**BEFORE THE AUCKLAND UNITARY PLAN INDEPENDENT HEARINGS PANEL**

**IN THE MATTER** of the Resource Management Act 1991 and the Local Government (Auckland Transitional Provisions) Act 2010

**AND**

**IN THE MATTER** of Topics:
Expert Evidence requested by the IHP, from an email from Phill Reid, on 5th April.

---

**SUPPLEMENTARY STATEMENT OF EVIDENCE OF**

**PATRICK MARINUS FONTEIN**

**8 APRIL 2016**

---

**The IHP information Request**

The following was the information supplied on an email on the 5th April, at 4.21pm

*Dear Patrick,*

*Following the presentation yesterday of evidence to the Panel on capacity modelling for residential the Panel would like to commission you to prepare a short paper addressing the following three matters (these matters were identified in section 5 of the capacity modelling paper as unresolved):*

1. *What level of inflation should be used for the various price and cost components in the model (ACDC v3.7), and what would be useful sensitivites to run (if any)?*
2. *How should the model incorporate shifts in prices between the buying and selling of sites; and*
3. *How should the level of current unmet dwelling demand be estimated?*

*The paper needs to make recommendations for a way forward on these three matters in such a way that these recommended changes to the model are able to be incorporated practically and immediately (into ACDC v3.7) by RIMU. In discussion with Kyle Balderston he is aware of this request (under confidentiality) and is happy to provide any information that you may need for this task. This work does need to be progressed with speed to support the further residential capacity modelling set out at the end of the attached memo. Therefore this short paper would need to be provided back to the Panel by 5pm this Friday the 8th of April. I have also at the Panel's request attached Doug's rebuttal just to make sure that you can consider his position.*

*Kind regards*
*-Phill Reid*

***Phill Reid***
*Hearings Panel Planning Manager*
*Auckland Unitary Plan Independent Hearings Panel*

This brief Report addresses the issues raised and requested by Mr Reid above.

**1.0 Preface**

There has been a lot of various subjective points of view on property and property development matters provided in evidence and rebuttals to the IHP during the last 12-18 months including recently, by submitters and Council's Dr Douglas Fairgray (DF).

I make the comments in this brief Report as a Fellow of the NZ Property Institute (NZPI), awarded in 2005, having been a Member since 1995 and a Registered Property Consultant since 1996. I take the responsibility of my response at a very professional level, on the basis of:

> *"what would a Panel of ten of my peers with Fellowships from the NZPI consider fair and balanced, relative to every comment I provide within this brief Report".*

From my earlier Submissions, the IHP has all of my background, which I will not repeat here.

**2.0 Property Development Economics background to answering the questions**

The Auckland housing market has effectively been "broken" since the mid 1990's, with substantial supply constraints (mainly the introduction of the MUL, and no real increase in density / height allowances in urban areas) met head on with substantial increases in demand (mainly population growth).

For any industry, when supply exceeds demand for a reasonable period of time, you get speculative investors who then create even further purchase demand, such that often the market becomes even further distorted. This often creates exacerbated price booms and bust cycles. The Auckland housing market shows all of these characteristics. Great care should thus be taken in extrapolating any Auckland house pricing trends during the last 20 years, especially as compounding over a large number of years into the future even small percentages, can have dramatic impact.

Auckland Council has a stated objective of the Auckland housing market returning to a 5 time multiple of *dwelling prices viz median income*, (DP/MI). Auckland has moved from an DP/MI ratio of 3-4 in the 1980's to 5-6 approx 10-15 years ago and in the last year to 9-10.

There are price elasticity of demand issues, when a house becomes so unaffordable, many in the market will not be able or willing to purchase.

As Auckland's DP/MI has increased, there have been a number of predictable (but unusual to an efficient housing market) outcomes:

1. The people living in each Auckland dwelling (Persons per Household, or PpH) has increased, going against a long term trend for this to decline.
2. Land speculators have been prevalent in the Auckland market for the last 20 years, and continue to distort the development economics of the Auckland housing markets.
3. Auckland has moved a long way away from an "efficient housing market".
4. People living in Auckland, and those who want to live in Auckland and aspire to purchase their first home, are being prevented from doing so due to what are now severe affordability issues. How will they respond?

