

Urban form – issues around intensification

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Setting a National Urban Sustainability Research Agenda

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Plan

1. Framing & interlinkages:

- how urban intensification connects to other urban issues
- Some recent patterns internationally

2. Do we need incentives to intensify?

3. Conclusions

Terms

Intensification:

The **process** of increasing density

Density:

One indicator of the **state** of an urban area, e.g. dwellings per hectare

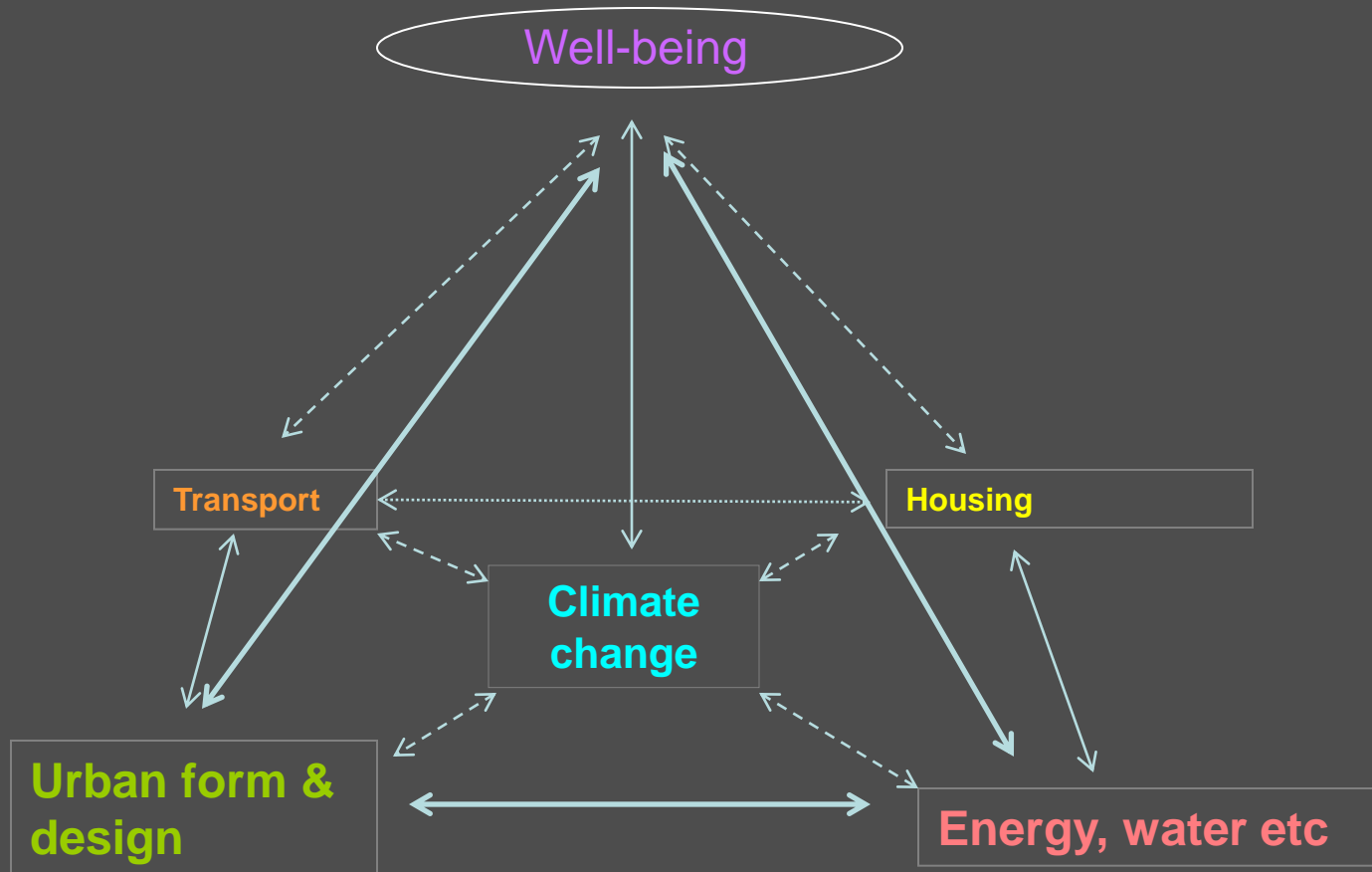
Urban form:

