New Zealand Building and Construction

Productivity Partnership

National Construction Pipeline

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Prepared by

BRANZ

Pacifecon
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BUILDING AND CONSTRUCTION
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MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HIKINA WHAKATUTUKI

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Six Year National Construction Pipeline Report

1 Introduction

Pacifecon (NZ) Ltd and BRANZ were commissioned by the Building and Construction Productivity Partnership to forecast national construction demand for the six years ending December 2019.[1] This is the second national pipeline to be prepared. The first report was released November 2013 and was well received.

This report is based on a compilation of known / documented construction projects and economic forecasts of building and construction. It includes graphs and commentary on forecast and actual building and construction work. The year beginning January 2012 is used as the base year for any comparisons with the forecasts. The forecasts show the nature and timing of future building and construction work, by type and region, through to December 2019. These forecasts are complemented by information on known non-residential building and construction intentions from April 2014 to December 2019 and actual building and construction data from January 2012 to March 2014.[2]

The visibility of a pipeline of forward building and construction work can provide a basis for improved:

- planning by all participants in the sector
- scheduling of investment in skills and capital
- coordination between construction clients (particularly central and local government) that could lead to better scheduling of construction projects.

These improvements could moderate boom – bust cycles that have contributed to resource clashes, low sector productivity and poor building quality. This report is also a source of general information for any group or individual connected or concerned with the future of the building and construction sector in New Zealand.

It is intended these reports will be produced every six months.

A detailed description of the methodology is in Appendix C. A full set of the known and forecast data by region and year is included in Appendix E.

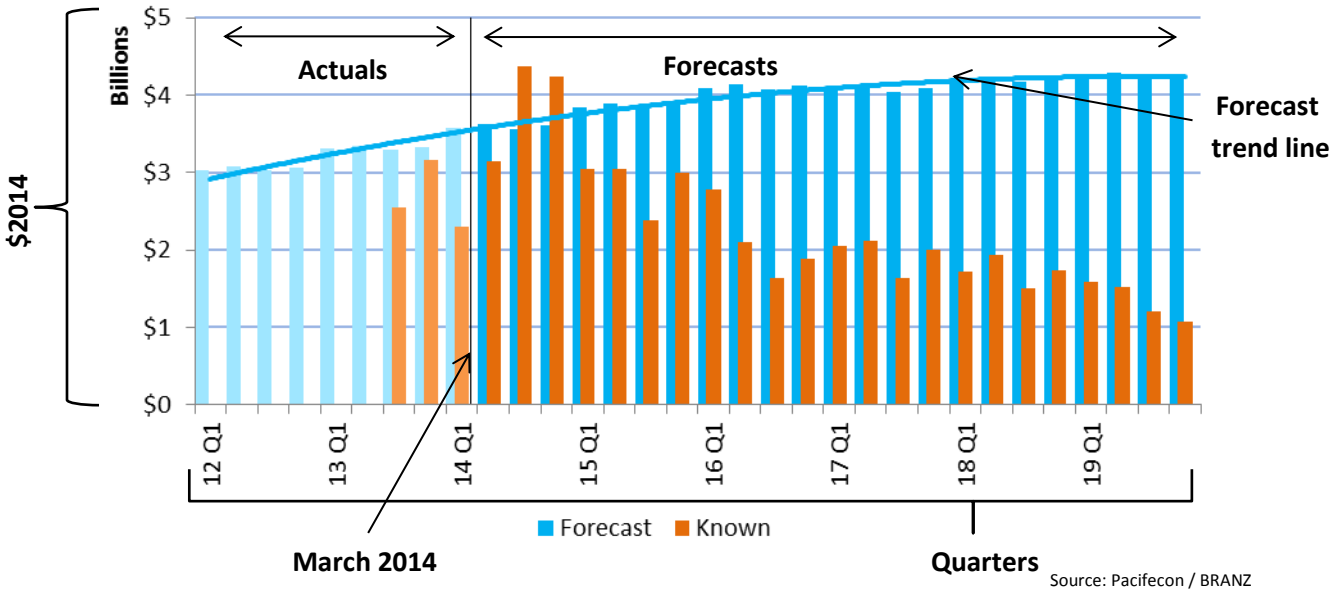
The Productivity Partnership, via the Auckland Procurement Forum, produces a separate construction pipeline report for Auckland. The Auckland Pipeline Report provides data on current plans and forecasts for capital investment in building and construction across Auckland. The fifth Auckland Pipeline report, released in October 2014, is available at: http://buildingvalue.co.nz/sites/default/files/Auckland-Pipeline-Report-5.pdf

[1] See Appendix A for information on the parties involved in preparing this report.
[2] 'Fixed capital formation' is used as the basis for measuring forecast and actual building and construction – see Appendix C for an explanation of the methodology used.

1.1 How to read the graphs

Different types of graphs are used in this report to illustrate relevant information. The key features of the graphs are discussed below the following example graph.

Example graph



Source: Pacifecon / BRANZ

- Values are in constant 2014 dollars and are expressed in billions per quarter or per annum, unless otherwise stated.

- 'Years' are calendar years; the twelve months beginning January (unless otherwise stated), i.e. 2014 is the year from January 2014 to December 2014.

- Where rolling years are used, each point on the graph represents the aggregate of the 12 months immediately preceding that point, i.e. June 2014 is the aggregate of values from July 2013 through June 2014.

- Quarters are of the calendar year referred to, i.e. 2014 Q2 is the quarter from 1 April to 30 June 2014.

- Actual values (from January 2012 through March 2014) have been included. The year beginning January 2012 is used as the base year for any comparisons with the forecasts. The forecast period is from 1 April 2014 to 31 December 2019. A vertical line on the graphs indicates the start of forecast. Actuals are to the left of the vertical line and are shown in a lighter colour to distinguish them from forecasts. [3]

- Trend lines have been included to demonstrate the general direction the forecasts are heading.

[3] A table of actual and forecast annual values is included in Appendix E.

2 Key findings

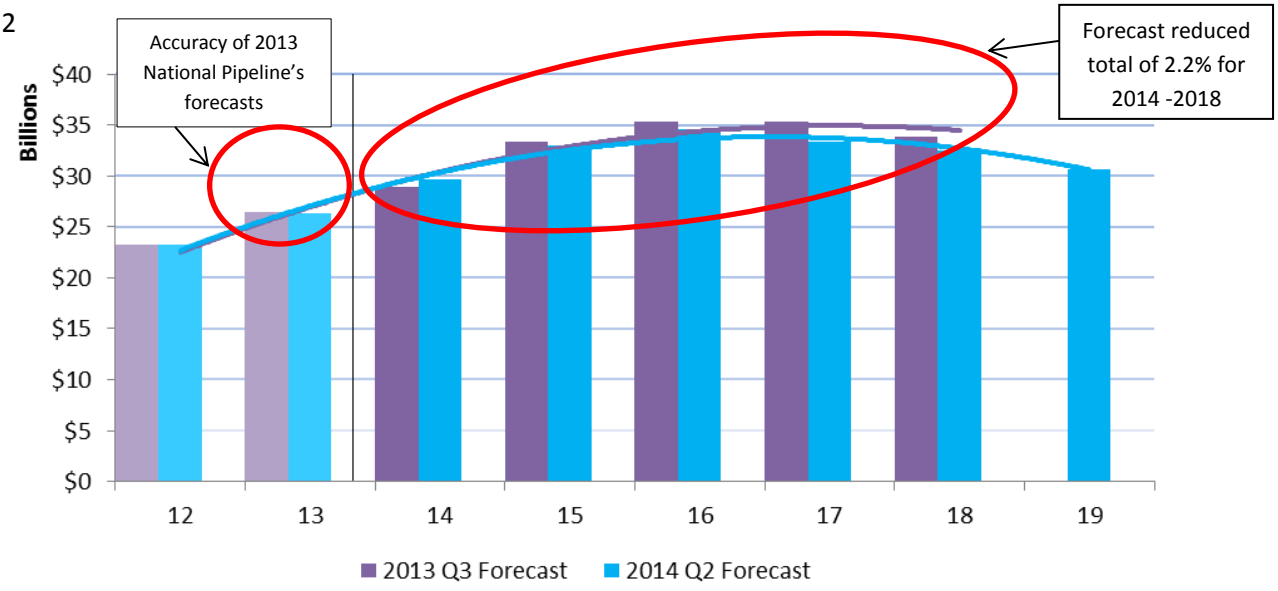
This section discusses the five most significant findings.

2.1 The 2013 report forecasts were accurate

Actual data has shown that the 2013 report forecasts were accurate. The actual value of all national building and construction in 2013 was 0.4% below what was forecast in the 2013 report. Residential activity in 2013 was 0.9% lower than forecast. Non-residential activity in 2013 was 0.1% higher.[4]

Figure A - Comparison of 2013 and 2014 forecasts and actuals for all construction, nationally

2.2



Source: Stats NZ/BRANZ/Pacifecon

2.2 The forecast value of all building and construction[5] has reduced

The value of all building and construction nationally, for 2014 through 2018, is forecast to be 2.2% lower than forecast in the 2013 report (see *Figure A*). A 4.3% reduction in the value of residential building is the cause of the lower overall forecast for 2014 through 2018 (see *Figure 2*).

Changes to the following assumptions since the 2013 report have had the net effect of reducing forecast residential building nationally:

- Housing numbers are expected to be up in the next three years due to stronger net migration.
- Average house values are down due to an expectation of smaller house sizes.

[4] The forecasts from the 2013 report have been adjusted to enable a like-for-like comparison with the forecasts in this report. Details of the adjustments made to the 2013 report data is included in Section 3.1

[5] All building and construction is the sum of residential building and non-residential building and construction.

2.3 Annual building and construction activity is forecast to reach unprecedented levels

The value of all building and construction nationally is still forecast to reach unprecedented levels, with a sustained rate of growth that has not been seen in 40 years.

The value of all building and construction nationally, for the year ending March 2014, is fractionally lower[6] than the previous peak of $27b - in the year ending March 2008.[7] The forecast shows construction activity rising a further 29%, from March 2014, to an unprecedented peak of $35b in the year ending March 2017[8] - this is consistent with the 2013 report.[9]

Figure B - Value of all construction, historic and forecast

Source: Pacifecon / BRANZ

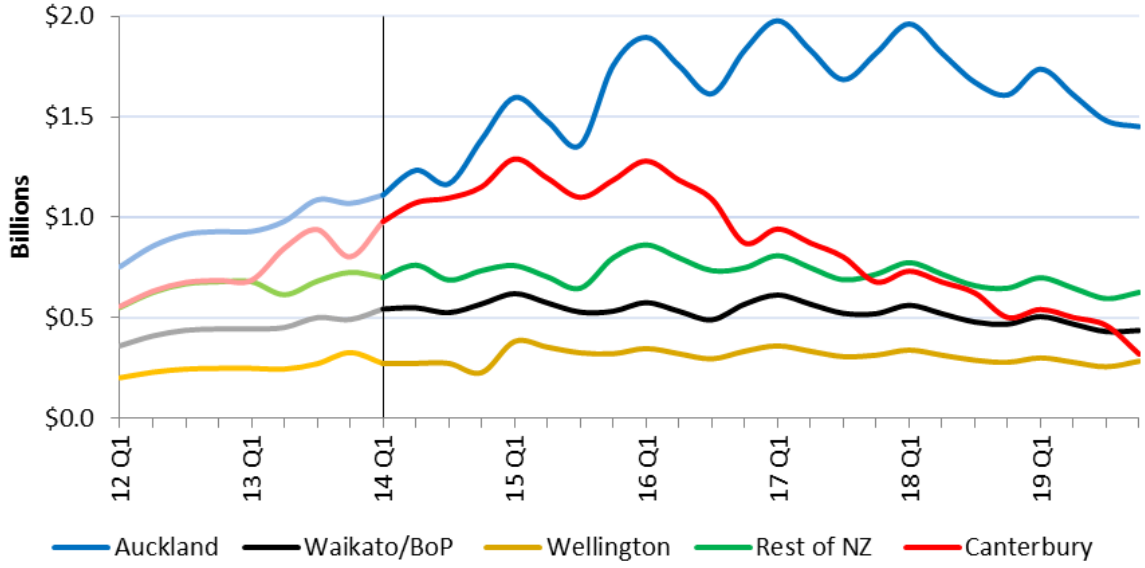
[6] The value of all building and construction in the year to March 2014 is $54m lower than it was in the year to March 2008. When rounded, this is a 1% difference.
[7] Adjusted to $2014; sourced from BRANZ.
[8] When expressed in calendar years, the peak occurs in 2016 (see Appendix E).
[9] See Appendix C for details of how to compare Figure B with the corresponding graph (Figure 2.1) in the 2013 report.

2.4 Auckland continues to dominate demand, driven by residential activity.

Auckland continues to dominate the national demand for building and construction, accounting for over a third of all building and construction work, by value, from 2012 to 2019. The forecast value of all building and construction in Auckland steadily increases to a peak in 2017 ($13.1b) before reducing in 2018 and 2019.

Residential activity continues to drive growth in Auckland – forecast to more than double in value from 2012 ($3.5b) to the peak in 2017 ($7.3b). The number of multi-unit dwellings consented in Auckland each year is forecast to rapidly increase. Nearly 4,800 multi-unit dwelling consents are estimated in 2019 – nearly five times as many as in 2012 (just over 960).

Figure C - Value of residential building by region (by quarter)

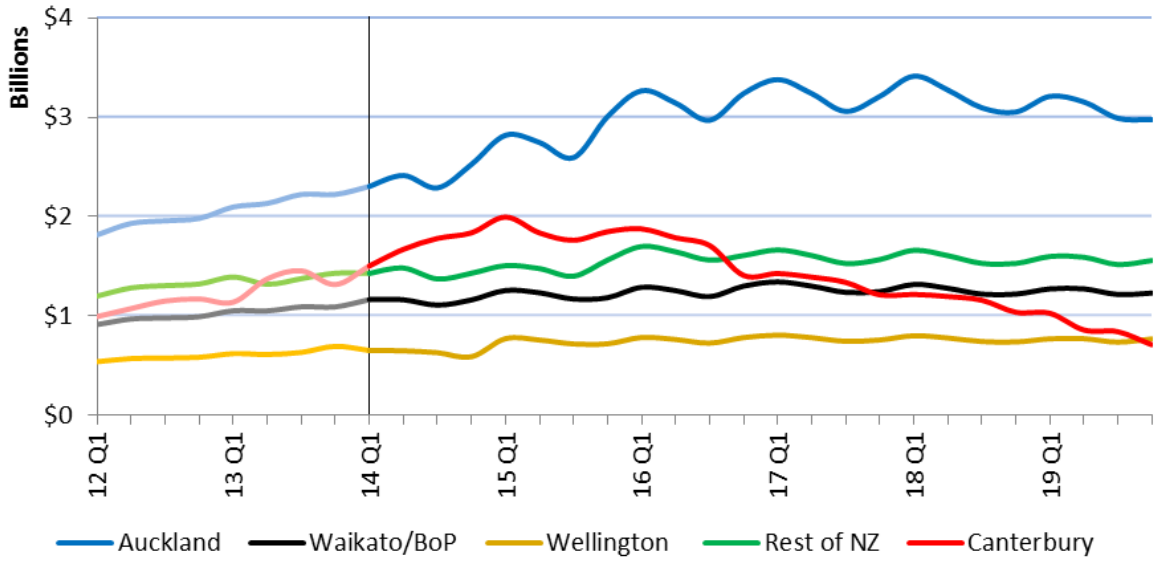


Source: BRANZ

2.5 Canterbury is not expected to sustain the same level of activity as previously forecast

Canterbury's rebuild activity increases in 2014 through 2016. The value of all building and construction in Canterbury peaks at $7.4b in 2015 and then steadily declines. The decline in value is shown to be further and faster than forecast in the 2013 report.[10] Canterbury's activity falls below all other regions by the end of the forecast period. In 2019, the value of all building and construction in Canterbury is projected to be 22% lower than in 2012.