So addressing each of the points raised above:

**2.1 Persons per Household.**

Auckland has in recent years gone against a long standing NZ (and OECD) trend in that people per household (PpH) figures in Auckland have increased from circa 2.8-2.9 10-15 years ago, back up to over 3.0 and in 2016 to sit at circa 3.1. The NZ and general OECD long term trend is for the PpH to reduce, with forecasts (made five years ago) of the Auckland PpH to move to the 2.6-2.7 range in the middle of this century.

With just below 500,000 dwellings in the greater Auckland area in 2016, the difference between the PpH of 2.8-2.9 and 3.1 is a large part of the unmet dwelling demand currently within the Auckland housing market.

## 2.2 The effect of Land Speculation on the Auckland Housing market

In any industry, when there is a perception (by some or many) that there is a shortfall in supply relative to demand, you will get "speculators" who purchase the "in short supply" product, and ration its release, awaiting a windfall profit at some future stage.

Auckland has had insufficient developable land (greenfield and brownfield) during the last 20 years and the (relatively) few available developable sites have not been provided readily for sale. In Auckland during the last 20 years, there have been a large number of "land speculators" that are sitting on much of the developable land. They are "waiting" for a large windfall profit. These land speculators often have long term time horizons, some of which is driven by total return expectations, and some of which is driven by taxation issues (wanting to hold development land for greater than ten years, so as from a taxation perspective to not be considered a speculator, and being able to treat the windfall profit as a tax free gain).

In a property market where land demand exceeds supply, when the sale price of a finished house goes up, the parties holding the few available parcels of developable land, hydraulic their land price up. The example of Hi Yuang Trading Co selling the 29 Hectare 39 Flat Bush Rd site for circa $100m in 2013, having purchased this parcel in 1995 for $895,000 is an example of this. There are many similar examples for brownfield sites in existing urban Auckland areas, where land prices have increased exponentially, at a much faster rate than completed house sale prices.

Most property development in Auckland (and internationally) follow a "Residual Land Value" process, whereby:

> ***Sale price – (total costs of building + risk margin) = land value.***

The land speculator business model is driven by the investor's perception that land demand will be greater than land supply. In an efficient housing market, land supply and land demand have to be in balance. This leads to the following conclusion:

> ***Until Auckland provides a serious and long term sustainable balance in developable land supply, land speculators will continue to distort the Auckland housing market economics***.

## 2.3 An Efficient Housing Market

People within the international property industry would consider an "efficient housing market" to be one where supply and demand is generally in balance most of the time, and the resultant prices would respond in a very steady manner, generally in line with that economies' inflation.

In an efficient housing market, land supply should be relatively elastic and be able to accommodate the slight variations in overall completed housing throughout a normal

economic cycle. In such a market, house prices and the costs of building houses (production) should all be similar to inflation.

### 2.4 Housing Affordability's impact on demand

Many people that either live in Auckland or those who want to live in Auckland, and are currently outside of home ownership and aspire to purchase a home, are being prevented from doing so due to Auckland's extreme affordability issues. If these people do want to own their own home but can not afford to do so in Auckland, how will they respond?

- Move to another area of NZ or outside NZ, and purchase a home they can afford?
- Continue to rent indefinitely in Auckland?

Either way, at the current levels of Auckland house prices, should sale prices increase at levels greater than inflation (as DF generally projects), then the DP/MI ratio will increase even further, and these people will likely be "priced out" forever.

It is difficult to predict what impact the current severe housing affordability issues is having on demand, however there is a sound economic rationale to suggest that should relative Auckland house prices become more affordable (ie in economic terms, the relative price drops), then there may even be greater demand, so the current unmet dwelling demand discussed in Section 5 below, may be even greater.

**3.0 What Level of Price and Cost Inflation should be used within the ACDC?**

This section will consider the question of:

> *What level of inflation should be used for the various price and cost components in the model (ACDC v3.7), and what would be useful sensitivites to run (if any)?*

Section 2 above provides a detailed property development economics overview of the main issues that are affecting the Auckland housing market, and highlight that Auckland house prices are at an extreme and unprecedented state of un-affordability, with a DP/MI in excess of 9.

Section 2 also highlights that due to Planning policies in Auckland during the last 20 years, there has been a severe lack of supply of developable land in Auckland, and that there is substantial current unmet dwelling demand (see also section 5 below that highlights this).