Macro scale urban pattern

Urban design:

Micro scale urban features

1 Framing & interlinkages

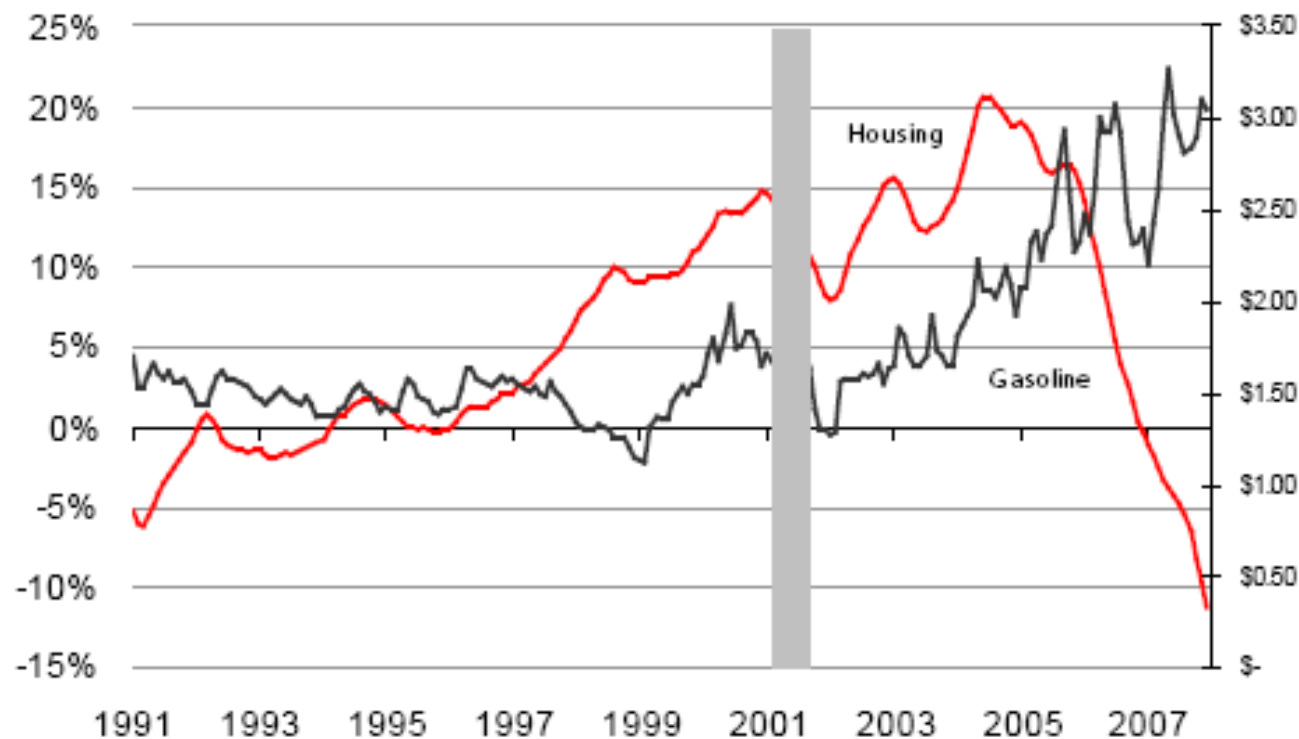


Pattern 1: house prices influenced by the price of petrol – US data (Cortright 2008)

