homes Service</i>	One-stop shop for green homes and accessing assistance	
<i>Disability Facilities Grant</i>	Modifications	37,000 people
<i>Supporting People</i>	Adaptations, community alarms, sheltered housing, repairs, information	840,000 older people 10,000 handy person jobs 2003-04
<i>Home Improvement Agencies</i>	Local organisation advising on home improvements, repairs, maintenance, accessing assistance, grants and loans and services	90% of local authorities have HIAs

8.38 The United Kingdom's 2008 National Strategy for Housing in an Ageing Society heralds further investment in the existing programmes set out in Infobox 8.3. There is also to be a review of housing in the private rental sector accommodating older people, its fitness for purpose, and ways in which the private rental sector can improve the performance of the housing it provides.

8.39 The Government has already informed the private housing sector that it also intends to raise housing standards in that sector to provide increased safety and health protection through the implementation of a Housing Health and Safety Rating System (HHSRS).

8.40 Infobox 8.4 sets out the 2009 and out years funding and service expansions presented in the UK National Strategy for Housing in an Ageing Society.

⁷⁵ Communities and Local Government, 2008.

Infobox 8.4: Future Housing Related Programmes in the United Kingdom from 2009⁷⁶

Programme	Status in 2009	Activities	Investment
<i>Decent Homes</i>	Expanded	As existing. Target 95% of all social housing stock. Improve 3.6 million stock including owner occupied and stock in private rental market by 2010.	2008/2011 funding £2.3 billion
<i>Warm Front Scheme</i>	Expanded	As existing. Target remaining 1.5 million households in fuel poverty.	
<i>Green Homes Service</i>	Expanded	As existing.	
<i>Disability Facilities Grant</i>	Expanded	As existing with greater co-ordination with HIAs and rapid repairs and: <ul style="list-style-type: none"> • Extend coverage to garden access • Raise maximum grant limit • Increase flexibility • Promote accessible housing register 	Increase budget: <ul style="list-style-type: none"> • 20% in 2008 • 7% in 2009 • 6% in 2010
<i>Supporting People</i>	Expanded	As existing with greater co-ordination with HIAs and rapid repairs.	New funding each year from 2009 to 2011 – not specified
<i>Rapid Repairs & Adaptations Service</i>	New	Target 125,000 older people per annum to receive assistance with minor adaptations and repairs.	
<i>Housing Health and Safety Rating System</i>	Implementation	Local authority implementation to underpin formal interventions.	
<i>Home Improvement Agencies</i>	New & expanded	In addition to existing services: <ul style="list-style-type: none"> • planning for local area delivery • Establishment of a National Body for Home Improvement Agencies 	New funding from 2009/10 – not specified

Canada

8.41 Canada has a well established national home repairs and adaptations programme. This is the Home Adaptations for Seniors' Independence (HASI) Programme run by the Canadian Mortgage and Housing Corporation. It provides a non-repayable loan of up to \$C3,500 to help homeowners and landlords pay for minor home adaptations to extend the time low-income seniors can live independently in their own homes.

8.42 Homeowners and landlords may qualify for assistance as long as the occupant of the dwelling:

- is 65 and over;
- has difficulty with daily living activities brought on by ageing;
- total household income is at or below a specified limit for the area;
- the dwelling unit is a permanent residence.

8.43 The homeowner has to agree to occupy the unit for the loan forgiveness period of six months. If the adaptation work is being done on a rental unit, the landlord must agree that rents will not increase as a result. All adaptations have to be permanent and fixed. The programme is focused on minor modifications that meet the needs of seniors with an age-related disability, for example, fitting of:

⁷⁶ Communities and Local Government, 2008.

- handrails;
 - easy-to-reach work and storage areas in the kitchen;
 - lever handles on doors;
 - walk-in showers with grab bars;
 - bathtub grab bars and seats.
- 8.44 In addition, older people can also access, along with other age groups, the Homeowner Residential Rehabilitation Assistance Program (RRAP). This programme provides financial assistance for mandatory repairs necessary to maintaining affordable housing in good quality. This is a programme for the rehabilitation of sub-standard housing; it is not a preventative repair and maintenance programme. Access to the programme is based on two separate eligibility criteria. The first relates to the property and the second relates to the circumstances of the householder.
- 8.45 For a property to be eligible its capital value must be below the prevailing value cap. The dwelling must be older than five years and require significant structural repairs and/or repairs to one or more of the following systems: heating, electrical, plumbing, fire safety. The repairs must ensure at least fifteen additional years of building life and bring the dwelling to minimum health and safety standards. Financial assistance is provided by way of a suspensory or forgivable loan over a period of five years.

Australia

- 8.46 Australia has two streams of funding related to improving house performance and amenities. Those are, firstly, schemes to assistance householders to improve the energy efficiency and comfort of their dwellings. Secondly there are a number of programmes that are collectively referred to as Housing Maintenance and Modification programmes (HMMs). While there is broad similarity between schemes nationally, there are variations across states in both streams.
- 8.47 The HMMs are the predominant way in which older people access home assistance to improve the performance and maintenance of their homes. A recent review of those services has concluded that “HMM services can be described as programs [sic] without policies: there are numerous initiatives but these have not yet developed into a clearly articulated national HMM service.” It is noted that while all states deliver HMM, the particular configuration of those services and how community care, health, housing and veteran services interface in configuring HMMs is unique to each state.⁷⁷
- 8.48 What is particularly important in the conception of the HMM in Australia is the scope of the HMM which ranges over three distinct activities:
- Structural modifications to homes;
 - Non-structural modifications in homes; and
 - Maintenance and repairs.

⁷⁷ Jones, de Jonge, and Phillips, 2008.

8.49 In addition, the funding of HMMs takes a variety of forms. Those range from bulk-funding to public housing providers and health and community service providers. In some states, home loans are specifically provided to finance home modifications. The Department of Veterans Affairs also provides subsidised home loans to assist veterans. Those loans can be directed to home maintenance, repairs or modifications that encourage independent living. Infobox 8.5 provides a summary of those schemes.

Infobox 8.5: A Summary of Australian Home Maintenance and Modification Initiatives⁷⁸

Service/Programme	Description
Home and Community Care (HACC) program and other national community care programs	<ul style="list-style-type: none"> ▪ Generic, national community care program, funded by Commonwealth and states, with home maintenance and modification (HMM) as a modest component ▪ People who are eligible are 'at risk of premature or inappropriate long term residential care' ▪ Include structural and non-structural modifications, repairs and maintenance ▪ Considerable inter-state variation in the level and mix of services ▪ 1–2 per cent of Australians receive HACC-funded HMM services ▪ Type of organisation involved in delivery varies from state to state including specialist HMM services, generic HACC providers and state and local government agencies ▪ Information, referral and advice services funded through Independent Living Centres (ILCs) in some states
State and Territorial Housing Authorities (SHAs): provision of HMM for social housing tenants	<ul style="list-style-type: none"> ▪ All SHAs include adaptable and accessible housing in their portfolios through acquisition and upgrading programs ▪ All undertake housing modifications or arrange transfers to meet the specific needs of older social housing tenants ▪ All undertake the normal maintenance required of landlords, and maintain gardens and common areas of multi-unit sites ▪ All employ or contract specialist occupational therapists, architects or building professionals to assess client needs and supervise modifications ▪ Levels of activity are significant, with annual expenditure on home modification in some states equivalent to the total national expenditure through HACC
State and Territorial Housing Authorities (SHAs) loan products	<ul style="list-style-type: none"> ▪ Four states provide subsidised loan products for home modification ▪ The take-up of these loans by older people has been limited
Queensland's Home Assist Secure (HAS) program	<ul style="list-style-type: none"> ▪ State-funded network of home maintenance, repair and minor modification services for older people in owner-occupied or privately rented accommodation ▪ Provides information, assessment, referral to private contractors, project management and financial subsidies ▪ Focus on falls prevention, home security, physical mobility and safety ▪ State-wide network of forty-one services that assists over 50,000 older people annually ▪ Delivers a high proportion of HACC-funded HMM services in Queensland
Victorian Archicentre Home Renovation Service	<ul style="list-style-type: none"> ▪ Service provided by the building advisory service of the Royal Australian Institute of Architects and funded by Victorian Department of Housing (DOH) ▪ Free home inspection for older people and people with a disability ▪ Report provided on building conditions and recommendations on maintenance, repairs, and modifications ▪ Fee-for-service architectural and project management services available

⁷⁸ Summary based on Jones, de Jonge, and Phillips, 2008.

NSW State Council and Research and Resource Centre	<ul style="list-style-type: none"> ▪ State Council provides coordination and advocacy on behalf of HMM providers in NSW ▪ University of Sydney Research and Resource Centre provides information and technical resources for HMM services
State community health centres	<ul style="list-style-type: none"> ▪ A key source of referrals to HMM services in their roles as care coordinators and case managers ▪ Occupational therapists in community health assess need and eligibility for a range of HMM services, e.g. aids and equipment programs, HACC-funded HMM services, public housing home modifications
Hospital discharge programs	<ul style="list-style-type: none"> ▪ Hospital-based occupational therapists provide assessment, advice and referral ▪ There may be funding programs relating to health-specific conditions that include HMM provision, e.g. Queensland's program for people with spinal cord injuries ▪ Responsibility for the funding of HMM services can be a source of tension between health and community care services
Falls prevention programs	<ul style="list-style-type: none"> ▪ The National Falls Prevention for Older People Initiative provides a coordinated approach to falls ▪ Generally falls prevention programs rely on existing services systems such as HACC for the actual provision of HMM services
Equipment and Aids programs	<ul style="list-style-type: none"> ▪ All states and territories have equipment and aids schemes that vary in name, scope and eligibility guidelines ▪ They are generally small programs which in some (but not all) states include non-structural modifications ▪ Older people are eligible recipients in some states, but not in others. ▪ An example of a scheme that includes HMM for older people is Victoria, which provides modifications up to a lifetime limit of \$4400
Department of Veterans' Affairs (DVA) programs	<ul style="list-style-type: none"> ▪ DVA funds and administers a number of national HMM services that mirror mainstream programs ▪ These include home and garden maintenance services provided under the Veterans' Home Care (VHC) Program, non-structural modifications to prevent falls under the Home Front program, home modifications provided as part of the Rehabilitation Appliance Program (RAP), information, advice and referrals relating to HMM provided through the Veterans' Home Maintenance Line (VHML), and loans for home modification through the Home Support Loan scheme.
Other Home Maintenance and Modification (HMM) provision	<ul style="list-style-type: none"> ▪ Commonwealth Carelink Centres provide information about a range of services, including HMM, for older people ▪ Local government in Victoria supplements HACC funds for home maintenance ▪ Independent Living Centres (ILCs) in western Australia (WA) have funds for home modifications ▪ NSW HMM specialist providers offer HMM services on a fee-for-service basis to individuals who are not eligible for HACC ▪ In Tasmania some home modification services provided through state government community and health services centres ▪ Technology Assisted Disability Western Australia provides information and advice about home modifications ▪ Queensland Smart Housing and Home Access initiatives provide information to home building professionals, developers, real estate agents and consumers ▪ Some SHAs involve volunteers in HMM provision, e.g. the NSW DOH Neighbourhood Aid Program

- 8.50 In addition, Australia provides assistance to both tenants and owner occupiers to improve the health of their homes through insulation retrofitting with subsidies for ceiling insulation at \$AU1,000 and \$AU1,600 respectively. There are also an array of other loans and subsidies to reduce energy expenditure including income tested rebates for installers of solar water heating and low interest 'green loans' of up to \$AU10,000. Those programmes are not specifically targeted at older people but do include older people among the eligible households.⁷⁹

United States of America

- 8.51 In 2007 a survey of building companies specialising in renovations and what is referred to in the United States as remodelling, found that 72 percent reported being involved in ageing-in-place modifications. That was up from 60 percent the previous year. Three-quarters of those companies also reported that over the past five years the number of requests for accessibility features had increased significantly.⁸⁰

- 8.52 There is considerable diversity in the United States around the provision of assistance to older people for modifications and home repairs. The state of Georgia has had a long history of providing both a legislative framework and a regime of incentives to promote accessible housing and 'visitability'. This includes tax credit of up to \$500 for retrofitting existing single-family homes, based on the actual cost of up to \$125 per feature. The features falling into the programme are:

- one no-step entrance into the home;
- 32-inch wide interior passage doors;
- reinforced bathroom walls;
- light switches and outlets placed in accessible locations.

- 8.53 The Department of Housing and Urban Development also provides funds to older people to undertake home repairs or retrofitting. The United States Rural Department of Agriculture provides grants for home repairs among older rural residents. Those programmes are supplemented by numerous and diverse state government, local authorities and community sector initiatives.

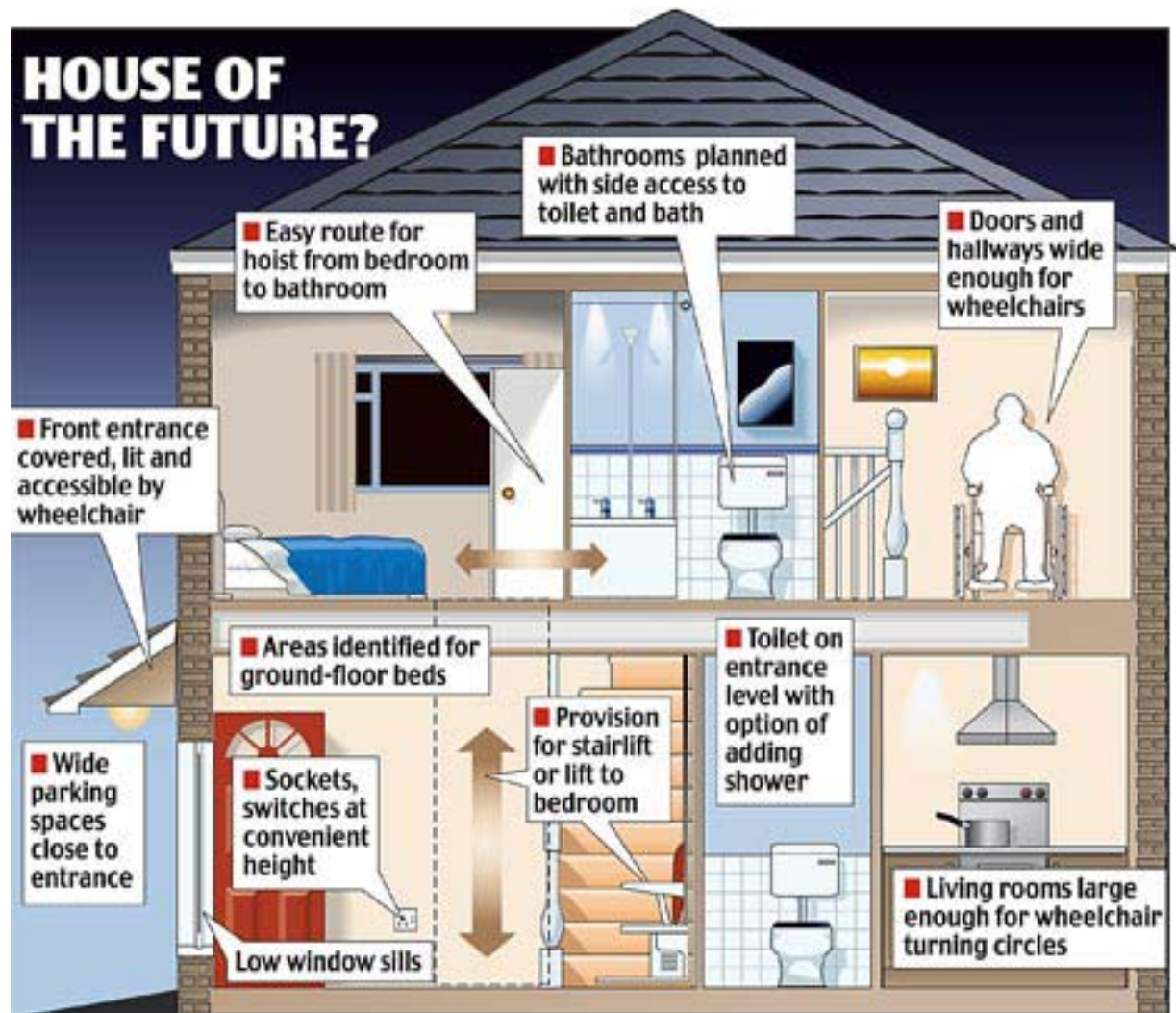
New Housing Designed for Long Lives

- 8.54 Most countries overseas have, implicitly or explicitly, two approaches to addressing the housing stock needs in the context of ageing societies. We have already noted that there is a strong trend to addressing those needs through the adaptation, renovation and retrofitting of existing housing stock. Running parallel to those initiatives, however, is an increasing momentum around ensuring that new housing stock is built to deal with a wider range of needs and to be more easily adapted to changing needs over different life stages. There are various articulations of lifetime or universal design in relation to housing. Figure 8.2 presents a United Kingdom Department of Health version of the lifetime home.

⁷⁹ <http://www.icanz.org.au/Consumers/>

⁸⁰ Maisel, Smith, & Steinfield, 2008.

Figure 8.2: Lifetime Homes in the UK - 2008⁸¹



8.55 The emergence of what is variously referred to as lifetime homes, universal design, or smart houses, is a mixture of building and housing industry and governmental promotion. Overseas experience shows that a small set of private sector organisations see lifetime design as providing them with competitive advantage in the owner occupier market. The majority of new home builders, however, do not adopt those principles without active promotion and incentivisation by local, state or national governments. In addition, new dwellings destined for the rental sector are rarely designed for lifetime adaptability.

8.56 The promotion of lifetime design overseas, consequently, tends to involve a loose or sometimes quite a tight, formalised, collaboration between progressive and entrepreneurial market leaders, government and community groups concerned with issues of mobility and independence for people affected by disability, including disability associated with ageing. That collaboration typically involves:

⁸¹ Department of Health, 2009.

- Development of lifetime or universal design standards which can be promoted through either industry bodies or implemented by regulation.
- Promotion of lifetime design standards through industry awards usually funded through public funds.
- Adoption of lifetime design standards by public agencies providing housing.
- Provision of industry and consumer advice on designing and building to lifetime design.

8.57 In general, there is only limited implementation of lifetime design standards or even basic accessibility standards by way of regulation. Where regulation is used it is typically applied to social housing stock or multi-unit dwellings that have shared public space. Dwellings in private ownership are least likely to be subject to regulatory requirements. Infobox 8.6 sets out a country by country summary of regulation of disability access to new homes as of 2005.

Infobox 8.6: Summary of Countries with Regulatory Requirements for Disability Access to New Dwellings as of 2005

Country	Framework/legislation	Year	New Homes
Australia	State level Building Standards for accessible showers, doorways, ramps.	2005	√
	AS/NZS 1428.4:2002. Design for access and mobility. Tactile Indicators.		√
United Kingdom	NHS and Community Care Act	1990	√
	United Kingdom Building Code. Lifetime Home Standard Part M. Similar codes in Scotland & Wales	1999	√
	BS 5588. Part 8. Safe means of escape for disabled people (fire related.)	1999	√
	Disability Discrimination Act	1995	√
Canada	Accessibility for Ontarians with Disabilities Act	2005	√
United States	Federal Fair Housing Amendments Act	1968	√
	Americans with Disabilities Act	1990	√
	Visitability laws - some states		√
	HB 1441. (Visitability Access)		√
	Pending: Inclusive Home Design Act.		√
Japan	General Principles Concerning Measures For The Aged	2001	√
	Housing Quality System (1999)	1999	√
	Accessible and Useable Building Law (revised)	2003	√
European Union	Standard EN 81-70. Independent access and use of lifts	2003	√
Norway	Life Span Dwellings Standard	1995	√
Israel	Accessibility Chapter of the Equal Rights for People with Disabilities Law.	2005	√

- 8.58 The Victorian Government in Australia has recently launched an industry and consumer awareness programme entitled *Build for Life* which focuses on lifetime design. It has also announced that it will be investigating the merits of adding minimum mandatory requirements for accessibility in new dwellings with a focus on street to house access, internal access by way of wider doorways and hallways, entry level toilets and wall reinforcing to allow subsequent fitting of grab rails in bathrooms.
- 8.59 Of all countries, Japan has shown the longest history of active regulation. In the mid-1990s, the design *Guidelines for Dwellings for an Ageing Society* sought to have 20 percent of all new dwellings built to universal design and a further 20 percent built to barrier free standard. In 1994, the “Gold Plan” set a target of 100,000 care housing units. Low take-up saw the “Gold Plan” being developed to a point that all new housing had to accommodate an occupant’s life changes over a period of 30 years through the application of a universal design standard. This probably reflects Japan’s very high dependency ratios and its recognition that the building industry was, despite those ratios, not meeting the needs of older people through demand-supply mechanisms.
- 8.60 Industry response is increasingly an issue as population structures age. The United Kingdom with its 65.4 dependency ratio is currently seeking to tie lifetime design standards to the codes around sustainable housing. Lifetime Homes Standards are being progressively made mandatory. In 2008, homes at level 6 of the Code for Sustainable Homes will be required to meet the Lifetime Homes Standards. In 2010, those requirements will be extended to level 4 homes and to level 3 homes in 2013. The National Strategy for Housing in an Ageing Society aspires to have all new homes built to Lifetime Homes Standards by 2013.⁸²
- 8.61 The determination to regulate Lifetime Homes Standards is based on cost analysis that suggests that the additional costs of those standards is around £547 per home, although those costs may be less where designs are generated from scratch. Those costs are expected to be higher if existing designs are amended and pre-existing supply chains and building technologies are used.⁸³
- 8.62 In Australia although there are limited mandatory requirements for lifetime design, it has long been recognised that flexible house design assists cost-effective modifications and renovations. In 1999, a cost analysis was undertaken comparing adaptation features into new build, post-build upgrade in buildings design to allow upgrade, and post-build upgrades in buildings that were not designed to allow adaptive features. As Table 8.4 shows additional costs varied according to building typology but in all cases where adaptive features were in-built at initial building, additional costs were either lower or no greater than post-build adaptation.

⁸² Communities and Local Government, 2008.

⁸³ Communities and Local Government, 2008.

