

**Building
Industry
Authority**



Building Industry Trends: April–June 2004

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Summary

This document is the second quarterly report into building industry performance. A number of issues have been identified, including the following.

Significant activity

- A continuing high volume of building activity and building consents being issued.
- Further growth in the residential sector of the market.
- Steady commercial building activity, and an expectation that non-residential demand will increase over the next several years.
- Falling immigration and steady consumer confidence.
- An expectation that growth in residential building demand is still predicted to slow during the latter half of 2004. Overall demand is predicted to not be significantly affected because of a predicted growth in non-residential construction.
- Rising building costs, beyond the rate of underlying general inflation.
- Cost drivers of increased labour and materials costs.
- Prediction of further increases in building costs as a result of the new Building Act and recent Building Code changes and construction practices.
- A continuing tight labour market for building trades generally and in building regulatory control.

Mixed-quality outcomes

- Increasing awareness of the poor construction and design practices that cause weathertightness failures.
- Improvements being made to building control processes to reduce weathertightness problems.
- A potential long tail of weathertightness failure, still to be felt in homes built between 2000 and 2003.
- Quality improvement work under way to prevent potential structural integrity issues arising from poor commercial construction practice.
- Amenity and safety issues in apartment design which are being addressed through Building Code changes, Determinations and research.
- Overall, mixed-quality outcomes, although practices seem to be improving.

Improving regulatory performance

- Territorial authority and certifier regulators responding to increased expectations from the BIA to raise quality standards.
- Ongoing difficulties obtaining and retaining skilled building control staff.

- Mixed compliance among these frontline regulators in respect of building access provisions, weathertightness focus, Producer Statement regimes, and assessment of Alternative Solutions.
- Problems with the building certifier insurance scheme which has been formally reviewed. Feedback is now being sought on future options.

Introduction

This is the second report about building industry performance published by the Building Industry Authority (BIA). It examines building industry trends for the period 1 April 2004 to 30 June 2004. Similar reports will continue to be published on a quarterly basis.

During the three months since the first performance report was published, a new Building Act has been passed. As the Building Act 2004 is implemented over the next six months, it will introduce a range of measures designed to improve the overall performance of the building industry and ensure buildings are built to a high quality. Some of these changes are focused on the BIA which is the central regulator.

The BIA is currently a Crown Entity established by the Building Act 1991. As a result of the new Act, the functions of the BIA will soon be transferred into an expanded Ministry of Housing which will be renamed the Department of Building and Housing. The BIA's existing core functions, which include managing New Zealand's building control regime, will remain largely similar in the new Department. This regulatory function has traditionally been achieved through maintaining the Building Code, and the Approved Documents which are non-mandatory means of complying with the Code.

The BIA continues to be committed to the benefits, particularly the flexibility, offered by performance-based regulation. However, it also needs to promote a regulatory system that maintains quality and effectiveness in the building industry. Regular measurement of outcomes such as building quality, building cost and industry expediency is key to understanding and managing such a performance-based system.

In addition to the BIA's core role of specifying building standards through the Building Code, the new Act places an increased focus on the regulator being more proactive in ensuring the Code is applied correctly. A critical prerequisite for being more proactive, and dealing successfully with emerging industry problems, is maintaining a good understanding of achieved building outcomes and using this information to actively address emerging performance issues. Accordingly, the new Act requires the central regulator to take responsibility for the development of an industry-wide performance measurement system to ensure the building controls system in New Zealand achieves its objectives. Application of this framework, including ongoing performance measurement, will ensure building controls produce benefits for New Zealanders and meet communities' expectations for health, safety, sustainability, amenity, industry efficiency and cost effectiveness. Over the next six months, the BIA and Department of Building and Housing will develop a strong measurement focus on these performance issues.

This report is one tool the BIA has developed to support its proactive performance monitoring role. Addressing performance issues requires not only measurement, but sharing this information with industry stakeholders. A wide range of stakeholders play critical roles in assisting the central regulator to fulfil its regulatory functions and improve industry performance. These stakeholders help other industry participants to understand problems and refine practices. One of the reasons for publishing regular quarterly performance reports is to raise the level of industry understanding of existing problems and risks, and to highlight performance gains already made.

This report is based on easily accessible performance information. At the present time, this means it draws mainly on administrative information already collected by central and local government agencies and by other organisations for other purposes. When a new framework for future monitoring is developed, new indicators will be introduced over time that will help the industry to better understand key performance issues and outcomes.

A new feature of this report is the insight into performance issues provided by a number of external stakeholders. These insights offer a perspective on issues the BIA is unable to provide on its own. These contributions also highlight initiatives under way within other organisations that are leading improvements in industry performance.

Performance summary

The body of this report is presented in three related sections.

The first section examines general trends in building activity and develops an understanding of recent trends in building volume and type. It also examines the outlook for these trends in the near future. It reveals that the boom in building apparent in recent years has been sustained during the June 2004 quarter. Statistics show the construction boom continues to be largely driven by residential development and is most significant in the Auckland region. As well as strong growth in detached dwelling construction, there has been a sharp increase in consents issued for the building of new apartments. The overall rate of dwelling consent issuing remains high and the short-term outlook continues to be for high levels of building activity to continue during 2004. However, the fundamental drivers of residential building demand – immigration and consumer confidence – now indicate demand for new residential building may have peaked. Consequently, it seems likely that reduced residential building activity is likely to occur towards the end of this year or during early 2005.

The overall impact on the building sector of a drop in residential demand may be relatively limited. Commercial building activity appears to be increasing and it is expected that levels of non-residential construction will increase significantly over the next several years.

Building costs continue to rise significantly, increasing beyond the rate of underlying inflation. These costs continue to be driven up by increased labour and materials expenditure. Further cost rises are likely to be caused by recent changes to the Building Code which have been made to address specific weathertightness risks. The new Building Act is also predicted to result in an increased cost of building regulation in the near future, although these costs are likely to be a relatively modest contributor to overall construction costs.

In the context of the above mentioned building boom, the second section of this report examines building quality. The building industry has confronted systemic performance problems over the past few years. This report shows the quality of building outcomes continues to be mixed, although appears to be improving. There is an increasing awareness of the poor building practices that tend to result in weathertightness failures. There has also been improvement made to building controls to reduce these types of problem. However, there is potentially a long tail to the weathertightness issue that began during the early 1990s. Currently, the bulk of problems are in buildings issued building consents during the period from 1993 to 1999. Given the building

industry's relatively recent responses to address these weathertightness problems, building work from 2000 to 2003 may also be affected.

A variety of other performance issues have also been addressed during the June quarter. Quality improvement work has focused on preventing potential structural integrity problems in high-rise buildings arising from suspected poor commercial construction practice, particularly relating to the site handling of certain grades of concrete reinforcing steel and the use of hollow-core precast concrete slabs. Other building performance issues have also been addressed in relation to apartment design, including fire safety and accessibility. These issues have been dealt with through Building Code changes, Determinations and other work with industry stakeholders.

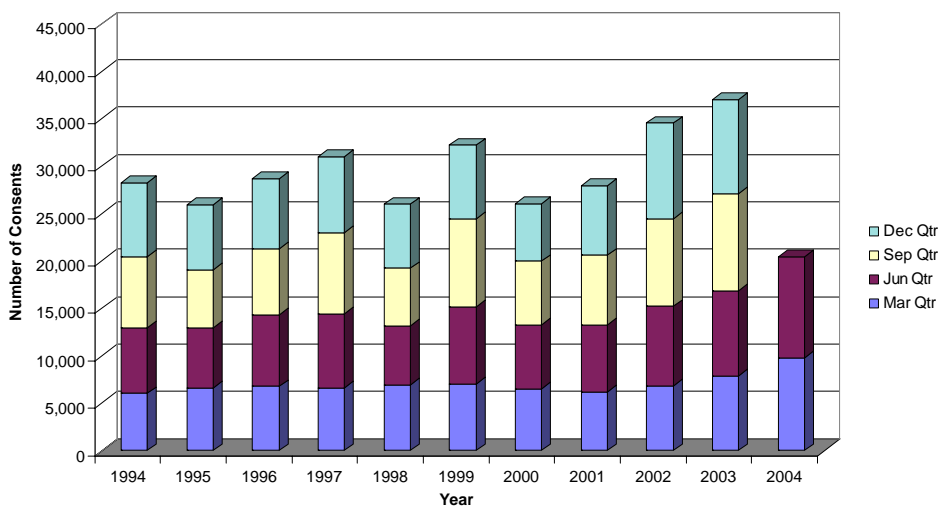
With both the building boom and building quality as the backdrop, the third section of this report addresses the effectiveness of building regulation. Territorial authority and building certifier regulators are responding to an increased expectation from the BIA to maintain quality standards. There is an expectation that improvements will be made to their processes to ensure compliance with potential industry performance problems such as access provisions, weathertightness, Producer Statement regimes, and the assessment of Alternative Solutions. The adequacy of the certifier insurance scheme has been formally reviewed by the BIA and industry is currently being consulted on options to deal with the highlighted problems.

Building Activity

Increased building activity

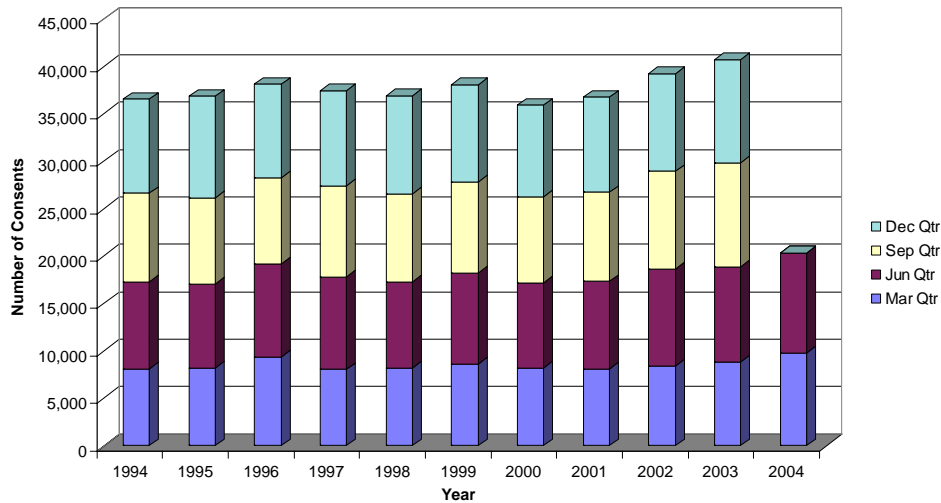
New Zealand is still experiencing considerable growth in building activity continuing the trend of recent years. In some instances, the June 2004 quarter represents growth in activity not seen since the mid-1970s. A total of 37,029 building consents were issued in New Zealand for new buildings during 2003. This is a 7 percent increase compared to the 2002 calendar year and follows a similar trend of increased building activity extending over the past three years (Chart 1). The average annual rate of increase in new building consents over the past three calendar years has been 14 percent. The first half of 2004 has seen this growth continuing to increase with 20,447 consents issued for new buildings, 21 percent higher than for the first half of 2003.

Chart 1: Consents Issued for New Buildings



The increase in consents issued for building alterations is more modest than for new buildings. There were 40,732 consents for alterations during 2003, a 4 percent increase over the 2002 year. 10,579 consents were issued in the first half of 2004 for building alterations, representing an 8 percent increase over the number of consents for alterations issued during the first half of 2003 (Chart 2).

Chart 2: Consents Issued for Alterations



The June quarter of 2004 continued this upward annual trend in both new building and building alterations. In the June quarter, total building consents increased by 12 percent compared to the June quarter of 2003. Compared to the same months in the 2003 year, April 2004 consents were up 11 percent, May 2004 consents were up 1 percent, and June 2004 consents were up 24 percent. During the June quarter, the overall increase in volume has been mainly driven by consents for new buildings, up 19 percent, rather than for alterations which were 5 percent higher than the same June quarter period from 2003 (Table 1).

Table 1: June quarter consents

| | Number of consents from 1 April to 30 June 2004 | | |
|--------|-------------------------------------------------|-------------|-----------|
| Year | New | Alterations | Total |
| 2003 | 8,991 | 10,054 | 19,045 |
| 2004 | 10,692 | 10,579 | 21,271 |
| Change | 19percent | 5percent | 12percent |

Continued rise in residential construction

The rise in issued building consents is mainly driven by residential construction. Consents for slightly less than 30,000 new dwelling units were issued during the 2003 calendar year. This was the highest level of new dwelling construction for a calendar year since the mid-1970s (Chart 3). There was another significant rise in new dwelling building consents issued during the first half of 2004. Consents for 16,485 new dwelling units were issued in the first half of the 2004 year, a 23 percent increase on the same period in 2003.