Housing Bubble Meets the Gas Price Spike

Annual Housing Price Change

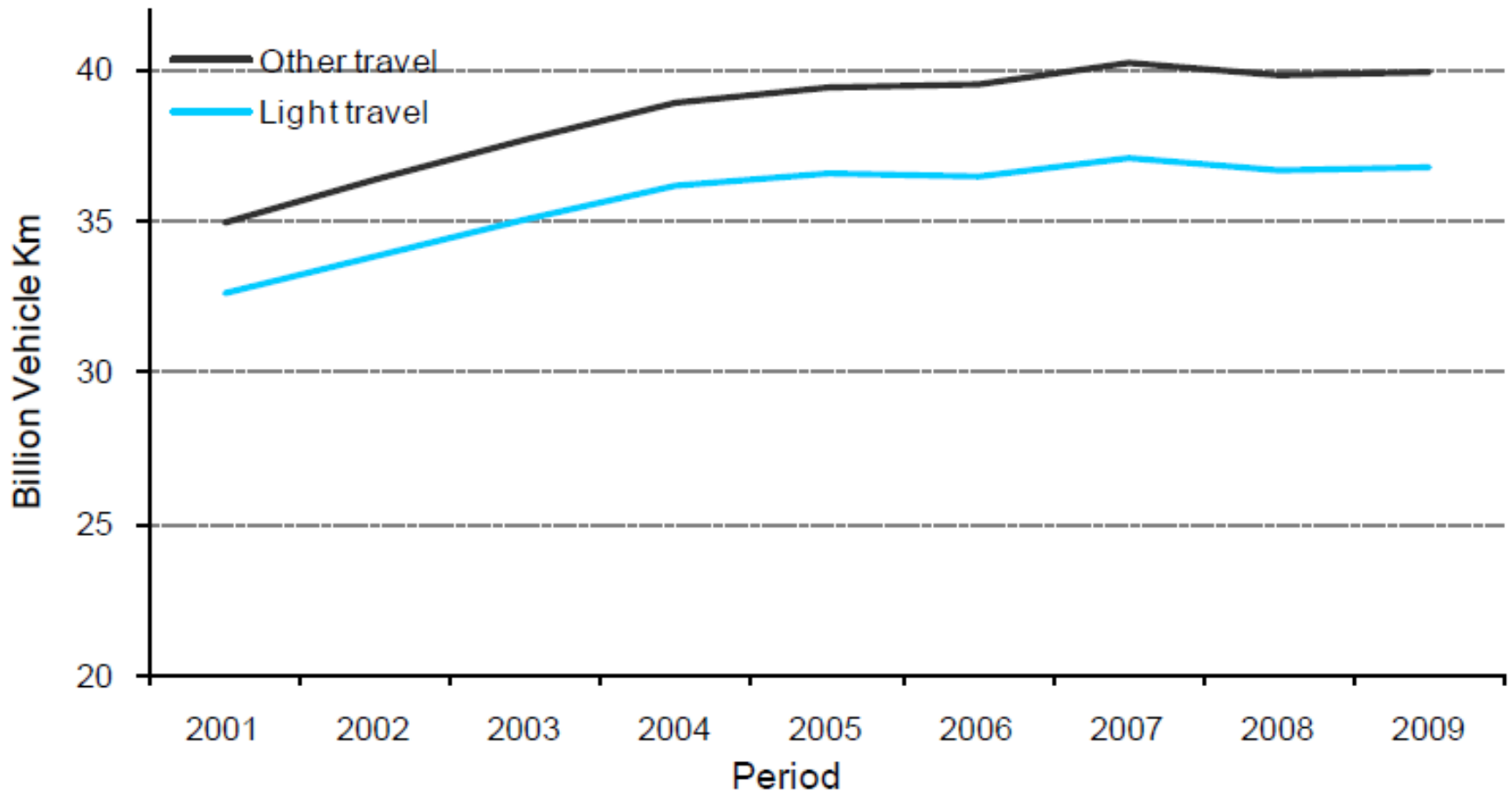
Real Price of Gas (2008\$)



Source: Case-Shiller housing data, Energy Information Administration gas price data

Pattern 2: Vkt of NZ light vehicles, 2001-09: peak in 2007?