Table 8.4: Costs of Adaptable Housing as % of Total Cost in Australia⁸⁴

Dwelling Type	Initial Build Incorporation of Adaptation	Post-Build with Prior Provision	Post-Build No Prior Provision
Detached dwelling	0.5-1.0%	0.7-1.2%	8.7-12%
Town-house	0.5-1.0%	5.7-6.7%	19-23.8%
Low-middle rise	0.3-5.8%^	0.3-7%	10.3-21.9%
High rise	0.3-0.7%	0.3-0.7%	9.2-12.9%

^ includes lift

8.63 In the United States, lifetime design has been largely conceptualised around the notion of visitability. The basic requirements of a visitable dwelling are: a zero-step entrance, wide interior doors, and an accessible lower floor toilet. Despite the limited nature of those requirements, their adoption is by no means universal in the new housing stock. There is also considerable variability across the United States in terms of targeting and instruments used to promote visitability.

8.64 Both voluntary and mandatory systems are evident in the United States. In some cases, visitability requirements apply only to dwellings in which some form of public monies has been invested. In other jurisdictions, all new built housing is included. Some states have legislative frameworks that impede local authorities adopting visitability ordinances. Those include, for instance, New York and California, in which visitability ordinances can not be implemented because they would require that dwellings exceed the standards set out in the State Building Construction Codes. Local authorities in those states have pursued a combination of voluntary standards, incentive-based and consumer awareness programmes to promote visitability. Infobox 8.7 sets out the range and location of visitability initiatives in the United States.

Infobox 8.7: United States Visitability Initiatives for New Homes Current In 2008⁸⁵

Mandate Homes - Public Funds	Mandate for All New Homes	Builder Incentives	Consumer Incentives	Certification Programmes
Atlanta (1992)	Naperville, IL (2002)	Permit waivers/Reduced fees in Southampton, NY (2002)	Freehold Borough, NJ (1997)	Irvine, CA (1999)
Austin, TX (1998)	Pima County, AZ (2002)	Houston, TX (2004)	Southampton, NY (2002)	San Mateo County (2001)
Urbana, IL (2000)	Bolingbrook, IL (2003)		Rebate in Escanaba, MI (2003)	Visalia, CA (2001)
Fort Worth, TX (2000)			Pittsburgh, PA (2006)	Albuquerque, NM (2001-2002)
Long Beach, CA (2002)				Howard County, MD (2001)

⁸⁴ Quin *et al.*, 2009.

⁸⁵ Maisel, Smith, and Steinfield, 2008.

San Antonio, TX (2002)				Onondaga County (2002)
Iowa City, IA (2002)				Syracuse, NY (2003)
Chicago, IL (2003)				Sacramento, CA (2003)
St. Louis County (2003)				Prescott Valley, AZ (2005)
St. Petersburg, FL (2004)				Montgomery County, MD (2007)
Toledo, OH (2005)				
Auburn, NY (2005)				
Scranton, PA (2005)				
	Arvada, CO (2005) 15% of new homes			
Milwaukee, WI (2006) Davis, CA (2007)				
	Lafayette, CO (2007) 25% of new homes			
Rockford, IL (2007)				
Dublin City, CA (2007)				
Tucson, AZ (2007)				
Pine Lake, GA (2007)				
Texas (1999)	Florida (1989)	Accessible Housing Demonstration Grant Program Illinois (2002)	Tax credit incentives in Georgia (1999)	New Mexico (2001)
Georgia (2000)	Vermont (2000)	PHFA Research Project Pennsylvania (2004)	Tax credit incentives in Virginia (1999)	Easy Living Home Project in Georgia (2002)
Minnesota (2001)				
Kansas (2002)				
Kentucky (2003)				

Oregon (2003)				
New Jersey (2005)				
Michigan (2006)			Tax credit incentives in Pennsylvania (2006)	
Ohio (2007)				

8.65 Overall, the international response to ageing societies in relation to new dwellings is characterised by active promotion of dwellings that are more flexible and more easily adapted to changing individual and household needs. The response, however is marked by both diversity in relation to nomenclature and in substance. A continuum of accessibility can be discerned that moves from negotiability to universal design as follows:

- **Negotiable** where a building allows only for assisted access and provides some movement around the lower levels, but does not necessarily provide access to a toilet.
- **Visitability** where a building allows independent wheelchair property entry, access to lower levels, ability to move between rooms and access to the toilet.
- **Liveable** where there is unassisted wheelchair access to the lowest level of a building and the ability to move between rooms, access to a usable bathroom, toilet and a bedroom.
- **Adaptable** where the whole house or flat is retrofitted or purpose built to give the desired level of accessibility that will be required through the occupant's social and life cycle changes over at least a 30 year period.
- **Universal** where a whole house or flat is fully accessible to an unassisted wheelchair user or person with other functional impairments.

These have a range of design responses (Infobox 8.8).

Infobox 8.8: Key Approaches to Accessible Mainstream Housing Design

<i>Universal design</i>	An approach to the design, construction and adaptation of standard housing to meet the needs of all home owners regardless of their age, ability, or social situation. Universal design benefits all age groups. Also known as <i>Universal Housing</i> and <i>Adaptable Housing</i> . Achieving uptake in the social housing market; but its adoption in private dwellings has been limited.
<i>Life Span Housing</i>	Housing that can accommodate changes in human ability over a person's lifespan, enabling the occupants to live and remain in their homes as long as possible. Also known as <i>Lifetime Homes</i> in the United Kingdom, <i>Lifecycle Housing</i> in Norway and <i>Adaptable Housing</i> in Australia.
<i>Inclusive Design</i>	A way of designing products and environments so they are usable by everyone regardless of age, ability or circumstance. Remove barriers in the social, technical, political and economic processes underpinning building and design.
<i>Barrier-free Design</i>	To be active, a disabled person should be able to commute between home, work and other destinations. Barrier-free design ensures that the whole built and transport environment meets the needs of people with physical, sensory or cognitive disabilities.

Secure and Affordable Housing

- 8.66 Ensuring that older people have access to secure and affordable housing is beginning to emerge as a critical issue in the context of ageing population structures in Europe, North America and Australia. It is an issue that confronts both older owner occupiers and older tenants as older people's incomes decline and societies begin to confront the implications of high dependency ratios.
- 8.67 In addition, many countries are beginning to recognise and respond to the impacts of ageing on populations already vulnerable to homelessness and marginal to the housing market including those who have suffered mental illness, people marginalised through addiction problems, people in rural areas, and people who are dependent on rental markets under-supplied with affordable, adequately performing housing.
- 8.68 Broadly three approaches are being taken in relation to the diversity of pathways that compromise the security and affordability of older people's housing. Those are:
- Income supplementation programmes;
 - Provision of affordable housing alternatives; and
 - Specialised housing responses.
- 8.69 In many jurisdictions, those housing responses are being supported by programmes to assist older people to make decisions regarding staying in their current housing setting or relocating. An example is the eight "Should I Stay or should I Go?" pilots run by Care and Repair England. Those pilots were designed to provide face-to-face information and advice on housing alternatives, develop options for older people and liaise with service providers. Sheffield Hallam University's evaluation found that most people needed only limited assistance but that assistance was often critical to good outcomes. A significant minority of older people needed considerable assistance to make decisions. The provision of that assistance increased the effectiveness of older people's decision-making and improved the ability of providers to meet older people's needs within the constraints and limitations of available housing options and services.⁸⁶
- 8.70 Supplementing older people's incomes so that they can maintain their current housing or change their housing situation is widespread. It takes a number of forms including: housing or accommodation supplements and benefits; tied assistance with housing related costs such as the provision of municipal rate holidays; heating or energy benefits; or among owner occupiers promotion or provision of equity release schemes. The latter can involve reverse mortgages or 'trading down' into homes of lower value or even movement from owner occupation to rental tenure.

⁸⁶ Hambly and Adams, 2003.

8.71 The United Kingdom and the United States have both had long histories of equity release schemes both through the private and the public sector. In the United States, the Department of Housing and Urban Development assists older people to access the Federal Housing Administration's (FHA) Home Equity Conversion Mortgage (HECM). Infobox 8.9 provides a summary of the conditions surrounding HCEMs. At the same time, the Department for Housing and Urban Development has been so concerned about difficulties associated with reverse mortgage scams and misunderstandings around the extent to which mortgage assistance is guaranteed, it supports a network of housing counsellors.⁸⁷

Infobox 8.9: United States FHA Housing Equity Conversion Mortgage 2008⁸⁸

Purpose	Enables older owner occupiers to withdraw some of the equity in your home with payments as a fixed monthly amount or a line of credit or both.
Decision-making Support	HECM counsellors discuss program eligibility requirements, financial implications and alternatives and provisions for the mortgage becoming due and payable.
Borrower Eligibility	Be 62 years of age or older; own the property outright or have a small mortgage balance; Occupy the property as principal residence; not be delinquent on any federal debt; participate in a consumer information session given by an approved HECM counsellor.
Mortgage Amount & Financial Requirements	Mortgage amount is based on the age of the youngest borrower, prevailing interest rate and property value or mortgage limit (whichever is the lesser). The financial requirements are that closing costs may be financed by the mortgage. Otherwise no credit or income qualifications are required. No repayment is required as long as residence remains the principal living place.
Property Requirements	Property must meet all FHA property standards and flood requirements and be a single family home or 1-4 unit home with one unit occupied by the borrower or a HUD-approved condominium or a manufactured home that meets FHA requirements.
Payment Plans	Tenure - equal monthly payments as long as at least one borrower lives and continues to occupy the property as a principal residence
	Term - equal monthly payments for a fixed period of months selected
	Line of Credit - unscheduled payments or in instalments, at times and in an amount of choosing until the line of credit is exhausted
	Modified Tenure - combination of line of credit plus scheduled monthly payments
	Modified Term - combination of line of credit plus monthly payments for a fixed period of months selected by the borrower
Repayment	Must be repaid in full at death or sale of home or if conditions such as residency, insurance and home maintenance are not met.

Lifetime Neighbourhoods and Cities

8.72 A number of jurisdictions overseas are recognising the importance of:

- Ensuring neighbourhood built environments suit the needs of older people, and
- Connecting where older people live with city and regional services and amenities.

⁸⁷ See Herbert, Turnham, & Rodger, 2008.

⁸⁸ <http://www.hud.gov/offices/hsg/sfh/hecm/hecmabou.cfm>

- 8.73 Initiatives around neighbourhoods include improved streetscapes for people with disability, including Alzheimer conditions,⁸⁹ and provision of immediate services, food access and social and recreational opportunities. They also include development of housing options for older people to move from existing but possibly unsuitable dwellings to more suitable dwellings within their community. There is a particular emphasis on managing inter-generational relationships within communities and housing developments.⁹⁰
- 8.74 At the city scale, the World Health Organisation (WHO) has promoted the development of Age-Friendly Cities. The WHO guide to Age-Friendly Cities identifies four major ways to improve cities in the context of ageing societies. Those are:
- ensuring affordable transport;
 - promoting older people's participation in civic society by holding public events at times convenient to older people;
 - supporting older people's employment; and
 - providing accessible service and amenity information.
- 8.75 WHO has provided a checklist that cities can use to self-assess their progress. Cities involved in developing those guidelines include: Melbourne, London, Istanbul, Mexico City, Moscow, Nairobi, New Delhi, New York, Shanghai and Tokyo.

Learnings for New Zealand's Future

- 8.76 The review of international responses to ageing show that some countries, particularly the United Kingdom, have made a considerable investment into research to illuminate appropriate pathways into the future. Many of the issues around older people's housing futures in the context of an ageing society are similar to those identified in New Zealand. Moreover, while there is considerable international variation in response, there are some clear themes emerging.
- 8.77 That commitment to 'ageing in place' is partly because there is a strong desire among older people themselves to stay in their communities and, indeed, within their existing homes. It is partly because there is a gathering body of evidence that service provision within institutional settings for older people is at least as costly as enabling service provision within communities. It is partly, also, because with increasing old age dependency ratios, there is an imperative to keep older people socially and/or economically productive for longer.
- 8.78 It is also being recognised that 'success' and cost-effectiveness of ageing in place is closely associated with housing. Independence and activity are influenced by the extent to which the housing in which older people live:

⁸⁹ Burton, *et.al.*, 2004; Burton and Mitchell, 2006, Burton and Torrington, 2007; Saville-Smith, 2008b.

⁹⁰ Hatton-Yeo and Oshako, no date; Wel_Hops, 2005.

- is enabling or disabling;
- promotes or compromises health and safety;
- connects or isolates; and,
- optimises living standards or is a burden on constrained incomes.

8.79 In short, housing futures for older people matter because they have so many other impacts on the individual outcomes for older people and their families, and those outcomes, in turn, impact on the whole of our society. In 2050, when almost a quarter of our population is likely to be aged 65 years or older, the impacts on wider society of the conditions in which older people live will not be able to be ignored.

8.80 Finally, the international response shows that while the demographics of ageing may be inexorable and challenging, the response to ageing can be purposeful. There are choices about housing futures.

8.81 Ensuring a decent future for older people's housing and one in which the costs of ageing are mitigated will involve actively and consistently recognising housing as a fundamental determinant to wellbeing and:

- Focus on robust cross-sectoral co-ordination and interface around housing;
- Actively improve the performance and amenity of older people's existing dwellings;
- Actively ensure that new dwellings perform well and are adaptable across the full life-cycle; and
- Creatively find ways of improving the security and affordability of housing for older people.

PART 3: RESEARCH FOR ACTION

9. FINDING A BRIGHTER FUTURE

- 9.1 The scenarios presented in Part 1 of this report and the pre-conditions and baselines are not predictions. They are, however, informed by a wide range of data, information and experiential reflection by consumers and sector stakeholders. The process of generating those scenarios has highlighted a number of important issues around New Zealand's ability to address the housing futures of older people in the context of an ageing society.
- 9.2 Firstly it is clear that there is a substantial evidential base of both New Zealand and overseas data and experience that allows us to:
- identify realistic future scenarios for older people's housing in the context of an ageing society;
 - consider how to optimise our response to those futures; and,
 - provide a number of instruments, models, programmes and approaches that could be implemented to improve the housing futures for older people and, by extension, of New Zealand as a whole.
- 9.3 Second, it is also clear that whether the housing futures of older people are optimised to their own and others' benefit will depend on leadership, cross-sectoral collaboration and a shared sense of purpose that involves the private, public, community and household sectors. A crucial part of that collaboration involves:
- reprioritising housing in the health and social services; and
 - integrating, not merely co-ordinating, housing assistance, funding and services in the broader spectrum of older people's services; and
 - recognising the role of the sectors concerned with the built environment – the building industry, the housing sector, the energy sector, and those concerned with settlement planning and infrastructure – into planning for older people's housing needs; and
 - developing the range of products, practices, processes, instruments and policy settings that will ensure optimal alignment between older people's housing needs, housing demand and housing supply.
- 9.4 Third, the process of scenario building has shown that New Zealand's situation is not so very different from many countries overseas. Because of that we can learn from overseas experiences and draw on the array of policies, programs and products generated overseas.
- 9.5 Australia, the United Kingdom, Canada and the United States are all ageing. They will all have larger older populations who make up a larger proportion of their populations. But they also have young ethnic populations that make the population ageing process more complex and the needs of older people more diverse.
- 9.6 A comparison of the international research around older people's aspirations, their likely needs and how those needs are transformed (or not) into housing demand and housing supply, show some fundamental similarities:
- Older people want to:
 - live in their communities; and
 - want to be active with homes of their own (rental or owned), whether they live with others or by themselves.

- Older people's dwellings, rather than institutional settings, are increasingly the setting for the provision of care and health services.
- The existing housing stock will dominate the housing stock in 2050 and requires investment in repairs, maintenance, modification and thermal performance if it is provide for the needs of older people.
- Building industries tend to be conservative with new stock, largely replicating the design limitations of the past unless there are purposeful incentives to change.
- Housing demand is strongly supply driven with housing functionality problems exacerbated by a trend towards producing larger dwellings.
- Older people in rental markets are more exposed to poor dwelling performance and/or tenure insecurity.
- Older people's extended longevity raises issues of living standards, housing affordability and a desire for extended employment participation.
- Older people become less mobile and more dependent on walking and public transport to connect to daily activities such as shopping, accessing health and other services, recreation and social interaction.

9.7 At the same time New Zealand is unique in relation to our cultural expressions and the organisation of our sectoral responsibilities and statutory requirements. We also have some unique features around our housing stock, our neighbourhoods and our settlements. New Zealand has a relatively high prevalence of timber-framed dwellings and detached dwellings. New Zealand's housing stock is very homogenous both in terms of type and design. Our neighbourhoods are more likely to be low density and our settlements are spread and strongly reliant on private car use.

9.8 New Zealand has the opportunity to pick up, assess, further develop and implement the bright ideas that are emerging internationally. Similarly, New Zealand has the opportunity to generate and export to the world bright ideas enabling older people to be active and productive through better services, housing and neighbourhoods.

9.9 This raises the issue of what research platform is necessary to enable New Zealand to better plan and address the housing futures for older people. There are a number of ways in which this could be scoped. In the past, older people's housing research in New Zealand has been dominated by two research topics. Firstly, older people's housing aspirations¹ and, secondly, housing assets, affordability and income release.²

9.10 More recently, research has been undertaken around repairs and maintenance,³ older people's future housing planning;⁴ older people's position within the rental market;⁵ and, marginal older people living alone.⁶ Analyses around the house condition, thermal performance of older people's dwellings, and housing demand are also emerging.⁷

¹ Davey, *et.al.*, 2004.

² Davey and Wilton, 2006.

³ www.goodhomes.co.nz

⁴ Davey, 2006b.

⁵ Nana *et.al.*, 2009.

⁶ Smith, *et.al.*, 2006.

⁷ Saville-Smith, *et.al.*, 2007.

- 9.11 There is also housing research in which older people constitute a sub-population in the research. Those studies may or may not highlight the housing conditions of older people but have the potential to do so, including research around fuel poverty,⁸ disability,⁹ energy use,¹⁰ the private rental market,¹¹ community housing provision,¹² local authority housing¹³ and neighbourhoods.¹⁴
- 9.12 It might be argued that the limitations of the research platform on older people's housing is rather similar to the problems in the way in which older people's housing is dealt with in policy, health and social services, the building industry and the housing sectors. It is neither comprehensive nor integrated.
- 9.13 Research around the housing stock and the built environment tends to be detached from research into health and social services needs. Research around housing need among older people tends to be disassociated from housing demand research and, indeed, research into the nature of housing supply. Typically, too, the research tends to be problem identification oriented rather than solution oriented.
- 9.14 There is little research directed to considering the relative merits of different options, products, services, initiatives or processes. Similarly there is little evaluative research in New Zealand around different service configurations, options for retrofitting existing dwellings or neighbourhoods, or the marginal costs and net benefits of, for instance, lifetime design dwellings and neighbourhoods. Nor is there research into the costs of New Zealand's current array of housing responses to older people.
- 9.15 Research tends to focus on the roles of the public and community sectors and there is little consideration of the role of the private sector, particularly in the building industry, and the opportunities to transform the industry response to older people's housing futures. Finally, some groups of older people tend to be largely silent in the array of older people's housing research to date. Maori, Pacific peoples and new settlers are beginning to emerge in the research effort, but because of the age structures of those communities, the housing needs of those older people have been frequently seen as having only marginal relevance.
- 9.16 Essentially, then, New Zealand has a choice about its research effort around older people's housing. It can take a business as usual approach which will be marked by a patchwork of research that all adds to our knowledge and understanding but which frequently does not address the key knowledge needs across stakeholders. Or we can seek a more integrated knowledge platform.

⁸ Isaacs, *et al.*, 2006.

⁹ Saville-Smith, *et al.*, 2007.

¹⁰ Isaacs, *et al.*, 2006

¹¹ Nana, *et al.*, 2009;

¹² Capital Strategy and SGS Economics and Planning, 2007.

¹³ CRESA and Public Policy & Research, 2007.

¹⁴ See Beacon Neighbourhoods <http://www.beaconpathway.co.nz/neighbourhoods>; Saville-Smith, 2008b.

Integrated Knowledge – What Do We Need to Know About?

9.17 If the type of scenario set out as the Integrated Response in this report is to be achieved, we need a better understanding of the dynamics in a set of key inter-related areas. They are:

- The housing, health and welfare interface. In particular:
 - The housing conditions needed to facilitate improved health and well-being outcomes for older people.
 - The value of delivering of care in home-base settings relative to other settings.
 - The relationship between dwelling accessibility, independence, productivity, and care costs.
- The relationship between older people's housing needs, housing demand and housing supply. In particular:
 - Quantifying the gap between need, demand and supply in relation to:
 - tenure
 - affordable housing costs
 - dwelling typology
 - dwelling connectivity to neighbourhoods and city systems
 - dwelling condition and functionality.
 - Affordable solutions to meeting older people's housing needs including:
 - Establishing the size of marginal costs of lifetime design and cost-effective options for lifetime design builds.
 - Identifying intermediate housing instruments suitable for older people.
 - Establishing affordable repairs, maintenance and retrofit options and services.
- Future-proofing the new-build stock in New Zealand. In particular:
 - Establishing the value case for lifetime design for key stakeholders:
 - Government
 - Industry
 - Households
 - Identifying and testing systems, products and processes that would encourage industry supply of life time design dwellings.
 - Evaluating the efficacy of various incentive, regulatory and investment models to promote lifetime design.
- Making good the existing New Zealand housing stock: In particular:
 - Establishing the condition, performance and functionality of New Zealand dwellings.
 - Establishing the value case for retrofit specified to both thermal and amenity performance of dwellings.
 - Identifying and testing systems, products and processes that would encourage industry supply of life time design retrofit in existing dwellings.
 - Evaluating the efficacy of various incentive, regulatory and investment models to promote retrofit.
- Increasing old people's connectivity and activity with a particular focus on age-friendly neighbourhoods and settlement systems.

Getting the Knowledge

9.18 Knowledge can be captured from a number of sources but essentially involves either using existing research and data from overseas and/or from New Zealand or generating new research programmes. Both of these are important. Research funds are limited. Cross-sector funding, particularly leveraging across the private, public and community sectors, provides opportunities for increasing funding targeted to housing futures. There are already some innovative programmes in this area such as CHRANZ, the Beacon Pathway, BRANZ's Building Levy Funding and FRST's funding of the cross-organisation programme targeted to repairs and maintenance in the context of ageing in place. But funds are limited and research data needs to be used smart. Any research plan needs to recognise that using overseas research, using data from various New Zealand research programmes, and new research programmes are all legitimate forms of research and research investment.