Figure D - Value of all building and construction by region (by quarter)



Source: Pacifecon / BRANZ

[10] The forecasts in the 2013 report showed the value of all building and construction in Canterbury increasing by 21% from 2012 to 2019 (March years).

3 Comparisons with the 2013 National Construction Pipeline Report

3.1 Adjustments to data from the 2013 report

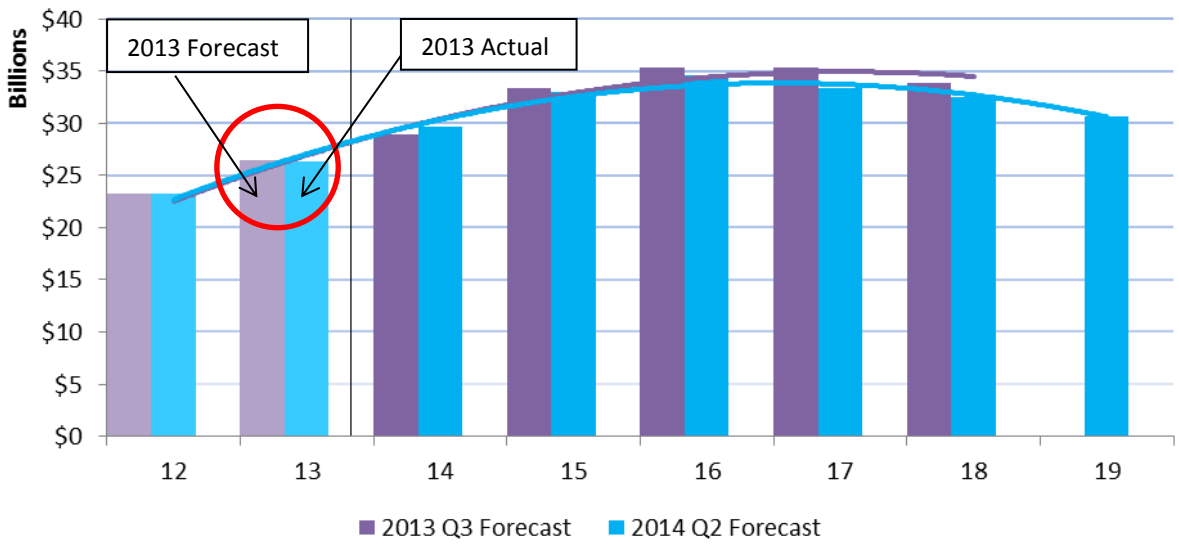
The following adjustments have been made to the forecasts in the 2013 report to enable a like-for-like comparison with the forecasts in this report:

- conversion from March to December ending years
- conversion from $2013 to $2014 to account for 4.6% inflation[11]
- a 10.6% upward revision in Statistics New Zealand's residential fixed capital formation data for March 2012 and March 2013 years, published April 2014.[12]

3.2 Forecasts in the 2013 report accurately predicted what happened in 2013

The first set of National Pipeline forecasts were accurate predictions of what happened in 2013. The value of all building and construction nationally in 2013 was 0.4% lower than forecast. This was caused by the combination of a 0.9% overestimate for residential building activity and a 0.1% underestimate for non-residential building and construction activity.

Figure 1 - Comparison of 2013 and 2014 forecasts and actuals for all construction nationally



Source: Stats NZ/BRANZ/Pacifecon

[11] 4.6% for residential building and approximately 3% for non-residential building and construction is the rate of inflation based on changes in the capital goods price indices in 2013, as published by Statistics New Zealand.

[12] See http://www.stats.govt.nz/browse_for_stats/economic_indicators/GDP/GrossDomesticProduct_HOTPMar13qtr/Revisions.aspx for further information on the upward revision by Statistics New Zealand.

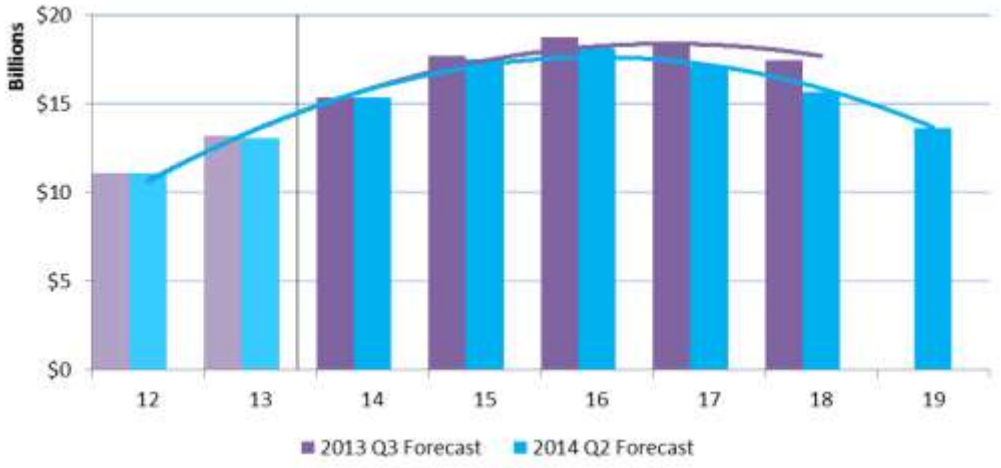
3.3 The forecast for all building and construction activity over 2014 - 2018 has reduced

The overall value of all building and construction, for 2014 through 2018, is expected to be 2.2% lower than forecast in the 2013 report (see *Figure A*). This is due to a 4.3% reduction in the forecast value of residential building from 2014 through 2018.

Changes to the following assumptions, since the 2013 report, have had the net effect of reducing forecast residential building nationally:

- Housing numbers are expected to be up in the next three years due to stronger net migration.
- Average house values are down due to an expectation of smaller house sizes.

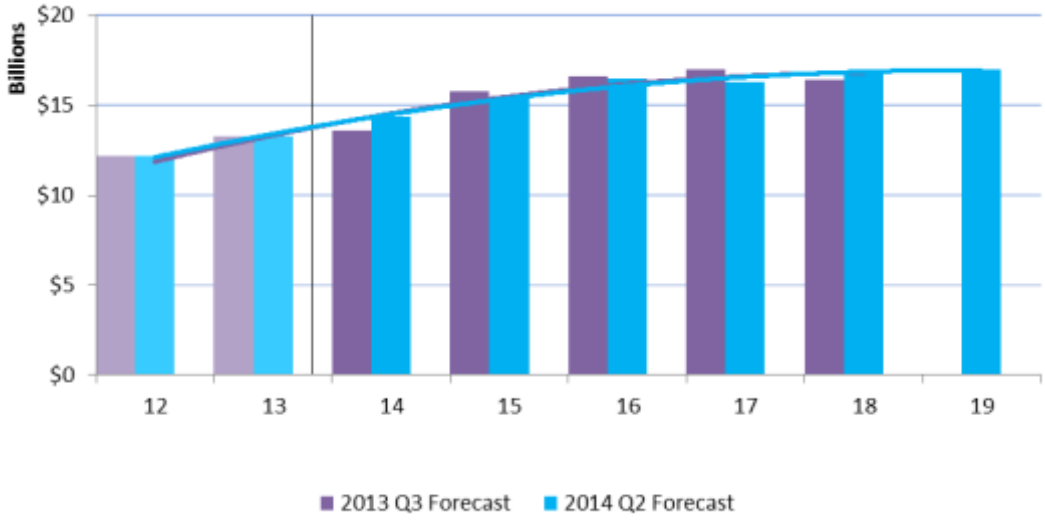
Figure 2 - Comparison of forecasts and actuals for national residential building



Source: Pacifecon / BRANZ

The overall forecast value of non-residential building and construction, for 2014 through 2018, has not changed from the 2013 report.[13] However the spread of activity over each of the five years is different and the peak has moved from 2017 to 2019.

Figure 3 - Comparison of forecasts and actuals for national non-residential construction



Source: Pacifecon / BRANZ

[13] A total of $79.4b of non-residential activity is forecast for the five calendar years 2014 – 2018.

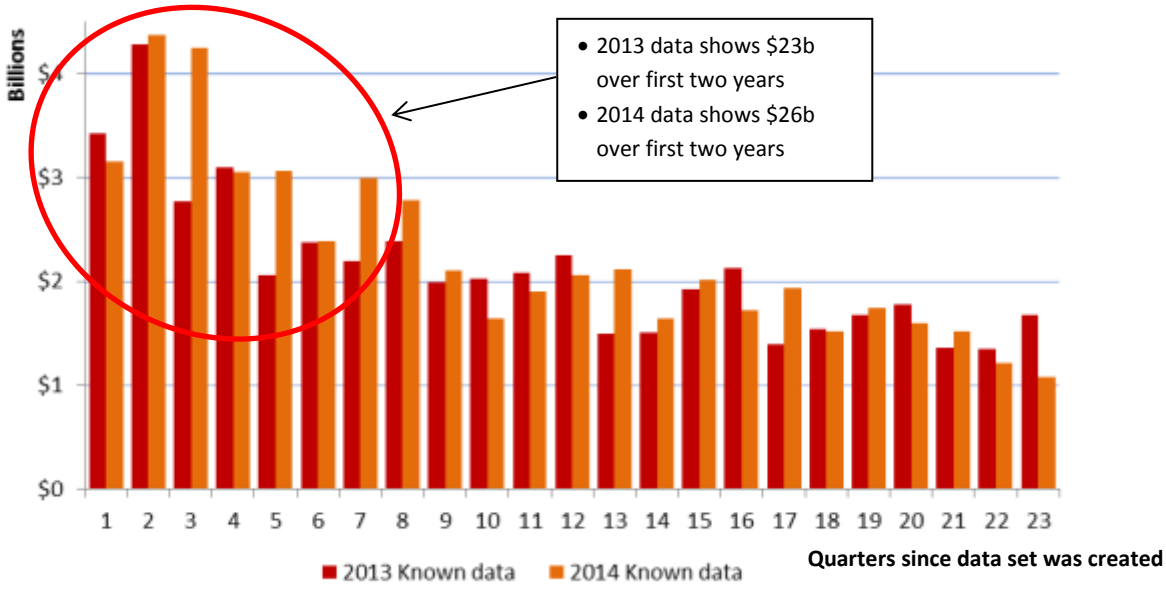
3.4 Comparison of Pacifecon's 2014 known data with the 2013 known data

Pacifecon has provided an aggregate data series representing anticipated values and start dates of non-residential building and construction projects as at July 2014 ('2014 known data'). *Figure 4* compares the 2014 known data with the 2013 known data (provided July 2013). Known project data is based on best estimates for both project values and work start dates.[14]

Figure 4 places the 2014 known data against the 2013 known data. This comparison shows:

- a similar distribution in both data series, i.e. a higher value of non-residential work is anticipated to start between three and nine months from when each data series was created. This distribution is described in more detail in Section 4.8
- $26b of non-residential building and construction activity is anticipated in the first two years of the 2014 known data.[15] $23b was anticipated in the first two years of the 2013 data.[16]

Figure 4 – Comparison of known, non-residential projects from when each data series was created



Source: Pacifecon

The 2013 report included 30 known projects that were anticipated to start between 1 July 2013 and 30 June 2014. 17 of these 30 projects progressed to start of work (77% by value) – see *Table 1*.

Table 1: Outcome of projects $100m and over anticipated to start between July 2013 and June 2014[17]

Outcome	Number of projects
Started as anticipated in 2013 report	17 (77% by value)
Now anticipated to start within the year to 31 March 2015	5
Start date now anticipated beyond 1 April 2015	7
Cancelled since 2013 report published (November 2013)	1
Total	**30**
Projects initiated after 2013 report	3

[14] Representation at the aggregate level, at a specific date, is the best available picture at that time. See Appendix C. .
[15] The first two years from when the 2014 known data was created is between 1 April 2014 and 31 March 2016.
[16] The first two years from when the 2013 known data was created is between 1 July 2013 and 30 June 2015.
[17] As identified in the 2013 report; source: Pacifecon.

4 National

This section includes national forecasts of residential building and non-residential building and construction. It also considers:

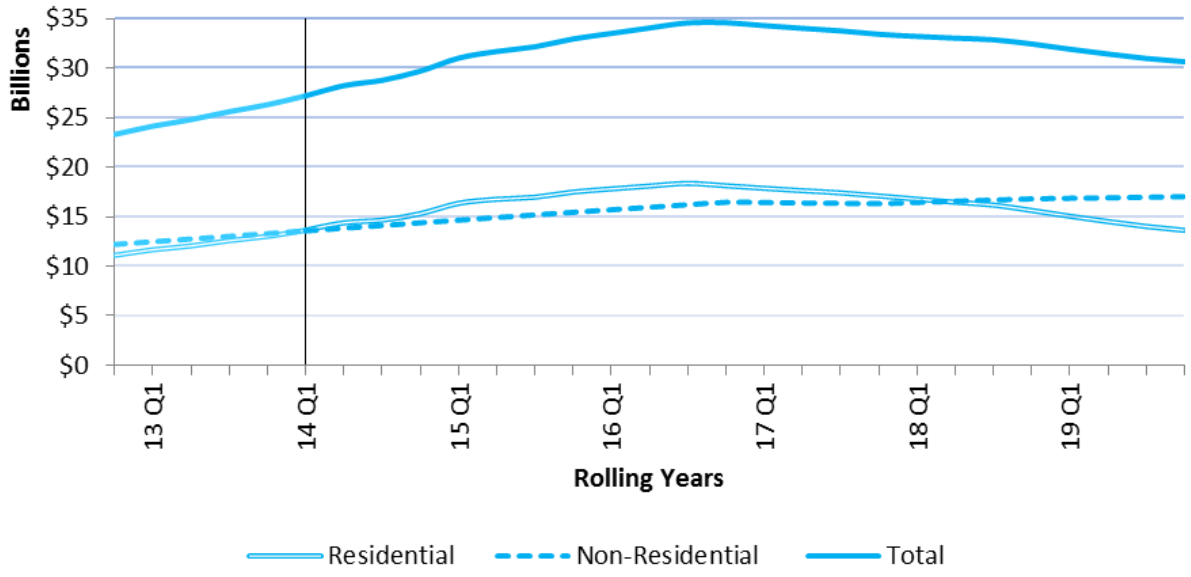
- the different types of non-residential building and construction
- regional comparisons.

Note: Figure 5 below shows rolling years. Each point on graphs using rolling years represents the aggregate of the 12 months immediately preceding that point, e.g. 14 Q2 is the aggregate of values across the four quarters from July 2013 through June 2014.