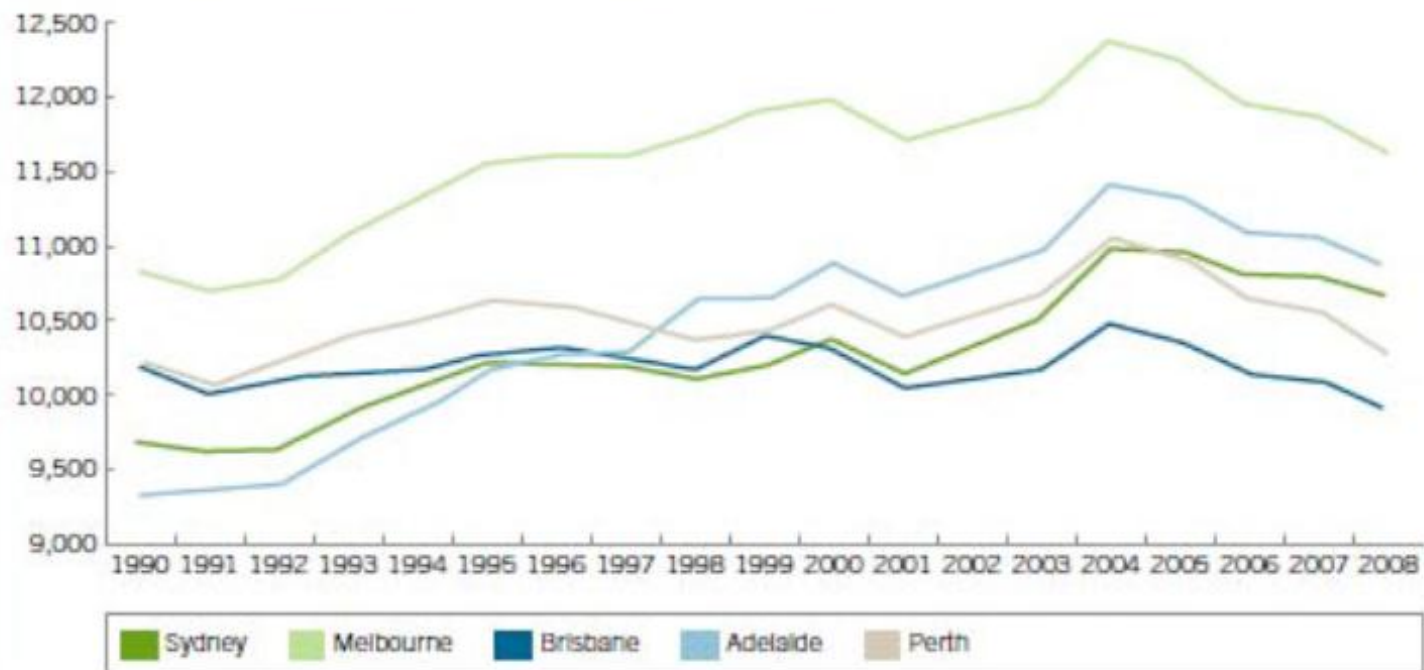
Figure 1.4 : Light fleet total travel



'Peak car use' – Aussie trends

Is urban car use now falling in rich countries?

Figure 2.2: Estimated car passenger kms per capita (FY1990–2008)