Capturing Overseas Research and Practice

9.19 New Zealand has limited research resources by international standards. Some countries, the United Kingdom in particular, have made a concentrated investment in issues around older people, housing and neighbourhoods.¹⁵ It has previously been noted that New Zealand has unique market, institutional and cultural conditions, but also some very real similarities with overseas dynamics. Consequently, New Zealand can leverage some of its own knowledge off countries overseas.

9.20 Research in those countries was considered issues that are equally applicable to our ageing population, such as the health impacts of poor housing, implications of renting for older people, provision of home-based care, ageing and disability, and what neighbourhoods need to provide for older people's wellbeing. There are significant bodies of research showing the costs and benefits of particular policies and programmes.

9.21 Three examples are:

- Lifetime design. The inclusion of lifetime design features result in only modest additional costs to a new home, and costs can be avoided if incorporated into design early enough.
- Home-based care services. The use of private dwellings for home-based care for older people is cost effective, however, dwelling type and tenure are cost critical variables.
- Programmes to improve home performance and safety. The external costs of dwellings that are dilapidated and have low levels of performance are well documented. Poor housing, including cold and unsafe dwellings, is a major reason why older people move into supported accommodation prematurely.

¹⁵ See the 2008 *National Strategy on Housing in an Ageing Society* for the research underpinning that strategy released by Communities and Local Government, 2008.

- 9.22 Another way of using overseas knowledge is in considering how tools developed elsewhere might be adapted to improve New Zealand practice. Examples include:
- Needs assessment tools.
 - Lifetime/universal design standards for private dwellings.
 - Guidelines for designing lifetime neighbourhoods.
- 9.23 Capturing data and experience from overseas, assessing their applicability to New Zealand and identifying the opportunities for calibrating or testing overseas research in New Zealand conditions, are in themselves legitimate, albeit often under-valued, research activities. New Zealand primary research as well as policy and practice is likely to be more robust if it is placed within an international body of expert knowledge and experience.

Using Existing Research, Evaluation and Data in New Zealand

- 9.24 We also need to use New Zealand specific data to know what is applicable and useful in New Zealand conditions, given the particular characteristics of our ageing population, ethnic diversity, regional/local distinctions, our government structures, current and historical policy settings, and characteristics of the housing market.
- 9.25 There are considerable opportunities among the range of existing operational research, evaluations and past research programmes to interrogate data specifically in relation to the knowledge it might generate around older people. Examples in this report include the analysis of travel patterns¹⁶ and house conditions of older people emerging from an analysis of the New Zealand House Condition Survey.¹⁷

New Research, Evaluation and Data in New Zealand

- 9.26 New research will need to be undertaken in New Zealand. Even where overseas or existing data suggest certain findings, testing those within the New Zealand context or in well-specified research or evaluation programme focusing on a clear research problem is still an important platform for knowledge. There is much to be done in relation to:
- Analysis of specific aspects of older people's housing needs and the match with housing demand and supply.
 - Analysis of the performance and functioning of the housing stock.
 - Ways to bring together housing, social services, health services and income support.
 - The housing demand, supply and needs of older Maori and Pacific peoples in rural and urban contexts.
 - The housing demand, supply and needs of older new settlers.
 - Neighbourhood design and connectivity.

¹⁶ O'Fallon and Sullivan, 2009.

¹⁷ Saville-Smith, James and Fraser, 2008.

Four Research Themes for a Brighter, Integrated Future

9.27 Given that research around the following issues may be undertaken through any variety of approaches, four research themes emerge:

- **Older people's housing needs and demand:** Key research areas relating to older people's housing needs and demand:
 - Housing needs and preferences of older people, including those of different ethnic and cultural groups, ageing people with disabilities, and ageing carers of older relatives.
 - Potential for the development of supported housing options (intermediate between ordinary homes and residential care), including the nature and extent of need and demand, and appropriate models for New Zealand.
 - Housing affordability issues affecting older people and options for addressing unaffordability.
 - Potential for the development of tenure options, including nature and extent of need and demand, and appropriate models for New Zealand.
 - Options for improving the responsiveness of the rental sector to older people's housing needs.
 - The drivers and processes affecting housing and movement decisions of older people.
- **Supply, performance and functioning of the housing stock:** Key research areas relating to housing performance and impacts of functionality for older people:
 - How can the current housing stock be improved to meet the needs of an ageing population?
 - Barriers to older people's access to adequately performing homes.
 - The value derived from:
 - Retrofitting
 - Designing new housing to function well for older people
 - The marginal costs of retrofitting and new design.
- **Coordination of housing, support and health services:** Key research areas related to coordination of services:
 - What changes are required for better coordination and integration of housing, support and health services.
 - Home based care:
 - Examination of the demand for home based care and the implications of demand
 - The costs and benefits of home based care, particularly the effects of housing type, quality and tenure on those costs and benefits.
 - Ways in which older people's and their families' access to information and advice about housing and related services can be improved.
- **Neighbourhood design and connectivity:** Key research areas relating to neighbourhood design and connectivity:
 - What are the key aspects of neighbourhood design that can improve quality of life for older people.
 - How can planning be improved to deliver better neighbourhood environments for older people.

GLOSSARY

<i>Baby boom</i>	The period of high births between 1946 and 1965 in New Zealand.
<i>Baby boomers</i>	People born during the baby boom.
<i>Demand</i>	The desire for a particular good or service supported by the possession of the necessary means of exchange to effect ownership.
<i>Dependency Ratio</i>	<p>Dependency ratios relate the number of people in the 'dependent' age groups (defined here as 0–14 years and 65 years and over) to the 'working-age' population (15–64 years).</p> <p><i>Aged or elderly ratio</i> - The number of people aged 65+ years per 100 people aged 15–64 years.</p> <p><i>Child dependency ratio</i> - The number of people aged 0–14 years per 100 people aged 15–64 years.</p> <p>The <i>total dependency ratio</i> (sum of the 0–14 and 65+ dependency ratios).</p>
<i>Median Age</i>	Half the population is younger, and half older, than this age.
<i>Non-private Dwellings</i>	<p>All other dwellings (not included under private dwellings), used for human habitation (or intended to be used), are non-private and are available to the public. They may be available for use generally, or by virtue of occupation or study, special needs, or legal requirements, ie prisons. Such dwellings may have facilities (such as a dining room) that are for shared use. They include:</p> <ul style="list-style-type: none">• Hotel, motel or guest house• Boarding house• Home for the elderly• Other (such as hostel, motor camp, hospital).
<i>Private dwellings</i>	A private dwelling accommodates a person or a group of persons, but is not available to the public. Including houses, flats, and apartments; residences attached to a business or institutions; baches, cribs, and holiday homes; and dwellings of the above types that are under construction. Garages; caravans, cabins and tents; vehicles; vessels; are also included.
<i>Projection</i>	Indication of the future demographic characteristics of a population, families, households or labour force based on an assessment of past trends and assumptions about the future course of demographic behaviour (eg fertility, mortality, migration, living arrangement type, labour force participation).

Scenario

An approach to futures thinking that constructs an internally consistent description of future conditions, situations, events, and characteristics, based on stated assumptions. Scenarios are used to assess and plan for uncertain, alternative futures that are deemed possible, probable or plausible.

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Appendix A: Some Scenarios Used to Explore Housing Futures

A number of countries have used scenarios to explore housing futures. Many of those scenarios share common themes. Likely futures raised in scenarios constructed overseas include:

- ***Spatial polarisation scenarios*** where housing and service provision is divided on the basis of income. Those on low to moderate incomes are exposed to unaffordable, unsafe and insecure housing. Older people are particularly at risk of inadequate housing and ill health due to poor housing conditions. At one end, those older people with assets are catered for by specialised communities and high quality homes run by smart technologies that are located in desirable areas with readily available services. At the other end, the ghettoisation of social housing and new forms of mobile homes and hostels that house extremely disadvantaged people are common.¹
- ***Flexible housing scenarios*** in which communities provide flexible housing choices that respond to individual needs and preferences. Both residential and commercial buildings are constructed so that they may be easily retrofitted for changing purposes, life styles, life phases and needs of residents. Flexible housing requires different types of tenure, including intermediate forms between renting and home ownership.²
- ***Sustainable housing scenarios*** in which housing is driven towards greater energy and resource efficiency in response to diminishing natural resources and climate change and associated drivers that raise building and/or house operating costs. Medium-high density housing and the use of brownfields sites is promoted, and mixed use settlements with integrated residences, businesses, facilities and services are common. Transport policy affords priority to walking, cycling and public transport. Large suburban shopping malls dwindle, housing development with no facilities and serviced only by private car becomes untenable and older, inner-city urban housing is regenerated to meet environmental and climate challenges.³
- ***Innovative dwelling technologies scenarios*** in which the housing future is seen in terms of building technologies. These include prefabrication and modular building components, increasing use of information and communications technologies and 'smart' technologies.⁴
- ***House attachment scenarios*** in which communities strive to retain their elderly residents as long as possible, in part to manage the flow of houses coming on to the market as ageing baby boomers downsize. The need to retain older residents makes it imperative to develop elder-friendly settlements that link older people to shops, recreational facilities, public transport, home support services, health facilities and other essential services. It also means establishing innovative financial instruments to assist older people to upgrade their homes so that they live in them longer. This is preferred to establishing older people in retirement villages and investing in expensive long-term care facilities.⁵
- ***Housing specialisation scenarios*** which contrast with the house attachment scenario. Housing specialisation scenarios envisage homes and residential areas specialised according to life phase, life style and culture. Housing for the elderly, for the young and for families are situated in different places and designed

¹ Burke and Zakharov, 2006; The Copenhagen Institute for Futures Studies, 2001; Haus der Zukunft, 2009; Worthington, 2004.

² Burke and Zakharov, 2006; The Copenhagen Institute for Futures Studies, 2001; Worthington, 2004.

³ Worthington, 2004; Burke and Zakharov, 2006; Haus der Zukunft, 2009; Myers and Ryu, 2007.

⁴ Haus der Zukunft, 2009; The Copenhagen Institute for Futures Studies, 2001; Worthington, 2004.

⁵ Myers and Ryu, 2007; Blake and Simic, 2005; The Myer Foundation, 2003.

differently. Services are targeted to the different areas. Where this works well, a local community based on shared lifestyle and interests develops. Where this doesn't work, resources are inequitably spread and social problems develop.⁶

In New Zealand, Scion and BRANZ generated five scenarios depicting housing in 2030. Those scenarios echo some of the themes emerging in overseas scenarios. Those scenarios are:⁷

- 'Sunrise, sunset' explored the implications of regional decline for the housing market.
- 'Change of heart' explored the increasing difficulties of entering home ownership, housing affordability, attitudes to debt and the durability and economic lifetime of buildings.
- 'Vertical village' explored how the impacts of reduced resource availability and rising prices may affect housing construction, transport and infrastructure. This scenario envisages high rise living as one response.
- 'Gates of heaven' considered the rise of conservative values and increase in gated communities.
- A reference scenario, based on extrapolation of current trends. This scenario assumed a high number of beneficiaries and looked at the respective roles of central government, local government, private landlords and community agencies in the provision of housing.

⁶ The Copenhagen Institute for Futures Studies, 2001.

⁷ Scion and BRANZ, 2006.

Appendix B: An intergenerational model of housing demand

The basic framework

The model is an extension of the model used by Coleman (2008) to analyse the effect of inflation, taxes and credit constraints on the housing market. In turn, it is based on the housing model of Ortalo-Magné and Rady (1998, 2006). In the model, there are four cohorts, each of which lives four periods and then dies. Agents have exogenously determined labour income and consume a single non-storable good. They also gain utility from renting or purchasing a single unit of housing. These housing units come in two sizes, small flats or large houses. Agents choose among different patterns of housing and consumption to maximise their utility. Agents can borrow or lend at exogenously determined interest rates, although young agents face credit constraints. Agents can also become landlords. They pay income tax on any interest earnings or on rental income. In the last period of life agents consume all wealth except their house, which is inherited by a younger generation.

There is a construction sector that builds and modifies houses as demand changes. Separate upward sloping supply curves for the quantity of flats and houses are specified, so that the equilibrium number and mix of properties is determined endogenously. The model is solved for three basic parameterisations. In the first, the supply of housing is assumed to be very elastic, so that a 10 percent increase in the number of houses leads to a 1 percent increase in house prices. In the second, the model is parameterised so that a ten percent increase in the quantity of houses leads to a ten percent increase in house prices. Both high and low quality houses increase by a similar amount, so that the price difference is little affected by housing volumes. The latter assumption is in line with the long term evidence about house supply elasticity in New Zealand and the United States (Coleman and Landon-Lane, 2008). In the third parameterisation, the price of low quality houses increases by 1 percent for each 1 percent increase in the number of houses, but the price of high quality houses goes up three times as fast.

Agents and period lengths

An agent lives for four periods labelled $i = \{0,1,2,3\}$. A period is T_i years long.

The periods can be any length, but in this model the periods 0 and 1 are chosen to be 10 years long, period 2 (middle age) is 20 years, and the last period is varied from 10 to 20 years to reflect the process of population ageing. It is useful to think of the model as consisting of a forty year working life (ages 25 – 65) followed by a retirement period. Relatively short periods are needed at the beginning of life to capture life-cycle income changes and the effects of bank imposed borrowing constraints. Agents differ by income and while any pattern of income is possible, agents are assumed to have a constant place in the within-cohort income distribution. Agent 1 has the lowest lifetime income. In period t , agent j born in period $t-i$ has real labour income

$$Y_t^{i,j} = \omega_j g_i Y_{t-i}^0 (1 - \tau_l) \quad (1)$$

where ω_j = idiosyncratic factor affecting agent j relative to average cohort earnings;
 g_i = factor reflecting the life-cycle earnings of the cohort in its i^{th} period; Y_{t-i}^0 = average income of cohort at time of birth; and τ_l reflects taxes on income.

Nominal income is $P_t Y_t^{i,j}$, where P_t is the pre-tax price of the good. An indirect goods and services tax is applied to goods other than housing at rate τ^g , so the post tax price of the good is $(1 + \tau^g)P_t$. Incomes and the prices of goods are both assumed to increase at a constant inflation rate π , where $1 + \pi = P_{t+1}/P_t$.

Agents obtain utility from the consumption of goods and housing. An agent chooses an annual flow of real consumption $c_t^{i,j}$, and has housing choices described by a vector of three indicator variables $\mathbf{I}_t^{i,j,h} = \{I_t^{i,j,R}, I_t^{i,j,F}, I_t^{i,j,H}\}$ that equal one if the agent has housing tenure h in period i of his or her life at time t , and zero otherwise. There are three possible housing tenures: an agent can rent a flat (R), purchase a flat (F), or purchase a house (H). Age zero agents can live with their parents at zero cost, although they gain zero utility from doing so. The ability to live at home means that the total demand for housing declines as property prices increase. The model could be specified so that young agents live together to economise on housing as an alternative method of ensuring that the elasticity of total housing demand with respect to price is non-zero, but this variation has not been modelled. In period t agents obtain utility

$$u(c_t^{i,j}, \mathbf{I}_t^{i,j,h}) = \ln(c_t^{i,j}) + \sum_h v^h I_t^{i,j,h} \quad (2)$$

It is assumed $v^H > v^F$ as houses are bigger than flats, and $v^F > v^R$, as agents can shape an owned flat in their own image, whereas they cannot modify a rented flat. Agents can only live in one housing unit in any period. Agents born at time t choose consumption and housing paths to maximise discounted lifetime utility, weighting consumption each period by the number of years in the period:

$$U = \sum_{i=0}^3 T_i \beta^{\left(\sum_{j=0}^i T_j - T_0\right)} u(c_{t+i}^{i,j}, \mathbf{I}_{t+i}^{i,j,h}) \quad (3)$$

Inheritance

In the last period, agents are assumed to sell or realise all assets except their last owned housing unit, repay any debts, and consume all of their wealth. They die at the end of period 3, at which point their housing unit is distributed to younger cohorts. At time t a fraction κ_t is left to the cohort born at $t-i$ for $i=0,1,2$; in this paper the weights are $\kappa_t = (0,0,1)$ so that agents do not receive an inheritance until late in life. Two different inheritance assumptions have been analysed. In the first case, the house that the j th old agent lived in is left to the j th middle aged agent, thus preserving the intergenerational income ranking. In the second case, the houses of two adjoining old agents j and $j+1$ are left to middle aged agent $j+1$, while middle aged agent j gets nothing. The latter scheme, which is the preferred scheme, means that half the agents in an economy do not inherit any wealth, so all of their assets are accumulated from their own saving. In the utility maximisation equation below, $Inherit_t$ is the value of the inheritance left by the agents dying at the end of time $t-1$ and inherited at time t .

A version of the model is also solved where old agents can take out a reverse mortgage equal to 20 percent of the value of the house. They are assumed to spend this on consumption goods. When they die, this sum plus accumulated interest is deducted from the value of the house before it is passed on to the beneficiaries of the estate.

Taxes

In Coleman (2008) five features of the tax system were modelled; in this paper these features are retained and there is a further modification to capture the way income taxes may need to be raised to pay for additional government expenditure on pensions and medical care. First, interest and rent income is taxed at an agent's marginal tax rate. There are two marginal tax rates: τ_1 for agents with real income in period t less than τ^* , and $\tau_2 \geq \tau_1$ for agents with real income greater than or equal to τ^* . It is assumed that the tax threshold is automatically adjusted for inflation and thus constant in real terms. Secondly, the capital gains tax rate is zero. No property appreciation, either for an owner-occupied house or for a leased flat, is taxed. Thirdly, imputed rent is tax

exempt. Fourthly, a landlord can deduct interest payments associated with a mortgage when calculating taxable income. Thus a landlord pays tax on rent net of interest payments, but no tax on any capital appreciation. Fifthly, there is a goods and services tax that is applied to consumption but not to rent or property. In the model, the goods and service tax rate is set endogenously at a rate that makes the total tax take (tax on capital income plus tax on goods and services) equal to a set fraction of labour income, in this case $\tau^{g*} = 10$ percent. This ensures that any changes in the structure of capital incomes taxes do not have revenue implications for the Government.

The new tax is an additional tax on labour income. As the population ages, represented by an increase in the length of the last period, government expenditure on the elderly is allowed to increase. In the main parameterisations modelled, expenditure on pensions increases one for one with the increase in the length of the last period. In the main alternative variation, there is no increase in total government expenditure on pensions; in essence, the age of eligibility is increases one for one with the increase in longevity, as happened in New Zealand in the 1990s. In addition, medical expenditure on the elderly can be increased, by approximately 3 percent of GDP ¹. If Government expenditure is increased, it is assumed there is a corresponding increase in the taxes on labour income². While agents face different marginal tax rates, in the model it is assumed that both taxes rates are increased by the same percentage. This reduces after-tax incomes at all ages. The result is a direct intergenerational transfer from working age members of the population to the elderly generation. The tax-pension scheme also transfers income from high income members of the economy to low income members, as the increase in the pension is assumed to be the same for all agents whereas the taxes are proportional to income.

The housing market

Flats and houses cost P_t^F and P_t^H to purchase. Flats can also be leased, at price P_t^R that is paid in advance at the beginning of the lease. The rent is paid to a landlord, who, for convenience, is restricted to be an agent in period 2 of their lives. The number of landlords is endogenous; an indicator variable $I_t^{i,j,R*}$ indicates whether or not the j^{th} agent owns a rental property.³ Because there is no uncertainty, the after-tax return from purchasing a flat in period t , leasing it, and selling it in period $t+1$ is equal to the after-tax return from lending money. As such, the relationship between rent, tax rates, flat prices, and interest rates is

$$P_t^R (1 - \tau_2)(1 + r_t(1 - \tau_2))^T + P_{t+1}^F = P_t^F (1 + r_t(1 - \tau_2))^T \quad (4)$$

or

$$P_t^R = P_t^F \left(\frac{(1 + r_t(1 - \tau_2))^T - (1 + \pi_t^F)}{(1 - \tau_2)(1 + r_t(1 - \tau_2))^T} \right) \quad (5)$$

where π_t^F is the rate of price appreciation for flats. The right hand side of equation 4 is the after-tax return in period $t+1$ from investing P_t^F in interest earning bonds. The left hand side is the after-tax return at $t+1$ from using the same sum to purchase a rental flat at time t . It comprises

¹ This expenditure is assumed to have no effect on the utility that is derived from goods consumption; basically it prevents a loss of utility that would otherwise occur due to ill health.

² To minimise computation complexity, it proved easier to raise taxes on labour income than labour and capital income. This means there is a small wedge between labour and capital taxes. Until recently in New Zealand, capital and labour taxes have been the same, unlike the situation in many other countries where social security taxes are levied on labour income but not capital income. In the last few years, however, capital taxes have been lower than labour taxes. Thus it is not inconceivable that in the future taxes could be raised on labour rather than capital income as longevity increases.

³ If there is demand for f flats, the fT_0/T_2 highest income individuals are assumed to own one flat each for all T_2 years of the second period. This adjustment is needed to ensure that the aggregation in the model is done correctly.

the after-tax rent paid at time t and reinvested at interest, plus the untaxed proceeds from selling the rental unit at time $t+1$. Since interest payments by landlords are fully tax deductible, the return to a landlord is independent of their level of gearing. It is assumed that the landlords are high income agents in period 2 of their lives, so after-tax returns are calculated using the top marginal tax rate τ_2 .⁴

In each period, agents choose between one of the three housing options, or not having housing. Consequently, there are potentially 256 different ways to climb the housing ladder. Rather than calculate the utility of each of these patterns, I only let agents choose from a much smaller set of patterns, \mathbf{H} . To reduce the number of possible patterns, I impose a series of restrictions on the lifetime housing options available to an agent. The three restrictions are: (i) only 0 period agents may choose no housing; (ii) only period 0 and period 1 agents may choose to rent; and (iii) except in the last period, agents' housing choices must not worsen through time. By this means, the set \mathbf{H} is reduced to 23, $\mathbf{H} = \{0RFF, 0RHF, 0RHH, 0FFF, 0FHF, 0FHH, 0HHF, 0HHH, RRFF, RRHF, RRHH, RFFF, RFHF, RFHH, RHHF, RHHH, FFFF, FFHF, FFHH, FHHF, FHHH, HHHF, HHHH\}$. An agent's optimal discounted utility is calculated for each of these patterns, and the agent is assumed to choose the pattern that provides the greatest discounted utility.