During the June 2004 quarter, consents for new dwelling units increased by 20 percent compared to the same quarter in the previous year. A total of 2543 new dwelling consents were issued in April, 2544 in May and 3447 in June. The April and June totals represent substantial increases

compared to the same months during 2003. Annual dwelling construction continues to exceed 30,000 units with 32,851 consents issued for new dwellings in the year ended June 2004, the highest total for a June year since 1974.

Chart 3: New Dwelling Construction

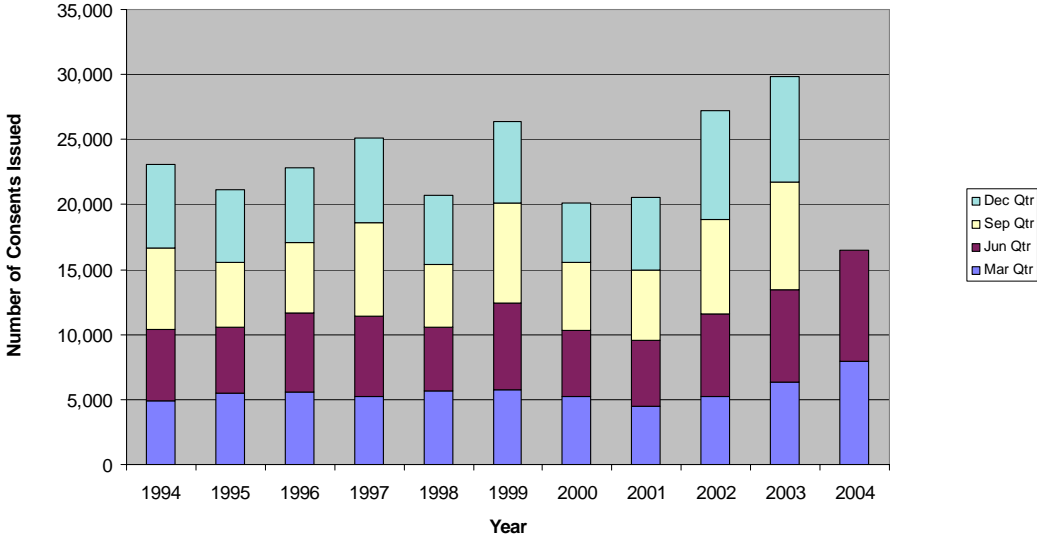
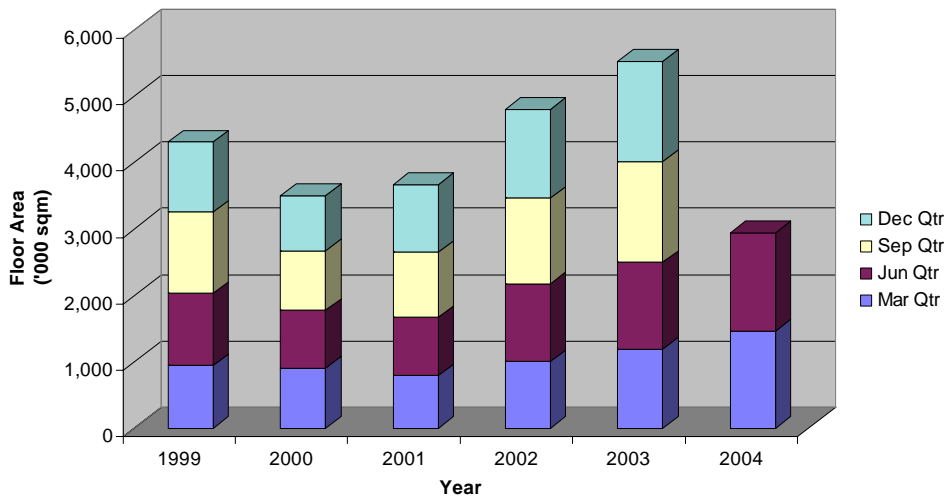


Table 2: Consents for new dwelling units

| | Number of consents | | | |
|--------|--------------------|-------|-------|--------------|
| | April | May | June | Quarter |
| 2003 | 2,232 | 2,485 | 2,389 | 7,106 |
| 2004 | 2,543 | 2,544 | 3,447 | 8,534 |
| Change | 14% | 2% | 44% | 20% |

The rise in the number of consents issued for new dwelling construction over the past three years is accompanied by a commensurate rise in the total floor area of new dwellings. During 2003 the total floor area constructed exceeded 5,000,000 m² (Chart 4). The total dwelling floor area constructed has been rising since 2001 and the trend has continued during the first half of 2004. Dwelling floor area rose by 23 percent in the quarter ending 31 March 2004 and by 13 percent in the quarter ending 30 June 2004 compared to the same periods the previous year.

Chart 4: Dwelling Floor Area - New Construction



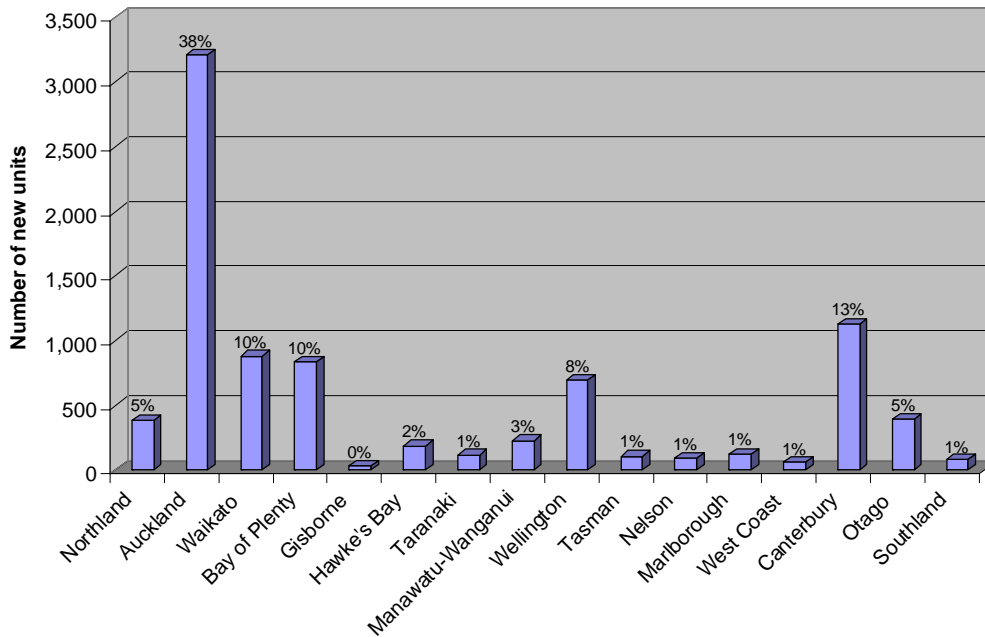
Bulk of new dwelling construction in north

Geographically, the bulk of residential activity during the June quarter of 2004 has centred on the Auckland region which contributed 3205 units (38 percent) to the total number of new dwelling units during the three-month period (Chart 5).

Twelve out of 16 regions recorded more new dwelling units in the June 2004 quarter compared with the June quarter of 2003. Auckland recorded the largest volume increase in new dwelling units when comparing these two quarters (increasing by 29 percent or 715 consents). Other notable increases in June quarter activity occurred in the Bay of Plenty (up 52 percent to 834 consents), Waikato (up 16 percent to 879 consents) and Canterbury (up 8 percent to 1126 consents). Notably, activity during the quarter was reduced in Tasman (down 27 percent to 105 consents) and Nelson (down 24 percent to 90 consents).

Chart 5: Number of New Dwelling Units Authorised by Region

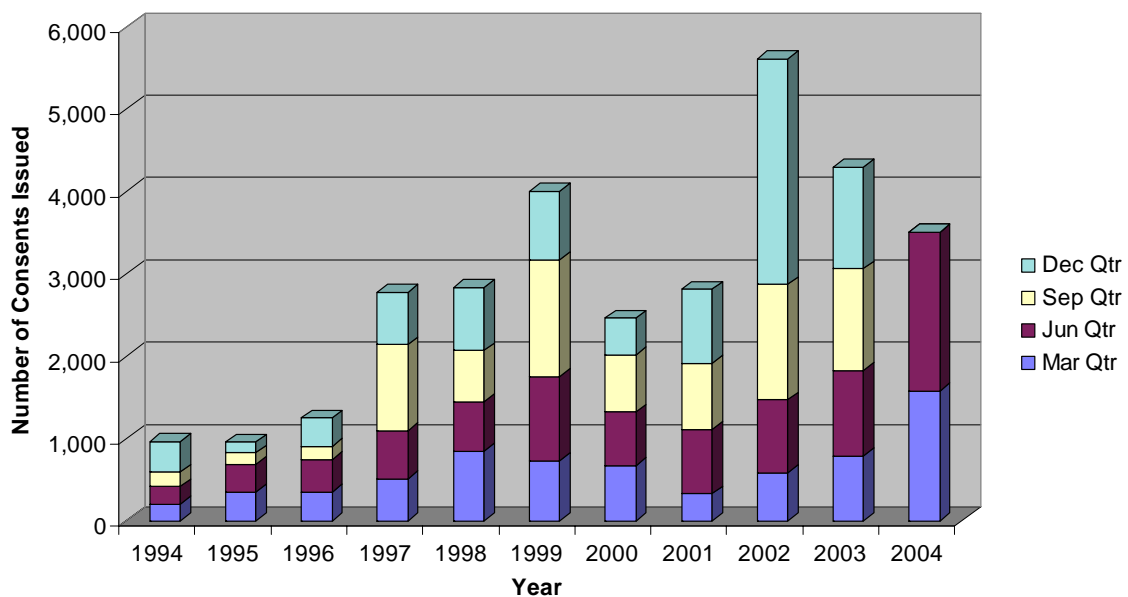
1 April 2004 - 30 June 2004



Rise in apartment construction

During 2003 the number of consents issued for new apartment construction had dropped by 23 percent from its 2002 annual peak of 5610 units to 4295 units. However, the long-term trend, apparent since 1996, has been an annual increase of 30 percent for new apartment consents (Chart 6). The first half of 2004 has seen this longer-term trend continue with an exceptional increase in consents issued for new apartment construction. Significantly, 3205 apartment unit consents were issued in the January to June 2004 period, up 90 percent on 2003 figures.

Chart 6: New Apartment Construction



During the June 2004 quarter, consents issued for new apartment units have increased by 85 percent compared with the same period in 2003 (Table 3). However, the monthly figures varied significantly between 306 consents issued during May and 977 consents issued during June. This high level of variance is typical; over the past three years the standard deviation of monthly apartment consents has been 265 units. Notably, June 2004 saw the highest number of consents issued for new apartments since October 2002 and the second highest monthly volume ever recorded.