Auckland Council has a stated objective to move the DP/MI ratio back towards the 5 level.

Both the National Government and the Labour Party state that housing affordability (especially in Auckland) is a key priority and that there will be major new policy announcements which will address affordability. The effect of this will also be to move the DP/MI ratio down. i.e. either median house prices would need to decrease or household median income will have to increase at a substantially greater rate than median house prices.

The current (2016) Auckland house prices have a substantial amount of "*built up price*", with current 2016 Auckland house prices substantially in excess of what most national and international industry experts would consider to be supported by economic fundamentals.

**When** the land supply in-balance is finally addressed, the speculative nature of the Auckland property market will slowly disappear, which will likely cause a (relative) reduction in Auckland house prices. All industry participants would like that price correction to be gradual, however it could come down in a thud, like the -40% correction experienced in many areas of America during 2008-2010.

Considering all of the above issues, there can be many sound economic rational reasons that state that any future Model runs of the ACDC, that make housing predictions out over the next 30 years, should have sale prices *less* than the various cost components of the building process and Model.

Considering the weight of the issues raised above, to contemplate extrapolating any of the trends during the last 20 years into the future, and having house sale prices increase at higher levels than the input costs, and compounded for many years into the future, in my professional opinion would be totally unjustified and *professionally negligent*.

In answer to the IHP's question, **I believe it is prudent to have house sale price inflation at the same rate as the input costs**.

### 3.1 Should the ACDC Model run any price or cost sensitivities?

The ACDC Model is a very detailed and extremely complicated Model. From an operator's perspective, running a sensitivity analysis on any type of Model can be useful, especially as this can clearly highlight what inputs create the most sensitivity to the outputs.

When the inputs of a Model are extremely complicated (as the ACDC's Model is), trying to get a group such as the 013 PDEG and then the 013EG to agree on the Model inputs is a very demanding task. Therefore trying to get 013PDEG and 013EG member agreement on what inputs should be subjected to a Sensitivity analysis, and then by how much each input should be varied, will be a near impossible task.

A further issue is that there are a wide group of Stakeholders who are interested in the Results of an ACDC Model run. When ACDC Model Results are produced, which have been peer reviewed and agreed by all as sensible results, these ACDC Model run results then produce a number with a series of sound assumptions which have generated the number. Whilst there are a large number of people interested in the ACDC Model results, I can count on one hand the number of people who in detail understand the ACDC Model, and how those results are created. I doubt whether anyone, outside of those people I can count on one hand, would then have any idea on how the Sensitivity Analysis was created.

What my experience with the ACDC Model during the last 9-12 months has shown, is that the relevant external stakeholders have little interest in the assumptions and the actual ACDC process, they are almost exclusively focused on "***the number***" that the ACDC Model produces. Producing a series of sensitivity analysis which would then lead to a series of numbers to be produced, will likely cause mayhem in Stakeholder interpretation of the ACDC Model Run results.

Whilst the ACDC Model is extremely complicated, it is robust and produces good results. To make the Model even more complicated by introducing a Sensitivity Analysis component would place even greater pressure on the reliability of the Results.

Based on the above reasoning, and in the interests of simplicity and consistency, **I do not see any merit in carrying out sensitivity analysis of the ACDC Model**.

**4.0 Should the ACDC Model incorporate shifts in the prices of buying and selling of sites?**

Similar to the sensitivity analysis issues raised above, one could raise the issue of whether if a developer buys a site at "time x" and then sells the completed houses at "time y", whether the Model should incorporate a different price for the time differences?

The answer is totally dependent on the timing of the boom and bust of the development cycle and the "luck" that the developer has in the time between buying the site and selling the product. This is further complicated by a number of developers selling their residential product "off the plan", thereby selling at a price closer to the land purchase price, than the completion date.

Another element giving weight to keeping the ACDC Model simple, is that Section 3 above concludes that there should be no variance in the price and cost component inflation.

With the above in mind, I conclude that **the ACDC Model should <u>not</u> incorporate any shifts in prices between the buying and selling of sites.**

**5.0 How should the Current Unmet Dwelling Demand be Estimated?.**

The current Auckland dwelling demand can be considered as the ratio of "population divided by the People per Household (PpH)". In an efficient housing market, lets call this "PpHe". When we have determined the current Auckland Dwelling Demand and we then subtract the current household numbers within Auckland, this then leaves the current Unmet Dwelling demand estimate.