4.1 Total – national

The forecast value for national building and construction remains at an unprecedented level and shows a sustained rate of growth that has not been seen in 40 years. The annual value of all building and construction, nationally, is projected to increase 48% from 2012 to the peak in 2016 ($35b) and by 32% from 2012 to 2019. The annual value of non-residential building and construction grows by 39% from 2012 to 2019 and residential building by 23%.

Figure 5- Value of all building and construction, nationally

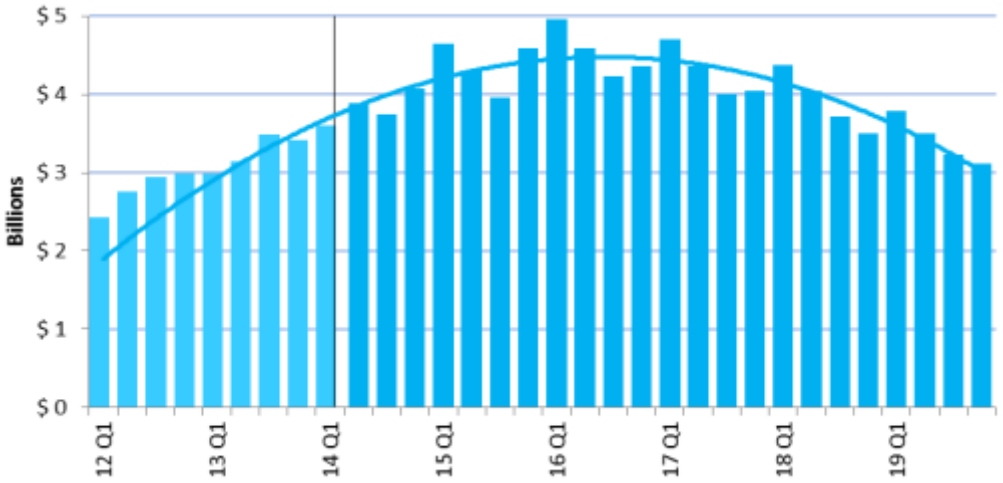


Source: Pacifecon / BRANZ

4.2 Residential – national

The forecast for residential building[18] shows strong growth from 2012 to a peak of $18b in 2016, an increase of 63%. After the peak, the value of residential building is expected to decline faster than was forecast in the 2013 report. In 2019 the annual value of residential building is below $14b.

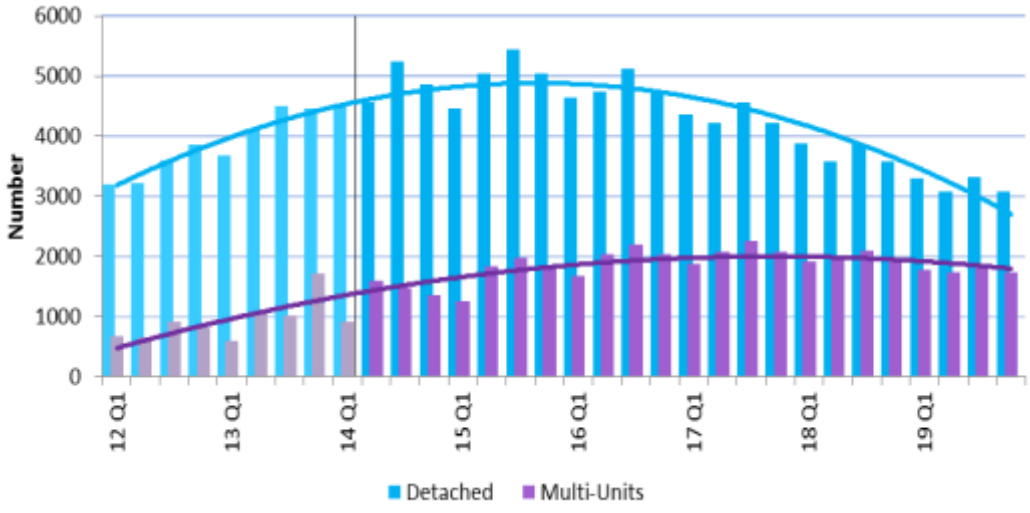
Figure 6 - Value of residential building, nationally



Source: BRANZ

Higher density housing increases its share of residential construction over the forecast period, mainly due to more multi-unit dwellings in Auckland. Nationally, the number of multi-unit dwellings consented per year peaks in 2017. In 2019, multi-unit dwellings will make up 36% of all new dwellings consented, (increasing from 18% in 2012). The number of detached homes consented nationally peaks at 19,990 in 2015, then declines each year through to the end of 2019.

Figure 7 - Number of new dwellings consented, nationally, by type[19]



Source: BRANZ

[18] Residential building includes new detached homes and multi-unit dwellings as well as additions and alterations, see Appendix C.

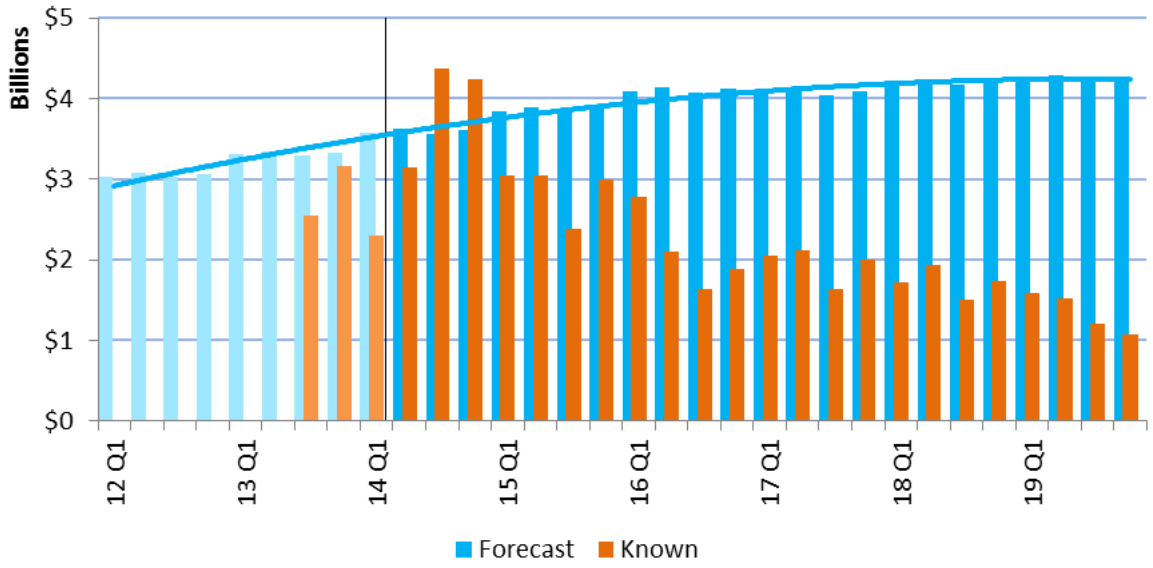
[19] Number of dwellings consented, not completed. This does not include alterations and additions.

4.3 Non-residential – national

The value of non-residential building and construction[20] steadily increases through the forecast period to a high point of $17b in 2019. The rate of increase slows after 2016. The annual value of non-residential work is forecast to be 39% higher in 2019 than in 2012 (when it was $12b).

Just over $14b of known non-residential building and construction projects are anticipated to start in 2014.[21]

Figure 8 - Forecast and known non-residential building and construction, nationally



Source: Pacifecon / BRANZ

Nationally the following types [22]of non-residential projects[23] are financially significant over the next six years:

- Transport projects e.g. roads of national significance
- Canterbury rebuild and earthquake strengthening
- Mixed use development e.g. office and retail, residential and commercial
- Water / wastewater projects
- Education sector building developments e.g. school and university refurbishments
- Industrial e.g. milk processing plants
- Energy sector e.g. geothermal and hydro plant developments.

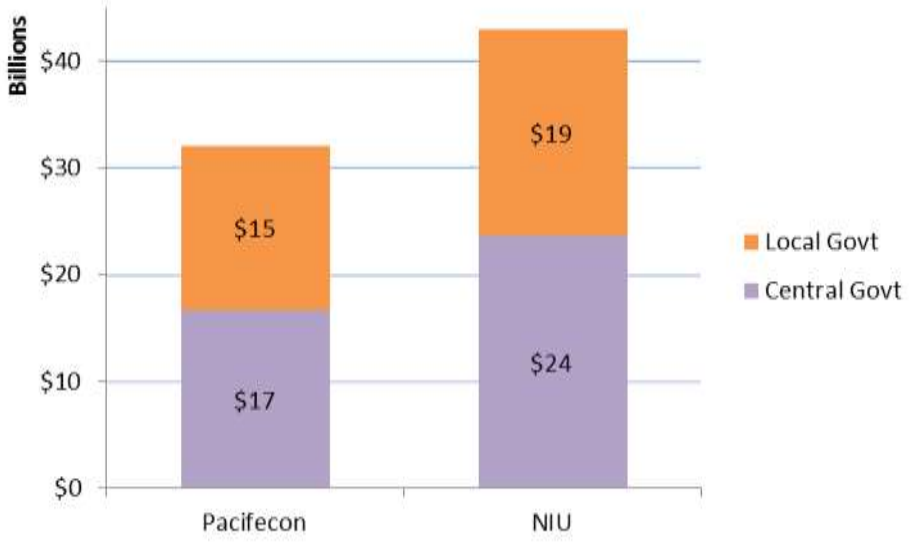
[20] 'Non-residential' includes 'non-residential building' and 'other construction' – see Appendix B.
[21] These anticipated start dates are based on the best available information as at 11 July 2014.
[22] Source: Pacifecon
[23] See Appendix D for examples of projects of $100m and over that are likely to start in the year to March 2015

4.4 Comparing the Pacifecon known projects with the National Infrastructure Unit's Ten-Year Capital Intentions Plan[24]

Since the 2013 report was published, the National Infrastructure Unit (NIU) published its first Ten-year Capital Intentions Plan, which included a data set of all government infrastructure expenditure intentions (capital intentions) looking out ten years.[25] The NIU capital intentions data set has been assessed to see how it compares with the Pacifecon data set[26] for anticipated non-residential building and construction projects (known data). The following steps were taken to compare the data sets:

1. All infrastructure expenditure that is not expected to result in construction was removed from the NIU capital intentions, e.g. land purchases, military, residential.
2. Pacifecon's known project data was compared with the adjusted NIU capital intentions for central and local government (see *Figure 9*).

Figure 9 - Comparison of Pacifecon known projects with NIU Evidence Base



Source: Pacifecon / NIU

The two data sets capture different data. The NIU's capital intentions represent reported intentions to invest in infrastructure projects. Pacifecon's known projects captures non-residential building and construction projects based on when work is expected to occur.

NIU's capital intentions include a government agency's best view of future infrastructure spending at that time. These types of intentions are often still subject to a variety of approval processes and sign-off requirements. As such, they may not have been included in Pacifecon's known projects when the data was closed off.[27] Once a capital intention becomes more clearly defined it is likely to be included in Pacifecon's known project data.

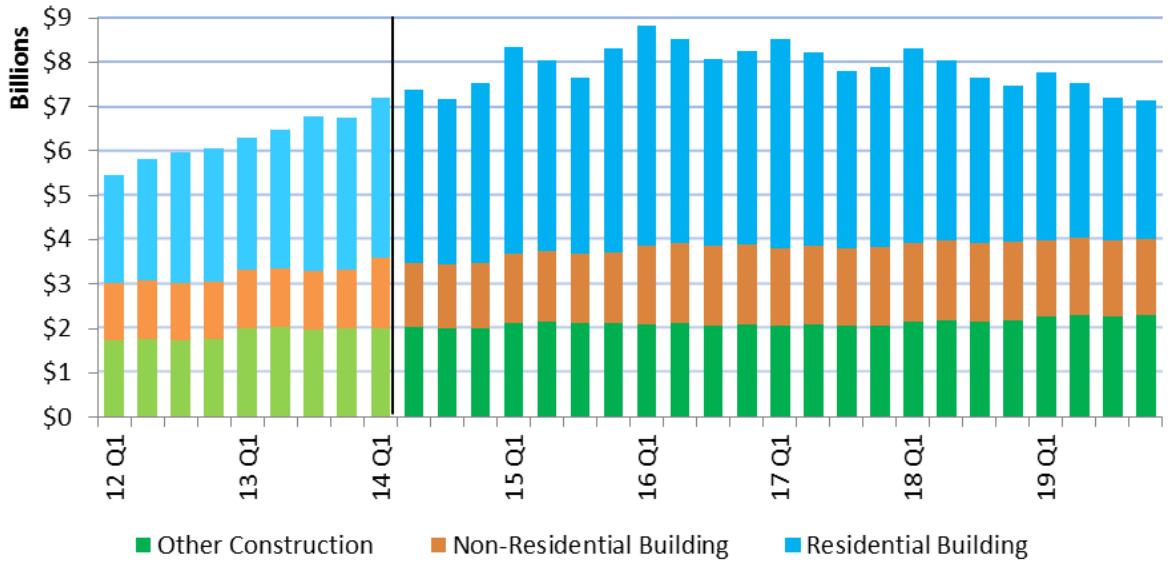
[24] Inclusion of a project does not mean that it has been funded or approved, will proceed, or that if it does proceed, it will be the scale and timeframe indicated in this report. It is however, the best available picture at this particular point in time.
[25] See http://www.infrastructure.govt.nz/plan/2011implementation/evidencebase/capital-intentions-plan.pdf/view.
[26] This is the only place in this report where Pacifecon data past December 2019 is used. This data is unsmoothed (raw) to allow comparison with the NIU's data, which is also unsmoothed.
[27] Pacifecon's known project data set was created on 20 May 2014.

4.5 Different types of building and construction (residential, non-residential building and other construction)

In this section, forecast building and construction is split into three types: 'residential', 'non-residential building' (non-residential vertical buildings) and 'other construction' (non-residential horizontal construction, i.e. civil).[28]

The value of residential building is higher and more variable across quarters than either other construction or non-residential building. The value of other construction and non-residential building gradually increases throughout the forecast period.

Figure 10 - Value of all building and construction by type of work



Source: Pacifecon / BRANZ

[28] See Appendix B for definitions of types of building and construction.