It should be noted that these set of options do not allow agents to rent in their last period. While in reality some people do rent in retirement, this restriction is probably not particularly important for three reasons. First, as an empirical matter, in New Zealand (and in Australia and the United States) a large majority of retired people own their own houses. Those who don't tend to have low incomes, or have been subject to shocks such as ill health or divorce that are outside the confines of this model. Since in the model the long term costs of renting are similar to the long term costs of owning a house, there is no long term financial advantage to be gained by renting rather than owning; indeed, the tax advantages to home ownership mean it is usually cheaper than renting in the long run. Consequently, in this model there is no reason why households are unable to own in the long term, although they may choose to rent while young in order to smooth consumption. One would have to incorporate a degree of short-sightedness or irrationality in the model to explain why people can afford to rent rather than own, or posit the existence of rent subsidies, perhaps by local government. While it is true that a small subsidised rental sector does exist in New Zealand, supply is limited and access is rationed, making it very difficult to model in the absence of a story of how the supply may respond to increasing longevity (Davey et al 2004).

Secondly, from an aggregate position, the total number of high and low quality houses is largely unchanged whether people own their own homes or rent them. Consequently, in the long run, there will be little difference in house prices and thus little difference in the indirect effects on other cohorts. A modelling change that would make a significant difference would be to allow older cohorts to move in with their families, which would reduce the total number of houses demanded in the same way that letting young people live with their parents changes housing demand. At the moment, this is not a common arrangement in New Zealand. If New Zealand attitudes are similar to those expressed in Australia, which tend to be downright hostile to the idea of living with one's children, it is unlikely to be a common arrangement in the future either (Olsberg and Winters 2005). It is possible that this will become a more popular arrangement in the future, particularly among non-Pakeha New Zealanders, but this possibility has not been modelled.

⁴ If there is a high demand to rent property, it is possible that the last landlord in the model is on the low marginal tax rate. Nonetheless, it is assumed that competition between high income landlords determine rents, so the top marginal rate is used.

The third reason to ignore the rental market among older people concerns the type of financial services that are available in New Zealand. In the model, the costs of renting and owning are similar, meaning that over a lifetime if one can afford to rent then one can afford to buy. Nonetheless, in the model if people chose to rent rather than own in the last period they could choose to leave a smaller inheritance and consume more. In principle, this could induce people to rent instead of living in a large house, so that they could spend the difference on consumption. I have chosen to ignore this option for two reasons. First, there is little evidence that many elderly wish to people do this. Australian evidence strongly suggest that older people prefer to retain ownership of their homes as it provides them with options to realise their wealth in the event that bad shocks occur. Secondly, in most countries including New Zealand, the absence of a well defined annuities market means it is not possible to sell up and obtain an actuarially fair annuity that would enable a household to guarantee they could cover their rent given uncertainty over life expectancy (St John 2006).

It is assumed that there is a construction sector that builds new flats and houses, or converts house from one quality into another. Consequently the quantity of each type of property is determined in equilibrium along with rents and prices. Linear supply functions are specified:

$$\begin{aligned} P_t^F &= \alpha_0^F + \alpha_1^F (Q_t^F + Q_t^H) \\ P_t^H &= P_t^F + \alpha_0^H + \alpha_1^H Q_t^H \end{aligned} \tag{6}$$

In this specification the price of flats is an increasing function of the total number of properties (to reflect the possible scarcity of land), while the price of houses is determined as a variable premium supply over the price of flats. In the first parameterisation the price of flats is very elastic, with house prices increasing by 0.1% for a 1 percent increase in the number of houses ($\alpha_0^F = 18000; \alpha_1^F = 1; \alpha_0^H = 10000; \alpha_1^H = 1.5$). In the second parameterisation, a 1 percent increase in the number of properties leads to a 1 percent increase in prices ($\alpha_0^F = -8000; \alpha_1^F = 15; \alpha_0^H = 10000; \alpha_1^H = 1.5$). In the third parameterisation, a 1 percent increase in the number of properties leads to a 1 percent increase in the price of small houses, but prices of large houses increase three times as fast. ($\alpha_0^F = -8000; \alpha_1^F = 15; \alpha_0^H = 22500; \alpha_1^H = 30$).

The lending market

There is a non-profit financial intermediary that accepts deposits and issues mortgages at an interest rate r_t . Agents can lend or borrow as much as the bank allows them at the one period interest rate r_t , subject only to the restriction that they have a zero debt position at the end of their life. The economy can either be closed, in which case the interest rate is determined endogenously and aggregate deposits equal aggregate loans, or open, in which case real interest rates are determined exogenously and the net foreign asset position can be non-zero. There are no restrictions on the deposit contract, and interest on a deposit made at time t is paid at time $t+1$. Agents pay tax on this interest at their marginal tax rate, but do not get a tax deduction for interest paid on borrowed funds unless they borrow to fund a rental property.⁵ An agent's positive funds are labelled $B_t^{i,j}$.

The mortgage contract is subject to three restrictions.⁶

i) The loan to value restriction.

⁵ To reduce computational complexity, the marginal tax rate is calculated on the basis of labour income, not total income. Otherwise the marginal tax rate is determined endogenously.

⁶ Note that banks impose these restrictions even though there is no uncertainty in the model

The mortgage may not exceed a certain fraction of the value of the property. In particular, the gross amount borrowed D_t^{i,j^-} cannot exceed the value of property multiplied by the loan to value ratio θ : that is

$$D_t^{i,j^-} \leq \sum_{h \in F, H} \theta P_t^h I_t^{i,j,h} \quad (7)$$

(Note $D_t^{i,j^-} > 0$ if the agent borrows.) This restriction means that agents who rent cannot borrow to smooth consumption, although they can save.

ii) *The regular cash payment restriction.*

Banks only issue η -year table mortgages, and require a “cash payment” in the period the mortgage is issued. This restriction is imposed to mimic a standard condition of a table mortgage, namely that a customer is required to make regular cash repayments CP of equal size throughout the life of the mortgage rather than a large repayment at its terminal date. The payment size CP is chosen to ensure the mortgage is retired at the end of the term: if D^0 is initially borrowed, the annual payment is

$$CP = D^0 r \left[\frac{(1+r)^\eta}{(1+r)^\eta - 1} \right] \quad (8)$$

and η is assumed to be 25 years.⁷

It is not possible to exactly replicate this feature of a standard mortgage contract in the model. However, a close approximation is achieved by requiring the customer to make a payment that pays off some of the interest and principal in any period he or she has debt. In particular, a customer with gross debt of D_t^{i,j^-} is required to open up a separate account with the bank and make a deposit of size

$$D_t^{i,j^*} = D_t^{i,j^-} \frac{r_t}{1+r_t} \left[\frac{(1+r_t)^{\eta/T}}{(1+r_t)^{\eta/T} - 1} \right] \quad (9)$$

into this account. This deposit earns (untaxed) interest at rate r_t . This means the net borrowing position of a borrowing agent, $D_t^{i,j} = D_t^{i,j^-} - D_t^{i,j^*}$, is less than the gross borrowing position. Without this “cash payment” feature, many agents would prefer to purchase rather than rent simply because the interest payment occurs a period later than the rental payment. When the “cash payment” requirement is imposed, purchasing a house requires a larger payment to the bank in period t than the cost of renting a house.

iii) *The mortgage-repayment-to-income restriction.*

The maximum amount an agent can borrow is restricted to ensure the mortgage repayment given by equation 8 is smaller than a fraction δ of income:

$$D_t^{i,j^-} \frac{r_t}{1+r_t} \left[\frac{(1+r_t)^{\eta/T}}{(1+r_t)^{\eta/T} - 1} \right] \leq \delta P_t^j Y_t^{ij} \quad (10)$$

Note that this constraint is expressed in terms of nominal interest rates.

The mortgage conditions are only imposed on agents in periods 0 and 1 of their lives in order to simplify the solution algorithm. In period 2 agents can borrow unrestricted amounts. The absence of a restriction in period 2 has little effect because agents are in their peak earning years,

⁷ Until recently, this has been the standard term for a table mortgage in Australia and New Zealand.

receive their inheritance at this time, and are actively saving or reducing debt to finance their retirement.

Utility maximisation

An agent born at time t solves the following constrained maximisation problem (the j th superscript is omitted):

$$\begin{aligned}
Max_{\{c_{t+i}, I_{t+i}^i\}} \quad & U = \sum_{i=0}^3 T_i \beta^{\left(\sum_{j=0}^i T_j - T_0\right)_i} u(c_{t+i}, I_{t+i}^i) \quad (11) \\
& - \lambda_0 \left(P_t T_0 Y_t^0 - B_t^0 + D_t^0 - (1 + \tau^g) T_0 P_t C_t^0 - \sum_h P_t^h I_t^{0,h} \right) \\
& - \sum_{i=1}^3 \lambda_i \left(\begin{aligned} & (1 + \pi)^i T_i P_i Y_{t+i}^i + B_{t+i-1}^i (1 + r_{t+i-1} (1 - \tau^i)) - D_{t+i-1}^i (1 + r_{t+i-1}) - B_{t+i}^i + D_{t+i}^i \\ & - (1 + \pi)^i (1 + \tau^g) T_i P_i C_t^i - \sum_h P_{t+i}^h I_{t+i}^{i,h} + \sum_{h=F,H} P_{t+i}^h I_{t+i-1}^{i-1,h} + \kappa_i Inherit_{t+i} \\ & + [P_{t+i}^R (1 - \tau^i) I_{t+i}^{i,R*} + (P_{t+i}^F - P_{t+i-1}^F (1 + r_{t+i-1} (1 - \tau^i))) I_{t+i-1}^{i-1,R*}] \end{aligned} \right) \\
& - \sum_{i=0}^1 \chi_i \left(D_{t+i}^{i,-} - \sum_h \theta P_{t+i}^h I_{t+i}^{i,h} \right) \\
& - \sum_{i=0}^1 \phi_i \left(D_{t+i}^{i,-} \frac{r_{t+i}}{1 + r_{t+i}} \left[\frac{(1 + r_{t+i})^{\tau/T}}{(1 + r_{t+i})^{\tau/T} - 1} \right] - \delta Y_{t+i}^i \right) \\
& - \sum_{i=0}^3 \zeta_i (B_{t+i}^i) - \sum_{i=0}^3 v_i (D_{t+i}^i)
\end{aligned}$$

The first line of equation 11 is the utility maximisation equation, equation 3. Lines 2 and 3 of equation (11) are the budget constraints facing the agent in the four periods. Note the budget constraints as well as the utility function have an adjustment for the number of years in each period. Lending and borrowing are entered separately as there are different after tax interest rates, and there are terms to reflect inheritance and rental income. Lending and borrowing in period 3 are restricted to equal zero, and τ^i is the marginal tax rate applying in period i of the agent's life. The Kuhn-Tucker conditions in lines 4 and 5 reflect the loan-to-value ratio constraints and the mortgage-repayment-to-income ratio constraints respectively. The Kuhn-Tucker conditions in line 6 reflect the requirement that non-negative amounts are lent and borrowed. The agent solves the problem by calculating the maximum utility for each housing pattern in the set \mathbf{H} , and then selecting the housing pattern with the highest utility. The use of log-linear utility functions means it is relatively straightforward to calculate an analytical solution for the optimal consumption path given a particular housing pattern, even though each solution has 48 parts corresponding to the 48 possible combinations of Kuhn-Tucker conditions.⁸

Equilibrium conditions

In the simulations, the steady state equilibrium is found for an open economy in which agents borrow or lend at the world interest rate. In the steady state, the following price relationships hold:

$$(1 + r_t) / (1 + \pi_t) = r \quad (12a)$$

⁸ In the periods 0 and 1, the financial asset position can be positive, zero, negative, or equal to the borrowing constraint; in period 2, the financial asset position can be positive, zero or negative; and in period 3 it is zero.

$$\frac{P_{t+1}^F}{P_t^F} = 1 + \pi^F \quad (12b)$$

$$\frac{P_t^H}{P_t^F} = \rho^H \quad (12c)$$

$$\frac{P_t^R}{P_t^F} = \left(\frac{(1 + r_t(1 - \tau_2))^T - (1 + \pi_t^F)}{(1 - \tau_2)(1 + r_t(1 - \tau_2))^T} \right) = \rho^R \quad (12d)$$

Equation (12a) states that real interest rates are constant. In the open economy model, the rate r is the foreign real interest rate. Equation (12b) states that flat prices appreciate at a constant rate.⁹ Equation (12c) states that the ratio of house prices to flat prices is constant. Equation (12d) is a restatement of equation 5, linking rents to interest rates and the flat price appreciation rate.

For a set of parameters $\{N, T, T_i, Y_t^0, \omega_j, g_i, \pi, \beta, v_h, \kappa_i, H, n^H, n^F, \eta, \theta, \delta, \tau^{g*}, \tau_1, \tau_2, \tau^*\}$, pension expenditure, medical expenditure, and labour taxes τ_L , and housing parameters $\{\alpha_0^F, \alpha_1^F, \alpha_0^H, \alpha_1^H\}$ the steady state equilibrium is described by a set of prices $\{r, \pi^F, \rho^H, \rho^R\}$, a GST rate τ^g , a set of housing and consumption demands $\{c_{t-i+s}^{s,j}, \mathbf{I}_{t-i+s}^{s,j,h}\}_{s=0,\dots,3}$ for each agent j in each cohort born in period $t-i$, and a net foreign asset position B_t^{net} such that all agents have maximal utility and

$$\sum_{i=0}^3 \sum_{j=1}^N T_i c_t^{i,j} = (1 - \tau^{g*}) \sum_{i=0}^3 \sum_{j=1}^N y_t^{i,j} - \left(\frac{r - \pi}{1 + \pi} \right) T_i B_t^{net} \quad (13a)$$

$$\sum_{i=0}^3 \sum_{j=1}^N (B_t^{i,j} - D_t^{i,j}) - P_t^F \sum_{j=1}^N I_t^{2,j,R*} = B_t^{net} \quad (13b)$$

$$\tau^{g*} \sum_{i=0}^3 \sum_{j=1}^N y_t^{i,j} = \quad (13c)$$

$$\tau^g \sum_{i=0}^3 \sum_{j=1}^N T_i c_t^{i,j} + \sum_{i=0}^3 \sum_{j=1}^N T_i B_{t-1}^{i,j} r \tau_t^{ij} + \sum_{j=1}^N P_t^R \tau_t^{2,j} I_t^{2,j,R*} - \sum_{j=1}^N P_{t-1}^F r \tau_t^{3,j} I_{t-1}^{2,j,R*}$$

and

$$\sum_{i=0}^3 \sum_{j=1}^N T_i (I_t^{i,j,R} + I_t^{i,j,F}) = Q^F \quad (13d)$$

$$\sum_{i=0}^3 \sum_{j=1}^N T_i I_t^{i,j,H} = Q^H \quad (13e)$$

where Q^F and Q^H are the number of houses produced when the supply of properties is elastic,

$$Q^H = \frac{P^H - P^F - \alpha_0^H}{\alpha_1^H} \quad \text{and} \quad Q^F = \frac{P^F - \alpha_0^F}{\alpha_1^F} - Q^H.$$

⁹ If the number of flats and houses is determined exogenously, an equilibrium can be found in which incomes in the economy grow at a constant rate, and in this case the steady state equilibrium will have property prices growing at a faster rate than the rate of inflation. If the number of properties is determined endogenously and the income growth rate is positive, the only possible steady states occur when all people live in large houses, or when the quality of flats and houses steadily improves. This paper does not analyse these cases.

Equation (13a) requires that total consumption plus tax plus real earnings on the net bond position in each period equals total production. Equation (13b) is the net supply of foreign bonds, given that landlords are assumed to borrow 100 percent of the price of a flat. This will change through time if there is economic growth or inflation. Equation 13c says that the total tax take is equal to total GST revenue plus tax on interest and rent minus the tax deduction for landlords. Note that while it has been assumed landlords borrow 100 percent of the value of the property, tax revenue would not change if landlords had different gearing as the tax rate on positive balances is the same as the tax deduction they get when they borrow. Equations (13d) and (13e) require that the total demand for flats equals the supply of flats, and that the total demand for houses equals the supply of houses.

Parameterisation

The set of baseline parameters $\{N, T, Y_t^0, \omega_j, g_i, \pi, \beta, v_h, \kappa_i, H, n^H, n^F, \eta, \theta, \delta, \tau^{g^*}, \tau_1, \tau_2, \tau^*\}$ are nearly the same as those used by Coleman (2008) and have been chosen to approximate features of the New Zealand economy.¹⁰ These are listed in table 12. Except for income distribution, the income parameters approximately match the basic lifecycle and cohort income patterns of New Zealanders reported in census documents, 1966–2001, under the assumption that the basic agent is a household comprised of a male and female of the same age. For simplicity, after tax income is assumed to be uniformly distributed over the range \$20,000 to \$80,000.

In the baseline model, the discount rate is 3 percent, the real interest rate is 5 percent (assumed equal to the world rate), and banks impose borrowing restrictions that limit households to borrow up to 80 percent of the value of a property and to pay no more than 30 percent of their income in debt servicing.

The tax rates also reflect New Zealand tax settings in 2000. In the baseline model, the marginal tax is 20 percent for households with incomes less than \$50,000, and 33 percent for households with incomes above that level. The model is also solved for a set of tax rules that exclude the inflation component of interest income from tax, and which only allow landlords to deduct real interest payments from their taxable income.¹¹ The GST rate was chosen to ensure that capital income taxes and consumption taxes total to 10 percent of labour income.

The parameters $(v^R, v^F, v^H) = (0.33, 0.35, 0.45)$ mean (approximately) that at the margin a household would be prepared to spend a third of their income on rent rather than have no accommodation; the benefit from living in an owner-occupied flat rather than a rented flat is 2 percent, and the additional benefit from living in a large house a further 10 percent. Housing supply parameters were chosen so that the quantity of flats would increase by approximately one percent for a one percent increase in prices, but that the number of houses and flats would be approximately the same in the elastic and inelastic cases.

Solution technique

The solution is found numerically. The algorithm searches for a set of prices $\{\tau^g, P_t^R, P_t^F, P_t^H\}_{t=-3, \dots, 3}$ so that when each agent j born in period $t-i$, $i = 0, \dots, 3$ is consuming a sequence of goods and tenure options $\{c_{t-i+s}^{s,j}, \mathbf{I}_{t-i+s}^{s,j,h}\}_{s=0, \dots, 3}$ that solves their constrained utility

¹⁰ Coleman (2007) uses 5 cohorts, not 4, and the parameters have been slightly modified.

¹¹ In this case the constraints in equation 11 and the aggregation condition (13c) are modified accordingly.

problem given by equation (11), the aggregation conditions 13a–13e applied at time t are satisfied. In the steady state, the vector $\{\tau^g, P_t^R, P_t^F, P_t^H\}_{t=-3, \dots, 0, \dots, 3}$ can be calculated from the vector $P^* = \{\tau^g, P_0^F, \pi^F, \rho^H\}$ and the parameters $\{r, \tau_2\}$.

The basic structure of the algorithm is as follows.

- a) Let the vector $P^{*,k} = \{\tau^g, P_0^F, \pi^F, \rho^H\}^k$ be the k^{th} estimate of the steady state solution P^* . Given $P^{*,k}$, calculate the optimal consumption and housing tenure paths for each of the N households who are born at $t=0$ by searching over the different possible tenure paths in the set \mathbf{H} .
- b) Use these results to calculate the demand for consumption goods and housing at time $t=0$ for all households in the economy.
- c) Use these results to calculate aggregate consumption, the aggregate demand for flats, and the aggregate demand for houses at time $t=0$. Then calculate the excess demand functions given by 13a–13e.
- d) If the excess demand functions are not sufficiently close to zero, a new estimate of the equilibrium prices $P^*, P^{*,k+1}$, is calculated. This is done using a discrete approximation to the Newton-Raphson method. A set of quasi-derivatives is calculated by recalculating the set of excess demand functions at the prices $\{\tau^g + \Delta_1, P^F, \pi^F, \rho^H\}$, $\{\tau^g, P^F + \Delta_2, \pi^F, \rho^H\}$, $\{\tau^g, P^F, \pi^F + \Delta_3, \rho^H\}$ and $\{\tau^g, P^F, \pi^F, \rho^H + \Delta_4\}$. These quasi derivatives are used to calculate the updated price vector using Broyden's method. The process is continued until the sequence of estimates $P^{*,k}$ converges.

Table 1. Length of time in current house: fraction of each age group, 2006.

	65-74	75-84	85+	65+	
	%	%	%	%	cumulative
0-4 years	30%	27%	37%	30%	30%
5-9	17%	15%	15%	16%	46%
10-14	13%	13%	10%	12%	58%
15-19	9%	10%	7%	9%	67%
20-24	6%	7%	6%	6%	73%
25-29	5%	5%	5%	5%	79%
30+	21%	23%	20%	21%	100%

Source: Statistics New Zealand, 2006 census.

Table 2. Fraction of people aged 65-69 in 1991 by length of time remaining in the same house.

	<5 years in house, 1991	5+ years in home, 1991		<5 yrs in house, 1996
Fraction in house x years later				
5 years	62%	79%		62%
10 years	51%	63%		42%
15 years	33%	48%		

Source: Statistics New Zealand, 1991 - 2006 census.

Table 3. House size for people over 65, 2006

	Number of bedrooms				percentages		
	1	2	3	All	1	2	3
All 65-84	20,289	98,055	274,035	392,379	5.2%	25.0%	69.8%
All 85+	3,918	15,504	17,760	37,182	10.5%	41.7%	47.8%
All 65+	24,207	113,559	291,795	429,561	5.6%	26.4%	67.9%
Couples 65-84	4,236	45,639	173,205	223,080	1.9%	20.5%	77.6%
Couples 85+	393	4128	6933	11,454	3.4%	36.0%	60.5%
Single M 65-84	6,543	10,617	14,832	31,992	20.5%	33.2%	46.4%
Single M 85+	777	2064	1809	4,650	16.7%	44.4%	38.9%
Single F 65-84	8,988	33,075	34,518	76,581	11.7%	43.2%	45.1%
Single F 85+	2703	8301	5073	16,077	16.8%	51.6%	31.6%
All couples	4,629	49,767	180,138	234,534	2.0%	21.2%	76.8%
All singles	19,011	54,057	56,232	129,300	14.7%	41.8%	43.5%
All M 65-84	9,144	38,244	135,774	183,162	5.0%	20.9%	74.1%
All M 85+	1,035	4,968	7,152	13,155	7.9%	37.8%	54.4%
All F 65-84	11,148	59,808	138,264	209,220	5.3%	28.6%	66.1%
All F 85+	2,883	10,536	10,608	24,027	12.0%	43.9%	44.2%

Source: Statistics New Zealand census data, 2006, special tables.