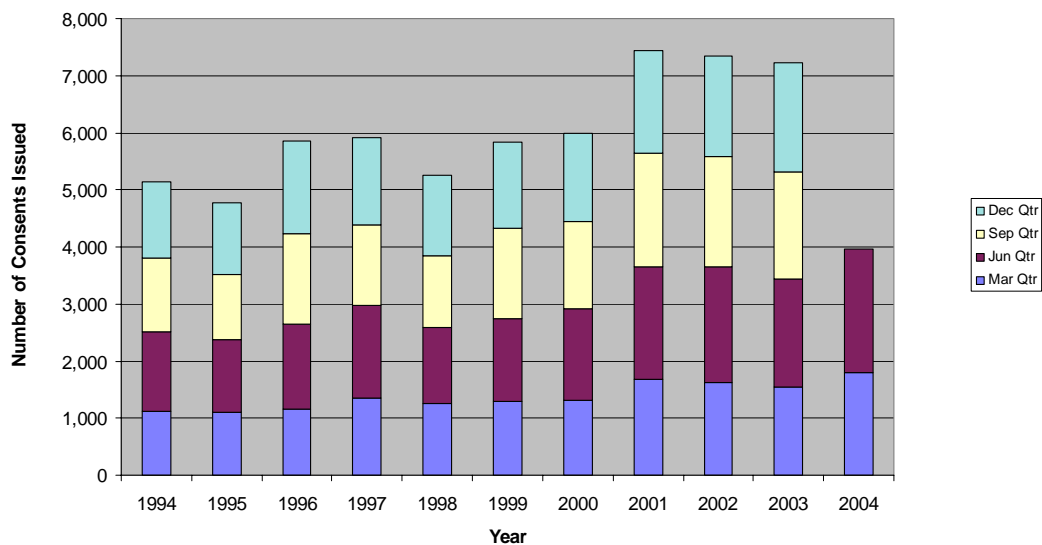
Table 3: New apartment consents for June quarter

| Consents for New Apartment Units | | | | |
|----------------------------------|-------|-----|------|--------------|
| Year | April | May | June | Quarter |
| 2003 | 447 | 324 | 271 | 1,042 |
| 2004 | 644 | 306 | 977 | 1,927 |
| Change | 44% | -6% | 261% | 85% |

Non-residential construction now increasing

As mentioned earlier, the boom in construction over the past several years has clearly been primarily driven by the residential component of the market. Commercial construction on the other hand has remained steady for the past three years, albeit at a historically high level. However, the first half of 2004 has seen a significant (15 percent) rise in other new building construction compared to the first half of 2003 (Chart 7).

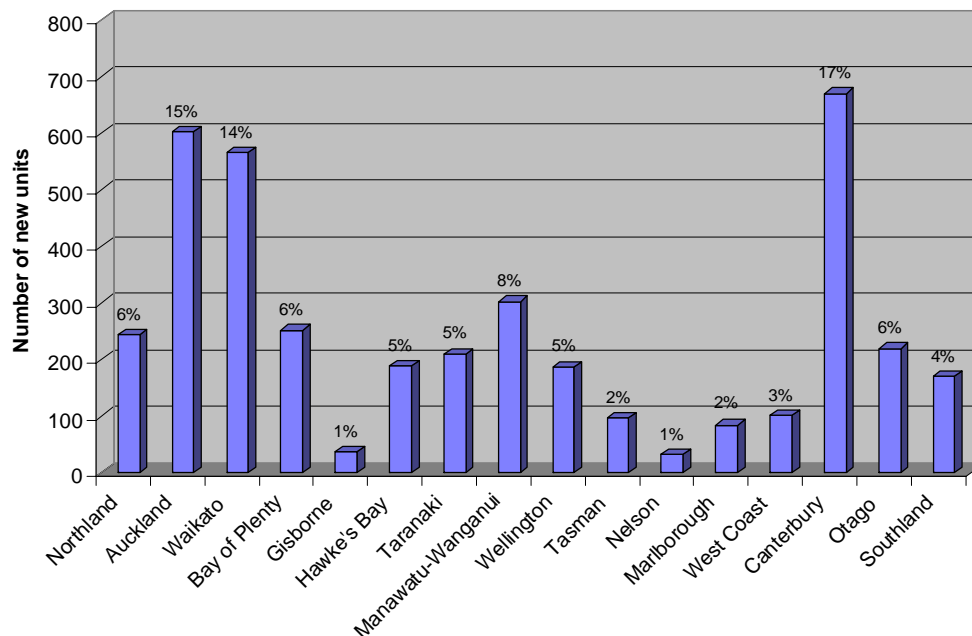
Chart 7: Other New Building Construction



In terms of geographic location, patterns of non-residential construction differ from that of residential construction activity. The level of non-residential building was highest in the

Canterbury region during the first half of 2004 (Chart 8). Relatively high levels of non-residential activity also occurred in Auckland and Waikato.

Chart 8: Non-residential Consent Activity
1 January 2004 - 30 June 2004



Economic outlook is for weaker demand

Economic analysis undertaken by the Reserve Bank, published in its June 2004 monetary policy statement, indicates momentum in the housing market is slowing. Contrary to the continued high level of residential building activity, the number of house sales has declined since September 2003 indicating the housing market may have peaked during late 2003. The Reserve Bank also reports that, according to Quotable Value New Zealand, the median number of days to sell a house has increased which relieves the upward pressure on house prices.

Immigration has slowed markedly since mid-2003 and is likely to lead to an abatement in housing demand. Statistics New Zealand reports immigration peaked in mid-2003 and has fallen to a net long-term migration gain of 22,000 for the year ended 30 June 2004. This is 48 percent lower than the net inflow of 42,500 people in the previous June year. Figures for the month of June illustrate this significant turnaround in immigration trends. In June 2004 long-term departures exceeded arrivals by 100 people, compared with 1900 in June 2003. The decrease was mainly due to a significant drop in non-New Zealand citizen arrivals.

Modelling recently undertaken by Westpac Bank has estimated the magnitude and timing of this reduced immigration on the residential construction market. It suggests prices will soon come under pressure followed by a decrease in construction activity that will lag six months behind the price decrease. Westpac's prediction is that the total value of new house construction may fall by as much as \$3.6 billion over the next two years and demand will bottom out in 2006.

Table 4: Predicted housing demand – Westpac residential investment model, July 2004

| | 2003 | 2004 | 2005 | 2006 | 2007 |
|-----------------------------------------|--------|--------|--------|-------|--------|
| Net migration (000) | 35 | 12 | 0 | -5 | 0 |
| Total population growth (000) | 61 | 38 | 26 | 22 | 27 |
| Required new houses | 23,882 | 14,968 | 10,329 | 8,435 | 10,464 |
| Total building cost (\$ million) | 6,448 | 4,041 | 2,789 | 2,278 | 2,825 |

Note that the table represents housing *demand* and does not take account of the lag effect on construction. Thus the fall in total building of \$2.4 billion that is predicted in 2004 demand is likely to be felt by the construction industry on the supply side in 2005.

The Westpac modelling results highlight the same trends as consensus forecasts published by the New Zealand Institute for Economic Research (NZIER), although the Institute predicts a less dramatic decrease in activity. June consensus forecasts indicated that residential investment for 2004/05 was predicted to grow by a modest 2 percent, representing a 14 percent reduction in the predictions made for the 2003/04 year. A 7 percent decline is expected in 2005/06.

Westpac warns the construction sector looks likely to be the biggest loser as New Zealand's general economic fortunes turn around. However, a factor likely to moderate the impact of this weakening of demand for residential construction is the fact that the rate of issuance of non-residential building consents remains high, and that the Government plans many public works projects over the next few years. The Reserve Bank suggests resources will be diverted from residential to commercial construction over the remainder of 2004 and during 2005, reversing the trend of the past several years where residential capacity has increased and commercial capacity has decreased. This increase in non-residential demand and resource substitution seems likely to extend the capacity pressures that are already felt in the construction sector.

Overall, it appears unlikely the predicted increase in commercial and government construction will offset the anticipated reduction in residential construction. Westpac is forecasting a net contraction of building activity of approximately \$2.5 billion over the next two years.

Any slowing of construction may take some time to take effect. The Reserve Bank reports builders are still experiencing long backlogs of work and there are continued delays in building new houses. These delays exist despite a significant increase in employment and hence capacity in the construction sector over the past two years. In addition to construction delays, the demand of the past several years has also placed considerable pressure on prices and costs in the construction sector. The ongoing high numbers of building consents being issued suggest capacity constraints will not be overcome in the short term. The continued growth in the issue of building consents during the June 2004 quarter indicates building activity will remain strong for at least the next several months.

In addition to immigration, consumer confidence is another leading indicator of domestic building investment. The last few quarterly Westpac McDermott Miller (WMM) Consumer Confidence surveys have shown consumers remain optimistic, and the June 2004 survey indicates this is still the case. However, despite optimism remaining high, consumer confidence fell for the second time in six months, slipping to 122 in the June 2004 quarter from 124 in the previous quarter.¹ The survey also contained a sharp drop in the confidence of the 19–29-year-old age group which is inferred to be caused by the impact of recent increases in interest rates on mortgage holders. Medium-term consumer expectations are also deteriorating. Overall, consumer outlook remains strong but results are indicative that the housing market is past its peak and that the wider economy is likely to follow.^{2,3}

In its July issue of the Quarterly Survey of Business Opinion, the NZIER highlighted a difference in confidence between building construction firms and suppliers of building materials. NZIER indicates that construction firms are, on balance, optimistic about conditions over the next six months, while suppliers of building materials are very pessimistic. This divergence was interpreted by NZIER as being potentially indicative of an upturn in building activity since proposals and orders reach constructors before they translate them into inquiries and orders for materials. This interpretation appears contrary to other predictions that New Zealand is nearing the peak of the current residential building cycle, but may be explained by a possible upturn in the non-residential sector.

Chris Preston, Registered Master Builders Federation

Building Activity remains strong with only a few areas reporting a drop, but only to the extent that it takes the pressure off sub-trades and the supply of materials. The call is out to see an industry that can maintain the building of new homes at around the 26,000 a year level but many are saying that 2005 may well see something around the 24,000 mark.

While the cyclic nature of the building industry is well known, it is timely that all those involved monitor carefully any drop in activity. Certainly all the indications – interest rate rises, lower immigration and a slow down in the sale of existing homes – are going the wrong way.

Appropriate adjustments to overhead structures will need to be made and a capital buffer should be built up to compensate for a lack of cash flow generated from deposits.

We also face the risk of seeing a reduction in apprentices or, worse, some of the 6000 trainees currently with the BCITO being laid off. Given the expected increase in commercial work in the next two to three years, the industry needs to make sure there is an orderly and proactive move to keep the skilled and those in training in a job.

There is no need to be pessimistic but simply vigilant to an easing of the market.

¹ An index number over 100 indicates there are more optimists than pessimists.

² The WMM Consumer Confidence Survey and Index is not an official economic statistic but a recognised leading indicator of consumer intentions.

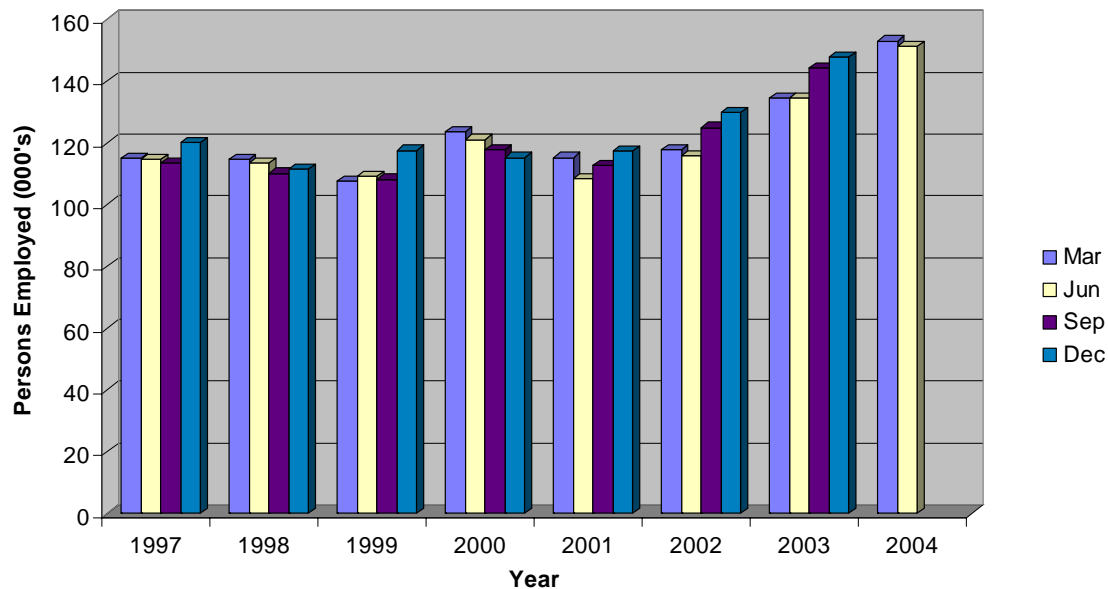
³ From 2004Q2 Westpac McDermott Miller Consumer Confidence Index, published 23 June 2004.

The June 2004 quarter Household Labour Force Survey results published by Statistics New Zealand reveal a slight easing of the labour market conditions for the construction sector, albeit that there has been sustained pressure on industry capacity over the past two years.⁴

Employment in the construction sector has dropped slightly (-1.2 percent) during the June 2004 quarter compared to the March 2004 quarter (Chart 9). However, longer term, there has been an average growth rate of 2.6 percent per quarter since January 2002. The entire economy grew by 0.2 percent during the June 2004 quarter and has averaged quarterly growth of only 0.65 percent over the past two years.