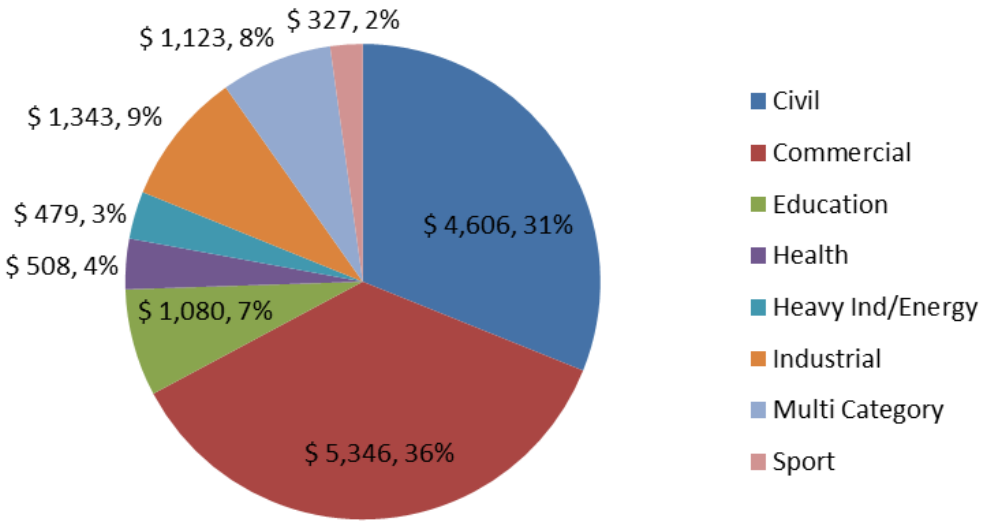
4.6 Types of non-residential projects anticipated to start in the year to March 2015

Civil and commercial projects dominate the non-residential projects anticipated to start in the year to March 2015 (67% by value). Generally the share of projects by number and value are about the same, e.g. commercial projects represent 30% of all projects by number, and 36% of the total value of work anticipated to start in the year to March 2015. The exceptions are:

- Education and Sport, where there are many projects (23% by number) with a lower value (9%).
- Heavy Industry / energy and industrial have fewer projects (6% by number) with a greater value (12%).

Figure 11 - Value of known non-residential projects anticipated to start in the year to March 2015, by project type [29]

($m, %)



Source: Pacifecon

[29] The project types used in Figure 13 are taken from Pacifecon's definitions of types of projects.

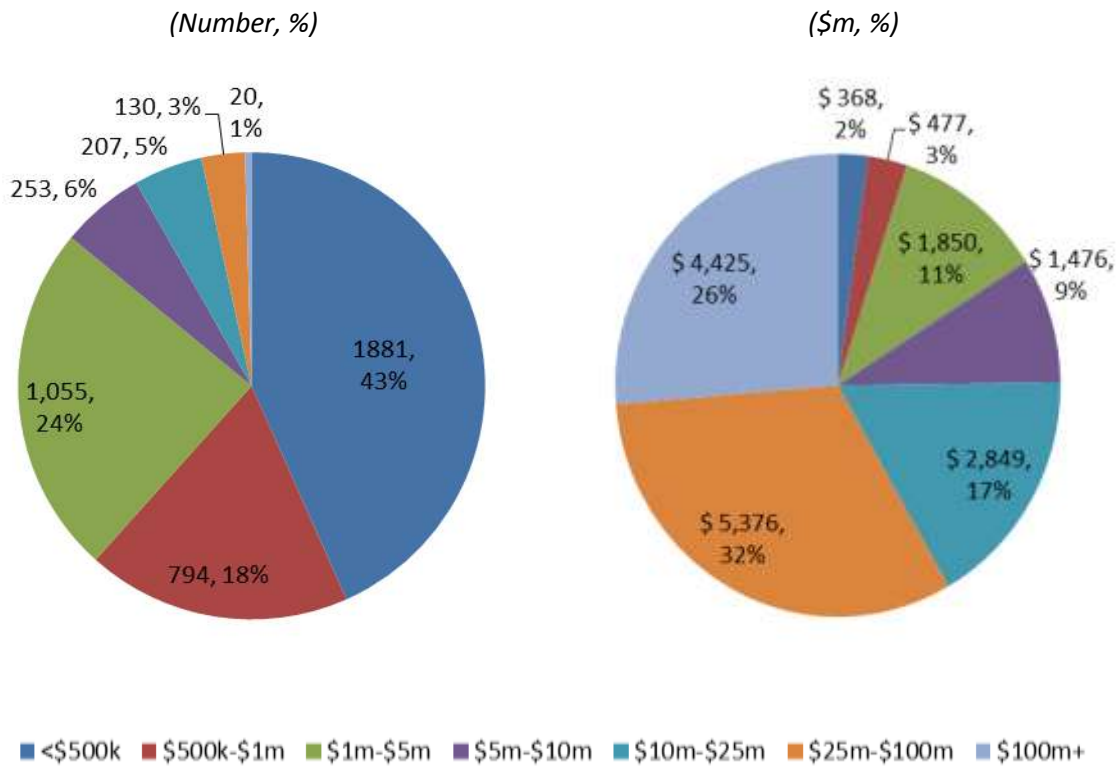
4.7 Value of work

A relatively small number of non-residential building and construction projects account for most of the value of non-residential building and construction nationally – this is consistent with findings in the 2013 report. There are more than 4,300 known projects that are anticipated to start between April 2014 and March 2015. 62% of these known projects have an estimated value of less than $1 million and 86% less than $5 million.

There are 150 projects valued at $25m and over which are anticipated to start in the year to March 2015, accounting for 58% by value. There are 20 projects valued at $100m and over, accounting for 26% by value.[30]

If residential work was included in Figures 14 and 15, the number and percentage of projects below $5million (and particularly below $1million) would be considerably higher.

Figures 12 and 13 - Number and value of known non-residential projects anticipated to start in the year to March 2015, by value band[31]



Source: Pacifecon

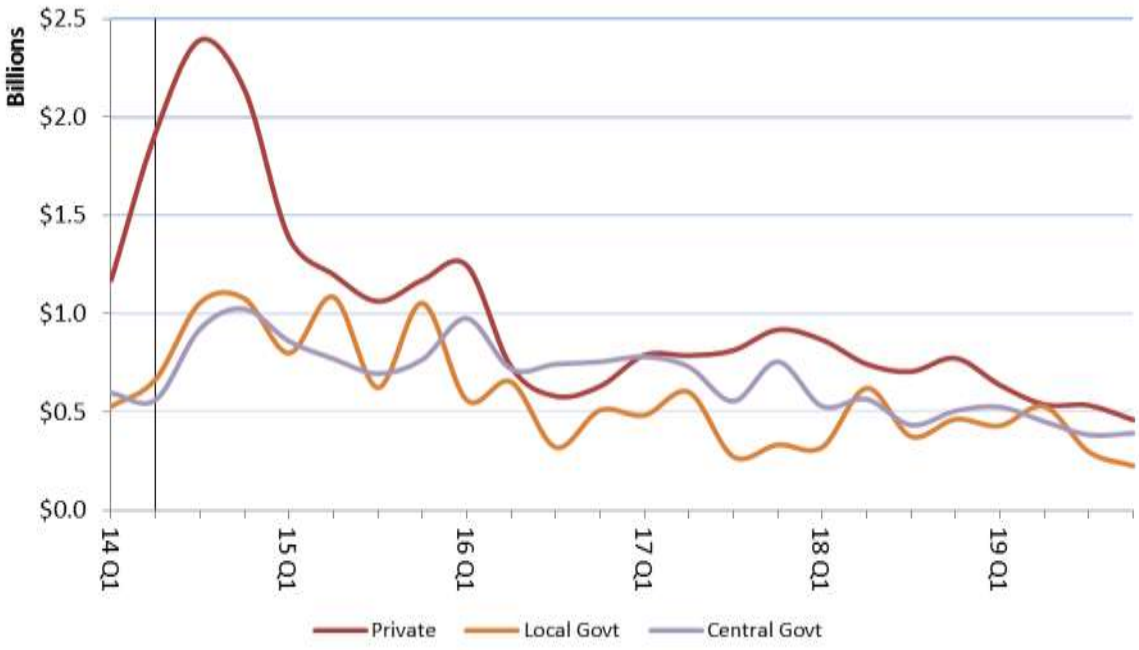
[30] See Appendix D for a list of projects, of approximately $100m and over, likely to start in the year to March 2015.
[31] Raw data from May 2014 is used.

4.8 Project initiators

The private sector contributes more to the value of known non-residential projects than either local or central government. The peak in privately initiated projects in mid-2014 is consistent with the shorter timeframes between identification of a project and its anticipated start date. The share of privately initiated projects through to 2016 is not as great in Canterbury, where there are a very high number of government funded repair and rebuild projects.

The share of local and central government initiated projects increases with time. Large public projects tend to have longer visibility and firmer start dates due to the requirements for public consultation and notification.

Figure 14 - Value of known non-residential projects by initiator and start date



Source: Pacifecon

The 2013 report showed a similar pattern – a sharp increase in the value of known (mainly private sector) projects expected to commence six to nine months into the forecast period. This was followed by a substantial decrease in value and a gradual decline through to the end of the forecast.

The private sector accounts for 39%, by number, of non-residential projects anticipated to start in the year to March 2015. These privately initiated projects make up 53% ($7.8b) by value.

Local government is expected to initiate 36% by number, representing 24% ($3.6bn) by value.

Central government is expected to initiate 25% by number, representing 23% ($3.4bn) by value.[32]

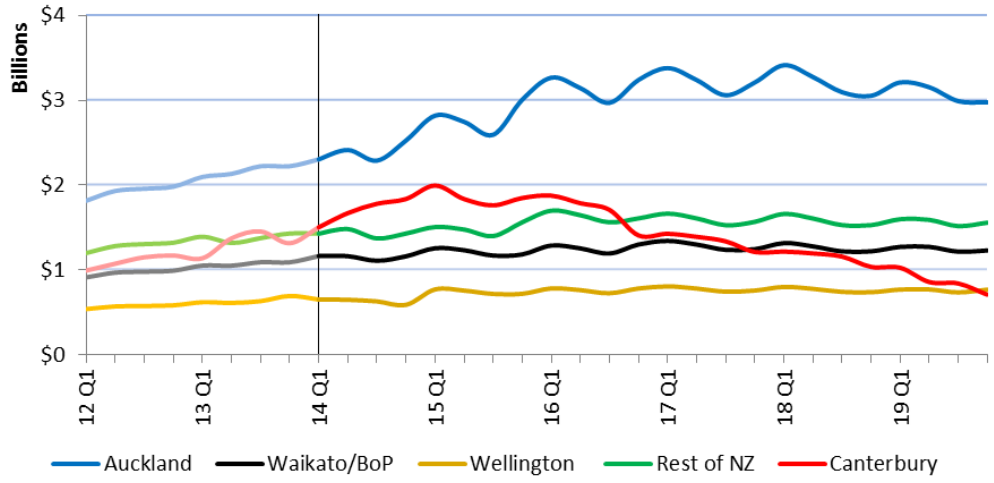
[32] In the 2013 report, central government was expected to initiate 23% of known projects in the year to June 2014, representing 20% by value.

4.9 Regional comparisons

This section considers the differences in forecast building and construction work across the regions. The regions are discussed individually in Section 5 - The regions.

Auckland dominates the national demand for building and construction, even with the impact of the Canterbury rebuild. Canterbury's building and construction activity increases in 2014 and remains high through to mid-2016, after which it steadily declines, dropping below $3.5b in 2019.

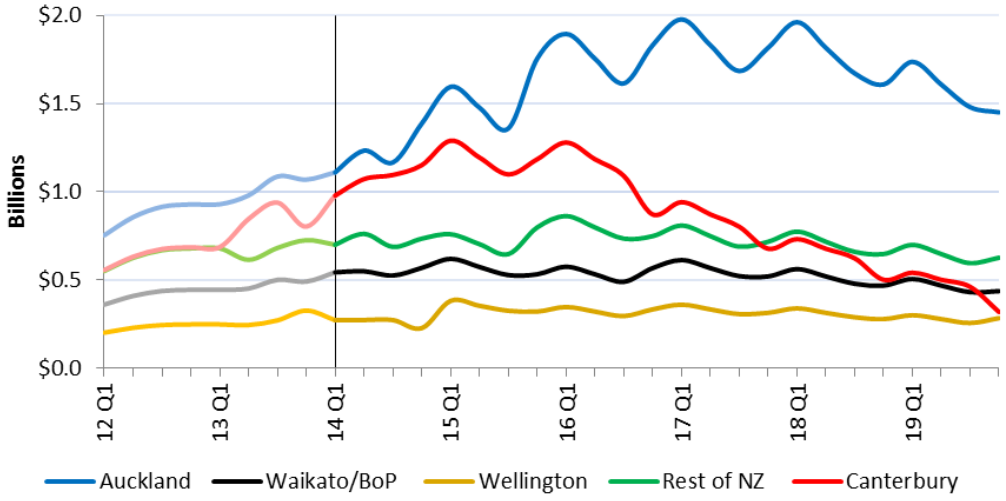
Figure 15 - Value of all building and construction by region (by quarter)



Source: Pacifecon / BRANZ

Residential growth nationally is driven by the more than doubling of Auckland's residential building activity (112% growth from 2012 to the peak in 2017) and Canterbury's residential rebuild requirements (87% growth from 2012 to the peak in 2015). Auckland's residential building slows after 2017 and falls back to $6.3b in 2019. Canterbury's share of residential building declines after the peak in 2015, falling below Waikato / Bay of Plenty in 2019. Auckland and Canterbury are the only regions where the value of residential building is forecast to be more than the value of non-residential building and construction from 2012 to 2019.

Figure 16 - Value of residential building by region (by quarter)



Source: BRANZ

The main regional variation in non-residential work is caused by the Canterbury rebuild; where the value of work is projected to increase in 2014, before dropping below all of the other regions, see *Figure 17*.

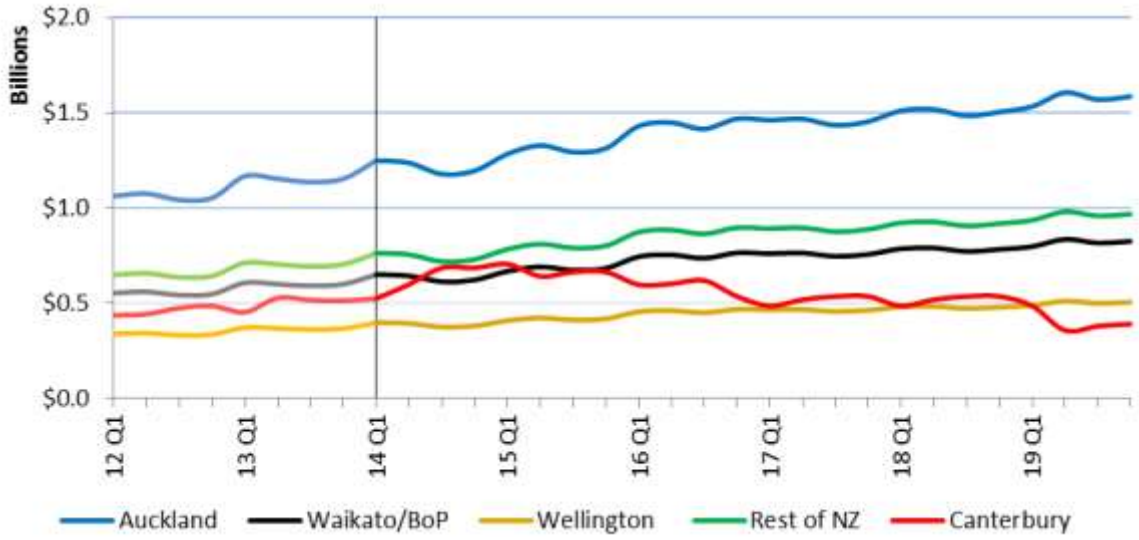
Canterbury's non-residential construction is forecast to peak at $2.7b in 2015 before falling back to $1.6b in 2019.