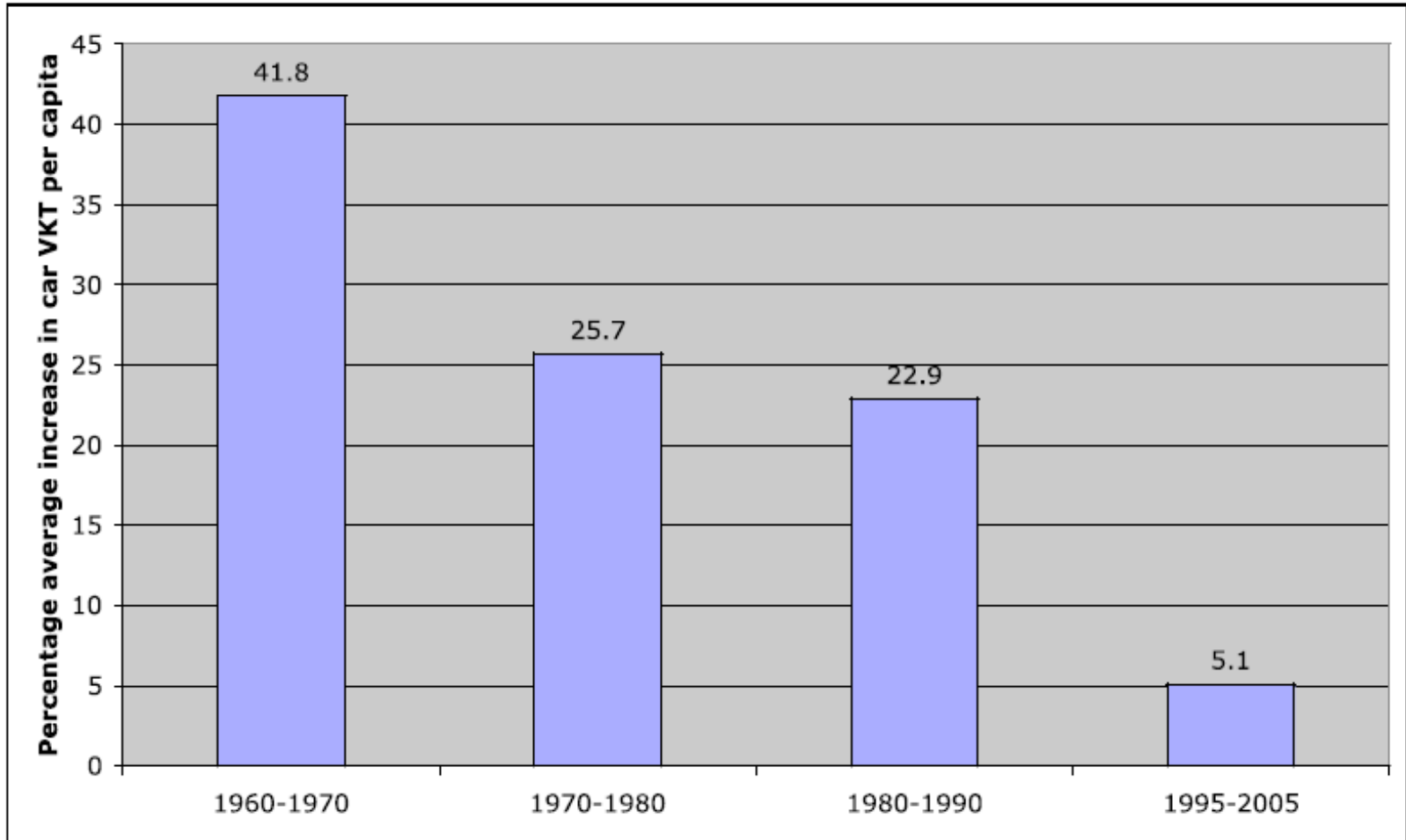


Source: Bureau of Infrastructure, Transport and Regional Economics (2009), *Australian Transport Statistics Yearbook 2009*, Department of Infrastructure, Transport, Regional Development and Local Government, Canberra; Australian Bureau of Statistics (2009), *Regional Population Growth*, Cat. no. 3218.0, ABS, Canberra;

Source; Newman and Kenworthy (2011) Peak car use

Decline in vkt growth – global cities

(developed cities from 1960 to 2005 using Global Cities Database)



Source; Newman and Kenworthy (2011) Peak car use

Pattern 3: Urban form & design links to travel behaviour & health...

Ewing et al., 2007:

- with compact development, people drive 20-40 % less, with minimal or reduced cost, with other health & fiscal benefits
- Compact development is not just about higher density.

Compact development	Sprawl
Medium to high densities	Low density
Mixed uses	Single uses
Centred development	Strip development
Interconnected streets	Poorly connected streets
Pedestrian and transit friendly design	Car oriented design

Urban form and carbon emissions

Glaeser (2009) ‘...Skyscrapers are green’

- Central city residents emit less carbon than suburban counterparts
- In New York and San Francisco, the average urban family emits more than **two tons less carbon** annually because it drives less
- **Higher-density** suburban areas, despite still being car-dependent, involve a lot less travel than the *really* sprawling places
- [There’s also a major difference in heating and cooling energy between dense and less dense areas]

A similar story emerges from **Owen (2009) Green Metropolis**

Conclusions on the 'frame'

- Urban form, design and transport comprise a narrow focus within a wider picture
- Takes time to see influences (e.g. 'automobility')
- Urban policy and practice will be heavily influenced over time by issues such as climate change, peak oil, and concerns of an aging population
- Interesting also that, despite the inertia in both infrastructure & policy, our cities **are gradually intensifying**

2 Do we need incentives to intensify?

- Cities do tend to intensify over time – because it raises productivity
- BUT cities are not free markets: they're heavily influenced by govt **investment** in roads, other infrastructure...
- ...also, by **policies** such as absence of road charging, PT pricing, planning rules, urban limits...
- Not surprising, then, that urban form and urban design are matters of **policy choice**
- **Is there a case for pushing cities faster towards intensification?**

Denser cities are richer

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OPINION

One Path to Better Jobs: More Density in Cities



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Attractive compact urban development: TOD, Strasbourg

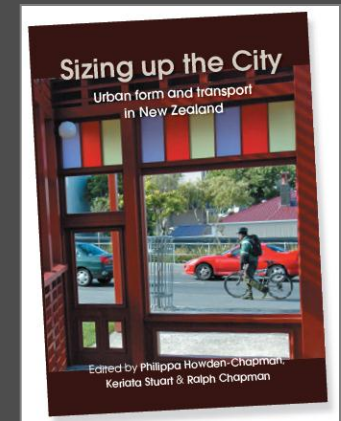


R.Chapman: Strasbourg, France, 2010

Intensification: some barriers that could be reduced...