NZIER has noted the ongoing labour shortage in the New Zealand economy is most notable in the building industry with 53 percent of building construction firms reporting in their June quarter survey that labour was the single factor most limiting their ability to increase turnover. The Reserve Bank expects these capacity constraints in the industry and the resulting construction backlogs to hold residential construction up at a relatively high level throughout 2004.

Chart 9: Persons Employed in Construction Industry



⁴ The construction industry classification includes both building construction activity and other types of construction activity, such as the construction of roads, bridges and other structures.

John Pfahlert, Chair, New Zealand Construction Industry Council

In my view, one key issue facing the construction sector for the foreseeable future is a sustainable supply of skilled labour.

Several factors over many years have contributed to the skill shortage. It started in the late 1980s with changes to the traditional apprenticeship system and employers not taking on trainees. Many large employers have also moved to employing staff on a labour-only basis, and dramatically reduced the number of people they trained in-house.

More recently, a period of unsustainably low interest rates has fuelled domestic inflation to around 5 percent and has been a key driver of residential construction.

As if residential/non-residential demand were not placing sufficient pressure on labour availability, the government has finally started to roll out a plethora of labour and capital intensive projects in roading, hospital and prison construction simultaneously.

Strong net migration through until the middle of 2003 further contributed to this demand for residential construction, particularly in Auckland.

Emigration of skilled workers to Australia has also been a factor affecting staff availability, where 30 percent higher wage rates on average are an attractive incentive to shift. There is probably little that can be done to reverse this situation, with a host of other factors also at play in determining migration decisions.

All of these factors have contributed to there being a skills shortage ie, there are too few skilled people compared to the volume of work available.

There appear to be two principal ways of ensuring a sustainable supply of construction workers for the domestic economy. We can encourage immigration of people already holding the necessary skills and we can train more in New Zealand.

Consent approvals for domestic housing are now at levels not seen since the mid-1970s, and this level of activity will slow only gradually, with long backlogs to clear before order books again become empty.

Demand for residential housing is replicated in the commercial sector, where strong demand has now become evident, and forecasters are indicating continued growth in this sector until at least 2006.

The Building and Construction Industry Training Organisation currently has 6000 people signed up to study for a trade-related building qualification. While this is excellent news for training, it has created its own problem, with demand for training placing increasing pressure on BCITO funding. The government will soon need to recognise that the cap on funding for industry training more generally is limiting the capacity of ITOs to deliver.

InfraTrain NZ, the ITO servicing the roading and civil construction industries, is also servicing numbers of trainees well in excess of its current TEC funding – a situation that will be further exacerbated with the introduction of compulsory training in 2004-05.

Demand for industry training is also being driven by the impending requirement for building practitioners to be licensed. While there are many good reasons to support licensing, I fear that the various pressures that effect demand swings in the building sector may result in inconsistent employment throughout their training.

This could be offset by more careful consideration of government procurement practices, particularly that of timing project procurement. In Australia some work has been done to try to deliver government funded projects when times are otherwise slow for the industry. Such an approach should be considered here.

Declining immigration numbers are both a blessing and a curse. They reduce demand for construction activity and help ease house price increases, but also mean we have potentially fewer migrants to offset skill shortages.

Smoothing out the peaks and troughs of building activity would deliver a range of benefits to the sector. In the sphere of training it would allow better forecasting of demand for skilled workers and trainee numbers. Most importantly, it would ensure those in training will retain consistent employment through to receiving their trade qualification or completion of their modern apprenticeship programme. That has to be good for all involved.

As a result of the tight labour market and the sustained growth in building activity over the past two years, a shortage of skilled staff continues to be recognised as a limitation in the building trades. The Building and Construction Industry Training Organisation (BCITO), which deals specifically with the building trades (carpenters, plasterers, concreters, etc), reports it has achieved 6000 trainees by mid-2004. This represents the number of people in training at any one time. This number of trainees represents a 75 percent increase over the past two years. The BCITO is anticipating further trainee growth of 15 percent during the remainder of 2004 and is predicting 7000 people will be in construction industry training by year end (Chart 10). The majority of these trainees (83 percent) are currently in the carpentry trade (Table 5).

Chart 10 BCITO Trainee Numbers – Historic and Forecast

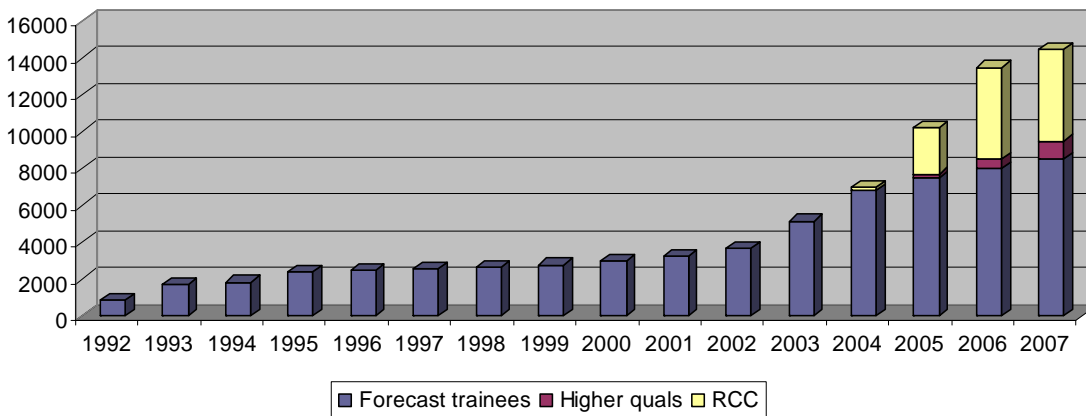


Table 5: Trainee breakdown (from BCITO)

| Trade | Number of trainees | Percentage of trainees |
|-----------------------|---------------------------|-------------------------------|
| Carpentry | 5,000 | 83% |
| Cement and concrete | 167 | 3% |
| Health and safety | 237 | 4% |
| Interior systems | 158 | 3% |
| PPCS [EIFS] | 319 | 5% |
| Solid plastering | 49 | 1% |
| Floor and wall tiling | 72 | 1% |
| Total | 6,002 | 100% |

Pieter Burghout, Chief Executive Officer, BCITO

One of the underpinning drivers of quality is the level of skills held by an industry's workforce. The Hunn Weathertightness Report identified, among a range of other things, that the skills issue was one that needed addressing by the building industry.

As at the 2001 Census, only 32 percent of those working in the industry sectors covered by the BCITO were trade qualified. The BCITO's medium-term target is to get that number up to around 60 percent which will see the industry have the core skills capability needed to underpin improved quality outcomes.

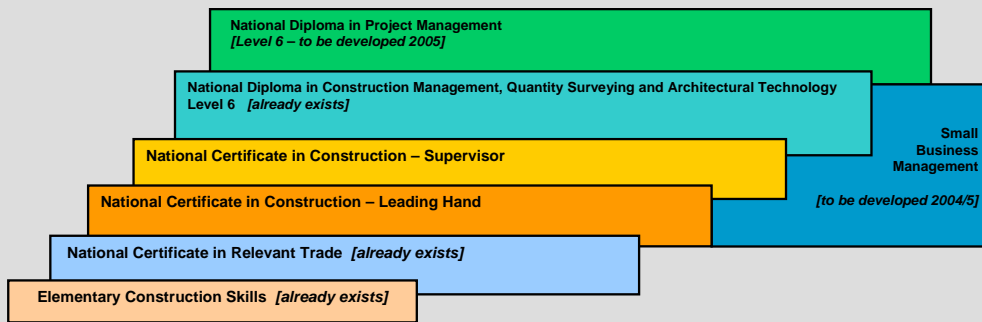
In rising to that challenge the BCITO can report with some satisfaction that we have achieved 75 percent growth in our training numbers over the last two years; we signed up our 6000th trainee [in training at any one time] in mid-July 2004, and are forecasting to achieve 7000 trainees by year end. As Chart 10 shows, our forecasting indicates that, in the medium term, we need to get to between 8-10,000 trainees to ensure we have the right levels of people being trained/up-skilled.

Other key issues for the BCITO include:

- Qualifications Staircase – we think it's important to have an integrated approach to the qualifications on offer to the sector, and the graph below shows the 'staircase' approach we are working to
- licensing of builders – this is well updated elsewhere in this report, but the critical issue with respect to builder training is ensuring a connection between the BCITO's qualifications and the licensing regime where practicable – the BCITO is working with Government officials on this
- Recognition of Current Competency – as well as building the numbers of new people coming into the sector and getting trained, we also need to recognise the skills of those already in the sector and help them get qualified. The BCITO's 'RCC' process caters for such people (as per the white bars in Chart 10)
- pulling all the strands together – the BCITO recognises that we can't respond to the building industry's training challenge alone, and we work as close as we can with all parts of the industry to achieve the required outcomes, including the Government (and government agencies), industry associations, other ITOs, and training providers (who, in their own right, are training another estimated 1400 students in carpentry-related programmes).

We know we are doing really rewarding work in ‘putting the pride back into builder training’, and look forward to working with the building and construction industry to that end. If you want to keep in touch, see our website www.bcito.org.nz to get further information.

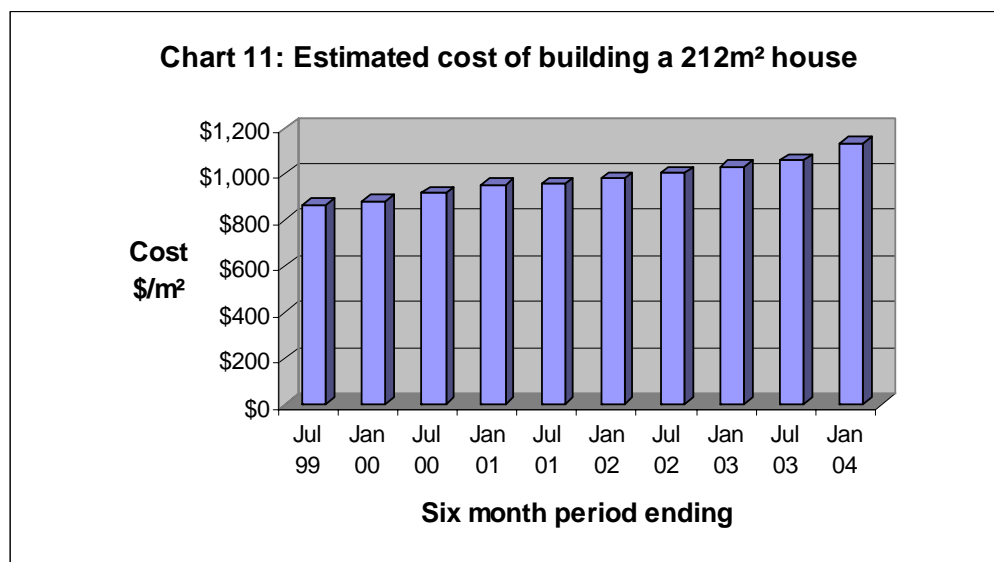
BCITO Qualifications Staircase



Increased building costs

The BIA regularly estimates building costs to help territorial authorities arrive at realistic estimated values when they review the job value provided with a consent application. The monitored parameter is the 'cost per square metre' for a range of common building types, including residential and commercial construction.⁵ Dwelling construction data taken from the latest costing information calculated for the six-month period ending January 2004 indicated the cost of building a typical dwelling with a floor area of 212 m² is \$1135 per square metre (Chart 11). This was a rise of 7 percent compared to the previous six-month period and is an annual increase of 10 percent.

The costs of construction for group houses are approximately 21 percent cheaper than speculative houses, while architecturally designed houses are approximately 20 percent more expensive. Houses with smaller floor area plans are also more expensive to build.



Over the past quarter, since these construction costs were last estimated by the BIA, there have been a number of pressures on construction costs. It is anticipated the recent changes to Building Code Clause E2 will eventually lead to a modest increase in the price of some new building construction.⁶ Against the costs illustrated in Chart 11, increases could vary from \$2 to \$25 per square metre, representing a 0.2 percent to 2.5 percent increase in building cost, depending on building type. The BIA has judged these are small costs when considered over the life of a building and against the tens of thousands of dollars required for fixing leaky building problems. An NZIER study into the cost impacts of the proposed E2 changes showed a net

⁵ The model costs are calculated by Maltby and Partners Ltd, a firm of construction cost consultants. They price from a set of authentic construction documents in order to establish a unit cost that is as accurate as possible.