Auckland, Waikato / Bay of Plenty and Wellington are all forecast to experience steady growth in the value of non-residential work; with activity in each region projected to increase by 49% from 2012 to a peak in 2019.

Non-residential building and construction rises from:

- $4.2b in 2012 to $6.3b in 2019 in Auckland
- $2.2b in 2012 to $3.3b in 2019 in Waikato / Bay of Plenty
- $1.3b in 2012 to $2b in 2019 in Wellington.

Figure 17 - Value of non-residential building and construction by region (by quarter)



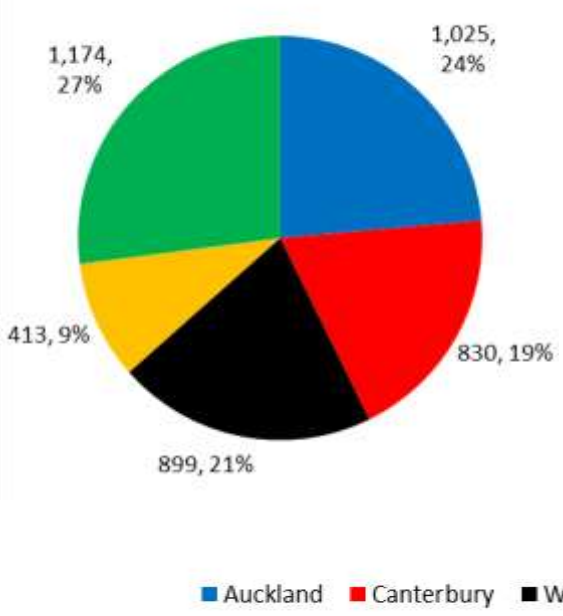
Source: Pacifecon / BRANZ

Auckland and Canterbury dominate anticipated non-residential building and construction in the year to March 2015, with 43% of work by number and 56% by value; indicating that the non-residential projects in Auckland and Canterbury are of a higher value than the national average. Individually:

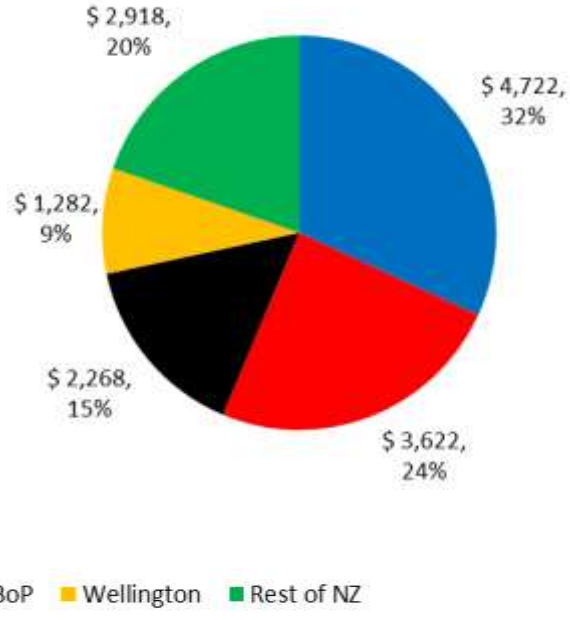
- Auckland's 24% (by number) represents 32% of the value ($4.7b)
- Canterbury has 19% of the number of projects in the year to March 2015, representing 24% by value ($3.6b).

Figures 18 and 19 – Number and value of known non-residential projects anticipated to start in the year to March 2015, by region

(Number, %)



($m, %)



Source: Pacifecon

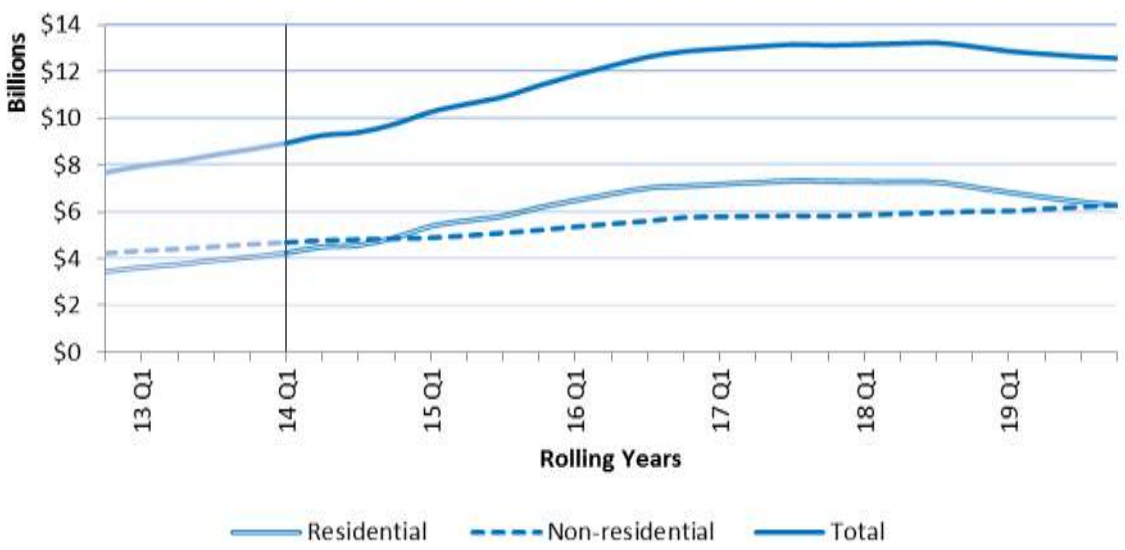
5 The regions

Five regions are discussed in greater detail:

5.1 Auckland[33]

Auckland dominates the national demand for building and construction, accounting for over a third of all building and construction work, by value, from 2012 to 2019. The value of building and construction in Auckland is forecast to grow steadily to a peak in 2017, before reducing slightly in 2018 and 2019. This represents growth of 71% from 2012 to the 2017 peak. The forecast pattern of Auckland's growth for all building and construction is very similar to the forecast pattern of growth in residential building in the region.

Figure 20 - Value of all building and construction for Auckland



Source: Pacifecon / BRANZ

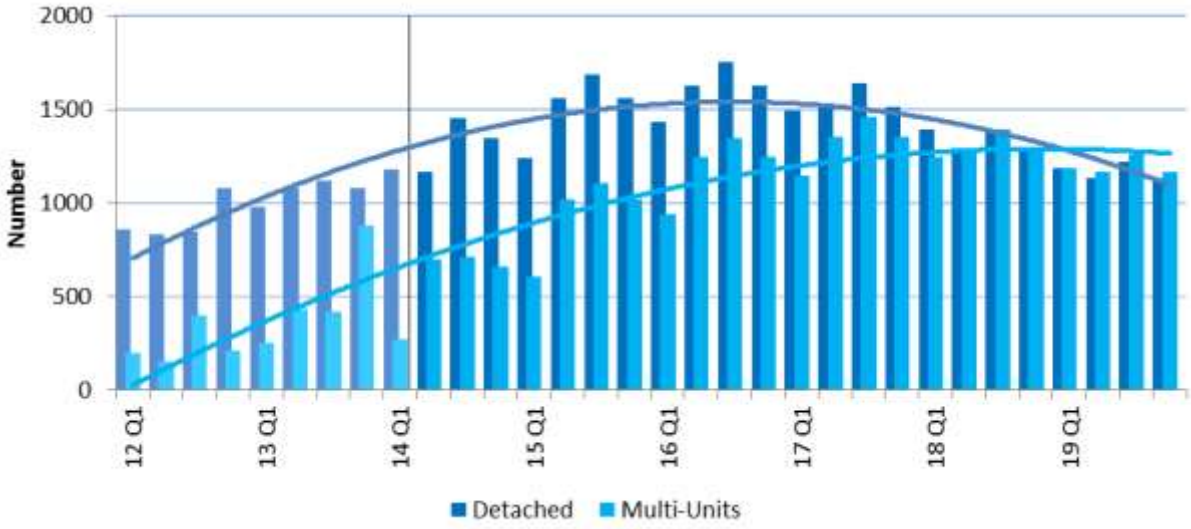
Auckland was the fastest growing region by population from 2006 to 2013, increasing 8.5% to 1.4m in the 2013 census. Residential building demand in Auckland has played a significant role in reversing the national slowdown in residential construction that occurred after the global financial crisis (see *Figure B*).The value of residential construction in Auckland is predicted to grow by 112% from 2012 ($3.5b) to the peak in 2017 ($7.3b).

The forecast shows 61,400 new dwelling consents in Auckland between January 2012 and December 2018. This is 7% less than was forecast in the 2013 report and is based on assumptions of high workloads and the likely shortage of resources in Auckland.[34]

[33] The area covered by Auckland Council.
[34] 65,800 new dwelling consents were forecast between January 2012 and December 2018 in the 2013 report.

Over 41,700 detached homes are forecast to be consented in Auckland from 2012 through 2019, peaking at over 6,400 in 2016. This peak is a year later than projected in the 2013 report. The number of multi-unit dwellings consented each year is forecast to rapidly grow between 2012 and 2017, before the rate of growth slows. The forecast shows more multi-unit dwellings consented in 2019 than detached homes.

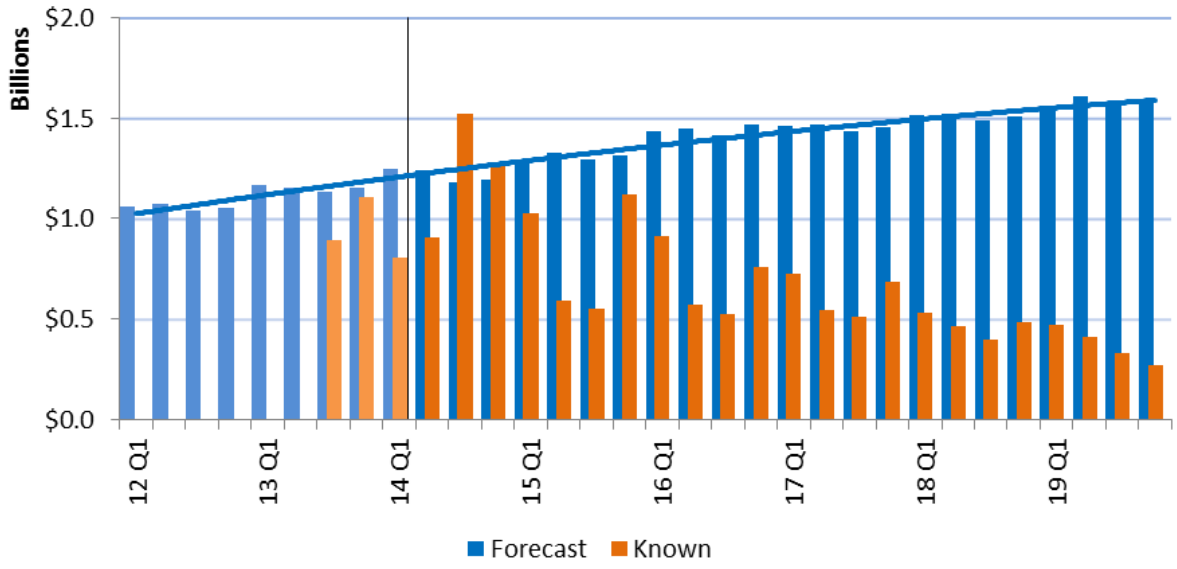
Figure 21 - Number of consents for detached and multi-unit dwellings in Auckland[35]



Source: BRANZ

Non-residential building and construction in Auckland is forecast to increase by 49% from 2012 to 2019.

Figure 22 - Forecast and known non-residential construction for Auckland



Source: Pacifecon / BRANZ

[35] These consents do not include alterations and additions.

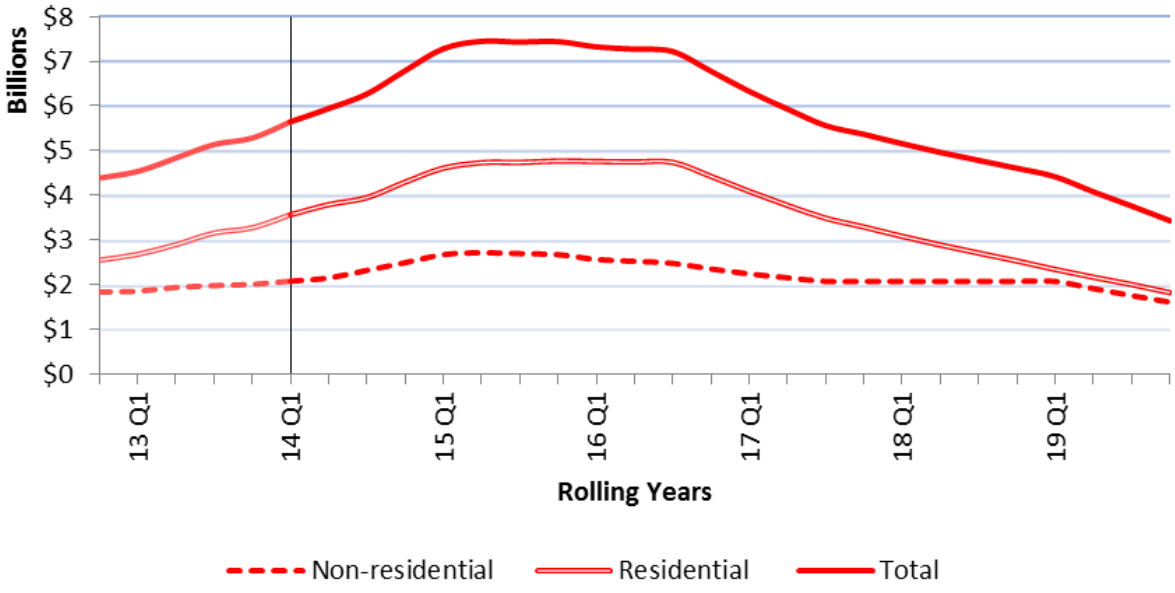
Planned work in Auckland includes[36]:

- Civil projects such as roads and water / wastewater projects (e.g. Mangere biological nutrient removal, AMETI Sylvia Park bus station and road corridor, roads of national significance)
- Commercial buildings (e.g. NZ international convention centre, Wynyard innovation buildings)
- Mixed use development i.e., office and retail, residential and commercial (e.g. SugarTree urban living development - Stage 2)
- Retirement villages (e.g. Birkenhead and Greenwich Gardens retirement villages)
- Education sector projects (e.g. University developments).

5.2 Canterbury[37]

Building and construction activity in Canterbury, particularly residential building, rises between 2014 and mid-2016 and then falls away steadily year on year. Residential building has a greater impact on the overall pattern for all building and construction in Canterbury than non-residential work. Residential building in Canterbury is forecast to peak in 2015 ($4.8b) before dropping back to $1.8b in 2019. Similarly, the value of all building and construction in Canterbury is forecast to peak in 2015 ($7.4b), then drop back sharply, decreasing by 54% from the 2015 peak to $3.4b in 2019.

Figure 23 - Value of all building and construction for Canterbury



Source: Pacifecon / BRANZ

[36] Source: Pacifecon.