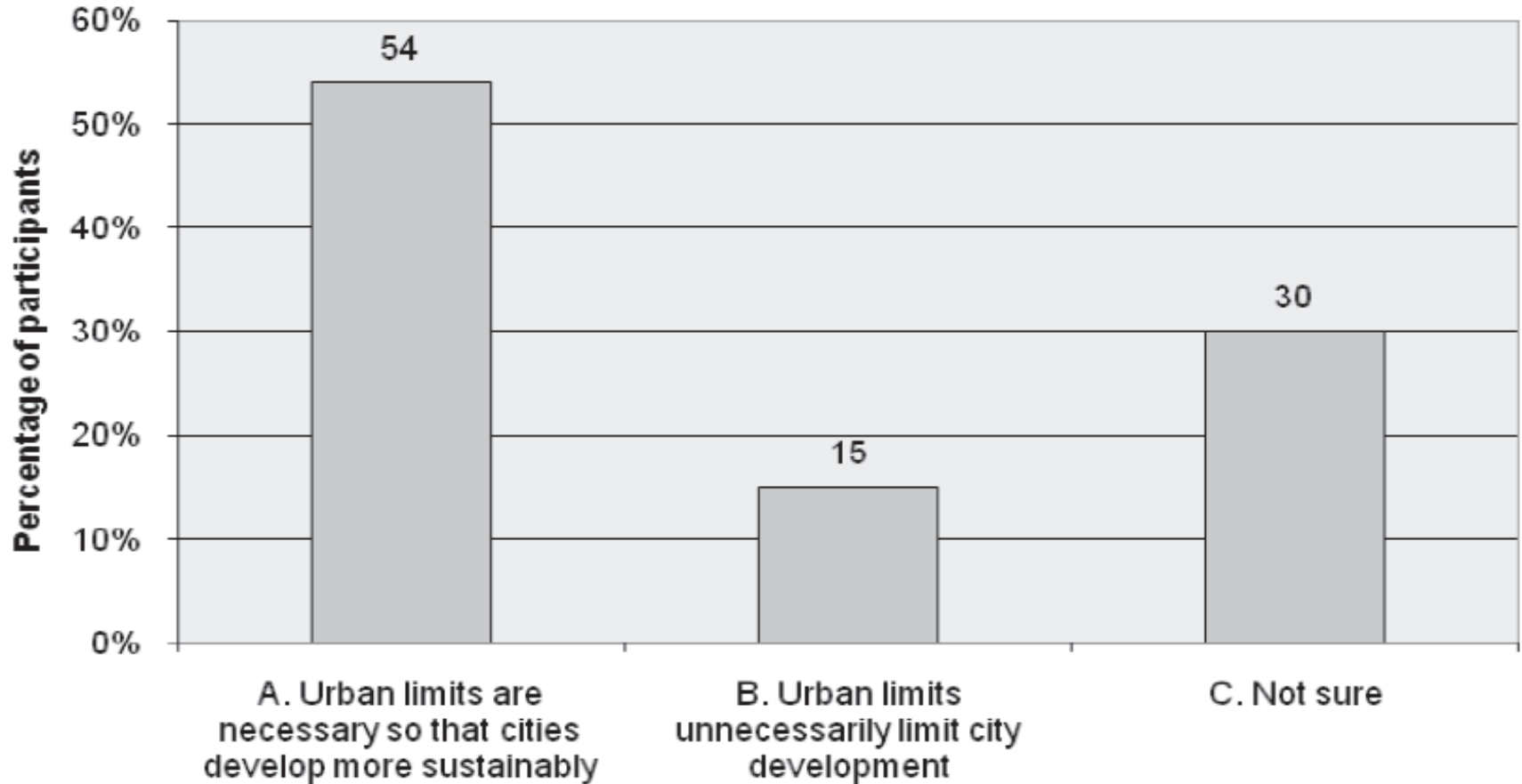
- Knowledge / paradigm barriers
 - Land development - the 'predict and provide' model may still predominate
 - Limited NZ evidence on public preferences
 - Limited evidence on broader costs / benefits of different urban models
- Political barriers
 - voices of businesses that might lose land development opportunities
 - patchy leadership on sustainability
 - senior management & councillors vary in support for peripheral development vs planning & infrastructure to encourage intensification

Urban locational preferences in NZ?