⁶ NZIER has assessed the impact will vary according to the type of building involved. These range from additional costs of approximately \$500 for a simple brick house up to approximately \$5,000 (or greater depending on size) for a non-brick house requiring a drained cavity and new flashing details.

benefit of \$800 million would result from the changes over the next 25 years, largely as a result of not having to repair leaky buildings.

Statistics New Zealand Consumers Price Index data indicates prices for the purchase and construction of new dwellings rose by 1.9 percent during the June 2004 quarter. This compares to a 1.6 percent rise in the March 2004 quarter. This is the 21st consecutive quarterly increase in construction prices. In the June 2004 quarter, 69 percent of surveyed construction prices rose. This compares with 49 percent of surveyed prices in the March 2004 quarter. Respondents in the Statistics New Zealand CPI survey were asked to indicate one or more reasons for any change in their reported construction prices. Of those respondents reporting increases in the June 2004 quarter, 96 percent cited increased prices for construction components as a reason for the increase, 78 percent cited higher subcontractor charges, 66 percent cited rising costs of fittings and 65 percent cited rises in labour costs.

For the 12 months to June 2004, construction prices rose by 8.8 percent which is the largest annual increase since June 1995.

Increased cost of housing generally

The overall Consumers Price Index (CPI) recorded a 0.8 percent increase in the June 2004 quarter. This followed a 0.4 percent increase in the March 2004 quarter.

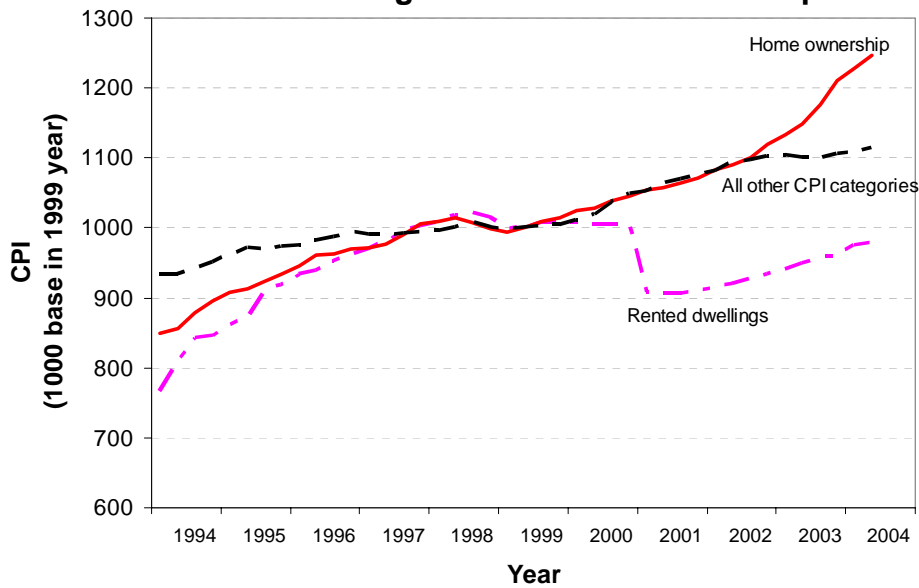
Housing was the most significant upward contribution to the overall CPI in the June 2004 quarter, contributing 3.12 index points, representing a rise of 1.4 percent (Chart 12). According to Statistics New Zealand this is the eighth consecutive quarter that housing prices have made the most significant upward contribution to the CPI and follows an increase of 1.4 percent during the March 2004 quarter. As well as increased construction prices (mentioned above) housing costs have been driven up by other increases in expenses associated with dwelling purchase, particularly real estate agents fees.

Both home ownership and the cost of rented dwellings have increased during the quarter. The total cost of home ownership increased by 1.6 percent during the June 2004 quarter. This compares with an increase of 1.4 percent during the March quarter. For the year ending 30 June 2004, home ownership costs have increased by 8.5 percent which represents the highest annual increase since 1990.

The cost of rented dwellings has increased by 0.4 percent during the June 2004 quarter. This compares with an increase of 1.4 percent during the March quarter.⁷

⁷ Note that the rented dwellings subgroup recorded a fall of 9.7 percent in March 2001. The most significant contribution to this fall came from a decrease in Housing New Zealand rentals of 48.0 percent, following the introduction of income-related rents. Since that time, rental costs have been tracking up, but at a lower rate than the costs of home ownership.

**Chart 12: Consumer Price Index
Rising Cost of Home Ownership**



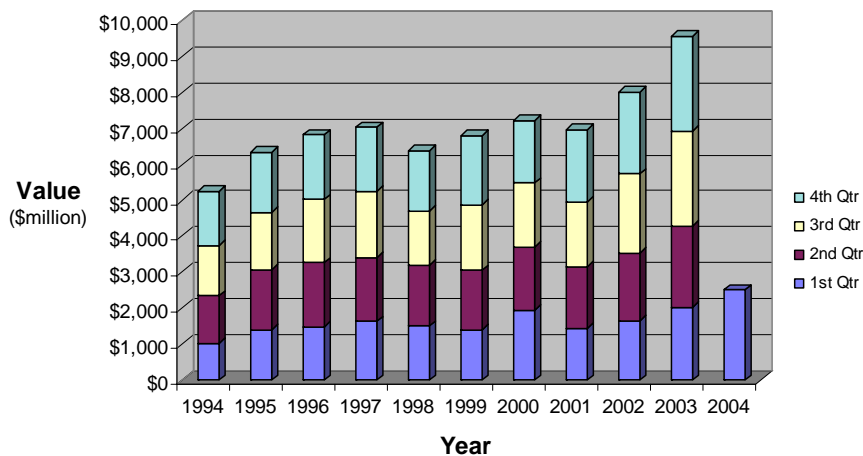
Increased value of building activity

Each quarter, Statistics New Zealand publishes data on building activity obtained by a postal survey of builders, owners and other applicants. The survey is called the Quarterly Building Activity Survey. The most recent surveys indicate the combination of a high volume of building activity and increasing building costs have contributed to a sharp increase in the total value of building work being put in place. For the 2003 calendar year, the total value of consents for all buildings was \$9.5 billion; up from \$8.0 billion when compared with 2002, an increase of 19 percent between the two years (Chart 13).⁸ The value of building activity in the three months ending March 31 2004 was \$2.5 billion, an increase of 24 percent on the figures for the March 2003 quarter.⁹

⁸ GST is not included in the figures.

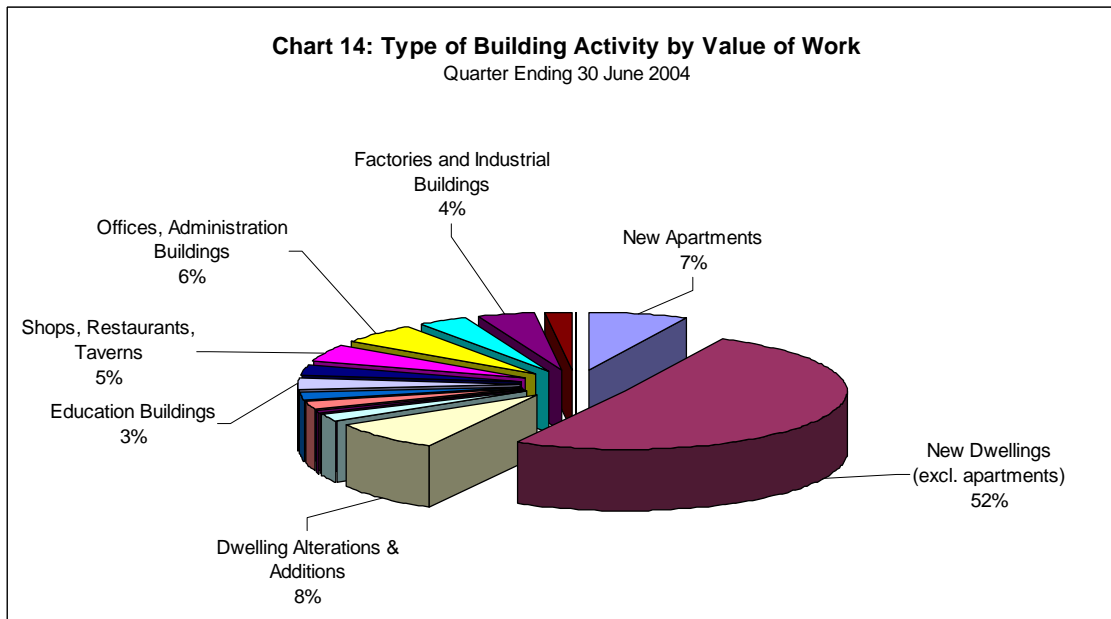
⁹ Figures for the June 2004 quarter were due to be released on 8 September 2004.

Chart 13: Total Value of Building Activity - All Buildings



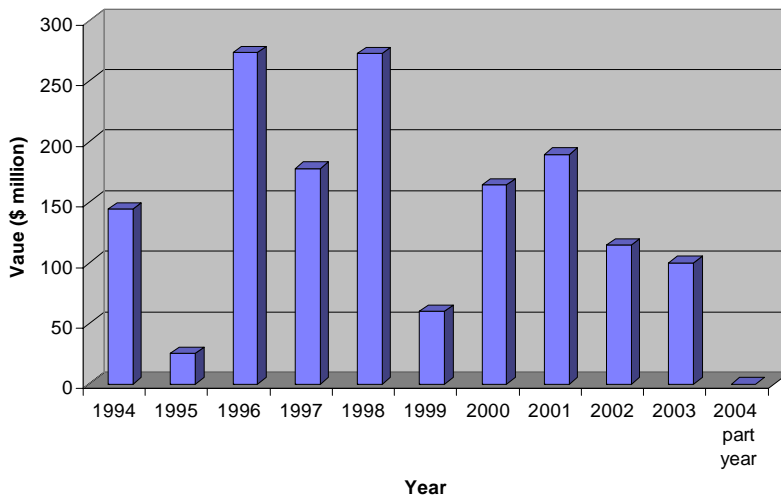
As expected from the increased number of building consents (outlined earlier in this report), residential construction dominates the total value of building work being put in place. The combination of new dwellings, apartments, and dwelling alterations and additions represent 69 percent of the value of all consents issued during the June quarter of 2004 (Chart 14). This compares with 70 percent for the March quarter. Over the past five years (since the year ending June 2000) residential building work has averaged 65 percent of the value of total construction.

Chart 14: Type of Building Activity by Value of Work
Quarter Ending 30 June 2004



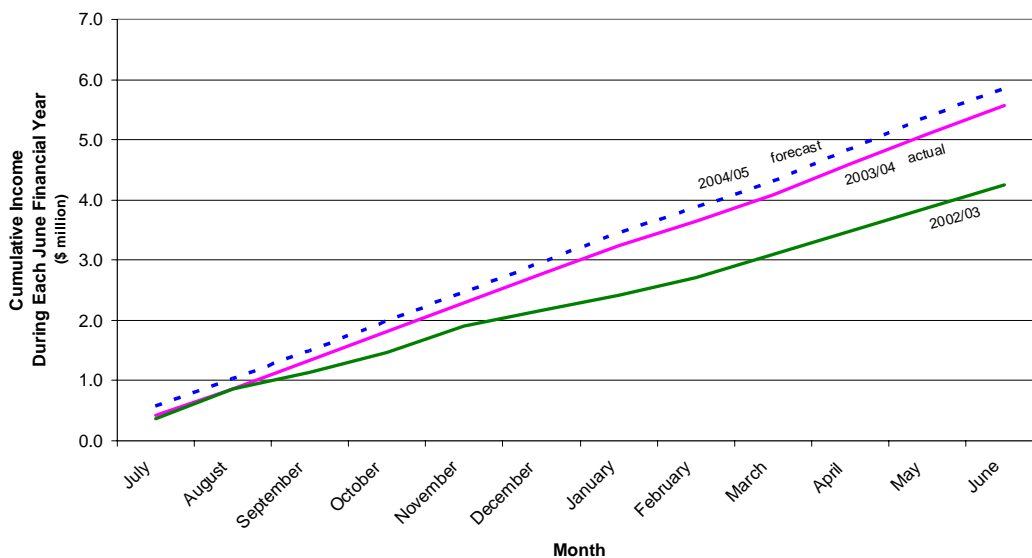
The increasing value of residential work as a proportion of total building activity is being driven by both an increase in the value of residential building consents and a decline in the value of non-residential consents. Chart 15 illustrates the decline in large non-residential consents. These are individual consents which exceed \$3 million in value and are an indicator of the volume of large commercial building activity. The most recent full year saw a further decline in these large consents from \$115 million in 2002 to \$100 million in 2003. In the first half of 2004, there have not been any large non-residential consents issued.