So that leaves three main inputs to evaluate:

1. What should the population figure for Auckland in 2016 be?
2. What is the number of occupied households or dwellings in 2016?
3. What is a reasonable PpHe, if Auckland was an efficient housing market in 2016?

Looking at each of the 3 points:

**5.1 What should the Auckland 2016 population figure be?**

I have no population estimation expertise, however can research data and add and collate.

- The Feb 2013 NZ Census Auckland population figure was 1,415,550.
- The Feb 2013 NZ Census has 473,448 occupied dwellings in Auckland, and with 33,360 un-occupied dwellings has a total dwellings of 509,625.
- The figures above provide a ratio of 2.99 PpH for occupied dwellings as at Feb 2013. This is the most relevant figure as the unoccupied dwellings do not include for occupants, who "may" have been away from Auckland at that time.
- In the 3 years since the Feb 2013 Census there has been very rapid population growth. If the growth to mid 2015 was +77,300 (DF Footnote 17, pg 36), the reported population growth to April 2016 has been even greater in the last 12 months.
- On the basis of the above, I will use an increase of 120,000 over the 1,415,550 figure, so 1,535,000 people. (if someone with population demographics expertise wants to amend my estimate of 120,000 I'll be fine with that)

**5.2 What is the occupied dwellings figure in Auckland in 2016?**

- We need to use the 473,448 occupied dwellings and add the increase in dwelling numbers in the last 3 years.
- Building consents are the most reliable figure for this, although they don't allow for:
    - The existing houses that are demolished (or removed) to make way for the new dwellings
    - Dwellings consented and not built
    - The time lag in when a dwelling consent is issued and when the dwelling is occupied
    - Whether the completed dwelling is actually occupied, or left un-occupied.
    - Based on the above 4 points (especially Point 1), I believe it is fair and reasonable to make a 10-15% deduction on the building consent figures, to provide additional occupied dwellings.

- So lets use the building consent figures in Auckland for the last 3 years of 6,364 in 2013; 7,657 in 2014 and 8,716 in 2015, totalling an extra 22,737 dwellings. With a 10% deduction factor, lets assume this creates an extra 20,500 occupied dwellings.
- This provides a total dwelling figure in 2016 of 494,000 dwellings.

The above provides a 2016 PpH of 1,535,000 divided by 494,000 dwellings, or 3.11.

In an efficient market, the long term trend should have Auckland show a PpH of between 2.85 to 2.90, as at 2016. (see DF's submission Cl 6.38, pg37 where there is debate of a number between 2.86 and 2.89).

For a population of 1,535,000 at a PpH of 2.85, Auckland would need 538,600 dwellings.
For a population of 1,535,000 at a PpH of 2.90, Auckland would need 529,310 dwellings.

At a PpH of 2.85 Auckland has an unmet demand of 44,600 dwellings and at a PpH of 2.90 Auckland has an unmet demand of 35,300 dwellings.

Based on the above, **I believe a fair and reasonable figure of the unmet dwelling demand for Auckland as at April 2016, is 40,000 dwellings.**

## 6.0 Recommendations Going Forward.

### 6.1 Inflation on price and cost components

As stated in section 3 above, I believe it is prudent to have house sale price inflation at the same rate as the input costs. Furthermore, I do not see any merit in carrying out sensitivity analysis of the ACDC Model. This keeps the further ACDCv3.8 development straight forward (on this aspect).