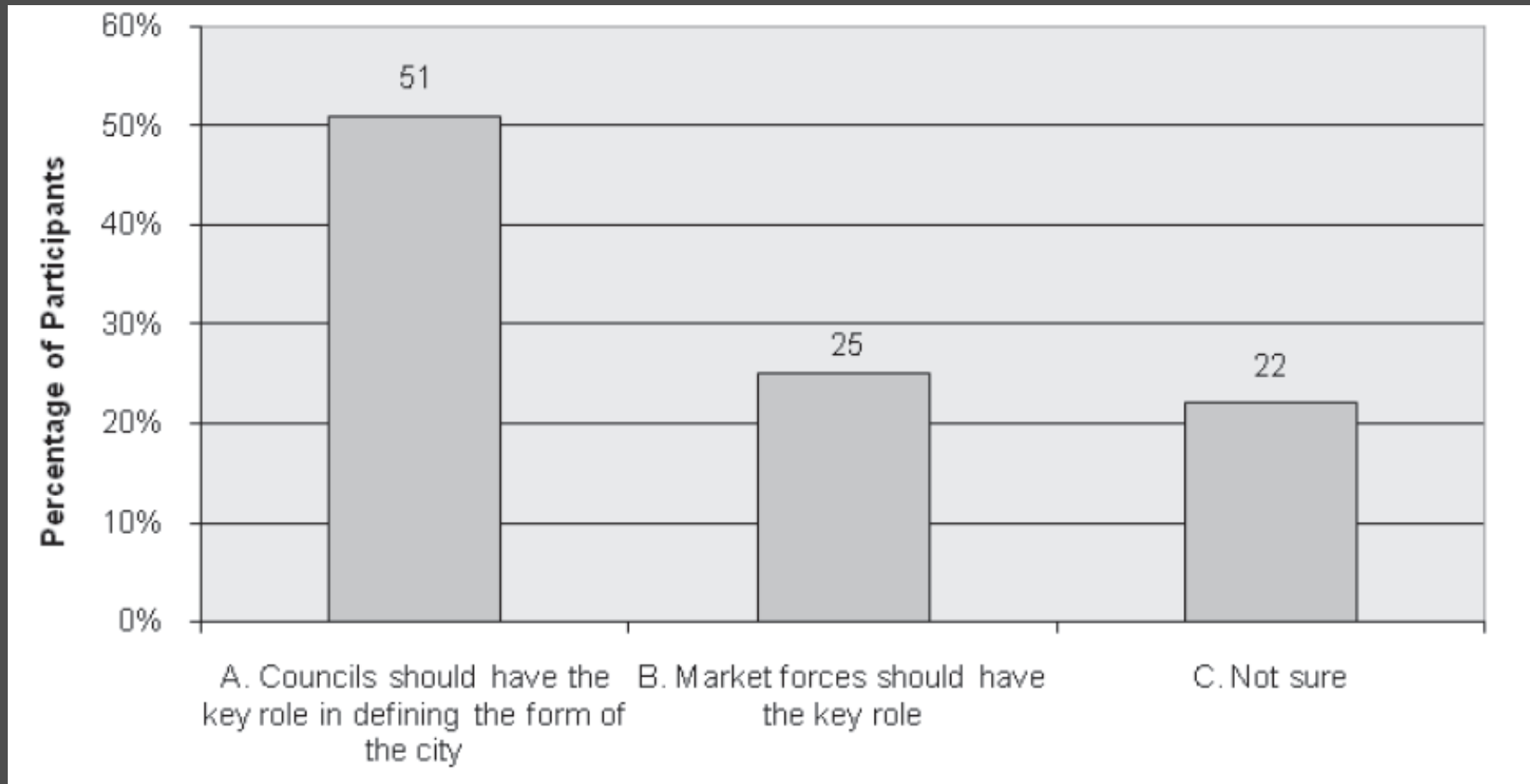
- 'For whom the city?' study
- Used *ShapeNZ* national sample, n~3200, May09
 - Primarily from lists from research agencies, although 10% are self-selected
- Issues surveyed
 - urban sprawl, e.g. urban limits; council involvement in regulating urban development
 - living (location; housing type) preferences

For whom the city? Attitudes toward urban form: limits



Over three times as many respondents see urban limits as necessary than not

Attitudes toward *control* over urban form: council or market



Market forces generally seen as unsuitable or insufficient to adequately define the form of the city.