Chart 15: Value of large non residential consents



Another indicator of the total value of building work is building levy payments made by territorial authorities to the BIA. Building levy revenue is forecast to continue to rise as a result of the increasing value of building activity (Chart 16). Levy receipts to 30 June 2004 totalled \$5.6 million which is an increase of 31 percent on the \$4.3 million received for the 2002/03 year. Forecast levy receipts for the next financial year (2004/05), assuming continuation of the high levels of building activity through the remainder of 2004, is for a further increase by 5 percent to a total of \$5.8 million. This forecast is based on a continuing levy rate of 65c per \$100 charged on consents with a total value exceeding \$20,000 and is net of the territorial authority 3 percent commission.

Chart 16: Levy Income is Forecast to Increase



Building Quality

Two significant building quality issues confronted the industry during 2003 and have continued to be a focus during the first half of 2004. These are the widely publicised weathertightness problem and issues regarding the structural integrity of commercial buildings. Considerable progress has been made toward addressing these issues over the past nine months, particularly in regard to weathertightness.

In addition to these major issues, the industry is dealing with several other ongoing performance problems. The most notable of these being emerging concerns with medium- and high-density housing, building access and consumer protection.

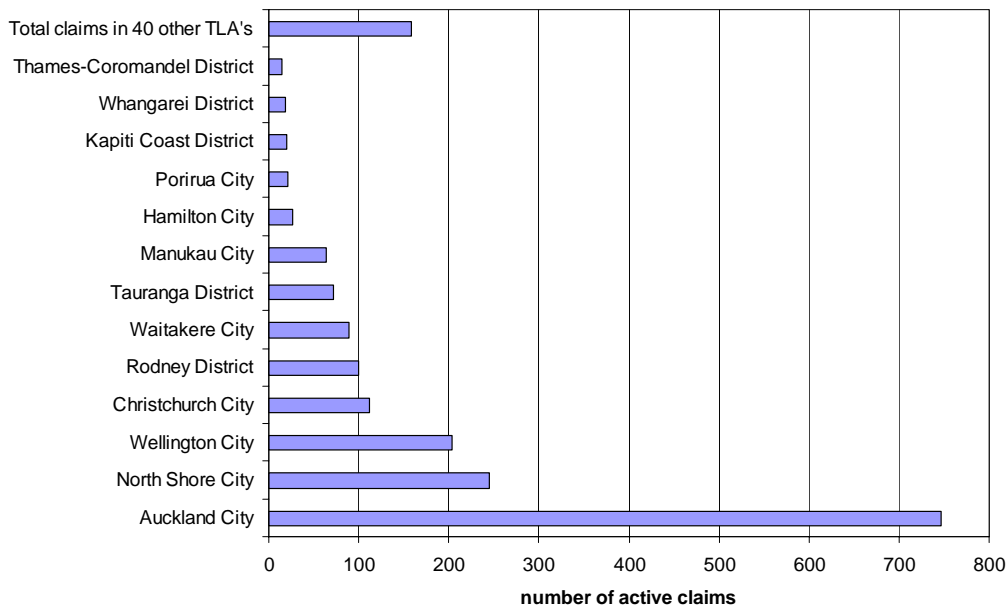
Weathertightness problem resolution

The Weathertight Homes Resolution Service (WHRS) was set up by the Government in November 2002 to help homeowners resolve disputes over leaky homes. This service is currently located in the Department of Internal Affairs. The WHRS is moving into the new Department of Building and Housing along with the BIA.

The number of claims being made to the WHRS as a result of moisture damage to buildings continues to grow. The WHRS had 1892 active claims as at 8 July 2004. This compared to 1816 active claims as at 1 April 2004.¹⁰ It is important to note that these claims have relatively limited geographic distribution (Chart 17). Notably, claims arising in Auckland City exceed claims in any other territorial authority location by three times. The total number of active claims is dominated by apartments or units (63 percent of all current claims).

¹⁰ Thirteen months previously, at 29 May 2003, the WHRS had received 727 applications from homeowners covering 1616 individual dwellings. These figures, however, are not comparable with the currently monitored 'active claims' because the WHRS has applied a different method of counting claims.

Chart 17: Weathertightness claims being resolved by WHRS
(by location of territorial authority)



To the end of June 2004, 615 of these active claims had been assessed. The assessed claims were evenly split between stand alone dwellings (54 percent of claims) and apartments or units (46 percent of claims). The assessments reveal the median remediation cost has dropped from an April estimate of \$35,000 to a June estimate of \$25,000. However, the average remediation cost has increased from an estimated \$50,000 in April to a current estimate of \$62,600. This equates to a total value of \$38 million of required remediation work across the 615 assessed claims. Assuming similar remediation costs across all currently active claims, the total value of active claims is in the vicinity of \$118 million.

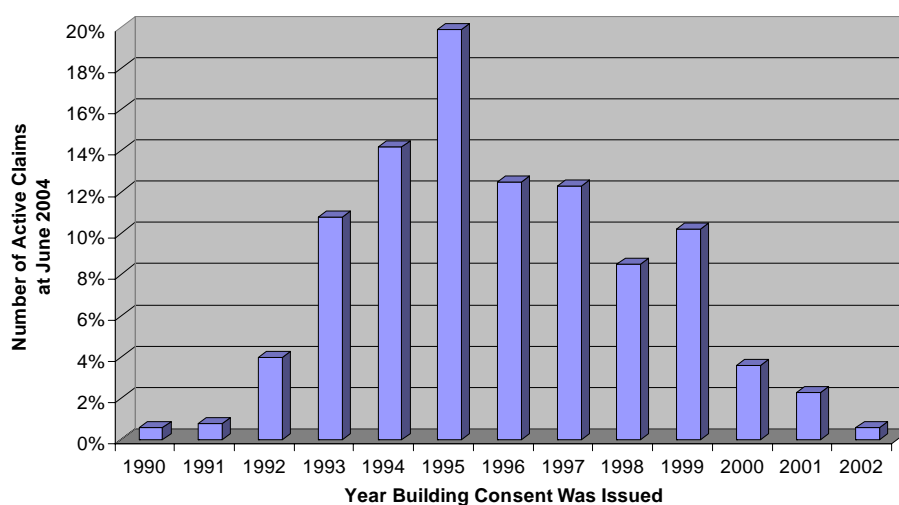
By 8 July 2004, the WHRS had completed 119 resolutions. Eighty-one of these resolutions were achieved through mediation, nine were through adjudication and 29 were resolved by other means. The mediation and adjudication processes were under way for a further 265 homeowners.

The BIA has evaluated the information collected by the WHRS assessors in an effort to understand what has caused weathertightness failures. The data shows that the leaks are most frequently associated with decks and balustrades, cap flashings, cracks in claddings, penetrations and window flashings. Risk factors associated with building design include the use of parapets, narrow eaves, complex rooflines, tall structures and high wind zones, balconies or decks that are exposed in plan, no cavities behind the cladding, and untreated framing timber with low resistance to decay when it gets wet. Various publications, advice and education have alerted the building industry to these risk factors over the past six months.

An analysis of the cladding systems involved in WHRS claims has also revealed significant results. There is a clear indication that stucco-style cladding systems have a high failure rate. Conversely brick veneer is substantially underrepresented in the WHRS data. The high risk of stucco led the BIA to amend the E2/AS1 clause of the Building Code to require a drained and ventilated cavity be installed behind all stucco systems in the future.

The BIA is continuing to track the year of building consent issue for homes exhibiting weathertightness failure.¹¹ Currently, the main period of failure appears to be the seven years from 1993 to 1999 (Chart 18). This profile of the year of building consent has not changed significantly in the past three months, although, as indicated above, WHRS assessment data is now available from 615 homes compared with 284 in April. The time that typically passes before weathertightness defects become apparent may exceed several years, so this window may extend to include higher proportions of more recently issued consents as time passes. However, it is predicted that increased industry awareness of weathertightness risk factors, changes in construction practice and changes to the B2 and E2 Clauses of the Building Code and their Approved Documents will limit the majority of these claims to buildings constructed prior to 2003/04.

Chart 18: Year of Building Consent for Active WHRS Claims



Measures to reduce moisture ingress

Changes to Building Code Clauses B2 and E2 and their Approved Documents have been made recently aimed at achieving better protection for buildings against external moisture leaks.

As mentioned above, early in 2004 the BIA amended the Acceptable Solution E2/AS1 that sets out the requirements for the way solid plaster (stucco) clad buildings should be constructed to manage external moisture. This requires the use of drained and ventilated cavities behind all stucco in houses built to the Acceptable Solution. This means if moisture penetrates the cladding, it has an opportunity to drain or dry before causing damage to timber framing.

In June 2004 new solutions were released to further address building envelope weathertightness. This involved publishing much more detail and guidance for architects, builders and building inspectors on how buildings should be designed and built to prevent leaks or to manage them if they occur. These changes represent a new risk-management approach to weathertightness protection. That is, the more 'at risk' a building is of leaking (based on a range of factors like

¹¹ The data is based on an analysis of 348 active WHRS claims assessed to 8 April 2004. The consent issuance date is available for 284 of these claims. Note the WHRS has 1600 current claims.

complexity of design and exposure to wind), the greater the protection required to stop water getting in.

The BIA has also published greater detail around the design of water protection features, included more cladding types in Acceptable Solution documents and has highlighted a need for drained cavities in a wider range of building situations.

A new testing method has also been introduced to allow cladding manufacturers to prove the weathertightness performance of their products when used as part of an overall cladding system that includes a cavity. To this end, a new Verification Method has been introduced for Clause E2 of the Building Code (E2/VM1).

These changes to E2 become effective from 1 July 2005, although it is expected many consents are already likely to be taking account of the new requirements.

Measures to reduce fungal decay

Changes to the requirements for framing timber were announced in December 2003. Higher levels of timber treatment are required in parts of buildings more at risk from leaking. This change will reduce the risk of fungal decay for timber framing elements. The first of a two-stage implementation commenced on 1 April 2004 with the changes applying to new applications for building consents. All new building work will need to comply from 31 March 2005. The BIA observes that these changes are proving complex to implement and continues to monitor the industry's transition to the new requirements.

Problems with Code compliance of monolithic buildings

Towards the end of 2003 some territorial authorities decided all forms of monolithic cladding should have a drained and ventilated cavity behind them if they were to be approved as Alternative Solutions. They began declining consents or code compliance certificates for buildings using systems without cavities.

While it is possible some homes built with monolithic cladding might not comply with the Building Code, the BIA has pointed out that blanket policies are unlawful and all buildings must be assessed for Building Code compliance on a case-by-case basis.

Councils were encouraged to apply to the BIA for formal Determinations of matters of doubt or dispute about compliance with the Building Code for buildings using monolithic cladding and no cavities. By the end of June, the BIA had received 66 applications for a Determination since the issue emerged in December 2003. To the end of June, 17 Determinations have been issued for monolithic clad houses that had been refused code compliance certificates.

Findings on these Determinations have made it clear that the absence of a drained and ventilated cavity behind a monolithic cladding does not in itself preclude a house from being Code compliant. Of the 17 Determinations processed so far, two houses were determined to be Code compliant without requiring any remedial work. In another 11 of the 17 cases examined so far, the Authority has determined that once a variety of items of non-compliance have been addressed, such as the rectification of faults identified with flashings, fixings and penetrations,

that the houses will be Code compliant. Thus, it can be concluded that monolithic claddings, even though no drainage cavity may be present, do often comply with the Building Code. However, the Authority considers these claddings will usually require ongoing maintenance to ensure continued performance, and recommends a maintenance programme be put in place after consultation with the relevant territorial authority.

Four houses from the first of these 17 Determinations were determined to be non-Code compliant. In general, this was a result of numerous defects due to poor workmanship or materials that contributed to the penetration of water. Furthermore, the design of these houses lacked any compensating factors to prevent moisture from entering the buildings.