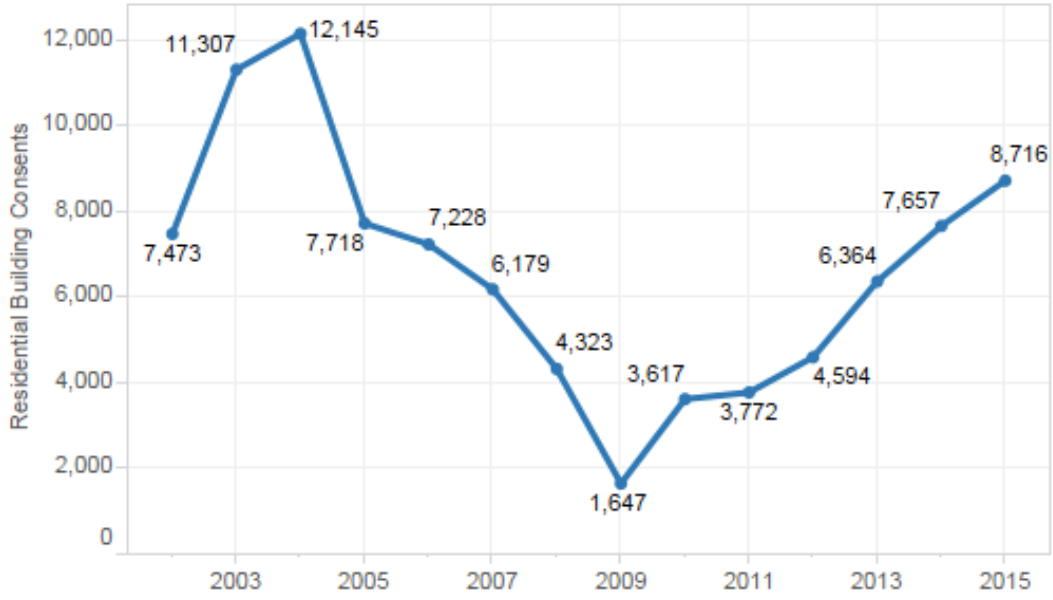
### 6.2 Shifts in prices between buying and selling of sites

As stated in section 4 above, I conclude that the ACDC Model should not incorporate any shifts in prices between the buying and selling of sites. This keeps the further ACDCv3.8 development straight forward (on this aspect).

### 6.3 Unmet Dwelling Demand

The unmet dwelling demand figure of 40,000 is the number of extra dwellings that are required today to bring the Auckland housing market back into a PpHe balance. Therefore any increase of housing over a 10, 20 or 30 year period, must add the 40,000 dwellings into the required total.

Figure 1 below shows the Auckland Building Consent data for 2002-2015




Source: Statistics NZ

Figure 1. Auckland Building Consent data for 2002-2015

If Auckland is to meet the Auckland Plan target of 400,000 extra dwellings by 2043, this equates to circa 13,000 extra dwellings per year. The above chart shows a shortfall in every previous year. Every year that there is a shortfall below the 13,000 dwellings, the unmet dwelling demand will increase, as will the PpH (assuming population increases).

If Auckland needs an extra 130,000 extra dwellings to provide for the anticipated population growth of (say) the next 10 years, and to match the long term trend of the PpH to decrease further (ie lower to say 2.80 by 2026), then if Auckland Council was to try and bring the PpHe into balance in 2026, an extra 170,000 dwellings would need to be provided in the next 10 years.

As Auckland has never met a figure of 13,000 extra occupied dwellings provided in a year, the only way this will be realistically achieved is through a substantial increase of developable land supply, to the extent that the speculating land developers truly believe that "their time is up", and the best thing to do is to sell their developable land as soon as possible.

**6.4 Future Model runs of the ACDC**

The 22nd March 2016 Memo by Mr Phill Reid to the 013 Expert Group and others, anticipates (amongst other things) that:

11th April 2016: The IHP will confirm a version of the ACDC Model to be used by RIMU for further modelling.

6th May 2016. RIMU report the modelled results back to the IHP with a short narrative.

I suggest the recommendations made in sections 6.1 to 6.3 above should be incorporated into the brief provided to RIMU.

I confirm that I have been involved with Mr Kyle Balderstone and Adam Thompson in improving the ACDC Model inputs during November and December 2015. As Mr David Hill's Memo to the IHP on the 3rd March 2016, none of the ACDC Model outputs have been peer reviewed since the ACDCv2 Model run of the 9th October 2015.

I suggest starting form the outputs of the 9th October 2015 ACDC Model Run, then:

- update all of the Inputs, continuing my and Adam Thompson's earlier work
- Consider any updates on changed zoning and rules that may be included in a new ACDC Model run
- Have the PDEG review all of the input cost and sale prices
- Have Kyle run the ACDC Model.
- Ensure there is at least 7 days to properly peer review the Results outputs
- Present the peer reviewed ACDC Model results to the IHP

**7.0 Further Issues Raised in the March 2016 IHP Submissions and Rebuttals**

7.1 Having read the DF Rebuttal evidence, dated 31st March 2016, which refers to a number of submissions by others, as the IHP has requested I consider the points raised in DF's rebuttal evidence, I thought it prudent to make the following comments.