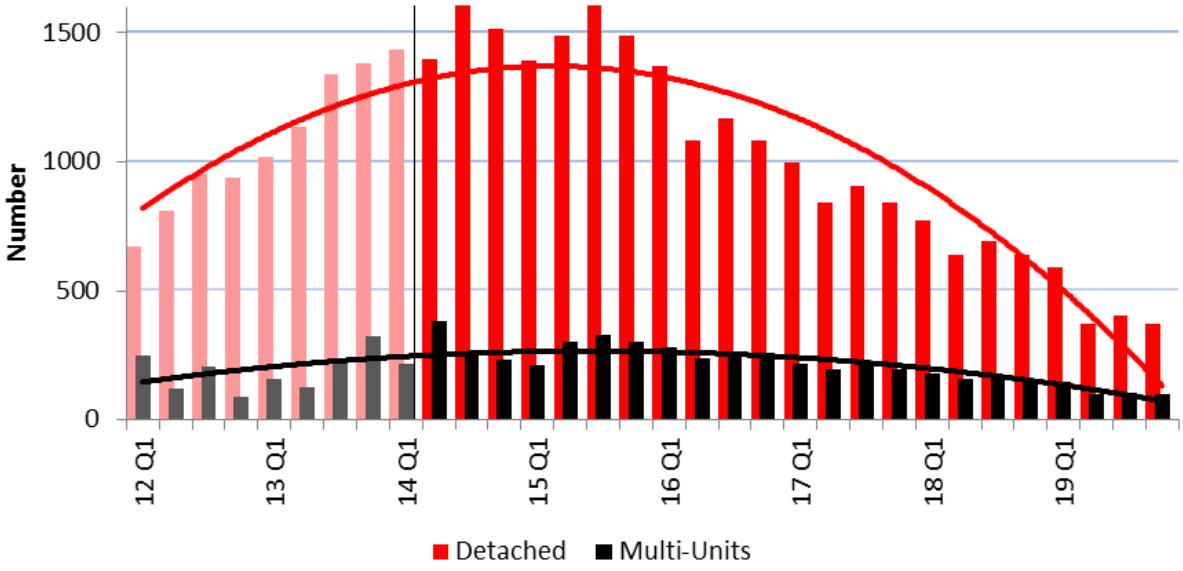
[37] Canterbury includes; Christchurch City, and Hurunui, Waimakariri, Selwyn, Ashburton, Timaru, Mackenzie and Waimate Districts.

37,500 dwellings are forecast to be consented in Canterbury between January 2012 and December 2018. This is 11% more than was forecast in the 2013 report and is based on consent numbers in Canterbury tracking strongly upwards in 2013. The forecast shows a clear peak in consent numbers over 2014 and 2015 in Canterbury followed by a steady decrease. This trend can generally be attributed to the specific rebuild and replacement requirements.

Nearly 25,000 detached houses are forecast to be consented in Canterbury in the six years ending December 2019; five times more than multi-unit consents. The forecast shows the number of detached houses consented each year in Canterbury peaking across 2014 and 2015 (just under 6,000 in each of these years). This number declines from 2016 onwards. In 2019 around 1,700 detached houses are forecast to be consented – about half the number consented in 2012.

The number of multi-unit dwellings consented in 2019 is forecast to be about two-thirds of the number consented in 2012. Annual multi-unit consents peak in 2015 (1,150), followed by a gradual decline through to the end of 2019.

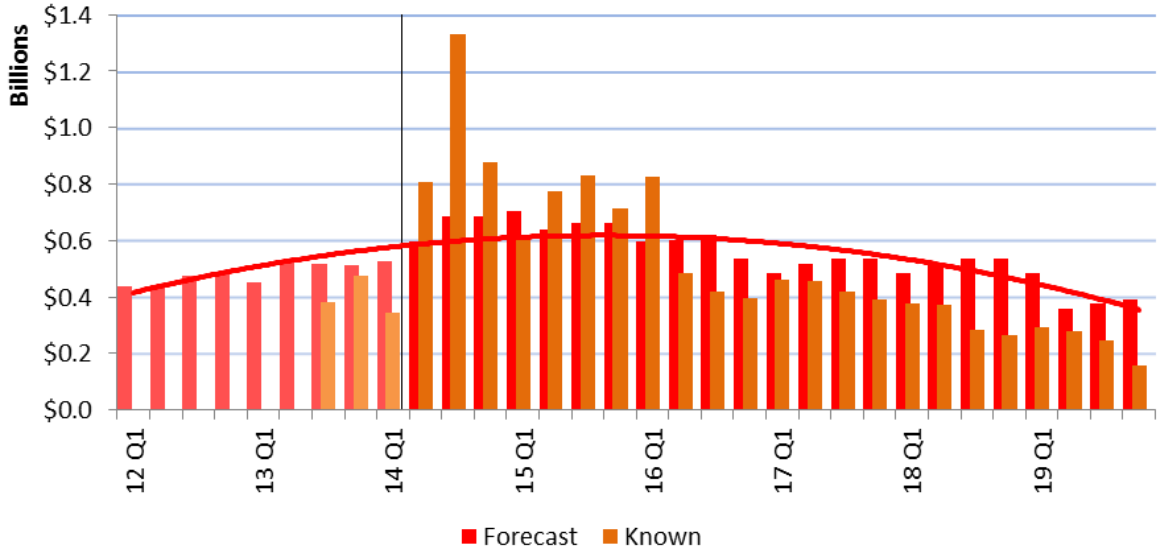
Figure 24 - Number of consents for multi-unit and detached dwellings in Canterbury



Source: BRANZ

Non-residential building and construction is forecast to experience modest growth before peaking in 2015 ($2.7b) and then slowly reducing. A gradual decline is forecast year on year for 2016, 2017 and 2018 (although remaining above $2b in each of these years). A sharper drop is forecast after 2018 with non-residential work projected to fall to $1.6b in 2019.

Figure 25 - Forecast and known non-residential building and construction for Canterbury



Source: Pacifecon / BRANZ

The forecast shows much less non-residential building and construction being projected from 2015 onwards than was forecast in the 2013 report. [38]

Planned work in Canterbury includes[39]:

- Housing repairs, rebuilds and new builds
- Commercial building projects (e.g. Innovation precinct, retail, offices)
- Civil (e.g. Stronger Christchurch Infrastructure Rebuild Team (SCIRT)[40] work, Western Belfast Bypass)
- Replacement or earthquake strengthening of: commercial buildings, churches, hospitals, retail outlets, schools, sports facilities etc.
- Retirement villages
- Rural activities (e.g. Dairy factories and irrigation).

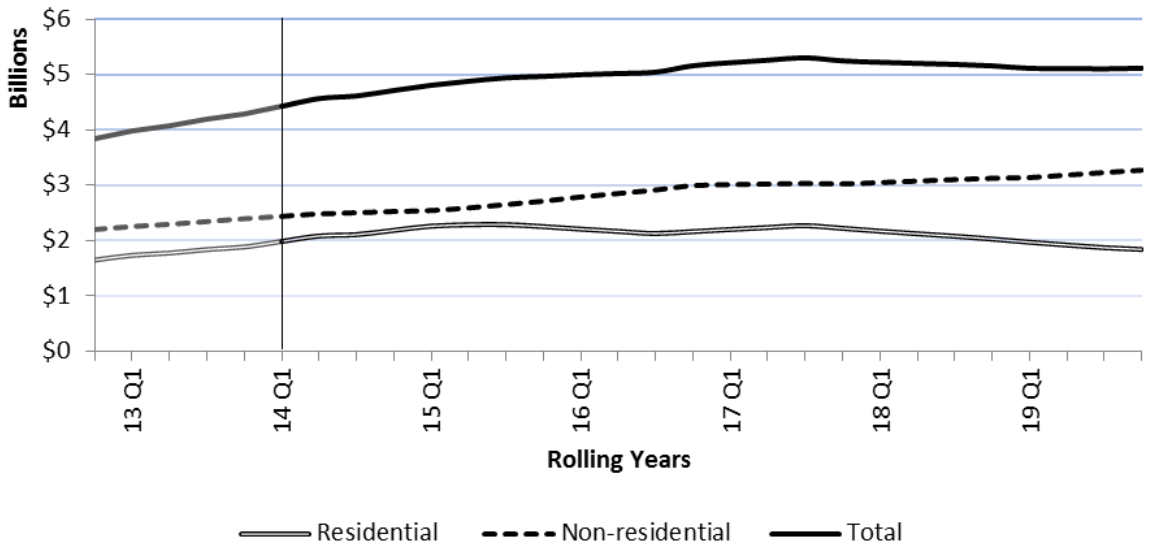
[38] Forecasts for other construction in Canterbury are based on the Government's $5b post-earthquake infrastructure budget split between 2011 (post-quake) to the end of 2016, and are validated against data held by Pacifecon.
[39] Source: Pacifecon.
[40] An alliance of organisations responsible for rebuilding horizontal infrastructure in Christchurch, see http://strongerchristchurch.govt.nz/.

5.3 Waikato / Bay of Plenty[41]

Waikato and the Bay of Plenty combine to form the third largest region, by value of work, in the country. Overall building and construction growth in the region is driven by non-residential work. The value of all building and construction in the Waikato and Bay of Plenty is forecast to peak in 2017 ($5.2b) and then settle around $5.1b p.a. in 2018 and 2019. Waikato accounts for about 57% of the building and construction activity in this region.

The value of residential work is projected to experience two modest peaks of over $2.2b in 2015 and 2017 respectively. After 2017, the value of residential work begins to gradually decrease to $1.8b in the year ending December 2019, 16% lower than in 2014.

Figure 26 - Value of all building and construction for Waikato / Bay of Plenty

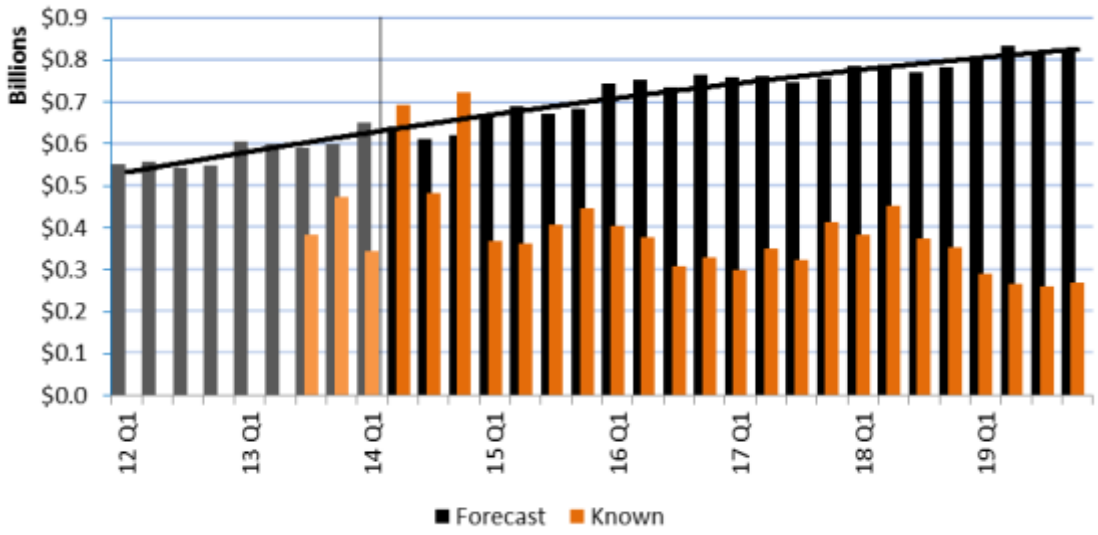


Source: Pacifecon / BRANZ

[41] Waikato / Bay of Plenty includes: Tauranga, Hamilton City, Taupo / Turangi, Taupo / Mangakino, Western Bay of Plenty, Rotorua, Kawerau, Whakatane, Opotiki, Waikato, Waipa, Otorohanga, Waitomo, Thames-Coromandel, Hauraki, Matamata-Piako and South Waikato Districts.

Continual and steady annual growth in non-residential work is projected over the forecast period, rising from $2.5b in 2014 to a peak of $3.3b in 2019 (30% growth). Non-residential work in the Waikato and Bay of Plenty accounts for 58% of all building and construction activity in the region from January 2012 through December 2019.

Figure 27 - Forecast and known non-residential building and construction for Waikato / Bay of Plenty



Source: Pacifecon / BRANZ

Planned work in Waikato / Bay of Plenty includes: [42]

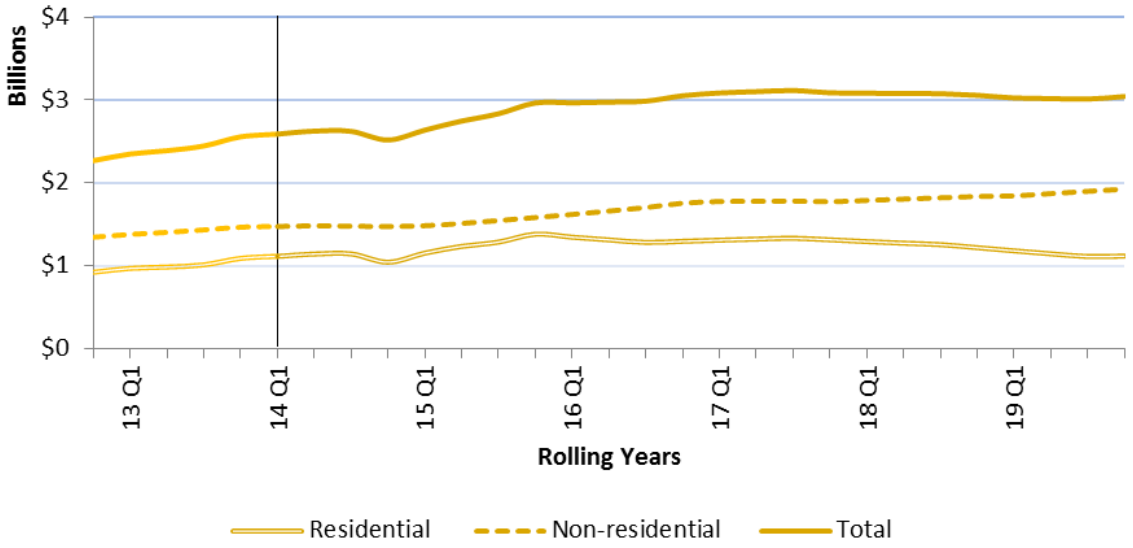
- Civil projects (e.g. roads of national significance)
- Industrial activities (e.g. Te Rapa Gateway Industrial Estate, Dairy factories)
- Commercial buildings and retail outlets
- Retirement villages.

[42] Source: Pacifecon.

5.4 Wellington[43]

Wellington remains the lowest value region considered separately in this report. All building and construction in Wellington is expected to grow by 38% from 2012 to 2019. This is above the national average (32%). The forecast shows an increase from $2.3b in 2012 to a peak of $3b in 2017. Residential building is expected to grow by 21% from 2012 to 2019.