Work to address potential structural weaknesses

An open letter by John Scarry, a structural engineer, published in early 2003 raised questions about standards of engineering practice in New Zealand. His concerns related to a broad range of design and construction deficiencies in commercial buildings rather than housing. Many of the shortfalls he noted would be most evident during severe earthquake loading.

Two subsequent investigations, by the BIA and the Institute of Professional Engineers (IPENZ), were undertaken into these matters. The BIA commissioned a technical report, prepared by engineering firm Sinclair Knight Merz, which pinpointed a number of practices that are the subject of research. Work is ongoing to establish the performance of precast concrete floor installations since the introduction of hollow-core flooring. This includes research into the performance of precast concrete floors, slender walls, use of cold worked steel, and the performance of diaphragms.

Late last year the BIA, through the Association of Consulting Engineers of New Zealand, called for people to advise of instances of concern regarding performance of Grade 500E steel, and in particular if there had been breakages due to mishandling. The result was that very few responses were received.

Research into the properties of reinforcing steel has also been conducted. The first round of testing of Grade 500E reinforcing steel has shown that both local and imported steels generally comply with New Zealand Standards, but there are issues regarding identification and some non-compliance of imported steels. Designers, fabricators and constructors are advised to take special care in handling this material, and to be sure to check and verify the source of the steel and that it conforms with New Zealand standards.

Work with Standards New Zealand has improved the quality of guidance information on design and structural issues and addressed deficiencies that exist in current Standards governing concrete design. In June, the BIA released proposed changes to Verification Method B1/VM1 Structure. The proposals cited the recent amendments to the concrete structures standard (NZS 3101) and the concrete construction standard (NZS 3109). The scope of these standards has been expanded to respond to the aforementioned concerns about the performance of hollow-core floors and of Grade 500E reinforcing steel. NZS 3109 now gives effect to BIA warnings about the need for care in handling, welding and bending of reinforcing steel. NZS 3101 covers changes to reinforcement and changes to hollow-core precast floor requirements. Two alternative designs for using hollow core units in floor slab systems now replace the previously

recommended designs and take account of recent research and testing at the University of Canterbury.

John Gardiner, Deputy Chief Executive. IPENZ-Engineers New Zealand

For those in the engineering profession involved in the building and construction sector the current period is best categorised as one of full order books and turmoil.

The degree of economic buoyancy in the general economy is placing considerable demands on the professional engineering sector. In a sector which generally has two states – either ‘boom’ or ‘bust’ – it is the former which prevails. Unlike some boom periods of the past, this one does seem to have a clear end. The nation’s infrastructure gap is going to create a considerable workload for a few years to come. This is positive but managing the demand is going to take collective effort by the sector, clients and the Government.

It does present an opportunity, however, for the sector to become more strategic in its approach to the management of workload. This also involves the client (including the Government as a client) in improving the procurement methodologies. Many sector problems are caused by the price-driven tendering mechanisms focused on individual projects. This leads to neither good life cycle cost nor quality outcomes. We need to move more towards value-based selection.

There are serious concerns that delivering the necessary work will be constrained by skills shortages. These shortages cover most trade and professional occupational groups. The causes of these shortages are numerous and complex. Among them are an under-valuation by society in building and construction careers, emigration of skilled personnel and ineffective training and education programmes and schemes. While some of these are now improving with changed policies the time lag required for new fully trained personnel to enter the workforce is some 5 to 10 years.

Overlaid on these ‘full order books’ is turmoil driven by:

1. the transition from the professional engineers registration regime of the 1924 Registered Engineers Act to the new Chartered Professional Engineers Act 2002
2. the continuing fall out from the weathertightness and John Scarry Open Letter issues
3. the prospect of a new building regulatory regime which will change a lot of the way that building and construction work is managed, and associated changes to the business risks that arise from regulatory structures
4. the increasing activism by some local authorities in their role as building consent authorities leading to divergent approaches being taken by them in that role.

It is hoped that the new Building Act has effective and seamless implementation allowing the profession to get on with serving its clients and the public with high-quality buildings, structures and their associated systems.

Other building performance issues

Health and safety

Health and safety concerns have emerged concerning the handling of timber treated with light organic solvent preservatives (LOSP). In response, a number of construction industry

organisations¹² have developed guidelines to safely handle LOSP-treated timber. The guidelines recommend construction workers only work with treated timber after the solvent has dried, and that workers should wear protective goggles and a P1 respirator when power-sawing or machining treated timber.

Best-practice guidelines are also being developed by the Timber Preservation Council to ensure solvent-damp timber is properly dried off before entering the market. The BIA has offered to assist with promulgation of LOSP information.

High-density housing

There has been a substantial rate of new apartment unit construction during recent years and in particular during the past several quarters (Chart 6). As well as apartments becoming a significant proportion of new dwelling units, there has been a trend towards smaller floor area designs. Several territorial authorities, including Auckland and Wellington have publicly expressed concerns at trends toward smaller apartment sizes in their areas. Auckland City, for instance, had indicated that it will not approve building consent applications for apartment-style accommodation where the floor area of the apartment is less than 30 m² or where natural light is not considered to be adequate. In the event of a dispute, applicants were being advised by territorial authority officials to seek a Determination from the BIA.

The BIA has recently received two applications to determine matters related to high-density accommodation. One involves the adequacy of laundry facilities in an accommodation complex. The other is regarding a single means of escape in a high-rise apartment complex.

The Building Code does not directly address the issue of apartment size. However, it does cover a number of areas relevant to the apartment issue such as noise transfer between units, levels of natural light, awareness of the outside environment, personal hygiene and ventilation. The dominant view internationally is that a well-designed small apartment can provide adequate levels of amenity. Size is therefore not necessarily the best criterion by which to judge amenity.

There can, however, be a link between size and amenity. Consequently, the BIA commissioned a study to identify the issues related to high-density housing in inner city Auckland.¹³ That work was completed in April 2004 and identified a range of issues for ongoing consideration including noise, ventilation, interior environment, natural light, safety and security, building management, hygiene and accessibility. The study noted that rubbish and recycling, parking, laundering, balcony and room size, and food preparation were issues concerning apartment occupants. Overall, the study found the nature of the country's housing market had changed significantly due to recent changes in urban development. It found one of the reasons high-density housing had arisen was to meet the need to accommodate urban population growth, while keeping the impact on the environment to a minimum.

¹² Occupational Safety and Health, Registered Master Builders Federation, Certified Builders New Zealand, Site Safe, Building and Construction Industry Training Organisation, Building Industry Federation, Timber Preservation Council and the BIA.

¹³ The study was carried out by Auckland Uniservices Limited.

Some of the issues associated with high-density apartment construction had already been identified by the BIA and were being addressed. New issues are now being assessed for inclusion in future Building Code development.

Fire safety

The trend towards increasing apartment construction has highlighted a number of fire safety issues surrounding building design. Work is under way to highlight new international fire safety guidelines with building officials. The BIA recently published a reminder for developers, designers, territorial authorities and building certifiers of the need to be rigorous in their approach to the design of multi-storey buildings where the design involves only one means of escape. The BIA is aware of a trend toward this type of building driven by the desire to maximise tenable space on smaller building sites.

Airborne and impact sound

A number of changes have been proposed for Building Code Clause G6 Airborne and Impact Sound and its Approved Document that address some of the issues highlighted in the high-density housing study. For example, noise transmission is proposed to be controlled through the building as a whole and no longer restricted to wall, floor and ceiling elements. Noise subjected to control includes that received by a household unit from normal and reasonable activities occurring in other occupancies. Additional noise sources are also included, such as noise from building services, building features and systems, creaking of floors, and transient noise such as closing of doors. Protection from environmental sound is also proposed in certain circumstances.

Determinations

During the past six months, in addition to the more than 60 applications lodged for the Determination of monolithic cladding construction, there have been five other applications lodged with the BIA for determination. These determinations were in relation to:

- the need for an accessible counter in a bank
- the fixing of weather board cladding
- laundry facilities in an accommodation complex
- floor levels
- adequacy of a single means of escape in high-rise accommodation.

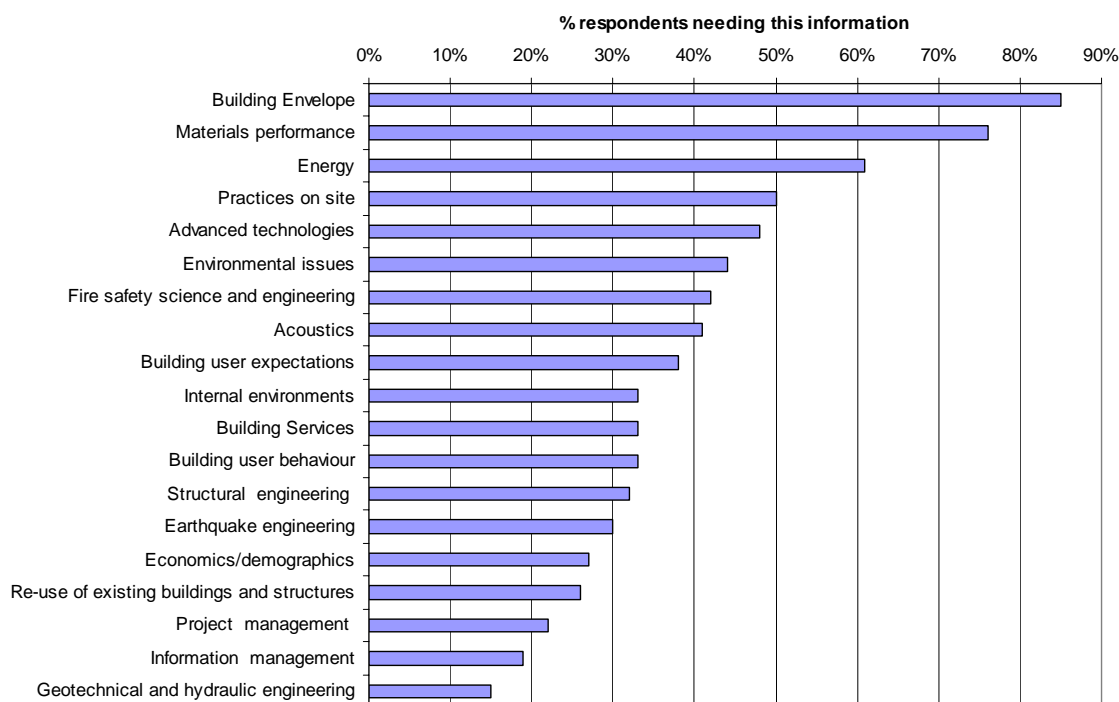
Apart from the Code compliance of monolithic claddings and the high-density housing issues already outlined, these applications cover a range of different issues and do not reveal any new widespread performance or regulatory concerns.

Industry information needs

Each year BRANZ conducts a needs survey to identify building industry views of areas where new information is needed (Chart 19).¹⁴ This year's results show a continuing high need for further information on building envelope and material performance (weathertightness) issues.¹⁵ BRANZ suggest this reflects the extent to which the industry now recognises it has a major problem. A rise in the need for information related to environmental issues continues a slow trend over the past few years.

To improve the availability of information to industry about weathertightness, the BIA has produced a range of new guidance material. This includes an introductory guide to external moisture and Acceptable Solution E2/AS1. Guidelines outlining Critical requirements for the assessment of 'monolithic' claddings have also been developed to support the assessment processes and decision-making of building officials and certifiers.¹⁶ The BIA and BRANZ have also partnered to present a joint nationwide seminar series covering the amendments to Acceptable Solution E2/AS1 and how to make buildings weathertight. This seminar series is expected to attract between 2500 and 3000 attendees.

Chart 19: Information Requirements (General Topics)



¹⁴ This year's BRANZ survey reached 181 industry participants, including designers, builders, subcontractors, manufacturers and building owners and had a response rate of 36 percent.

¹⁵ Note that the survey was completed before the release of the proposals for a revised B2.

¹⁶ This guide was developed in conjunction with industry groups and the Building Officials Institute of New Zealand (BOINZ).

Wayne Sharman, Construction Industry Development Manager, BRANZ

There has been (and is increasingly) more and more need for the industry to understand an increasing number of standards, more complex regulations, and to produce more complex buildings. This is the way of technology and is not new, I recall my chemistry lecturer years ago telling us that the quantity of scientific information in our field was doubling every year. Although we now have wonderful electronic ways of moving information around, our reading speed and understanding has not been similarly increased!