Table 4. House size for people over 65, 1996

	Number of bedrooms				percentages		
	1	2	3	All	1	2	3
All 65-84	22,842	111,813	206,637	341,292	6.7%	32.8%	60.5%
All 85+	3,165	10,668	10,686	24,519	12.9%	43.5%	43.6%
All 65+	26,007	122,481	217,320	365,808	7.1%	33.5%	59.4%
Couples 65-84	4,896	54,231	126,039	185,166	2.6%	29.3%	68.1%
Couples 85+	303	2778	3801	6,882	4.4%	40.4%	55.2%
Single M 65-84	6,312	10,122	10,815	27,249	23.2%	37.1%	39.7%
Single M 85+	564	1326	1032	2,922	19.3%	45.4%	35.3%
Single F 65-84	11,106	37,776	28,617	77,499	14.3%	48.7%	36.9%
Single F 85+	2247	5550	2721	10,518	21.4%	52.8%	25.9%
All couples	5,199	57,009	129,840	192,048	2.7%	29.7%	67.6%
All singles	20,229	54,774	43,185	118,188	17.1%	46.3%	36.5%
All M 65-84	9,213	42,720	100,788	152,721	6.0%	28.0%	66.0%
All M 85+	771	3,378	4,074	8,223	9.4%	41.1%	49.5%
All F 65-84	13,629	69,090	105,849	188,568	7.2%	36.6%	56.1%
All F 85+	2,394	7,287	6,612	16,293	14.7%	44.7%	40.6%

Source: Statistics New Zealand census data, 1996, special tables.

Table 5. House size by mobility, 1996 and 2006.

	Number of bedrooms				percentages		
	1	2	3	All	1	2	3
	2006						
All 65-84	18,669	91,443	252,111	362,223	5.2%	25.2%	69.6%
All 85+	3,672	14,454	16,257	34,383	10.7%	42.0%	47.3%
All 65+	22,341	105,891	268,368	396,600	5.6%	26.7%	67.7%
Same 65-84	9,066	56,859	186,183	252,108	3.6%	22.6%	73.9%
Same house 85+	1,869	10,491	12,921	25,281	7.4%	41.5%	51.1%
Same house 65+	10,935	67,347	199,104	277,386	3.9%	24.3%	71.8%
Moved 65-84	9,603	34,584	65,928	110,115	8.7%	31.4%	59.9%
Moved 85+	1,803	3,963	3,336	9,102	19.8%	43.5%	36.7%
Moved 65+	11,406	38,544	69,264	119,214	9.6%	32.3%	58.1%
	1996						
All 65-84	21,699	107,691	195,822	325,212	6.7%	33.1%	60.2%
All 85+	3,045	10,287	9,864	23,196	13.1%	44.3%	42.5%
All 65+	24,744	117,978	205,686	348,408	7.1%	33.9%	59.0%
Same 65-84	12,606	75,456	157,314	245,376	5.1%	30.8%	64.1%
Same house 85+	2,031	8,280	7,929	18,240	11.1%	45.4%	43.5%
Same house 65+	14,640	83,736	165,243	263,619	5.6%	31.8%	62.7%
Moved 65-84	9,093	32,235	38,508	79,836	11.4%	40.4%	48.2%
Moved 85+	1,014	2,007	1,935	4,956	20.5%	40.5%	39.0%
Moved 65+	10,104	34,242	40,443	84,789	11.9%	40.4%	47.7%

Source: Statistics New Zealand census data, 1996 and 2006, special tables.

Table 6: Supply curve 1: both curves very elastic

Length of last period	10	12	15	17	20
Total population	1000	1040	1100	1140	1200
	<i>Taxes raised to pay additional pension expenses</i>				
Number small houses	405	415	422	434	443
Number big houses	565	593	643	668	717
Total number houses	970	1008	1064	1102	1160
% new houses large		74%	83%	78%	80%
Price small house	199,000	200,000	201,000	202,000	203,000
Price large house	317,000	318,000	321,000	323,000	325,000
% cohort 0 owning	56%	54%	52%	49%	48%
% cohorts 0-1 large	36%	34%	32%	30%	27%
% cohort 2 large	95%	95%	94%	93%	90%
% cohort 3 large	19%	32%	48%	53%	62%
% total large	58%	59%	60%	61%	62%
	<i>Taxes increased to pay additional medical and pension expenses</i>				
Number small houses	405	418	438	446	467
Number big houses	565	588	624	652	686
Total number houses	970	1006	1062	1098	1152
% new houses large		63%	64%	68%	66%
Price small house	199,000	200,000	201,000	202,000	203,000
Price large house	317,000	318,000	320,000	322,000	324,000
% cohort 0 owning	56%	54%	50%	47%	43%
% cohorts 0-1 large	36%	34%	29%	27%	25%
% cohort 2 large	95%	94%	93%	91%	88%
% cohort 3 large	19%	32%	46%	53%	59%
% total large	58%	58%	59%	59%	60%
	<i>Taxes constant, no increase in total pension payment</i>				
Number small houses	409	412	414	420	430
Number big houses	562	599	656	690	741
Total number houses	970	1011	1070	1110	1171
% new houses large		91%	95%	92%	89%
Price small house	200,000	200,000	202,000	202,000	204,000
Price large house	317,000	319,000	322,000	323,000	326,000
% cohort 0 owning	56%	55%	56%	57%	57%
% cohorts 0-1 large	36%	36%	37%	37%	37%
% cohort 2 large	95%	95%	94%	92%	89%
% cohort 3 large	18%	31%	45%	52%	60%
% total large	58%	59%	61%	62%	63%

In section 1, taxes are increased as the population ages to pay for higher aggregate pension expenditure. When the elderly population doubles, pension expenditure increases by approximately 5% of GDP

In section 2, taxes are increased as the population ages to pay for higher aggregate pension and medical expenditure. When the elderly population doubles, expenditure increases by approximately 8% of GDP.

In section 3, pension expenditure is maintained at initial levels and taxes are unchanged.

Table 7: Supply curve 2: both curves upward sloping

Length of last period	10	12	15	17	20
Total population	1000	1040	1100	1140	1200
	<i>Taxes raised to pay additional pension expenses</i>				
Number small houses	409	416	423	422	428
Number big houses	556	582	624	658	700
Total number houses	965	998	1047	1080	1128
% new houses large		77%	82%	88%	88%
Price small house	200,000	209,000	223,000	233,000	246,000
Price large house	311,000	321,000	336,000	347,000	362,000
% cohort 0 owning	52%	47%	40%	37%	31%
% cohorts 0-1 large	35%	32%	27%	25%	23%
% cohort 2 large	95%	94%	93%	92%	91%
% cohort 3 large	18%	33%	48%	56%	61%
% total large	58%	58%	60%	61%	62%
	<i>Taxes increased to pay additional medical and pension expenses</i>				
Number small houses	405	417	425	435	442
Number big houses	559	580	619	639	677
Total number houses	964	997	1044	1074	1119
% new houses large		65%	75%	73%	76%
Price small house	199,000	209,000	222,000	231,000	244,000
Price large house	311,000	321,000	336,000	345,000	359,000
% cohort 0 owning	52%	46%	38%	33%	29%
% cohorts 0-1 large	35%	31%	26%	23%	21%
% cohort 2 large	95%	94%	93%	91%	89%
% cohort 3 large	20%	34%	49%	53%	59%
% total large	58%	58%	59%	59%	60%
	<i>Taxes constant, no increase in total pension payment</i>				
Number small houses	409	413	404	402	410
Number big houses	556	588	648	685	730
Total number houses	965	1000	1052	1087	1140
% new houses large		89%	105%	105%	99%
Price small house	200,000	210,000	225,000	235,000	250,000
Price large house	311,000	322,000	339,000	350,000	366,000
% cohort 0 owning	52%	48%	43%	43%	42%
% cohorts 0-1 large	35%	33%	32%	31%	29%
% cohort 2 large	95%	95%	93%	93%	90%
% cohort 3 large	18%	32%	49%	57%	64%
% total large	58%	59%	62%	63%	64%

In section 1, taxes are increased as the population ages to pay for higher aggregate pension expenditure. When the elderly population doubles, pension expenditure increases by approximately 5% of GDP

In section 2, taxes are increased as the population ages to pay for higher aggregate pension and medical expenditure. When the elderly population doubles, expenditure increases by approximately 8% of GDP.

In section 3, pension expenditure is maintained at initial levels and taxes are unchanged.

Table 8: Supply curve 3: high quality supply curve steeply upward sloping

Length of last period	10	12	15	17	20
Total population	1000	1040	1100	1140	1200
	<i>Taxes raised to pay additional pension expenses</i>				
Number small houses	398	424	460	480	517
Number big houses	567	574	588	599	610
Total number houses	965	998	1047	1079	1127
% new houses large		22%	25%	29%	27%
Price small house	199,000	209,000	223,000	232,000	246,000
Price large house	309,000	323,000	345,000	361,000	381,000
% cohort 0 owning	52%	47%	39%	35%	30%
% cohorts 0-1 large	36%	31%	25%	23%	19%
% cohort 2 large	96%	94%	92%	87%	82%
% cohort 3 large	21%	32%	41%	47%	51%
% total large	59%	58%	56%	56%	54%
	<i>Taxes increased to pay additional medical and pension expenses</i>				
Number small houses	398	424	461	470	517
Number big houses	567	573	584	599	603
Total number houses	964	997	1044	1069	1120
% new houses large		20%	21%	31%	23%
Price small house	199,000	209,000	222,000	229,000	244,000
Price large house	309,000	322,000	342,000	358,000	374,000
% cohort 0 owning	52%	46%	38%	41%	25%
% cohorts 0-1 large	36%	30%	24%	22%	18%
% cohort 2 large	96%	94%	91%	86%	81%
% cohort 3 large	21%	33%	41%	50%	52%
% total large	59%	58%	56%	56%	54%
	<i>Taxes constant, no increase in total pension payment</i>				
Number small houses	398	424	461	487	524
Number big houses	567	576	592	601	616
Total number houses	965	1000	1052	1088	1140
% new houses large		26%	28%	27%	28%
Price small house	200,000	210,000	225,000	235,000	250,000
Price large house	310,000	325,000	349,000	364,000	388,000
% cohort 0 owning	52%	47%	45%	41%	40%
% cohorts 0-1 large	36%	32%	27%	26%	24%
% cohort 2 large	95%	94%	90%	87%	80%
% cohort 3 large	21%	30%	41%	45%	50%
% total large	59%	58%	56%	55%	54%

In section 1, taxes are increased as the population ages to pay for higher aggregate pension expenditure. When the elderly population doubles, pension expenditure increases by approximately 5% of GDP

In section 2, taxes are increased as the population ages to pay for higher aggregate pension and medical expenditure. When the elderly population doubles, expenditure increases by approximately 8% of GDP.

In section 3, pension expenditure is maintained at initial levels and taxes are unchanged.

Table 9: Variations in interest rates and inflation rates for supply curve 2

Length of last period	10	12	15	17	20
Total population	1000	1040	1100	1140	1200
	<i>inflation = 0, real interest rates = 5</i>				
Number small houses	389	397	408	416	430
Number big houses	573	598	637	662	695
Total number houses	962	995	1045	1077	1125
% new houses large		74%	77%	77%	75%
Price small house	199,000	208,000	222,000	232,000	246,000
Price large house	311,000	321,000	336,000	346,000	361,000
% cohort 0 owning	75%	72%	67%	64%	59%
% cohorts 0-1 large	43%	40%	36%	33%	28%
% cohort 2 large	94%	93%	92%	91%	94%
% cohort 3 large	12%	27%	43%	50%	52%
% total large	60%	60%	61%	61%	62%
	<i>inflation = 0, real interest rates = 4</i>				
Number small houses	411	427	447	457	488
Number big houses	564	583	614	639	658
Total number houses	975	1010	1061	1096	1145
% new houses large		55%	58%	62%	55%
Price small house	203,000	212,000	227,000	237,000	251,000
Price large house	314,000	325,000	340,000	351,000	366,000
% cohort 0 owning	51%	46%	35%	27%	22%
% cohorts 0-1 large	45%	42%	38%	35%	30%
% cohort 2 large	95%	95%	94%	93%	93%
% cohort 3 large	3%	15%	30%	38%	42%
% total large	58%	58%	58%	58%	57%
	<i>inflation = 2, real interest rates = 4</i>				
Number small houses	434	438	438	442	450
Number big houses	545	575	624	654	696
Total number houses	979	1013	1062	1096	1146
% new houses large		87%	95%	93%	90%
Price small house	204,000	213,000	227,000	237,000	251,000
Price large house	315,000	325,000	341,000	351,000	367,000
% cohort 0 owning	9%	6%	2%	0%	0%
% cohorts 0-1 large	37%	34%	31%	28%	26%
% cohort 2 large	96%	96%	95%	94%	93%
% cohort 3 large	6%	24%	41%	48%	55%
% total large	56%	57%	59%	60%	61%

In each section, taxes are increased as the population ages to pay for higher aggregate pension expenditure. When the elderly population doubles, pension expenditure increases by approximately 5% of GDP

Table 10: Additional variations in supply curves, inflation = 2.

Length of last period	10	12	15	17	20
Total population	1000	1040	1100	1140	1200
	<i>Both house prices increased</i>				
Number small houses	403	400	397	411	412
Number big houses	528	563	613	633	678
Total number houses	931	963	1010	1044	1090
% new houses large		109%	108%	93%	95%
Price small house	266,000	275,000	289,000	299,000	312,000
Price large house	377,000	387,000	402,000	412,000	427,000
% cohort 0 owning	22%	21%	20%	21%	19%
% cohorts 0-1 large	27%	25%	23%	21%	18%
% cohort 2 large	94%	93%	92%	91%	90%
% cohort 3 large	21%	38%	52%	54%	62%
% total large	57%	58%	61%	61%	62%
	<i>High quality house prices increased</i>				
Number small houses	550	592	631	644	655
Number big houses	416	407	419	437	474
Total number houses	966	999	1049	1081	1129
% new houses large		-25%	4%	19%	36%
Price small house	200,000	209,000	224,000	233,000	247,000
Price large house	355,000	364,000	379,000	389,000	404,000
% cohort 0 owning	45%	42%	38%	35%	27%
% cohorts 0-1 large	23%	21%	19%	17%	15%
% cohort 2 large	81%	79%	76%	74%	70%
% cohort 3 large	0%	3%	13%	22%	33%
% total large	43%	41%	40%	40%	42%
	<i>High quality house prices increased and quality improved</i>				
Number small houses	375	377	389	391	390
Number big houses	588	620	656	687	736
Total number houses	963	996	1045	1077	1125
% new houses large		96%	83%	86%	91%
Price small house	199,000	208,000	222,000	232,000	246,000
Price large house	359,000	370,000	385,000	395,000	410,000
% cohort 0 owning	63%	60%	55%	52%	44%
% cohorts 0-1 large	36%	33%	28%	26%	24%
% cohort 2 large	96%	95%	94%	93%	92%
% cohort 3 large	30%	45%	56%	62%	68%
% total large	61%	62%	63%	64%	65%

In each section, taxes are increased as the population ages to pay for higher aggregate pension expenditure. When the elderly population doubles, pension expenditure increases by approximately 5% of GDP

Table 11: Reverse mortgages and inheritances; supply curve 2, inflation = 2.

Length of last period	10	12	15	17	20
Total population	1000	1040	1100	1140	1200
	<i>Supply curve 2: standard inheritance, no reverse mortgage</i>				
Number small houses	409	416	423	422	428
Number big houses	556	582	624	658	700
Total number houses	965	998	1047	1080	1128
% new houses large		77%	82%	88%	88%
Price small house	200,000	209,000	223,000	233,000	246,000
Price large house	311,000	321,000	336,000	347,000	362,000
% cohort 0 owning	52%	47%	40%	37%	31%
% cohorts 0-1 large	35%	32%	27%	25%	23%
% cohort 2 large	95%	94%	93%	92%	91%
% cohort 3 large	18%	33%	48%	56%	61%
% total large	58%	58%	60%	61%	62%
	<i>Supply curve 2: standard inheritance, reverse mortgage</i>				
Number small houses	368	377	400	407	406
Number big houses	596	622	649	674	724
Total number houses	964	998	1049	1081	1130
% new houses large		75%	62%	67%	77%
Price small house	199,000	209,000	224,000	233,000	247,000
Price large house	312,000	322,000	338,000	348,000	363,000
% cohort 0 owning	54%	48%	44%	42%	40%
% cohorts 0-1 large	35%	32%	27%	25%	24%
% cohort 2 large	94%	93%	90%	88%	85%
% cohort 3 large	41%	52%	60%	65%	72%
% total large	62%	62%	62%	62%	64%
	<i>Supply curve 2: different inheritance, no reverse mortgage</i>				
Number small houses	386	382	395	405	414
Number big houses	577	614	650	673	713
Total number houses	963	995	1044	1077	1127
% new houses large		114%	90%	84%	83%
Price small house	200,000	209,000	223,000	232,000	247,000
Price large house	312,000	322,000	337,000	348,000	363,000
% cohort 0 owning	56%	53%	46%	42%	35%
% cohorts 0-1 large	35%	32%	27%	26%	24%
% cohort 2 large	97%	97%	95%	93%	90%
% cohort 3 large	25%	42%	54%	58%	65%
% total large	60%	62%	62%	62%	63%

In each section, taxes are increased as the population ages to pay for higher aggregate pension expenditure. When the elderly population doubles, pension expenditure increases by approximately 5% of GDP

Table 12. Key model parameters

Parameter	Description	Value	Source/Rationale
T_i	Length of period	(10, 10, 20, 10-20) years	To approximate work history from age 25 – 75
N	Population of cohort	400	Arbitrary; initial population = 2000
Y_t^0	Average income of 25-35 cohort	50000	NZ Census 2001: average male and female earnings, 25-35 year olds, are \$32800 and \$23300 respectively
ω_j	Income distribution	Uniform on [20000,80000]	
g_i	Lifecycle income pattern	{1, 1.5, 1.5, 0.1+25000}	NZ Census, 1966- 2001. Based on real lifecycle earnings of cohort turning 20 in 1946, 1961.
B	Discount factor	0.97 annualised	Arbitrary
$\{v^R, v^F, v^H\}$	Utility from housing	{0.33, 0.35, 0.45}	Arbitrary
κ_i	Inheritance timing	{0,0,1,0}	Arbitrary
H	Mortgage term	25 years	Standard mortgage term
δ	Maximum debt service-income ratio	30%	Reflects NZ banking conditions
θ	Maximum loan to value ratio	80%	Reflects NZ banking conditions
τ^{g*}	GST rate	0.10	Tax take equals 10% of labour income; arbitrary, but close to NZ rate.
τ_1, τ_2, τ^*	Income tax rates and threshold	20%, 33% \$50000	Reflects NZ rates in 2000.
α_0^F, α_1^F α_0^H, α_1^H	Housing supply parameters	(10, 180000 15, 100000) (150, -80000 10, 100000) (150, -80000 300, -225000)	Supply version 1. Supply version 2 Supply version 3

Appendix C: Workshop Guidelines

Consumer Workshops

The focus of the people's workshops are around their expectations of housing in their retirement and their perceptions of the likely housing needs and conditions of today's younger people when they retire in 2050.

There are three sets of workshops that involve 'peoples' groups. The questions for each of these are set out below:

- Older people's (65+) workshop:
 - what sort of housing you want to see in future for older people
 - what housing you expect to see in future for older people
 - what are the things that are likely to generate or inhibit housing for older people in future
 - what are the impacts of future housing issues for our social, economic and environmental well-being.
- Maori Workshop:
 - what sort of housing you **want** to see in future for older Maori
 - what housing you **expect** to see in future for older Maori
 - what are the things that are likely to generate or inhibit excellent housing for today's young Maori, who will be the older Maori of the future
 - what are the impacts of future housing issues for our social, economic and environmental well-being.
- New settler Workshops – Indian, Filipino, Chinese:
 - what is the housing you want to see in future for older _ people
 - what are the things that are likely to help or hinder getting the best housing for older _ people
 - what sort of housing for older people is needed to ensure our future social, economic and environmental well-being?
- Younger people's (25 yrs) workshop:
 - what sort of housing you want to see for older people when you are in retirement
 - what housing you expect to see in future for older people when you are in retirement
 - what are the things that are likely to generate or inhibit positive housing for older people in future
 - what needs to happen now so when you are in retirement you are living in the housing that will meet your needs.

Sector Workshops

The focus of the sector workshops was on policy, provider and industry groups' expectations of housing for people in retirement, what the housing needs and issues are for older people now, and their perceptions of the likely housing needs and conditions of today's younger people when they retire around 2050.

There are four sets of workshops that involve sector groups – policy, providers, older peoples services and industry. The key questions for the sector groups are:

What are the critical issues for older people's housing provision:

- Associated with the current cohort of older people and people who will retire in the next few years? and,
- Associated with the ageing of our population and the likely housing needs of today's younger people when they are in retirement?

What are the impacts of certain trends on housing for:

- Dwellings of different sizes, configurations and design.
- Different housing tenures.
- In-house services and supported housing.

How can sectors work together more effectively, best use our existing expertise and what do we need to learn from overseas?