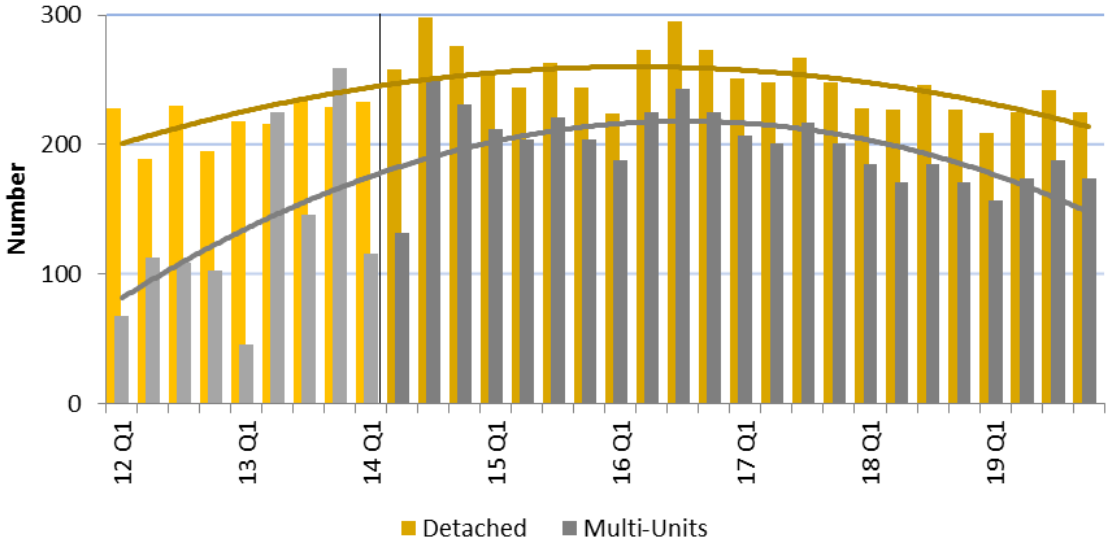
Figure 28 - Value of all building and construction for Wellington



Source: Pacifecon / BRANZ

Wellington starts with a higher proportion of high-density housing than the other main regions. Annual consents for detached houses are forecast to peak in 2014 and 2016, at around 1,060 consents p.a. Multi-unit dwelling consents are forecast to peak in 2016, at around 880. Annual consents for both types of dwelling dip slightly in 2015.

Figure 29 - Number of multi-unit and detached dwellings consented in Wellington[44]

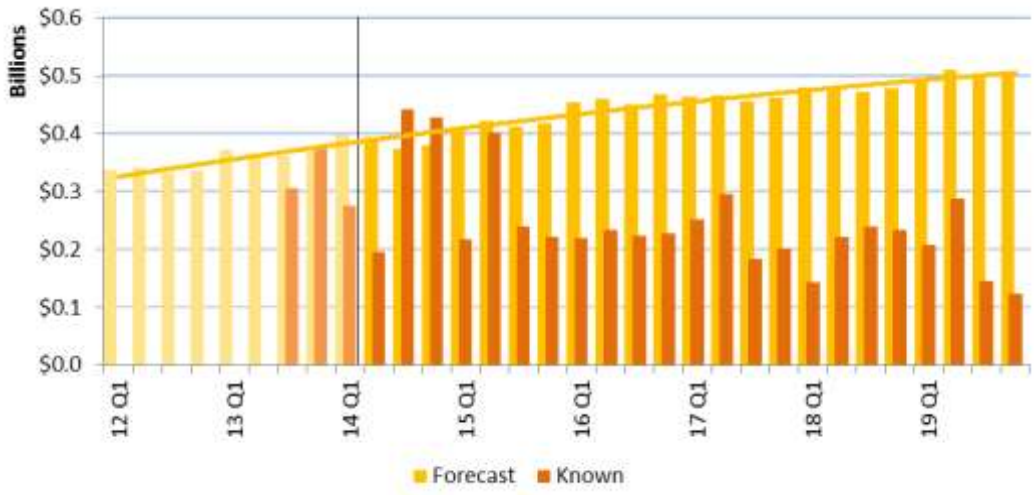


Source: BRANZ

[43] Wellington includes: Upper Hutt, Lower Hutt, Wellington, Porirua City, Kapiti Coast District, Masterton, Carterton and South Wairarapa Districts. Note: In the 2013 report Wellington did not include Masterton, Carterton or South Wairarapa.
[44] These consents do not include alterations and additions.

Annual non-residential building and construction activity is forecast to grow by 49% from 2012 to 2019.

Figure 30 - Forecast and known non-residential building and construction for Wellington



Source: Pacifecon / BRANZ

Planned work in Wellington includes:[45]

- Transport (e.g. Transmission Gully highway and Wellington Airport)
- Education sector developments
- Other civil works (including water and wastewater projects)
- Retirement villages (e.g. Boulcott and Petone retirement villages).

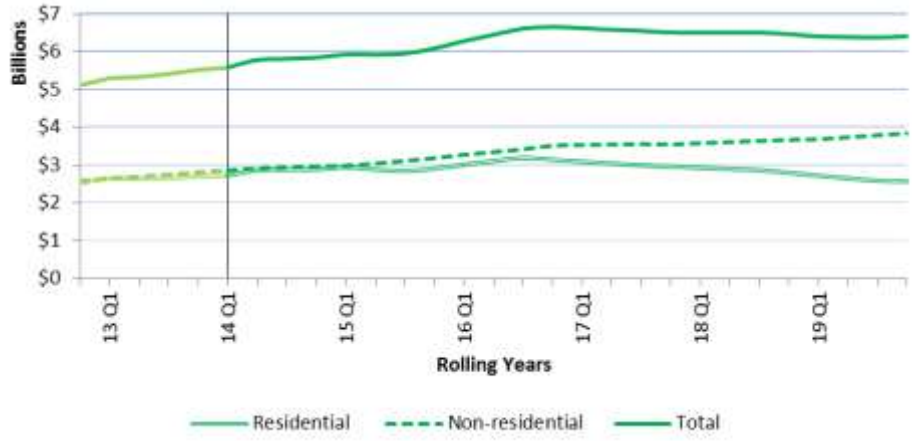
[45] Source: Pacifecon.

5.5 Rest of New Zealand[46,47]

The Rest of New Zealand includes regions not discussed elsewhere in this report. This includes the least populated regions of the country, some of which have a static or decreasing population.[48] For these regions combined, the annual value of all building and construction is 25% higher in 2019 than in 2012. This is mainly due to non-residential activity. All building and construction activity peaks in 2016 ($6.7b) after which growth flattens.

Residential building is forecast to rise, from $2.5b in 2012, to a peak of $3.1b in 2016, and then falls back to $2.6b in 2019.

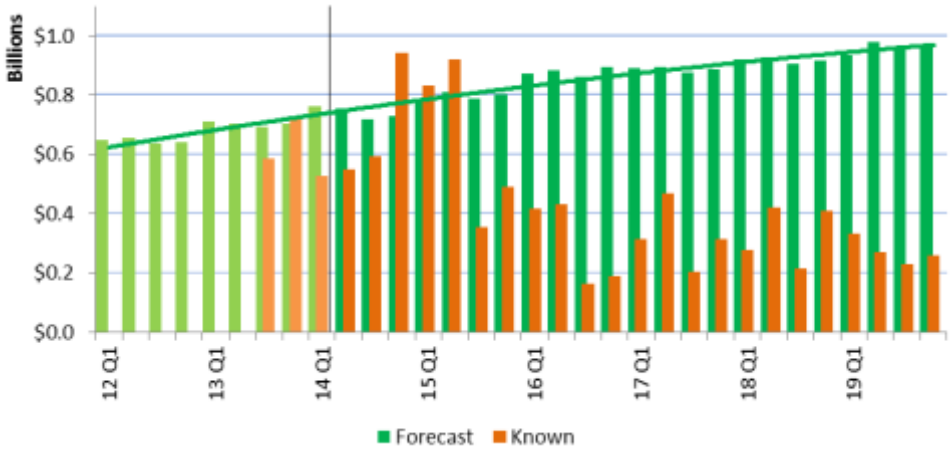
Figure 31 - Value of all building and construction for the rest of New Zealand



Source: Pacifecon / BRANZ

The value of non-residential building and construction is forecast to increase by 49% from $2.6b in 2012 to $3.8b in 2019.

Figure 32 - Forecast and anticipated value of non-residential building and construction for the rest of New Zealand



Source: Pacifecon / BRANZ

[46] Rest of New Zealand includes: Napier, Palmerston North, Nelson, Dunedin, Invercargill, Far North, Whangarei, Kaipara, Gisborne, Wairoa, Hastings, Central Hawkes Bay, New Plymouth, Stratford, South Taranaki, Tararua, Ruapehu, Whanganui, Rangitikei, Manawatu, Horowhenua, Marlborough, Kaikoura, Tasman, Buller, Grey, Westland, Waitaki, Clutha, Central Otago, Queenstown-Lakes, Gore and Southland Districts.

[47] Carterton, Masterton and South Wairarapa are now included in Wellington. In the 2013 National Pipeline these districts were included in the rest of New Zealand.

[48] Source: Statistics New Zealand.

Planned work in the rest of New Zealand includes: [49]

- Energy sector developments (e.g. hydro and geothermal plants)
- Civil projects (e.g. Ruataniwha water storage, irrigation schemes, roads)
- Industrial construction.

Wellington, the smallest main region by value of work, is still considerably bigger than Otago – the biggest individual region, by value, included in the rest of New Zealand. By comparison, Wellington is forecast to have 35% ($300m) more residential building and 127% ($686m) more non-residential building and construction in the year to March 2015 than Otago. Table 2 provides the forecast value of residential building and Pacifecon's anticipated non-residential projects in each of the smaller regions for the year to March 2015.

Table 2: Value of forecast residential and anticipated non-residential work in the year to March 2015 (by rest of New Zealand's regions)

Region	**Residential building ($m)**	**Anticipated non-residential projects ($m)** [50]
Otago	854	542
Nelson/ Marlborough	418	462
Manawatu/Whanganui	353	442
Northland	442	370
Hawkes Bay/Gisborne	357	346
West Coast	74	187
Southland	164	166
Taranaki	279	134
NZ wide[51]	-	269
Totals	**2,941**	**2,918**

Source: Pacifecon / BRANZ

6 Disclaimer

Pacifecon (NZ) Ltd. does not typically use its database for this type of analysis. This has required additional data manipulation and changes to its database and processes. Over time the techniques and processes may be further refined.

Advice has been taken from a variety of sources. It is believed that the methodology used is a sound basis for future reporting.

All reasonable care has been taken in gathering, compiling and furnishing the information specified herein, but Pacifecon (NZ) Ltd. will not be responsible for errors, omissions, inaccuracies or lateness; or liable for any claims, actions or suits arising directly or indirectly there from.

[49] Source: Pacifecon.
[50] Values in red are from Pacifecon's dataset of anticipated project values.
[51] NZ wide is used in the Pacifecon dataset to define work that covers all of New Zealand e.g. Ultra-fast broadband rollout.

Appendix A - Parties involved in preparing this report

The Productivity Partnership is a partnership of industry and government, established in 2011 to address low productivity in the building and construction sector.

The Productivity Partnership aims to build the value of New Zealand's building and construction sector and empower it to become more productive, safe and profitable, so that it delivers good quality homes, buildings and infrastructure to provide a foundation for strong communities and a prosperous economy.
http://buildingvalue.co.nz

Pacifecon (NZ) Ltd. (referred to as Pacifecon in this report) was established in 1982. It is a wholly New Zealand operated business focussing exclusively on the New Zealand and Pacific Islands construction industry providing business intelligence in the form of future project information to its client base.

Pacifecon uses a nationwide team of 30 to liaise with key decision makers in the construction industry (in both the private and public sectors) to compile thorough, timely and accurate information on building projects from the earliest planning stages. Newspapers, journals, industry publications and websites are checked for relevant information as well as consents. Information is held on projects that may have a work start date of far beyond 2018.
http://www.pacifecon.co.nz

BRANZ is an independent and impartial research, testing, consulting and information company providing services and resources for the building industry.

Its aims are to:

- Research and investigate the design, construction and performance of buildings that impact the built environment in New Zealand
- Enable the transfer of knowledge from the research community into the residential and commercial building and construction industry.

http://www.branz.co.nz

The Ministry of Business, Innovation and Employment (MBIE). MBIE's purpose is to 'grow New Zealand for all'. MBIE does this by helping businesses to become more productive and internationally competitive, and by increasing opportunities for all New Zealanders to contribute to the economy. This means providing more jobs and increasing the opportunities for New Zealanders to participate in more productive and higher paid work. Growth for all also means providing better quality housing that is safe and affordable for New Zealanders.
http://www.mbie.govt.nz

Appendix B – Terminology, abbreviations and definitions used in this report

Actuals	Values that have been realised and collated to form data based on fact
b	Billion (10^9)
Base year	The year beginning January 2012
Calendar years	The 12 months ending 31 December of the year referred to
Commercial construction	Includes: Shopping centres and retail outlets, hotels, motels, conference centres, theatres, libraries, museums, offices, welfare homes, hostels, laboratories, telecommunications and electronics, churches, bars, restaurants, defence, law, police stations, prisons, camp grounds, buildings with a commercial kitchen etc.
Constant 2014 dollars	Real New Zealand dollar value as at March 2014
Education construction	Includes: Schools, childcare centres, universities
FCF / GFCF - Fixed capital formation / gross fixed capital formation	Net / gross increase in physical assets (investment minus disposals) within the measurement period. It does not account for the consumption (depreciation) of fixed capital, and also does not include land purchases. It is a component of the expenditure approach to calculating GDP (E). This report uses GFCF
Forecast period	The period from 1 April 2014 to 31 December 2019
GDP (E) - Gross Domestic Product (expenditure)	A measure of the final purchases of goods and services produced in New Zealand's domestic territory. Exports are added to domestic consumption, as they represent goods and services produced in New Zealand. Imports are subtracted. Imports represent goods and services produced by other economies
Health construction	Includes: Hospitals, hospices, rest homes, health centres, ambulance stations, Plunket rooms etc.
Heavy industry / energy construction	Includes: mines, wind farms, plant and equipment, cranes, oil and gas exploration, service stations, hydro, dams, irrigation, electricity etc.
Industrial construction	Includes: breweries, airports, harbours, ports and terminals, railways, warehouses, fire stations, abattoirs, cold stores, fisheries, boatsheds, marine farms, fuel storage, tankage for service stations, wineries, milk factories, dairy farms, laboratories, plant and equipment
Lead times	The delay between the initiation and execution of a process
m	Million (10^6)
March ending years	The 12 months ending 31 March of the year referred to
Multi-category construction	Development falls into multiple categories
Non-residential building and construction	The combination of all non-residential building and other construction work defined below.