Attitudes toward *accessibility* of living location

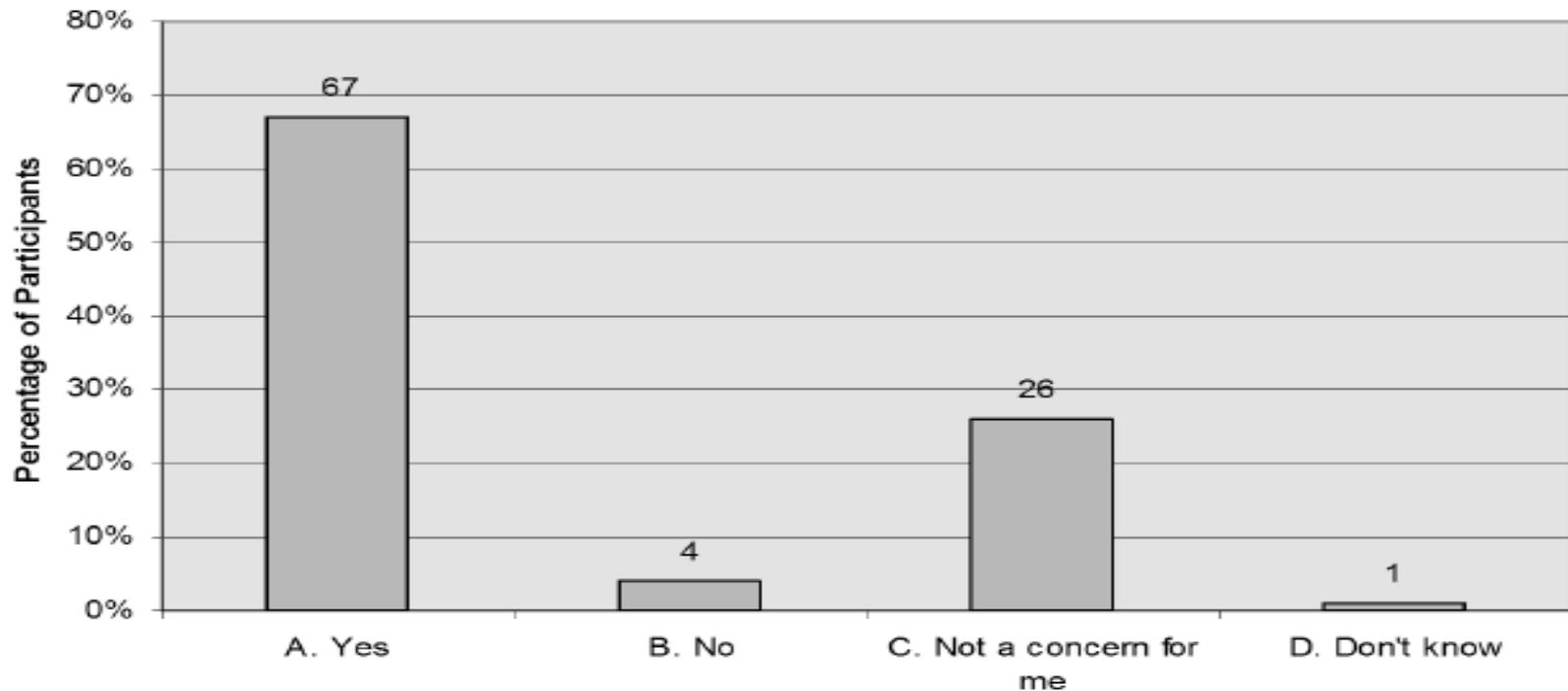


Figure 2.4 Significance of accessibility for living location. Responses to Question 18: Would you prefer to live within walking or cycling distance of some of the destinations you need to get to most often, like work, shops, parks, schools and transit stops?

A strong interest in accessible living – walking or cycling distance to everyday destinations

3 Conclusions

- Urban form & design, and transport policy and practice are already being influenced by **climate change, peak oil, population aging, and other trends**
- Urban form & design clearly influence transport choices; e.g. **density & land use mix appear to increase levels of active travel**
- Urban form & intensification are, legitimately, policy choices
- **Councils have an important & legitimate role in steering urban form and design**, e.g. in enhancing the quality of intensification