Appendix D: Consumer Workshops Inputs

*The Dynamics of Housing Demand of Over 65 year
Olds (2010-2050)*

**A SUMMARY OF TRENDS AFFECTING OLDER PEOPLE AND OLDER
PEOPLE'S HOUSING FUTURES**

PEOPLE'S WORKSHOPS

March 2009

1. Housing Futures for Older People: What's it about and what are we going to do?

We are asking you to help us to better understand what housing conditions and needs that older people will have between 2010 and 2050. To do that we are going to give you some information, and we are going to ask about your expectations of housing for your retirement, what the housing needs and issues are for older people now, and your perceptions of the likely housing needs and conditions of today's younger people when they retire around 2050. There are no right or wrong answers. Your experiences and your knowledge about the aspirations, expectations and real lives of your families, yourselves and the older and younger people you have contact with are important if New Zealand is to plan for and respond to the changing needs and demands of older people over the next forty years.

What we will do today is set out some information for you about:

- how our population is likely to look in the future
- the aspects of housing that population ageing might affect, and
- factors and trends that might impact on housing for older people.

Then we will ask you some pretty broad questions just to help you talk about older people's housing and the future. These questions are to help. They are not a test and we want you to just talk and have a conversation with us and each other about the issues.

We will take notes as you go along. These will help us write our report to CHRANZ, the main funder of this research. In our report we will not name people in the workshop or name any individual's comments in the workshop.

2. Our Ageing Population

The population in New Zealand is getting older.

This is not unusual in many western countries throughout the world and some Asian countries as well. Japan's population, for instance, has a large proportion of older people now and that proportion will get larger in the future. The graph below shows that over a quarter of New Zealand's population in 2061 is likely to be over 65 years old.

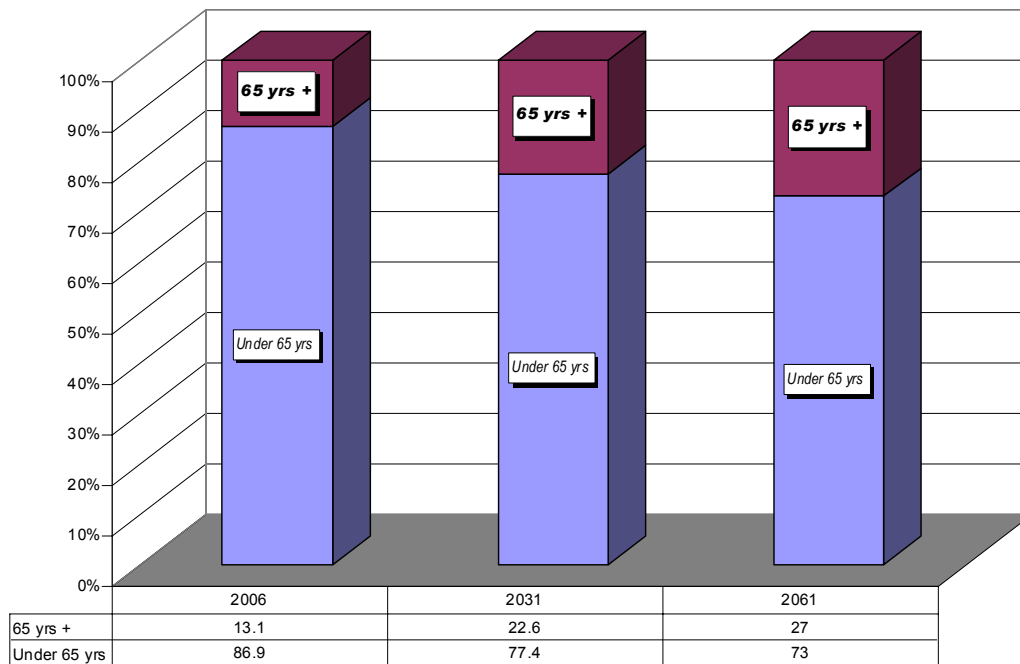
CHRANZ
Centre for Housing Research Aotearoa New Zealand

CHRANZ was established by HNZA in 2003 to invest in housing research. It receives funding not only from HNZA but also other government agencies, and has its own board. CHRANZ independently commissions research and works to ensure that it is fed into policy and planning. Its research is used by a wide range of government agencies, councils, housing providers and community organisations.

CHRANZ's priorities for research include: access to housing, housing demand and need experienced by vulnerable populations, changing attitudes to tenure, housing investment, alternative providers, and the performance of housing in urban and rural environments.

www.chranz.co.nz

Figure 1: Proportion of New Zealand's Population 65 Years or Older



By 2031, we can expect that the following places will have half of their population 50 years or older:

- Waitaki District
- Thames-Coromandel District
- South Wairarapa District
- Hauraki District
- Buller District
- Horowhenua District
- Marlborough District
- Kaipara District
- Westland District
- Kapiti Coast District
- Kaikoura District
- Timaru District.

But some places will still have young population profiles. Manukau city, for instance, can be expected to have the youngest median age. Half their population can be expected to be older than 35 years in 2031 and the rest of the Manukau City population will be younger than 35 years old. The twelve districts with the lowest median ages by 2031 are:

- Manukau City
- Papakura District
- Hamilton City
- Palmerston North City
- Waitakere City
- Wellington City
- Porirua City
- Dunedin City

- Auckland City
- Otorohanga District
- Rotorua District
- Waitomo District.

What will these older people be like?

Over the next twenty years, most older people will be 65 years to 74 years. But by 2061 we can expect that a quarter of all older people will be aged 85 years or more. So the whole population is ageing, but the older population is also ageing.

Not surprisingly, New Zealand Pakeha and Europeans will make up the biggest population of over 65 year olds. In about twenty years in 2026, we can expect:

- 784,400 older New Zealand Pakeha , Europeans and a smattering of other groups such as Canadians and Americans.
- 90,900 older people in the Asian ethnic groups – Chinese, Indian, Filipino and so on.
- 70,900 older Maori.
- 32,700 older people with Pacific ethnicities – Samoan, Cook Island, Tongan, Niuean and so forth.

There will be more women in the older population than men. But the gap between women and men’s mortality is closing. More men are living longer, so older populations are going to have more men in them.

Households and Older People

Just as more people in the population will be older, more households will have older people in them. In 2006, 288,900 households had their census form filled in by an older person. That person is called the reference person. By 2051, we can expect that 820,000 households will have a reference person in them aged 65 years or more. That means that there will be at least 820,000 houses, flats, or apartments with at least one older person in them. Increasingly our dwellings will need to meet the needs of older people.

By 2051, we can expect 2.8 times the number of dwellings currently headed up by an older person.

This reflects a long process of household change. Statistics New Zealand has done some forecasts on households in around twenty years time. They suggest:

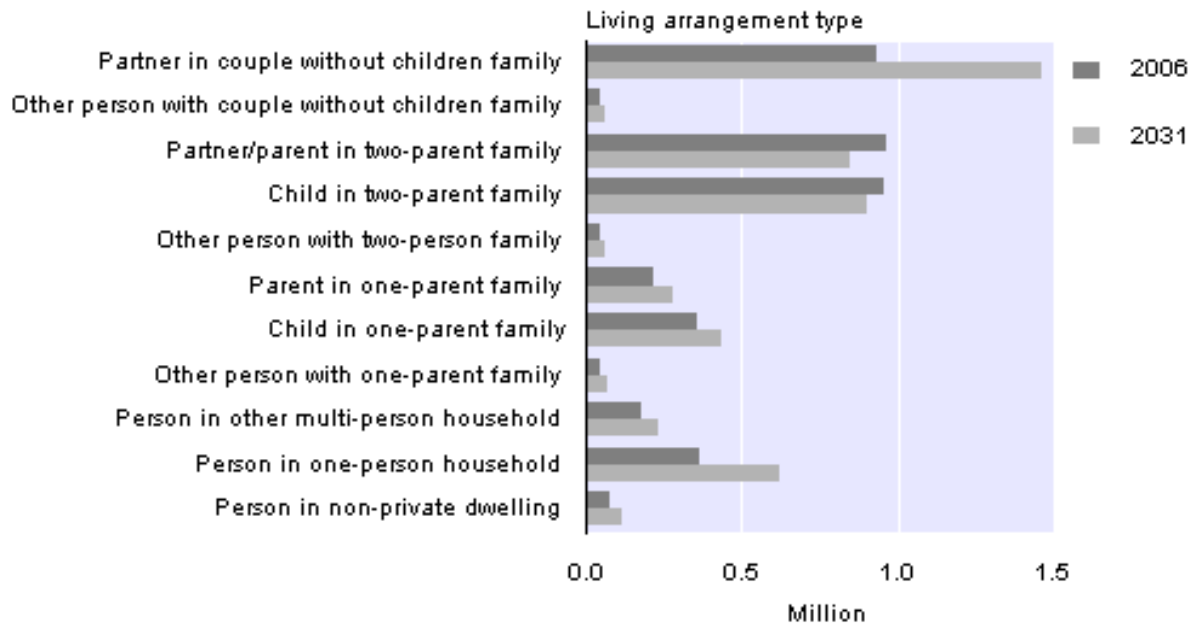
- The total number of households will grow from around 1.55 million in 2006 to 2.09 million.
- Households will get smaller. In 2006, household occupancy was 2.6 people. By 2031 it is expected to fall to about 2.4 people in each household.
- Between 2006 and 2031 they expect one-person households to increase by 71 percent. A lot of those will be people aged 65 years and older.

The graph below shows you the difference between the households of today and the households that Statistics New Zealand expects to see in 2031. Because the ageing process drives these changes, we might see those trends continuing to 2051.

Population by Living Arrangement Type

Series 5B

2006 and 2031



3. Aspects of Housing Affected by Ageing Populations

There are six aspects of housing demand that could be affected by the ageing population. They are the:

- Number of dwellings – This might be different from the forecasts if older people decide to live with their children or living together even when they are not partners or family.
- Location of dwellings – This may be affected by older people choosing to live in certain places. Tauranga, the Kapiti Coast and Nelson currently attract older people and retirees. Some people move to urban areas to access services.
- Size of dwellings – This may be affected by older people’s choices to buy bigger houses or smaller houses.
- Dwelling design, performance and comfort – This may be affected by older people having different expectations of their homes including their ability to get around them, their safety in their home, the energy efficiency of their home, and expectations around the affordability, durability, and comfort that people feel in their homes.
- Support for older people in private homes – This may be affected by older people’s desire to stay in their homes, or their communities, and the availability of services.
- Number of dwellings rented or owner occupied – This may be affected by the ability of people enter home ownership.

4. Ageing Populations and Housing Dynamics

People concerned with policy and planning for services and for housing have identified four dynamics which affect older people’s housing. They are:

- Older people’s health and mobility.

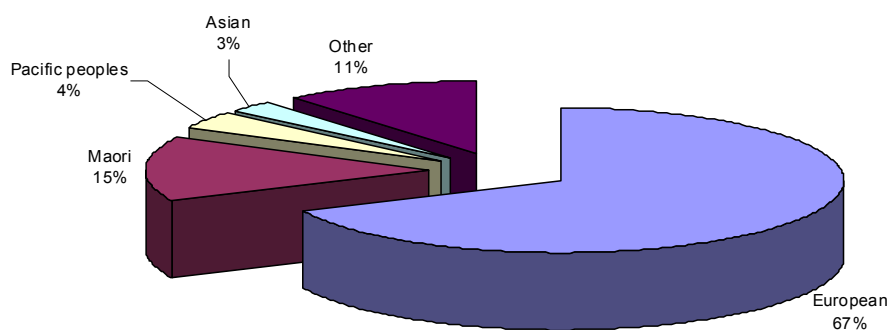
- The way people and the Government respond to the likelihood of people living longer and the costs of health and long retirements.
- Whether and when young people get into home ownership or stay in the rental market.
- The services and policy on supporting and caring for older people.

Older People's Health and Mobility

Older people are more likely to have health problems or disability problems than young people. Around 45 percent of older people have a disability. These are most usually a physical disability or a sensory disability such as problems with their sight or their hearing. Most people with a disability, whether they are young or old, live in houses, flats or apartments. They do not live in residential care.

Older people with disabilities come from all ethnic groups. This is shown in the graph below. Maori, however, have a higher disability rate for both older people and younger age groups as well.

The Ethnic Profile of Older People With Disabilities 2006



Research by CRESA and the Disability Resources Centre funded by CHRANZ in 2007 suggests that:

- By 2050 7.5 percent of the population as a whole may have a severe disability. Among older people the proportion of people with a severe disability can be expected to be higher.
- The majority of older people will be disabled in some way.
- The proportion of the population with some impairment to mobility is likely to increase with the ageing population, combined with higher survival rates for those with congenital impairment or impairment acquired through injury or illness.

Older people and disabled people are both vulnerable to their homes not working well.

- Hazards in the home are major cause of older people's injuries, particularly falls. For older people falls account for 75 percent of injury related hospital admissions.
- Older people require warmer homes than younger adults of an average of at least 21° C.
- Our houses are cold:
 - Average winter evening temperatures in living rooms are 17.8° C
 - Bedroom overnight averages are 13.2° C in pre-1978 houses and 14.5° C in post 1978 houses.
- Around a fifth of older people's dwellings are not adequately insulated in the ceiling.
- Cold houses are bad for health:
 - Temperatures lower than 16° C damage respiratory function
 - Temperatures lower than 12° C are associated with cardiovascular strain.
- Damp, excessive condensation and mould are associated with:
 - toxic reactions
 - allergies
 - inflammatory diseases
 - gastroenteritis
 - infections.

The Costs of Living Longer

Longer lives means that more people will be living for longer after they retire. To meet the costs of living after retirement, people and Governments may respond in different ways.

People might:

- Save more when they are earning.
- Spend less when they are earning and save more.
- Spend less on housing when they are earning.
- Leave bigger houses and go to smaller houses when they are no longer earning.
- Pay more tax which the Government spends on more healthcare for older people and more on pensions for longer.

Some have suggested that the costs of longer life will have a major impact on housing demand, especially on the desire to move from a costly big house to a less costly small house.

This research has used a complicated model to test that view.

That model suggests that:

- Increasing numbers of older people living longer and needing more health care and benefit support will affect younger people with:
 - 1-1.5% increase in demand for smaller houses
 - 5-10% increase in the number of younger people staying in rental housing.
- If people simply save to fund a longer retirement:
 - people will still want to enter home ownership

- bigger houses will be in demand if the cost difference between a small house and a big house is modest
- smaller houses and downsizing will be in demand if the cost difference between a small house and a big house is a lot.
- If people pay higher taxes the effects are mixed:
 - where building costs are low, younger people may attempt to buy bigger houses and expect to downsize when they retire
 - where building costs are high, accessing houses will be more expensive and there will be more demand for smaller houses.

Changing Housing Consumption

What people do before they are 65 years old is likely to impact on their housing situations when they retire.

Home Ownership and Rental Housing

One of the most obvious trends in New Zealand's housing is the growing rate of rental housing. Most people in New Zealand live in dwellings that are owned by people in the household or by a family trust. Rates of owner occupation are falling in New Zealand and now about 67 percent of households live in rented dwellings. In 2006, the highest rates of owner occupation was among people aged between 55 years and 79 years. Most of these people first bought homes when they started a family.

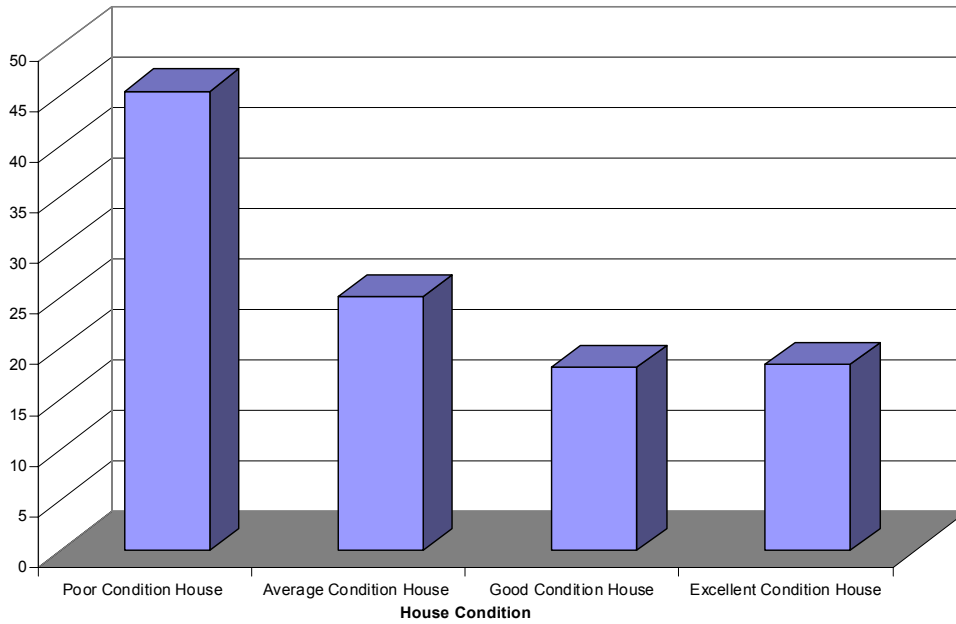
Because rates of home ownership are falling among people 50 years and older, it is expected that the number of older people in rented dwellings will increase. The number of households in rented housing headed by an older person will also increase. In 2006, there were around 54,100 households headed by an older person in rental accommodation. Some have suggested that there may be three times that number by 2051. That is, around 160,000 households.

Wanting Bigger Houses or Smaller Houses

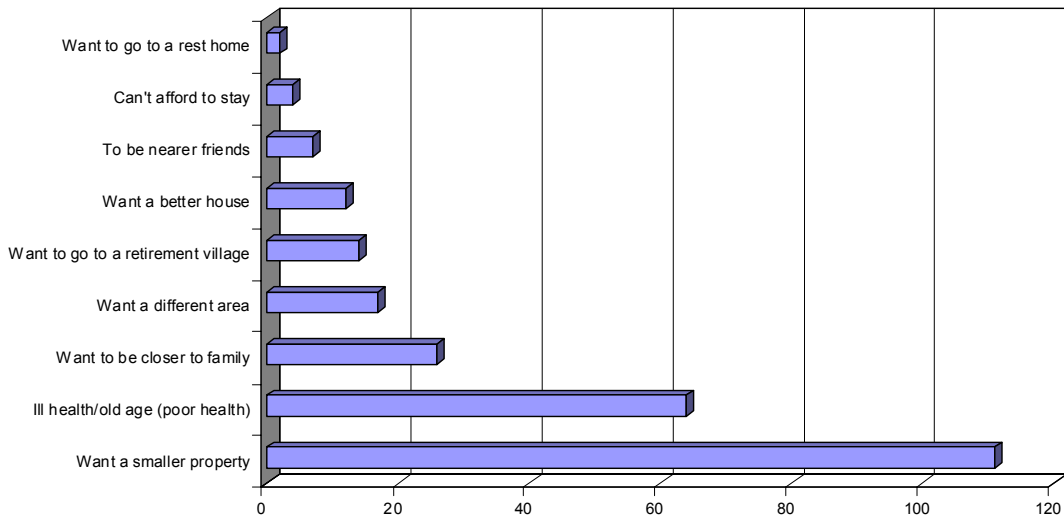
People who move into a new house are likely to move into a bigger house than their existing house. But people in New Zealand show mixed views about whether they want bigger or smaller houses. However, older people seem to want to down size. In a 2008 national survey of older people, 285 wanted to move from their house. As the graph shows, the biggest single group wanted to get a smaller house.

The same survey shows that the condition of older people's houses matter to them. As the second graph shows, as an older person's view of their house's condition gets worse, the more likely they are to want to move.

% of Older People Planning to Move House - 2008 National Older People's Repairs and Maintenance Survey

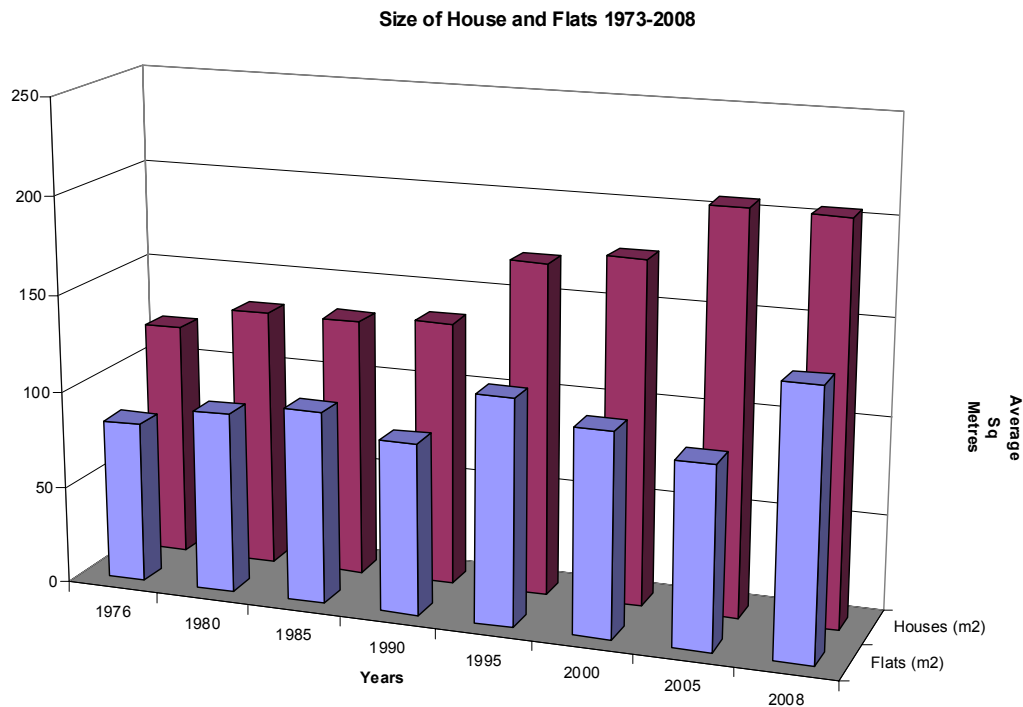


Reasons for Moving Among Older People - 2008 National Older People's Repairs and Maintenance Survey



Industry and the Housing Stock

The building industry has recently has a big fall in dwellings built. Until recently, the number of dwellings being built was bigger than the increase in the number of households in New Zealand. New Zealand has more dwellings than households. The building boom has seen the building industry building bigger houses.



Ageing Policy, Services and Housing

Policy in New Zealand and in many western countries is dominated by the idea of **Ageing in Place**.

Ageing in place can mean ageing in the same house. Or, it may mean ageing in the community where an older person has lived and they have their friends. Ageing in place policies reflect:

- research showing that older people:
 - like to stay in the communities they know
 - often like to stay in the homes they know
 - do not always thrive in residential or institutional places.
- concerns about the costs of residential care.