Non-residential building	Non-residential vertical buildings includes: Shopping centres and retail outlets, hotels, motels, conference centres, theatres, libraries, museums, offices, welfare homes, hostels, laboratories, telecommunications and electronics, churches, clubs, bars, restaurants, defence, law, security, police stations, prisons, camp grounds
Other construction	Horizontal structures (often civil works) includes: roads, bridges, tunnels, reservoirs, street lighting, car parks, runways, harbours, marinas, dredging / flood control, outlets to the sea, subdivisions, earthmoving, landscaping, parks, agriculture, demolitions, transport and car park buildings, bus stops , water supply and wastewater, refuse, landfill
p.a.	Per annum
Project initiator - Central government	National projects which may be paid for from government funding or in partnership with the private sector, but with the government as the driving force behind the project
Project initiator - Private	The private sector
Project initiator -Local government	All council and local projects which may be paid for from local government funding or in partnership with the private sector, but with the local government as the driving force behind the project
Quarters	Q1 Jan-Mar, Q2 Apr-Jun, Q3 Jul-Sept, Q4 Oct-Dec
Raw data	Data that has not been subjected to smoothing, processing or any other manipulation
Residential building	Includes: Houses, low-rise apartments, high-rise apartments
Retirement villages	Includes: Detached houses, flats, apartments, and self-contained units in retirement villages are residential buildings. The common areas (dining, TV rooms, kitchens, gyms, pools, heath centres etc.) are non-residential building and construction. This split is accounted for in the forecasts
Roads of national significance	Seven state highway projects identified by the New Zealand Transport Authority as being strategically significant investment needs to enable economic growth. Other roads of national significance may be added in the future http://www.nzta.govt.nz/network/rons/#rons
Rolling years	The aggregate of values from the 12 months immediately preceding a particular point in time (e.g. June 2014 is the aggregate of values from July 2013 through June 2014)
Smoothed	Spreading the total cost of a project over its duration; in order to provide a clearer view of underlying trends and remove seasonal or cyclical components
Sport construction	Includes: Swimming Pools, Sports Centres, Sports pitches, Golf Courses
Statistics New Zealand	A government department and New Zealand's national statistical office. New Zealand's major source of official statistics, administers the Statistics Act 1975, and lead the Official Statistics System. www.stats.govt.nz

Appendix C – Methodology, data, statistics and assumptions used in this report

Residential

The residential sector forecasts are by BRANZ and are based on modelling historical building consents and economic forecast indicators. This sector has much shorter lead-times than the non-residential sector.

Key assumptions include:

- Value of work placed includes detached houses, multi-units and alterations & additions (A&A) work. Work placed is based on new dwelling and A&A consent values, multiplied by 1.82 to allow for variations after consent time and other costs included in the FCF measure (i.e. legal and other transaction costs). The multiplication factor is from historic ratios of FCF/Consents values.
- Household formation forecasts have been calculated based on 2013 census data for regional population growth and are used for new dwelling demand. Demolition replacements and holiday homes are included. Regional housing shares are based on regional population growth, demolition replacements based on regional housing stock age, likelihood of holiday homes, and Canterbury EQ recovery.
- Historic consents in the table are first published data and there may be subsequent changes in some locations. Usually these revisions are minor. Includes detached houses and multi-units.
- Multi-units include dwelling units with a floor/ceiling and/or a wall in common with another unit. It includes duplexes, terraced housing, attached townhouses, medium and high-rise apartments.

Changes in residential methodology from the 2013 report

Assumptions used to forecast residential fixed capital formation have changed from the 2013 report. Changes include:

- A revised factor for calculating the value of residential work placed (1.82)[52] - firstly because it is now applied to consents for alterations and additions as well as for new dwellings. Secondly to account for an upward revision of historical residential FCF by Statistics New Zealand (discussed below).
- Household formation forecasts have been calculated based on 2013 census data for regional population growth (Statistics New Zealand's household formation forecasts were used in the 2013 National Pipeline Report, based on 2006 census data). Regional population growth was assumed to be midway between medium and high population forecasts. The national long-term net migration assumption is 12,500 per year. Persons per household (PPHH) by region was assumed to decline at the most recent inter-census rates. In the case of Auckland and Canterbury their PPHHs increased in the last census but the forecast is for a reversal, with a decline at historic rates. Total EQ demolition replacements in Canterbury are assumed to be 12,000 over a period of 8 years. In the rest of NZ demolition replacements are assumed to be 1,500 per year. New occasionally occupied houses (holiday homes, apartments) are assumed to be 1,400 per year. The total is an average of 24,300 dwelling units per year over the next 6 years.

[52] This factor was 2.06 in the 2013 report.

- Adjustments to historic building consent data following Statistics New Zealand's upward revision of 10.6% for fixed capital formation data for residential buildings in March 2012 and March 2013 years.

The 2013 report's forecasts were recalculated using the revised 2012 fixed capital formation as the start point. These are the data shown for the years 2012 and 2013 in the graphs.

Non-residential building and construction

The non-residential sector forecasts are based on BRANZ forecasts and combined with data held by Pacifecon. Non-residential building and construction is made up of **non-residential building** and **other construction**.

Non-residential building

BRANZ forecasts of non-residential building are based on forecasts of building consent values (which will not include other non-residential construction). The consent values are adjusted for fixed capital formation using historic ratios between consents and fixed capital formation (FCF) value, and allowing for an average 12 month lag between the two series. Eleven categories of non-residential consents are forecast based on the Statistics New Zealand data. Single equation regression models have been developed for most of the categories. These models have limited to good success in forecasting, to approximately five years ahead.

Pacifecon has provided specific data for rebuild activity in Canterbury, but other regions have been extrapolated from BRANZ data based on Pacifecon's known projects spread.

Other construction

BRANZ forecasts for other construction are based on modelling the historic trends for industry commissioning (and ownership) of assets and expected growth in each sector. The three main sectors are:

- Mining (approximately 20% of Other Construction FCF)
- Electricity/Gas/Water (EGW) sectors (approximately 33%)
- Transport (approximately 37%).

The remaining 10% of other construction FCF is held by a variety of industries and their trends are ignored. Real growth is based on historic trends and planned work (e.g., The Government Policy Statement on Land Transport Funding).

Real growth in FCF for the three sectors is assumed to be 2% p.a. for Mining, 1% p.a. for EGW, and 3% p.a. for Transport.

Historical trends are not used for modelling other construction in Canterbury due to the effects of the Canterbury earthquakes on demand for building and construction in the region. Projections for other construction in Canterbury are based on the Government's $5b post-earthquake infrastructure budget split between 2011 (post-quake) to the end of 2016 and validated against data held by Pacifecon.

Pacifecon's anticipated non-residential projects

A data set of over 7,000 future projects known to Pacifecon has been used in this report. The data is up to date as at 20 May 2014.

Smoothed data as at 11 July 2014 has been used in this report. The Pacifecon dataset of project values show the value of all projects of $90m and over smoothed across future quarters for the duration of the project (as far as this is known or estimated).

Work on non-residential building and construction started since the beginning of 2011, and which is still in progress, is also included.

The dataset includes both non-residential building and other construction.

Pacifecon's non-residential data used in this report consists of projects which are at pre-construction stages - from the very earliest planning through to tendering. This real project activity data is collected and retained by Pacifecon.

In general Pacifecon does not report:

- projects less than $100,000 (unless linked to other larger projects)
- Low $'00,000 projects, where there is no opportunity for Pacifecon clients.

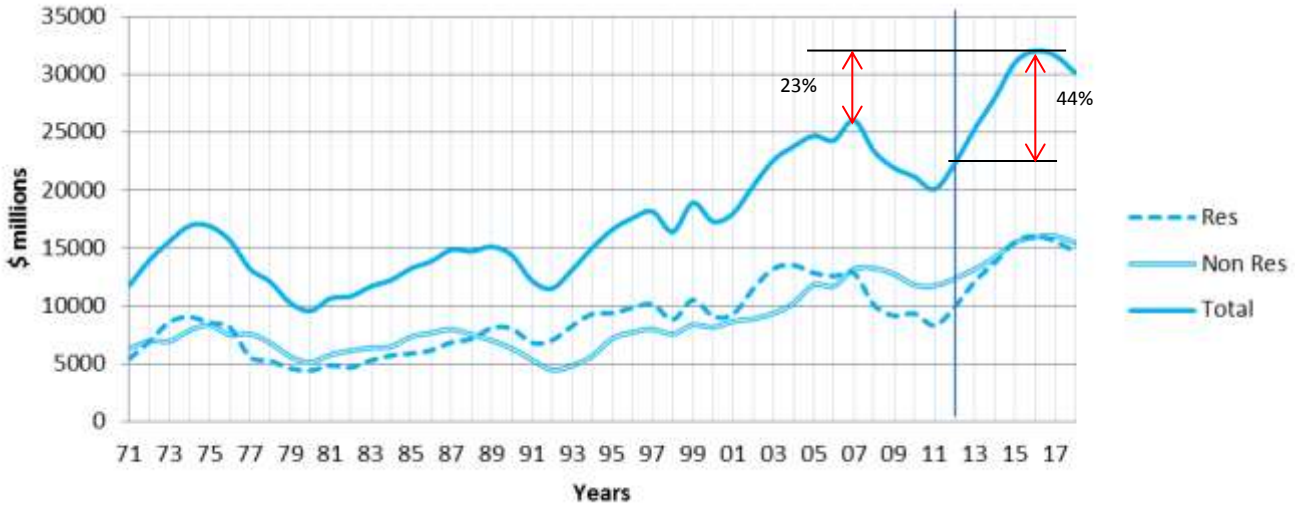
For timing of quarters, see Appendix B – Terminology, abbreviations and definitions used in this report.

Comparison of Figure B in this report with Figure 2.1 in the 2013 report

Figure 2.1 (below) from the 2013 report shows values (in $2013) over calendar years. This is despite the data being for March ending years (as the historical data is only available in March ending years). To enable like-for-like comparison of Figure 2.1 with the corresponding graph (Figure B) used in this report, the x-axis in Figure 2.1 should be relabelled "March ending years" and each point on the x-axis increased by a value of 1. Also note that:

- values in the 2013 report are expressed in $2013, whereas values in this report are expressed in $2014
- historical data in this report accounts for a 10.6% upward revision in Statistics New Zealand's residential fixed capital formation data for March 2012 and March 2013 years. Historical data in the 2013 report does not account for this revision.

Figure 2.1 from the 2013 report



Source: Pacifecon / BRANZ

The following example shows how the upward revision by Statistics New Zealand and conversion from $2013 to $2014 dollars affects the 2013 report's forecast for residential fixed capital formation (FCF) in the year ending March 2014:

- The 2013 report forecast residential FCF in the year ending March 2014 to be $12,137m (in $2013).
- The forecast base changed by +10.6% due to the Statistics New Zealand revision of residential FCF for the year ending March 2013.
- Inflation during the year ending March 2014 was 4.6%.

Accordingly, the revised forecast for residential FCF for the year ending March 2014 can be expressed as $12,137m x 1.106 x 1.046 = $14,041m (in $2014).

Appendix D - Projects likely to start in the next year – $value over ≈$100million[53]

Projects are included in the table below provided they:

- did not start before April 2014 and are expected to start before the end of March 2015; and
- are of a value of $100 million and over (by Pacifecon's method of estimating value)

Name	Type	Project Initiator
Auckland		
Ormiston Town Centre & Retail Hub	Retail & Town Centre	Private
SugarTree Stage 2 - Centro	Residential/Commercial	Private
NZ International Convention Centre	Convention Centre	Private
Wynyard Quarter Hotel	Hotel	Private
North Rural Road Corridor Maintenance	Roads	Local Govt
Mangere Biological Nutrient Removal	Wastewater	Local Govt
AMETI Sylvia Park Bus Station & Road Corridor	Roads & Bus Station	Local Govt
Wynyard Innovation Buildings	Commercial Buildings	Local Govt
Canterbury		
Belfast Village	Suburb & Commercial	Private
Justice & Emergency Services Precinct	Justice & Emergency Services	Central Govt
Western Belfast Bypass	Roads	Central Govt
Innovation Precinct	Innovation Precinct	Central Govt
Ministry of Education Christchurch Schools Rebuild Project Wave 1a	Schools	Central Govt
University of Canterbury Regional Science & Innovation Centre	Science and Innovation Centre	Central Govt
University of Canterbury College of Engineering the Future	College of Engineering	Central Govt
CCC Repair/reinstatement of Sumner/Lyttelton Road corridor	Civil	Local Govt
Waikato / Bay of Plenty		
Te Rapa Gateway Industrial Estate	Industrial Subdivisions	Private
Dairyland Products Ltd	Milk Powder Plant	Private
Wellington		
Transmission Gully Highway	Roads	Central Govt
Rest of New Zealand		
Ruataniwha Water Storage Project	Dams	Local Govt

[53] Inclusion of a project does not mean that it will proceed in the scale and timeframe indicated above. It is, however, the best available picture at this point in time (11/07/2014). Pacifecon's building and construction information is being constantly updated.

Appendix E - Forecast & known data ($ millions) by region - annual totals

	Actuals		Forecasts						
Residential	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**Total**
Auckland	3,453	4,065	4,897	6,187	7,096	7,310	7,058	6,275	46,341
Canterbury	2,550	3,273	4,297	4,768	4,426	3,293	2,533	1,822	26,961
Waikato / BoP	1,651	1,888	2,187	2,254	2,165	2,223	2,029	1,842	16,238
Wellington	923	1,091	1,044	1,382	1,296	1,314	1,220	1,119	9,390
Rest of NZ	2,525	2,702	2,883	2,907	3,143	2,963	2,798	2,568	22,489
TOTAL	11,102	13,019	15,309	17,497	18,126	17,103	15,638	13,626	121,419
Non-residential									
Auckland	4,233	4,609	4,858	5,217	5,762	5,816	6,016	6,293	42,804
Canterbury	1,838	2,008	2,492	2,672	2,351	2,073	2,073	1,610	17,116
Waikato / BoP	2,201	2,397	2,527	2,714	2,997	3,025	3,129	3,273	22,262
Wellington	1,347	1,466	1,546	1,660	1,833	1,850	1,914	2,002	13,618
Rest of NZ	2,583	2,813	2,965	3,185	3,517	3,550	3,672	3,841	26,126
TOTAL	12,201	13,293	14,388	15,448	16,459	16,315	16,804	17,018	121,926
Residential + non-residential									
Auckland	7,686	8,674	9,755	11,404	12,857	13,126	13,074	12,568	89,144
Canterbury	4,387	5,281	6,789	7,440	6,777	5,365	4,606	3,432	44,077
Waikato / BoP	3,853	4,285	4,714	4,967	5,161	5,248	5,158	5,115	38,501
Wellington	2,269	2,557	2,590	3,042	3,129	3,165	3,134	3,120	23,007
Rest of NZ	5,108	5,515	5,849	6,092	6,660	6,513	6,470	6,409	48,615
TOTAL	23,303	26,312	29,697	32,945	34,585	33,418	32,441	30,644	243,345

Known non-residential			Anticipated						
Auckland			4,499	3,294	2,772	2,468	1,887	1,484	16,404
Canterbury			3,363	2,920	2,122	1,731	1,298	976	12,410
Waikato / BoP			2,243	1,585	1,423	1,386	1,562	1,087	9,286
Wellington			1,340	1,079	905	934	838	765	5,862
Rest of NZ			2,614	2,599	1,204	1,303	1,322	1,094	10,136
TOTAL			14,060	11,478	8,425	7,823	6,907	5,405	54,099

Source: Pacifecon / BRANZ

Any differences between values in Appendix E and tables and graphs in other sections of this report are due to rounding.
Actuals are in blue.
2014 uses actual data for 2014 Q1 & forecast for other quarters.
National and regional peaks are in red.
Years are December ending years e.g. 2014 includes January – December 2014.

Questions or feedback?

Call 0508 722 433

Pacifecon
Building intelligence

PO Box 33016, Auckland 0740

P 09 445 0345

F 09 445 0244

projects@pacifecon.co.nz

www.pacifecon.co.nz