



20 September 2007

## ***Briefing to the Commerce Committee***

### ***Inquiry into Housing Affordability in New Zealand***

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**Parliamentary Commissioner for the Environment**

I have requested the opportunity to brief you on environmental issues that are relevant to this inquiry.

In order to control the environmental impacts of housing, we need to find ways to incentivise denser housing and brownfields development. Of course, in some situations greenfield development will be fine because one size does not fit all.

But we need to think about housing affordability, not just in terms of the immediate problem, but also in terms of the future shape of our cities and the use of our land.

I regard an environmental impact to be particularly serious when the change causing the impact is irreversible. When we pave over land at the edge of our cities, we have created a land use that is very unlikely to be reversed. We should care about this for various reasons.

In many cases, we are losing highly productive soil and so driving agricultural and horticultural production on to less productive soil – with the need for greater inputs. The RMA does not consider soil to be a matter of national importance, but I do.

And when we pave over large urban areas, it can be hard to get rid of stormwater. Stormwater is sizing up to be a big problem round Christchurch.

But the biggest environmental issue associated with housing is energy consumption, and this is what I will focus on.

Energy consumption matters because of the impact of burning carbon fuels on our climate, because of the impact that new non-thermal power stations will have on our rivers and landscapes, because of our exposure to international oil prices, and so on. There is widespread agreement that in NZ we have been very slow to increase the efficiency with which we use energy.

The cost of a house has two components –

- Capital cost
- Operating cost

## CAPEX and OPEX.

Just considering capital cost – the purchase price of a house -- is only thinking about part of the problem.

There are two big components of the operating cost of a house that are caused by energy consumption.

The first is the energy used for transport to and from the house, and this is heavily influenced by the location of the house. We can think of this transport as the “energy outside”.

The second is the energy used for heating the house. We can think of this as the “energy inside”.

Consider the transport energy – the energy “outside”. In general, greenfields developments increase travel distances. And the cost of running a car will increase in real terms. A cost on carbon dioxide emissions is likely to be one driver. The hugely increasing demand from China and India will drive up the price of oil and there are no cheap substitutes – no silver bullets - hovering in the wings.

People living more closely together can lead to:

- Shorter travel distances
- More financially viable public transport
- Walking becoming a real option.

It matters where people live closely together – it’s not all about the inner city. Ideally, the densest housing is near key nodes and links, such as employment centres and public transport spines.

The density of most of our cities is very low in comparison with cities overseas. We are very abnormal in this regard and this makes us inefficient. Excessively low density cities lose much of the “agglomeration” economies that make them productive places to work.

Turning to the energy “inside” - the energy used for heating a home.

New Zealand houses are famously cold. The World Health Organisation says that inside temperatures should ideally be between 18° and 24° C. Our living rooms on winter evenings average just below 18° C – the bottom of the range - and our bedrooms are 4 to 5 degrees lower again. There is a lot of pent-up demand for heating.

Much new heating is electric – and the electricity used is winter peak power. Peak power should be - and will become - more expensive than baseload power.

Of course, good insulation will reduce the energy needed for heating. But apartments – and townhouses - are much easier and cheaper to heat than detached houses. In part, this is because they are generally smaller, but it is also because they have fewer exterior walls.

So there is an affordability tradeoff here.

Lower capital cost due to cheaper land on the urban fringe is likely to lead to higher operating cost because of:

- longer travel distances, and
- the construction of large detached houses that are relatively expensive to heat.

I would like to now briefly contrast two of our cities – Christchurch and Wellington.

First, Christchurch.

Two and a half years ago, the Greater Christchurch Urban Development Strategy was born. In the consultation document, there are some really interesting numbers. Predictions of growth over the 20 years from 2001 to 2021 were made – if current trends continued. Greater Christchurch anticipated 38,000 more households in that 20-year period. About a third were expected to be outside the city boundary in adjoining Selwyn and Waimakariri and most of the rest within the city boundary, but in the outer suburbs. But the average occupancy is expected to fall from 2.54 to 2.31 – that might not sound like much but it represents a big increase in single occupant households. I do not think these people want three or four bedroom houses on the edge of the city. I am not sure that the supply-side of the market understands the nature of the growing demand.

Another interesting number is the expected twenty-year growth in traffic – 40 to 50%. The number of households in Greater Christchurch is expected to grow by 25%, but the traffic grows nearly twice as fast. Most of this traffic growth is on arterial roads. The most significant of these roads are state highways, which are 100% funded from the National Land Transport Fund. It seems to me that there is a shifting of cost here. Christchurch is now trying to alter this pattern of development by implementing its Urban Development Strategy.

In contrast, something very different has been going on in Wellington.

The market is to a large extent delivering the environmental energy-efficient result. Subdivision has slowed. There is an excess of greenfields available.

The Planning Director of the Wellington City Council was quoted in the Dominion as saying that in the last ten years, the number of people living in the inner city has risen from 500 to 11,000. In 2006, 18,000 people walked or cycled to work on Census day – 17% - the highest in Australasia.

Four years ago, one-third of the demand was for denser inner city living and two-thirds was for greenfields. Now it is the other way round; the demand has flipped in just four years. Now two-thirds of the demand is for denser inner city living.

The driver of housing demand in Wellington is location. The supply-demand mismatch is location, not land. Even in greenfield development, the demand is for townhouses. Many people in our ageing population want smaller houses and smaller gardens.

Recently, I was visited by some officers from Manukau City Council. They asked me to take an interest in urban planning. Their request was for more tools in the toolkit. They said they had only one major tool – the rather crude Metropolitan Urban Limit. I think the Metropolitan Urban Limit is a useful tool but suggest the Auckland Metropolitan Urban Limit needs to be refined.

Other countries have certainly found other tools.

The UK is fostering brownfields development through public-private partnerships – setting up Urban Regeneration Companies – known as URCs. In the early days, some local politicians in the UK saw the approach as central government imposing its values on local government. However, there are now 23 URCs – every one started by a request from local councils and regional agencies.

A major problem inhibiting the development of a mature apartment market is that banks are more reluctant to lend for apartments than for houses. Some of this may be due to a lack of diversity – building apartments that only the young want to live in shrinks the market. Some of it may be due to a lack of quality.

But apartments are, in general, riskier investments – because they often come on to the market in large numbers – the supply is lumpy and so prices are volatile. This means higher interest rates for mortgages on apartments.

A few months ago I emailed Kiwibank with a general question about obtaining a loan to buy an apartment. The answer amazed me. To get a loan to buy an apartment I would have to find 30% of the purchase price myself. For a house – only 5% or 0%. This is a huge difference.

Maybe Kiwibank has modified its policy, but the risk problem – and the financial incentive - remains.

In Germany, it is at least partly solved by councils releasing land zoned for apartments a little at a time – thus smoothing out the price volatility.

These issues are not unique to us and other countries have found some solutions.

Thank you for inviting me to talk to you.

This has been very much “once over lightly”.

But in your deliberation on options for making houses more affordable, please consider the long term operating cost of houses – the energy cost – and other associated environmental impacts of housing development.

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