Ageing in place policies and population ageing have seen services to older people develop in new ways. The challenge is to find the right mix of services that meet older people's housing needs now and into the future. Some countries have found that they have too many services of some types and not enough services of other types.

Housing-related services for older people can be divided into five bundles. They are:

- 1. In-house support** to assist people with daily living in their homes.
- 2. Repair, maintenance and retrofit programmes** to make dwellings healthier, more comfortable and more durable for older people.
- 3. Housing transition services and programmes** which help people make decisions about moving from one sort of housing to another and help older people to make those transitions well. This includes making different sorts of housing available to older people such as retirement villages, shared housing, supported living units.
- 4. Programmes to keep housing affordable** which include subsidies and relief from costs like rates.

5. **Programmes that improve the functionality of dwellings.** In some countries this largely involves modifications to existing dwellings. In many other countries, there has been a move to promote better design of ordinary dwellings to ensure that people can live in them throughout their lives. The new Lifemark in New Zealand is an example of that sort of programme.

The trend overseas is to recognise that in-house support can be made more useful if dwellings are built to work well. Many countries are increasingly adopting programmes to ensure older people live in well-maintained homes that allow them to be mobile, safe and as independent as possible.

5. So What Do You Think? What Are Your Experiences?

There are six sets of workshops that involve ‘peoples’ groups. Asking:

- Older people's (65+) workshop:
 - what sort of housing you **want** to see in future for older people
 - what housing you **expect** to see in future for older people
 - what are the things that are likely to generate or inhibit housing for older people in future
 - what are the impacts of future housing issues for our social, economic and environmental well-being.
- Maori Workshop:
 - what sort of housing you **want** to see in future for older Maori
 - what housing you **expect** to see in future for older Maori
 - what are the things that are likely to generate or inhibit good housing provision for today's young Maori to ensure they will be well housed as older people
 - what are the impacts of future housing issues for our social, economic and environmental well-being.
- Pacific Workshop:
 - what sort of housing you **want** to see in future for older Pacific people
 - what housing you **expect** to see in future for older Pacific people
 - what are the things that are likely to generate or inhibit good housing for today's young Pacific people to ensure they will be well housed as older people
 - what are the impacts of future housing issues for our social, economic and environmental well-being.
- New settler Workshops – Indian, Filipino, Chinese:
 - what is the housing you want to see in future for older _ people
 - what are the things that are likely to help or hinder getting the good housing for older _ people
 - what sort of housing for older people is needed to ensure our future social, economic and environmental well-being?
- Middle-aged people workshop:
 - what sort of housing you want to see for older people when you are in retirement
 - what housing you expect to see in future for older people when you are in retirement
 - what are the things that are likely to generate or inhibit positive housing for older people in future

- what needs to happen now so when you are in retirement you are living in the housing that will meet your needs.
- Younger people's (25 yrs) workshop:
 - what sort of housing you want to see for older people when you are in retirement
 - what housing you expect to see in future for older people when you are in retirement
 - what are the things that are likely to generate or inhibit positive housing for older people in future
 - what needs to happen now so when you are in retirement you are living in the housing that will meet your needs.

Slide 1

The Dynamics of Housing Demand of Over 65 year Olds (2010-2050)

TRENDS AFFECTING OLDER PEOPLE AND OLDER PEOPLE'S HOUSING

Centre for Research, Evaluation and Social Assessment

Slide 2

What we are going to do today

- Give you some information about:
 - What our population is likely to look like in the future
 - Housing trends
- Talk about:
 - what you think the housing needs and issues are for older people now
 - your expectations for your own housing, and for old and young people you know
 - your views on likely housing needs and conditions in the future

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Slide 3

Where will this information go?

- Our report is to CHRANZ, the funder of this research
- CHRANZ independently commissions research and feeds it into policy and planning
- In our report we will not name people in the workshop or name any individual's comments in the workshop
- The report will be freely available

Centre for Research, Evaluation and Social Assessment

Slide 4

In future there will be more of us

- The NZ population is expected to rise:
 - 4.18m in 2006
 - 5.09m in 2031
 - 5.57m in 2061
- People will live longer - life expectancy at birth will increase by about 6 years between 2006-2061
- There will be a net migration gain of 10,000 people yearly from 2010 onwards

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Slide 5

Our population is getting older

- The 65+ age group is growing:
 - 13.1% in 2006
 - 22.6% in 2031
 - 27% in 2061
- The 65-74 group will be the biggest older group for the next 20 years
- Those aged 85+ increase to 25% of the older group by 2061
- There will continue to be more women than men in the older population

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Slide 6

We are ageing at different rates

- The proportion aged 65+ differs around the country e.g.
 - 12 territorial authorities will have a median age of 50 in 2031
 - Manukau is expected to have the youngest median age in 2031 (35yrs)
- By 2026, the numbers in the 65+ age group:
 - Pacific: 32,700
 - Maori: 70,900
 - Asian: 90,900
 - European + Other: 784,400

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Slide 7

There will be more older households

- By 2051, we can expect that 820,000 households will be headed by a person aged 65 years or more
- A lot of older people live alone now, and this is likely to continue in future
- Most older people live in private houses, they do not live in residential care – this is likely to continue

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Slide 8

Older people and disability

- Disability increases with age
 - 54% of NZ's population aged 65 and over report a disability
 - 61% of Maori aged 65 and over report a disability
 - 53% of Pacific people aged 65 and over report a disability
- It is estimated that between 45-50% of disabled adults live in homes that are not modified to their needs

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Slide 9

Disability trends

- It is hard to estimate the prevalence of disability in the future, however:
 - There is likely to more disabled, due to the ageing population
 - By 2050 7.5% of the population may have a severe disability. Among older people the proportion of people with a severe disability can be expected to be higher

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Slide 10



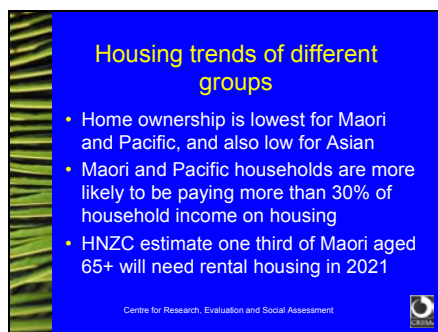
Housing trends

- Home ownership is falling, including among those aged 50 and older – those who can't enter home ownership now will be excluded in future
- Our housing stock is ageing – fewer houses are being built
- Housing demand is rising – 20,000 houses per year up to 2016
- House size has increased, affecting affordability, but big houses don't suit all

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Slide 11



Housing trends of different groups

- Home ownership is lowest for Maori and Pacific, and also low for Asian
- Maori and Pacific households are more likely to be paying more than 30% of household income on housing
- HNZC estimate one third of Maori aged 65+ will need rental housing in 2021

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Slide 12



The costs of living longer

- More money will be needed to keep us in retirement:
 - Money will need to come from pensions or private savings, or a combination
- More health care will be needed by the growing older population
- We might want to move to a smaller house

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Slide 13

We developed a model to test future demand for housing

- 1-1.5% increase in demand for smaller houses
- 5-10% increase in the number of younger people staying in rental housing
- Bigger houses will be in demand if the cost difference between a small house and a big house is modest
- Smaller houses will be in demand if the cost difference between a small house and a big house is a lot

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Slide 14

Ageing in place services overseas

- In-house support e.g. help with housework
- Repair, maintenance and retrofit programmes e.g. subsidised insulation
- Housing transition services e.g. supported living units
- Programmes to keep housing affordable e.g. rates rebates
- Programmes that improve the functionality of dwellings e.g. modifications

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Slide 15

Four things that affect older people's housing

- Older people's health and mobility
- How our society responds to people living longer and the costs of health care and long retirements
- Whether and when young people get into home ownership or stay in the rental market
- The services and policy on supporting and caring for older people in their homes

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Slide 16

Some questions

- What sort of housing do you **want** to see in future for older people?
- What sort housing do you **expect** to see in future for older people?
- What needs to happen to ensure today's young people will be well housed as older people?

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Appendix E: Sector Workshop Inputs

***The Dynamics of Housing Demand of Over 65 year
Olds (2010-2050)***

**A SUMMARY OF TRENDS AFFECTING OLDER PEOPLE AND OLDER
PEOPLE'S HOUSING FUTURES**

POLICY, PROVIDER AND INDUSTRY WORKSHOPS

March 2009

**1. Housing Futures for Older People: What's it about and
what are we going to do?**

We are asking you to help us to better understand what housing conditions and needs that older people will have between 2010 and 2050. To do that we are going to give

you some information, and we are going to ask about your expectations of housing for people in retirement, what the housing needs and issues are for older people now, and your perceptions of the likely housing needs and conditions of today's younger people when they retire around 2050. There are no right or wrong answers. Your knowledge from your experiences dealing with housing, the building industry, providing service to older people or participating in policy development is important if New Zealand is to plan for and respond to the changing needs and demands of older people over the next forty years.

What we will do today is set out some information for you about:

- how our population is likely to look in the future
- the aspects of housing that population ageing might affect, and
- factors and trends that might impact on housing for older people.

Then we will ask you some pretty broad questions just to help you talk about older people's housing and the future. These questions are to help. They are not a test and we want you to just talk and have a conversation with us and each other about the issues.

We will take notes as you go along. These will help us write our report to CHRANZ, the main funder of this research. In our report we will not name people in the workshop or name any individual's comments in the workshop.

2. Our Ageing Population

The population in New Zealand is getting older.

This is not unusual in many western countries throughout the world and some Asian countries as well. Japan's population, for instance, has a large proportion of older people now and that proportion will get larger in the future. The graph below shows that over a quarter of New Zealand's population in 2061 is likely to be over 65 years old.

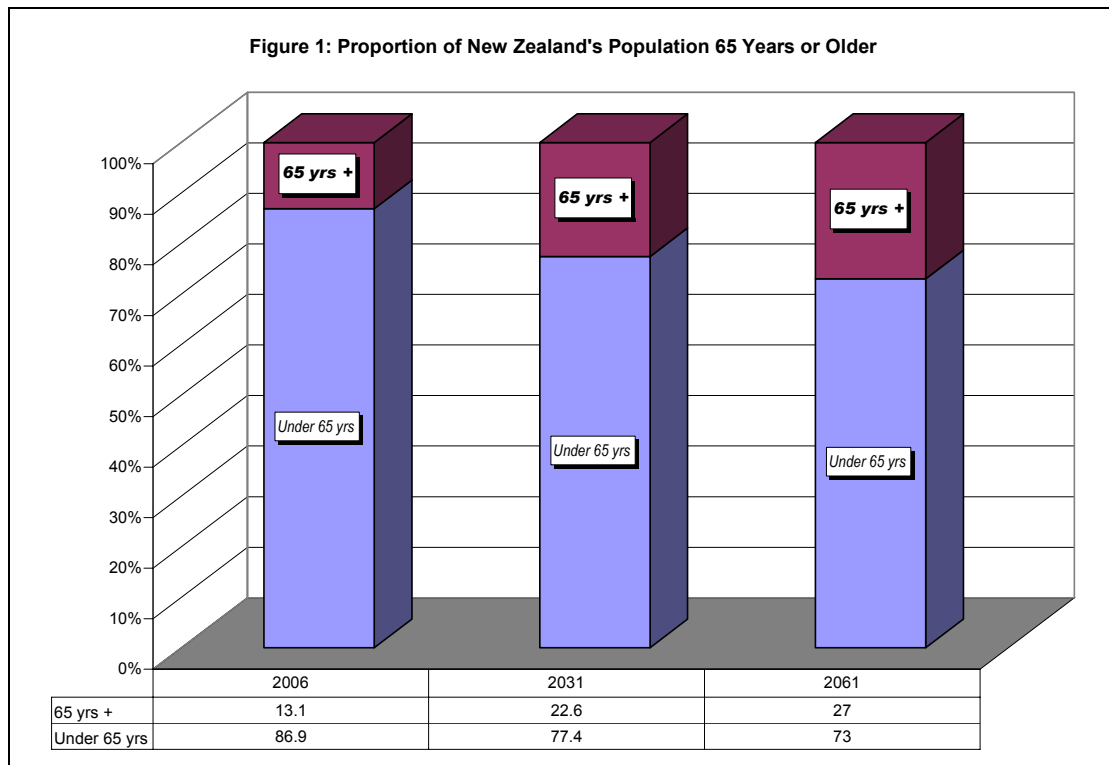
CHRANZ

Centre for Housing Research Aotearoa New Zealand

CHRANZ was established by HNZA in 2003 to invest in housing research. It receives funding not only from HNZA but also other government agencies, and has its own board. CHRANZ independently commissions research and works to ensure that it is fed into policy and planning. Its research is used by a wide range of government agencies, councils, housing providers and community organisations.

CHRANZ's priorities for research include: access to housing, housing demand and need experienced by vulnerable populations, changing attitudes to tenure, housing investment, alternative providers, and the performance of housing in urban and rural environments.

www.chranz.co.nz



By 2031, we can expect that the following places will have half of their population 50 years or older:

- Waitaki District
- Thames-Coromandel District
- South Wairarapa District
- Hauraki District
- Buller District
- Horowhenua District
- Marlborough District
- Kaipara District
- Westland District
- Kapiti Coast District
- Kaikoura District
- Timaru District.

But some places will still have young population profiles. Manukau city, for instance, can be expected to have the youngest median age. Half their population can be expected to be older than 35 years in 2031 and the rest of the Manukau City population will be younger than 35 years old. The twelve districts with the lowest median ages by 2031 are:

- Manukau City
- Papakura District
- Hamilton City
- Palmerston North City
- Waitakere City
- Wellington City
- Porirua City
- Dunedin City

- Auckland City
- Otorohanga District
- Rotorua District
- Waitomo District.

What will these older people be like?

Over the next twenty years, most older people will be 65 years to 74 years. But by 2061 we can expect that a quarter of all older people will be aged 85 years or more. So the whole population is ageing, but the older population is also ageing.

Not surprisingly, New Zealand Pakeha and Europeans will make up the biggest population of over 65 year olds. In about twenty years in 2026, we can expect:

- 784,400 older New Zealand Pakeha, Europeans and a smattering of other groups such as Canadians and Americans.
- 90,900 older people in the Asian ethnic groups – Chinese, Indian, Filipino and so on.
- 70,900 older Maori.
- 32,700 older people with Pacific ethnicities – Samoan, Cook Island, Tongan, Niuean and so forth.

There will be more women in the older population than men. But the gap between women and men's mortality is closing. More men are living longer, so older populations are going to have more men in them.

Households and Older People

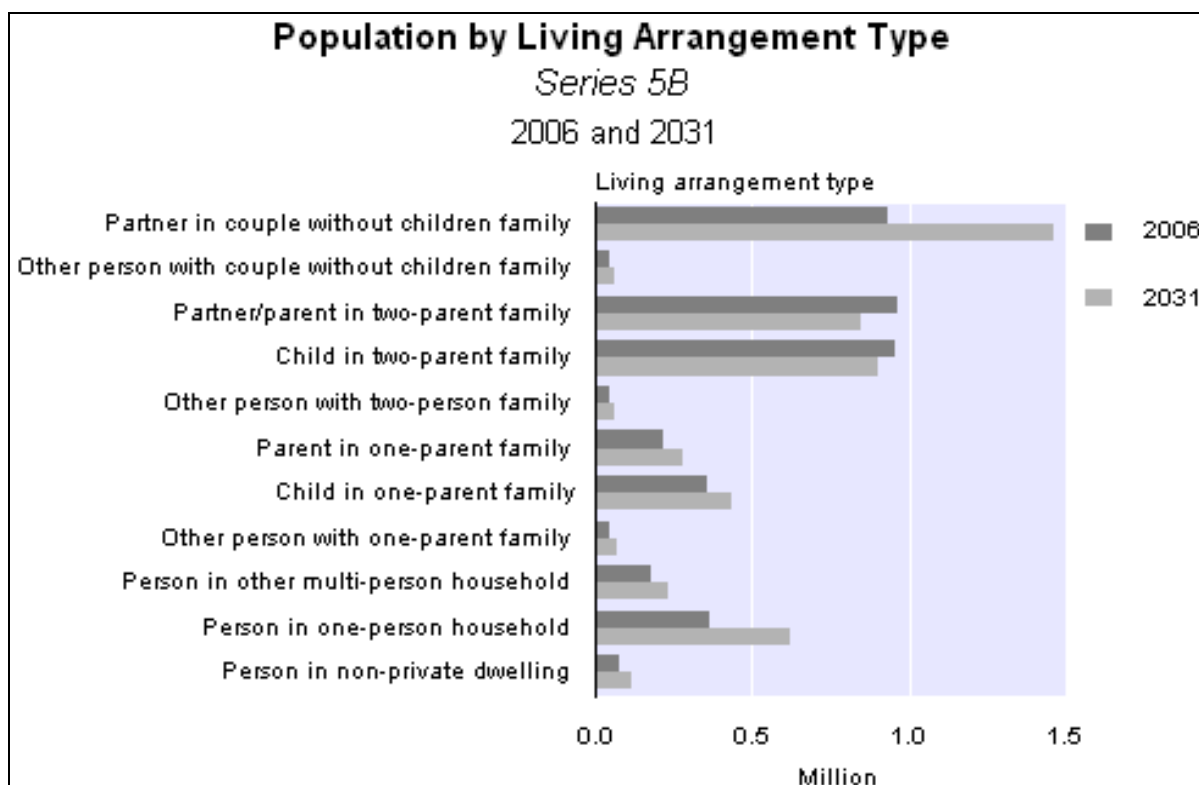
Just as more people in the population will be older, more households will have older people in them. In 2006, 288,900 households had their census form filled in by an older person. That person is called the reference person. By 2051, we can expect that 820,000 households will have a reference person in them aged 65 years or more. That means that there will be at least 820,000 houses, flats, or apartments with at least one older person in them. Increasingly our dwellings will need to meet the needs of older people.

By 2051, we can expect 2.8 times the number of dwellings currently headed up by an older person.

This reflects a long process of household change. Statistics New Zealand has done some forecasts on households in around twenty years time. They suggest:

- The total number of households will grow from around 1.55 million in 2006 to 2.09 million.
- Households will get smaller. In 2006, household occupancy was 2.6 people. By 2031 it is expected to fall to about 2.4 people in each household.
- Between 2006 and 2031 they expect one-person households to increase by 71 percent. A lot of those will be people aged 65 years and older.

The graph below shows you the difference between the households of today and the households that Statistics New Zealand expects to see in 2031. Because the ageing process drives these changes, we might see those trends continuing to 2051.



3. Aspects of Housing Affected by Ageing Populations

There are six aspects of housing demand that could be affected by the ageing population. They are the:

- Number of dwellings – This might be different from the forecasts if older people decide to live with their children or living together even when they are not partners or family.
- Location of dwellings – This may be affected by older people choosing to live in certain places. Tauranga, the Kapiti Coast and Nelson currently attract older people and retirees. Some people move to urban areas to access services.
- Size of dwellings – This may be affected by older people's choices to buy bigger houses or smaller houses.
- Dwelling design, performance and comfort – This may be affected by older people having different expectations of their homes including their ability to get around them, their safety in their home, the energy efficiency of their home, and expectations around the affordability, durability, and comfort that people feel in their homes.
- Support for older people in private homes – This may be affected by older people's desire to stay in their homes, or their communities, and the availability of services.
- Number of dwellings rented or owner occupied – This may be affected by the ability of people enter home ownership.

4. Ageing Populations and Housing Dynamics

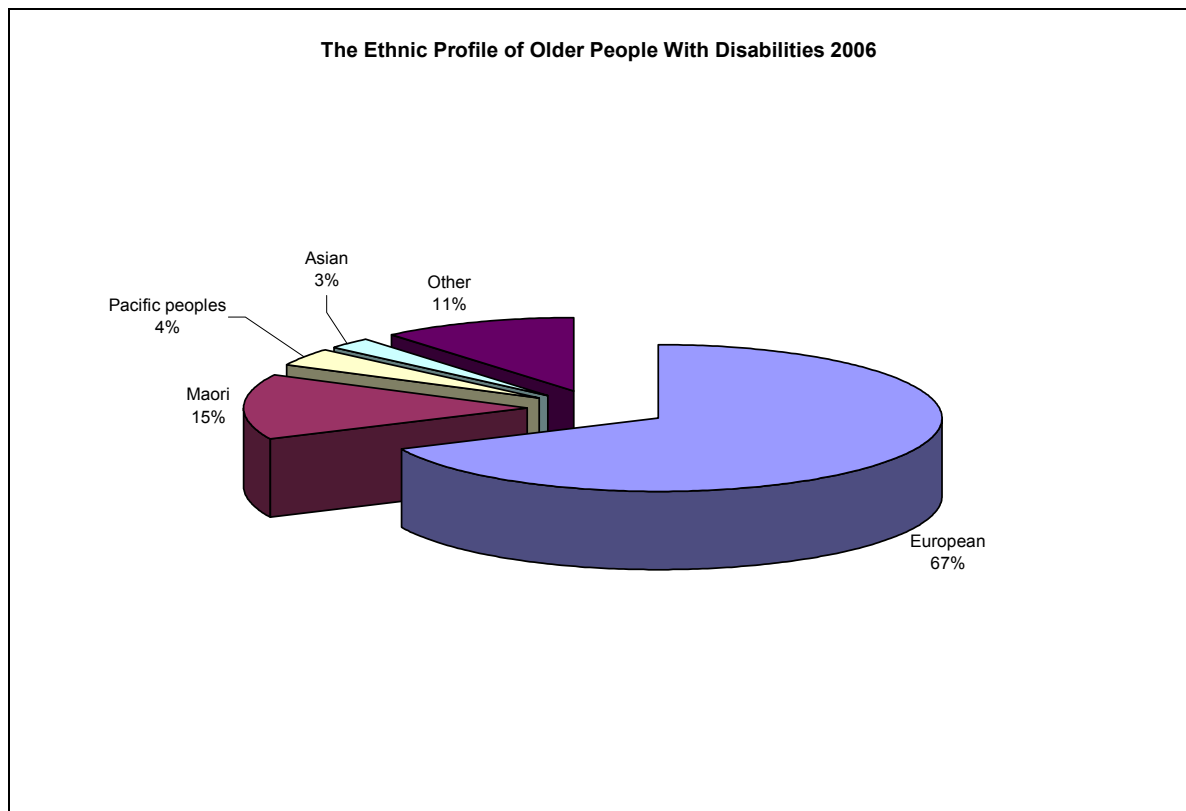
People concerned with policy and planning for services and for housing have identified four dynamics which affect older people's housing. They are:

- Older people's health and mobility.
- The way people and the Government respond to the likelihood of people living longer and the costs of health and long retirements.
- Whether and when young people get into home ownership or stay in the rental market.
- The services and policy on supporting and caring for older people.