7.2 Firstly and to set some context to the dialogue between the parties, DF has a Doctorate in Geography, and as far as I am aware, does not have any actual property development experience or expertise. Comments on what is "feasible" in property development and his rebuttal of other submitter's comments on this, need to be treated within this context.

7.3 The ACDC model has not been peer reviewed since Oct 2015. All references to Outputs of ACDC Model runs since Oct 2015, including the ACDCv3.7, are meaningless. DF's Table 6.1 is meaningless as it uses results from ACDCv3.7, and even more dangerously uses part results and then adds further of his own interpretation.

7.4 DF's contention that "the potential for feasible capacity to increase over time" (Cl 4.22, pg12 and Cl 4.29 pg13) is totally at odds with the residual land value approach, highlighted in this Report's section 2.2, which seems to predominate the Auckland housing market.

7.5 It is also important to understand the base-line assumptions of the ACDC Model.

- The ACDC Model uses a 30 year time horizon for the likelihood of development potential of a site. The 30 year time period makes allowance for:
    - Sites which have non-residential use being converted to medium-high density residential. Ie "Development Chance"
        - Eg 19 Lyon Ave, St Lukes is a 9,629m2 site owned by St Lukes Enterprises Ltd, with a large office-warehouse building leased by Image Centre Group, a marketing communications and printing company.
        - Eg 69 St Georges Bay Rd, Parnell is a 14,006 m2 site owned by Masfen Holdings Ltd. This site has been zoned Business 4 / Mixed Use and has allowed residential development for the last near 20 years, is included in the ACDC numbers with a high number of developable capacity, yet remains undeveloped.
        - Many of these sites have medium-long term leases in place to commercial occupiers.
        - As Auckland's population grows, theses existing businesses often want to stay centrally located.
        - For 19 Lyon Ave, it is probably reasonable to assume this site will convert to residential in a 30 year time frame, but not within 10 years.
    - If a 10 year time period is to be considered, the base line assumptions of the ACDC Model, need to be totally re-drawn.
    - Of the ACDC Model outputs of Oct 2015, I am aware that the 19 Lyon Ave site makes an assumption for a developable capacity of circa 200 dwellings.

- DF agrees with the 30 year time horizon in Cl 4.48 pg18, but in much of his previous submissions contends the ACDC outputs can be used over a 10 year period.

7.6 Capacity Utilisation

DF attacks Mr Hermans submission on Capacity Utilisation issues in Cl 4.49 pg18-19, with a further explanation in Footnote 8, pg 19.

With over 20 years of property development experience and through my industry association within the NZPI and Property Council throughout that time and thus being close to many people within the property and development industry, DF's interpretation of why a developer under-utilises a site's development potential is totally incorrect.

Reviewing greater Auckland residential property development during the last 20 years, these are the main reasons why a site's development potential is often under-utilised:

1. Most experienced developers are extremely cautious and nervous about a Bank's response to a market downturn (which Auckland has many of). These experienced developers will choose a risk-reward ratio which is optimum, which often results in a low risk and low density option.
2. Smaller lower density housing projects can be completed quickly (6-10 months, compared to 24-30 months for a large apartment project), minimising a developer's risk of the sales market changing during the development period.
3. The Auckland banking system understands and prefers stand alone housing. Terrace housing is less accepted, but reasonable. Banks place far greater lending restrictions on higher density apartment development projects.
4. Many Auckland residential property developers (most of the house developer industry have a residential builder background) focus on one type of residential product, eg stand alone townhouses, or duplexes, or terrace homes etc. The developers with a house building background also often prefer simple timber framed dwellings, which they can build using NZ3604 design. They thus have a product in mind, and go and look for sites on which they can develop their chosen product. If a site works, they buy and then develop. Most of these "one product" developers do <u>not</u> focus on maximising a site's development potential.
5. Most of the residential house builder – developers highlighted in point 4 above, have a delivery team that prefer a steady workload and is governed by being able to manage comfortably a certain number of projects at once. When he starts to run out of work, he goes and looks for the next site, ie any site that is available for sale on the given days / weeks that he is looking for land. Whatever site is available he will develop his chosen product.