Older People's Health and Mobility

Older people are more likely to have health problems or disability problems than young people. Around 45 percent of older people have a disability. These are most usually a physical disability or a sensory disability such as problems with their sight or their hearing. Most people with a disability, whether they are young or old, live in houses, flats or apartments. They do not live in residential care.

Older people with disabilities come from all ethnic groups. This is shown in the graph below. Maori, however, have a higher disability rate for both older people and younger age groups as well.



Research by CRESA and the Disability Resources Centre funded by CHRANZ in 2007 suggests that:

- By 2050 7.5 percent of the population as a whole may have a severe disability. Among older people the proportion of people with a severe disability can be expected to be higher.
- The majority of older people will be disabled in some way.

- The proportion of the population with some impairment to mobility is likely to increase with the ageing population, combined with higher survival rates for those with congenital impairment or impairment acquired through injury or illness.

Older people and disabled people are both vulnerable to their homes not working well.

- Hazards in the home are major cause of older people's injuries, particularly falls. For older people falls account for 75 percent of injury related hospital admissions.
- Older people require warmer homes than younger adults of an average of at least 21° C.
- Our houses are cold:
 - Average winter evening temperatures in living rooms are 17.8° C
 - Bedroom overnight averages are 13.2° C in pre-1978 houses and 14.5° C in post 1978 houses.
- Around a fifth of older people's dwellings are not adequately insulated in the ceiling.
- Cold houses are bad for health:
 - Temperatures lower than 16° C damage respiratory function
 - Temperatures lower than 12° C are associated with cardiovascular strain.
- Damp, excessive condensation and mould are associated with:
 - toxic reactions
 - allergies
 - inflammatory diseases
 - gastroenteritis
 - infections.

The Costs of Living Longer

Longer lives mean that more people will be living for longer after they retire. To meet the costs of living after retirement, people and Governments may respond in different ways.

People might:

- Save more when they are earning.
- Spend less when they are earning and save more.
- Spend less on housing when they are earning.
- Leave bigger houses and go to smaller houses when they are no longer earning.
- Pay more tax which the Government spends on more healthcare for older people and more on pensions for longer.

Some have suggested that the costs of longer life will have a major impact on housing demand, especially on the desire to move from a costly big house to a less costly small house. This research has used a complicated model to test that view.

Using a Model to explore ageing and housing demand

To explore the different housing market, mortgage market and tax conditions and how people of different ages and with different incomes respond to those conditions, a computer model has been developed. The model is elaborate. It is set up like a 'mini economy' that simulates interactions and long run feedback effects.

The 'players' in the model are:

- 1,600 people divided into four cohorts of 400 members each
- 4 age groups: young adults, middle age, 'prime' age and retirement
- Different income and wealth levels. In the youngest cohort income ranges from \$20,000 - \$80,000. In the middle cohorts income ranges from \$30,000 - \$120,000. In retirement there is a \$20,000 pension + 25 percent of young age income + interest income.

The activities the model simulates are:

- Households borrow and save
- Households rent or buy houses.
- Households pay tax and get pensions, and medical care

The housing components of the model are:

- There are two types of housing, big and small
- Each person chooses a housing pattern that gives them greatest 'pleasure' in terms of housing type and other consumption. These patterns depend on house prices and the person's income. It may mean living with parents when young, then renting and eventually buying. Or for a high income person, it may mean buying a big house right away and then trading down in retirement.
- Housing is tax advantaged and the preferred saving option.
- House prices adjust to reflect after tax income, demand from home owners and landlords and the supply of two different types of houses (big and small).
- Households face binding borrowing constraints that means many save little other than paying the mortgage when young.

The model looks at how prices, rents and house price appreciation affect demand among the different age groups and income levels. The model can 'fix' house supply to test what happens when there are changes in demand. The model also explores how construction costs affect the housing market.

The New Zealand tax system is carefully modelled. The model includes high and low marginal tax rates. Interest income and rent are taxed. Capital gains are not taxed, and nor is imputed rent. Landlords can deduct interest payments. There is GST. The model gives individuals a tax advantage if they own their own home, therefore if the individual needs to save, it makes sense to own a house.

The New Zealand mortgage market is also carefully modelled. Banks require deposits, impose mortgage repayment/income ratios, and require regular repayment of principal.

What the model shows

That model suggests that:

- Increasing numbers of older people living longer and needing more health care and benefit support will affect younger people with:
 - 1-1.5% increase in demand for smaller houses
 - 5-10% increase in the number of younger people staying in rental housing.
- If people simply save to fund a longer retirement:
 - people will still want to enter home ownership
 - bigger houses will be in demand if the cost difference between a small house and a big house is modest
 - smaller houses and downsizing will be in demand if the cost difference between a small house and a big house is a lot.
- If people pay higher taxes the effects are mixed:
 - where building costs are low, younger people may attempt to buy bigger houses and expect to downsize when they retire
 - where building costs are high, accessing houses will be more expensive and there will be more demand for smaller houses.

Changing Housing Consumption

What people do before they are 65 years old is likely to impact on their housing situations when they retire.

Home Ownership and Rental Housing

One of the most obvious trends in New Zealand's housing is the growing rate of rental housing.

Most people in New Zealand live in dwellings that are owned by people in the household or by a family trust. Rates of owner occupation are falling in New Zealand and now about 67 percent of households live in rented dwellings. In 2006, the highest rates of owner occupation was among people aged between 55 years and 79 years. Most of these people first bought homes when they started a family.

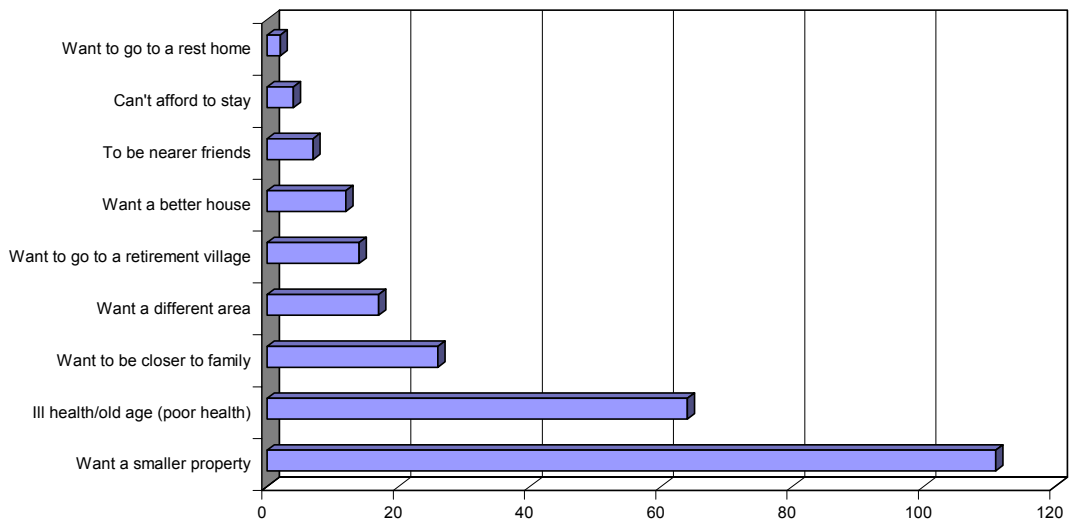
Because rates of home ownership are falling among people 50 years and older, it is expected that the number of older people in rented dwellings will increase. The number of households in rented housing headed by an older person will also increase.

In 2006, there were around 54,100 households headed by an older person in rental accommodation. Some have suggested that there may be three times that number by 2051. That is, around 160,000 households.

Wanting Bigger Houses or Smaller Houses

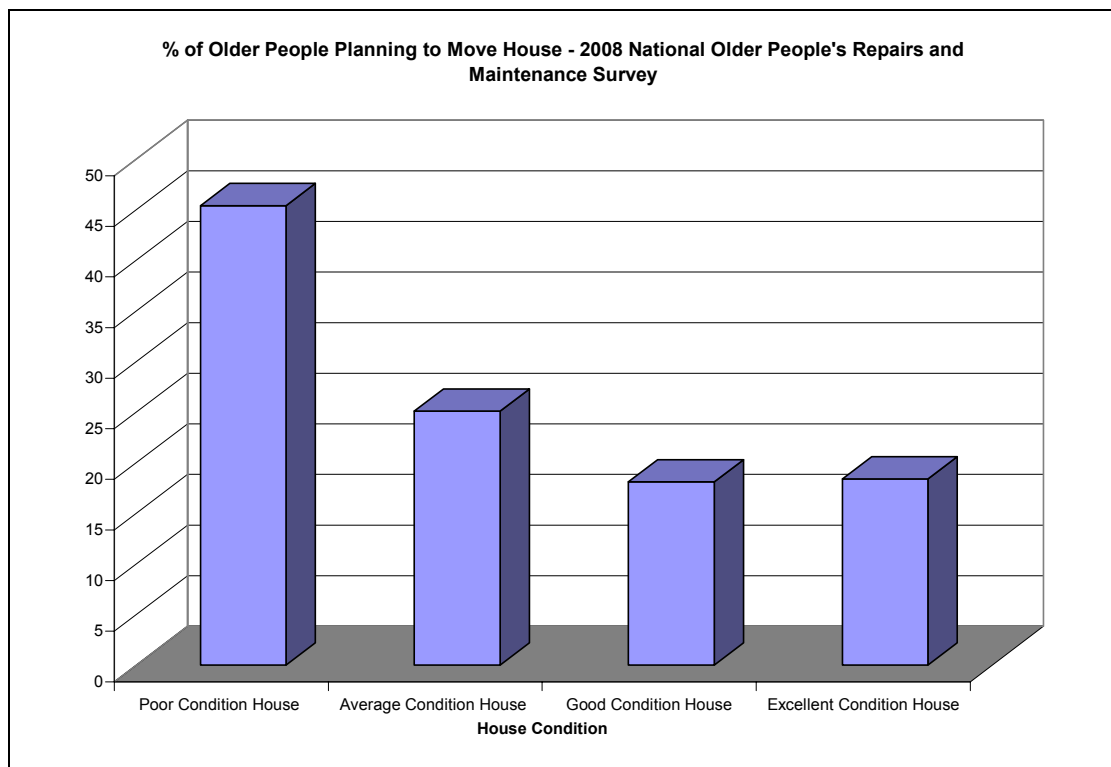
People who move into a new house are likely to move into a bigger house than their existing house. But people in New Zealand show mixed views about whether they want bigger or smaller houses. However, older people seem to want to down size. In a 2008 national survey of older people, 285 wanted to move from their house. As the graph shows, the biggest single group wanted to get a smaller house.

Reasons for Moving Among Older People - 2008 National Older People's Repairs and Maintenance Survey



The same survey shows that the condition of older people's houses matter to them. As the graph shows, as an older person's view of their house's condition gets worse, the more likely they are to want to move.

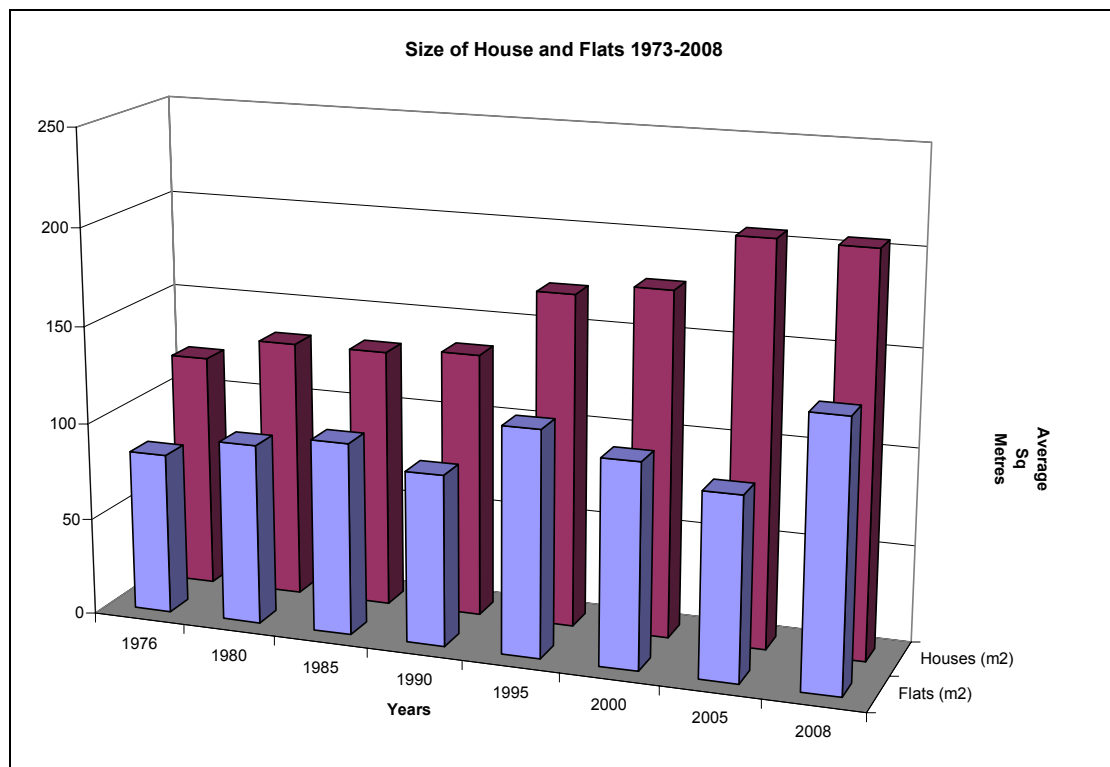
% of Older People Planning to Move House - 2008 National Older People's Repairs and Maintenance Survey



Industry and the Housing Stock

The building industry has recently has a big fall in dwellings built. Until recently, the number of dwellings being built was bigger than the increase in the number of

households in New Zealand. New Zealand has more dwellings than households. The building boom has seen the building industry building bigger houses.



Ageing Policy, Services and Housing

Policy in New Zealand and in many western countries is dominated by the idea of **Ageing in Place**.

Ageing in place can mean ageing in the same house. Or, it may mean ageing in the community where an older person has lived and they have their friends. Ageing in place policies reflect:

- research showing that older people:
 - like to stay in the communities they know
 - often like to stay in the homes they know
 - do not always thrive in residential or institutional places.
- concerns about the costs of residential care.

Ageing in place policies and population ageing have seen services to older people develop in new ways. The challenge is to find the right mix of services that meet older people's housing needs now and into the future. Some countries have found that they have too many services of some types and not enough services of other types.

Housing-related services for older people can be divided into five bundles. They are:

1. **In-house support** to assist people with daily living in their homes.
2. **Repair, maintenance and retrofit programmes** to make dwellings healthier, more comfortable and more durable for older people.
3. **Housing transition services and programmes** which help people make decisions about moving from one sort of housing to another and help older people to make

those transitions well. This includes making different sorts of housing available to older people such as retirement villages, shared housing, supported living units.

4. **Programmes to keep housing affordable** which include subsidies and relief from costs like rates.
5. **Programmes that improve the functionality of dwellings.** In some countries this largely involves modifications to existing dwellings. In many other countries, there has been a move to promote better design of ordinary dwellings to ensure that people can live in them throughout their lives. The new Lifemark in New Zealand is an example of that sort of programme.

The trend overseas is to recognise that in-house support can be made more useful if dwellings are built to work well. Many countries are increasingly adopting programmes to ensure older people live in well-maintained homes that allow them to be mobile, safe and as independent as possible.

5. So What Do You Think?

There are three sets of workshops that involve sector groups – policy, providers and industry. The key questions for the sector groups are:

What are the critical issues for older people's housing provision:

- Associated with the current cohort of older people and people who will retire in the next few years? and,
- Associated with the ageing of our population and the likely housing needs of today's younger people when they are in retirement?

What are the impacts of certain trends on housing for:

- Dwellings of different sizes, configurations and design.
- Different housing tenures.
- In-house services and supported housing.

How can sectors work together more effectively, best use our existing expertise and what do we need to learn from overseas?

Slide 1

The Dynamics of Housing Demand of Over 65 year Olds (2010-2050)

TRENDS AFFECTING OLDER PEOPLE AND OLDER PEOPLE'S HOUSING

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Slide 2

What we are going to do today

- Give you some information about:
 - What our population is likely to look like in the future
 - Housing trends
 - Modelling ageing and housing demand
 - Changing housing consumption
 - Industry and housing stock
 - Ageing policy, services and housing

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Slide 3

What we are going to do today....

- Talk about:
 - critical issues for older people's housing provision
 - impacts of certain trends on housing


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Slide 4

Where will this information go?

- Our report is to CHRANZ, the funder of this research
- CHRANZ independently commissions research and feeds it into policy and planning
- In our report we will not name people in the workshop or name any individual's comments in the workshop
- The report will be freely available

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Slide 5

In future there will be more of us

- The NZ population is expected to rise:
 - 4.18m in 2006
 - 5.09m in 2031
 - 5.57m in 2061
- People will live longer - life expectancy at birth will increase by about 6 years between 2006-2061
- There will be a net migration gain of 10,000 people yearly from 2010 onwards

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Slide 6

Our population is getting older

- The 65+ age group is growing:
 - 13.1% in 2006
 - 22.6% in 2031
 - 27% in 2061
- The 65-74 group will be the biggest older group for the next 20 years
- Those aged 85+ increase to 25% of the older group by 2061
- There will continue to be more women than men in the older population

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Slide 7

We are ageing at different rates

- The proportion aged 65+ differs around the country e.g.
 - 12 territorial authorities will have a median age of 50 in 2031
 - Manukau is expected to have the youngest median age in 2031 (35yrs)
- By 2026, the numbers in the 65+ age group:
 - Pacific: 32,700
 - Maori: 70,900
 - Asian: 90,900
 - European + Other: 784,400

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Slide 8

There will be more older households

- By 2051, we can expect that 820,000 households will be headed by a person aged 65 years or more
- A lot of older people live alone now, and this is likely to continue in future
- Most older people live in private houses, they do not live in residential care – this is likely to continue

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Slide 9

Older people and disability

- Disability increases with age
- 54% of NZ's population aged 65 and over report a disability
- 61% of Maori aged 65 and over report a disability
- 53% of Pacific people aged 65 and over report a disability
- It is estimated that between 45-50% of disabled adults live in homes that are not modified to their needs

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Slide 10

Disability trends

- It is hard to estimate the prevalence of disability in the future, however:
 - There is likely to be more disabled, due to the ageing population
 - By 2050 7.5% of the population may have a severe disability. Among older people the proportion of people with a severe disability can be expected to be higher

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Slide 11

Housing trends

- Home ownership is falling, including among those aged 50 and older – those who can't enter home ownership now will be excluded in future
- Our housing stock is ageing – fewer houses are being built
- Housing demand is rising – 20,000 houses per year up to 2016
- House size has increased, affecting affordability, but big houses don't suit all

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Slide 12

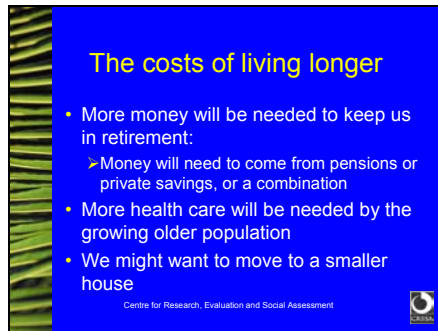
Housing trends of different groups

- Home ownership is lowest for Maori and Pacific, and also low for Asian
- Maori and Pacific households are more likely to be paying more than 30% of household income on housing
- HNZA estimate one third of Maori aged 65+ will need rental housing in 2021

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Slide 13



The costs of living longer

- More money will be needed to keep us in retirement:
 - Money will need to come from pensions or private savings, or a combination
- More health care will be needed by the growing older population
- We might want to move to a smaller house

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Slide 14



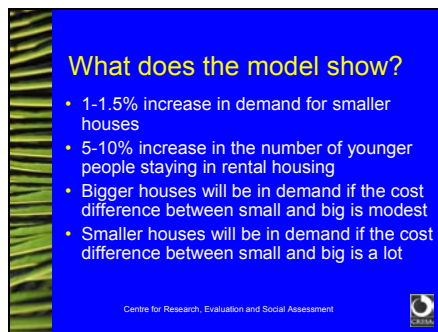
We developed a model to test future demand for housing

- 1,600 'players' are differentiated by age, income and wealth; borrow and save, rent or buy; pay taxes, get pensions and medical care; have different housing patterns; and face various constraints and advantages
- Houses are big and small, with prices reflecting different influences
- Prices, rents and price appreciation affect demand
- The tax system and mortgage market are modelled

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Slide 15



What does the model show?

- 1-1.5% increase in demand for smaller houses
- 5-10% increase in the number of younger people staying in rental housing
- Bigger houses will be in demand if the cost difference between small and big is modest
- Smaller houses will be in demand if the cost difference between small and big is a lot

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Slide 16

Ageing in place services overseas

- In-house support e.g. help with housework
- Repair, maintenance and retrofit programmes e.g. subsidised insulation
- Housing transition services e.g. supported living units
- Programmes to keep housing affordable e.g. rates rebates
- Programmes that improve the functionality of dwellings e.g. modifications

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Slide 17

Four things that affect older people's housing

- Older people's health and mobility
- How our society responds to people living longer and the costs of health care and long retirements
- Whether and when young people get into home ownership or stay in the rental market
- The services and policy on supporting and caring for older people in their homes

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Slide 18

Some questions

- What are the critical issues for older people's housing provision associated with:
 - The current cohort of older people and those retiring in the next few years?
 - The ageing of our population and the likely housing needs of today's younger people when they reach retirement age?
- What are the impacts of certain trends on housing for:
 - Dwellings of different sizes, configurations and design?
 - Different housing tenures?
 - In-house services and supported housing?

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