In its annual mail-out industry survey for the last three years the Association has asked about the way those being surveyed prefer to receive their information. In the case of BRANZ information, the majority preferred printed material, followed by seminars and material downloadable through the Web.

The Association currently invests of the order of \$2 million per year on behalf of the industry in information transfer activities ie, such things as bulletins, *BUILD*, good practice guides, seminars, an advisory service, the website etc, and there are many others in the industry who also invest heavily in producing information for it. With this in mind, the Association is asking for expressions of interests from a selection of tenders to investigate learning styles in the building and construction sector. The intent is to use the results of this study to target information in the most effective way, to optimise information uptake by the industry.

The study should be completed towards the end of next year.

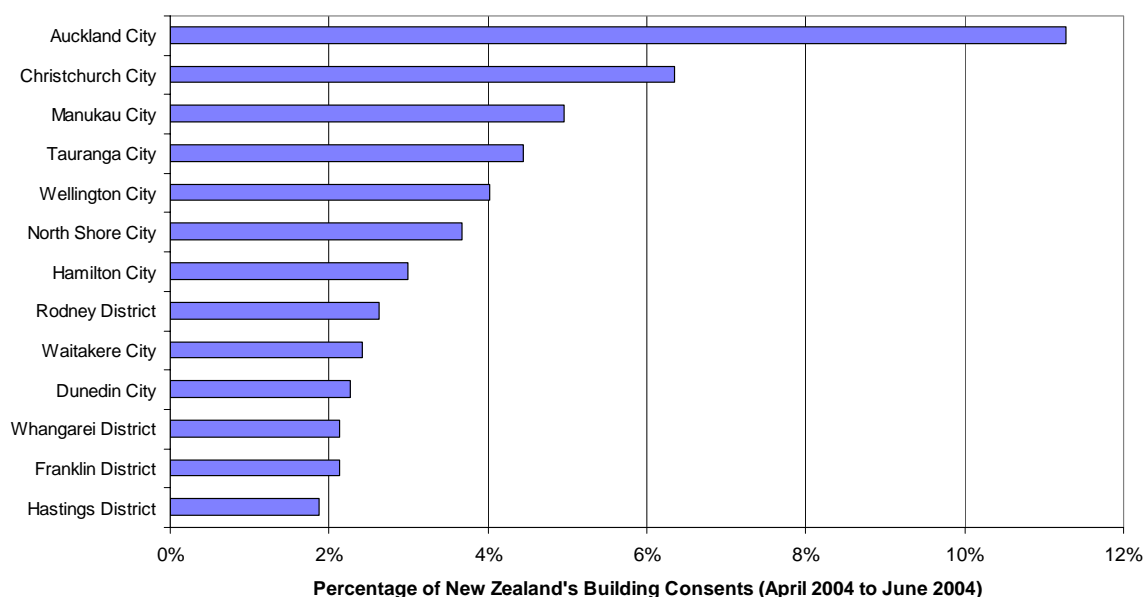
Building Regulation

The predominant role of the BIA as the central regulator is to set the framework for building compliance through maintaining the Building Code, and communicating its requirements and monitoring its implementation. The territorial authorities and building certifiers apply this framework and their performance is critical to the success of the building control system.

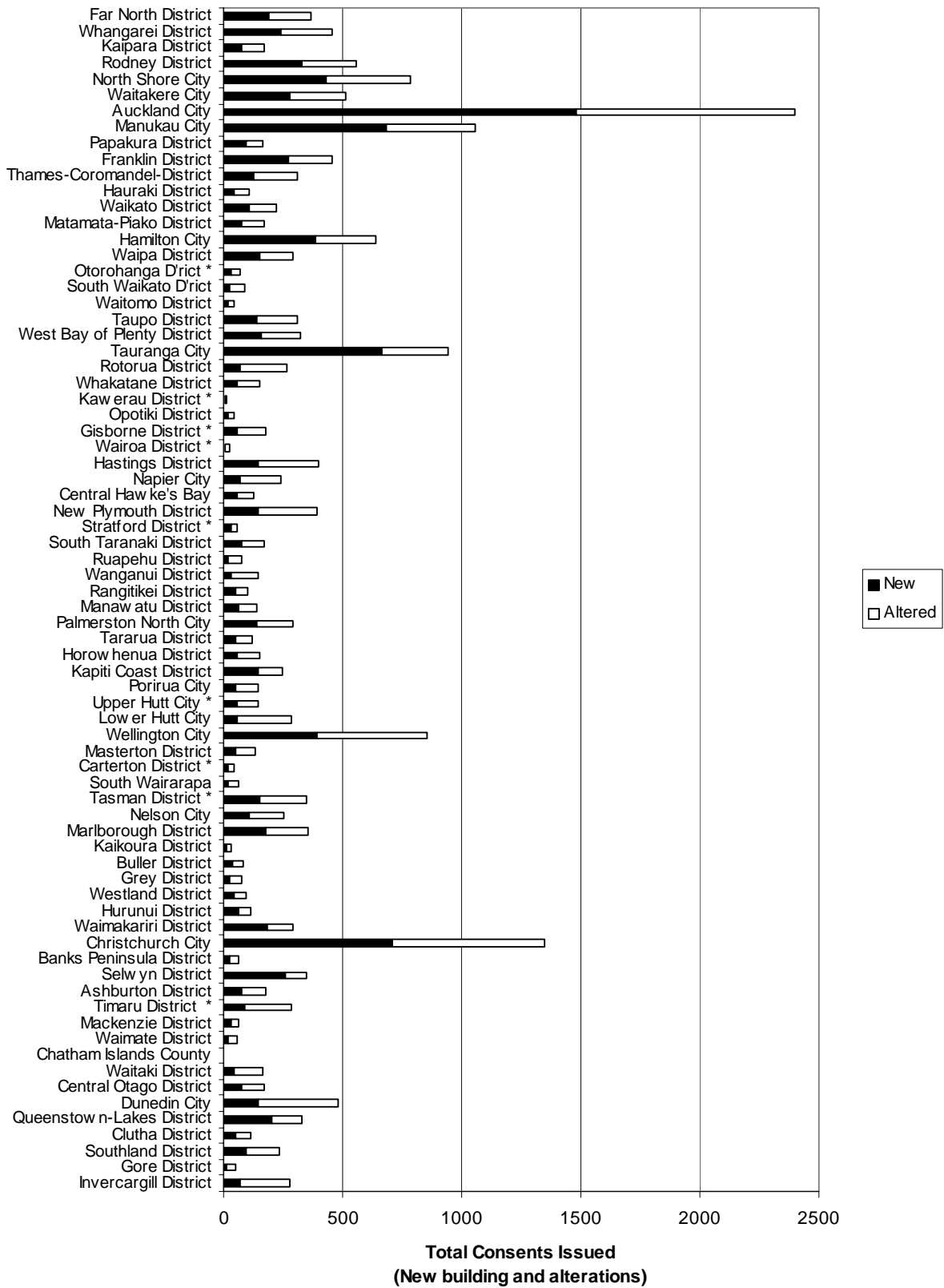
Volume of building regulation work

The bulk of building regulation activity is undertaken by only a small proportion of territorial authorities and building certifiers. Chart 21 (total consents issued during the June 2004 quarter, by territorial authority), Chart 20 (proportion of total consents processed by the top 13 TAs during the June 2004 quarter) and Chart 22 (volume of work processed by private building certifiers) reveal that 15 to 20 of the approximately 100 regulatory agencies process more than half of the building consent activity in New Zealand. This work is mainly distributed among the territorial authorities and certifiers that service the metropolitan areas of Auckland, Hamilton, Tauranga, Wellington and Christchurch (Chart 20).

**Chart 20: The 13 Territorial Authorities
That Process 50% of New Zealand's Building Consents**



**Chart 21: Total Consents Issued During April/May/June 2004
by Territorial Authority**



Graham Rowe, General Manager, BRANZ Information Services

BRANZ Ltd has a capability to gauge the degree of product innovation, receptiveness to education, new information and regulations and perceptions of how various sector groups are behaving and responding to a variety of drivers.

Building industry performance may be considered by the degree of product development activity, sales of consultancy services, numbers and types of publication sales, a plethora of contacts with the industry at all levels, the willingness to attend training functions, feedback from helplines that serve the public and industry, feedback responses from literally thousands of businesses and individuals who utilise our services, advertisers, and readers of our publications and magazine BUILD.

Key industry trends have in the main revolved around changing legislation. Manufacturers and some other sector groups have been distracted somewhat by high levels of building activity, and this distraction has resulted in a reduced awareness and some confusion in what the changes mean. Many, however, are accepting the need for training in the new regulations and ongoing training to maintain professional competence. The need for additional formal training, and a questioning of the role of training institutions to produce appropriate undergraduate curricula have also been topics of discussion.

One very important and pervading topic for discussion has been the behaviour of territorial authorities. The requirements that have been imposed on the industry by TAs have been inconsistent, and at times needlessly onerous, counter-intuitive and sometimes illogical. Their decisions have caused considerable angst for designers, builders and homeowners alike.

BRANZ Ltd is reconsidering the ways in which it does its business, aiming to become more customer-focused. Ways of extending and enhancing our consultancy services, appraisals service, the manner in which our education programmes are presented and extending the range of topics taught through our Construction Industry Training Enterprise (CITE) are being revisited. A significant number of publications have been or are being reviewed in an ongoing programme to ensure the industry is able to access current information.

Territorial authority and certifier performance

One function of the BIA is to review the performance of territorial authorities and building certifiers. Fourteen territorial authorities and building certifiers have been reviewed during the 12-month period July 2003 to June 2004. Collectively, these 14 organisations process approximately 70 percent of New Zealand's building consents.

During these reviews, the BIA has conducted a comprehensive assessment of the TA's/certifier's building control functions. This includes assessing the performance of their legislative functions and also wider aspects of building control without which the legislative requirements cannot be met. Each review is spread across a six- to nine-month period and involves initial on-site assessment, an interim report, a follow-up review, and a final technical report. The reviews conducted to date have highlighted a number of performance issues confronting territorial authorities and certifiers.

Shortage of skilled staff

Just as the overall building industry is facing a shortage of skilled staff, the building control industry is facing a similar issue. The average age of building inspectors is estimated to be 55 years.¹⁷ Technical reviews indicate most TAs and certifiers face similar issues in respect of an ageing workforce, accelerating numbers of retirements, difficulty in recruiting suitably skilled staff and difficulty retaining staff. In the larger metropolitan areas, the BIA reviews have noted it is common for staff to transfer between TAs which can create staff retention problems.

It has been encouraging to see some territorial authorities investing in substantial in-house professional development. However, there is an identified need for more training courses in various aspects of building control. Unfortunately, at the present time there are very few courses or seminars available. Some organisations such as the Barrier Free Trust and several consultants offer limited industry training; however, they do not provide comprehensive coverage of industry training needs. The BIA is currently developing options for industry training and education and is taking account of these issues.

Mixed weathertightness focus

In the Auckland region, weathertightness compliance is now a key building control focus. Some Auckland region local authorities and building certifiers were able to avoid the recent high-profile Code compliance problems associated with weathertightness by introducing their own policies some time ago requiring drained cavity systems behind monolithic cladding systems.

Outside of Auckland, however, many local authorities and building certifiers still do not appear to have as high an appreciation of weathertightness issues or the urgency with which these problems need to be tackled. There is a low awareness of the requirements for weathertightness compliance in some of these other locations.

However, as covered elsewhere in this report, work across a range of fronts has improved weathertightness compliance in recent months. This work has included Building Code amendments, improved guidance documentation, Determinations, seminars and training, and work with territorial authorities and certifiers to help them develop better policies and procedures. As a result, it seems likely that future technical reviews will find improving weathertightness compliance.

Accessibility compliance is poor

The BIA places a strong emphasis on compliance with Building Act requirements that address building access for people with disabilities. Nationally, the level of accessibility compliance appears consistently low. One of the reasons for poor compliance is a lack of knowledge among building officials of what is required to meet the accessibility requirements of the Building Act. The BIA continues to provide technical advice to the industry on a case-by-case basis and to make Determinations relating to accessibility. The work of the Barrier Free New Zealand Trust

¹⁷ BOINZ 2003 industry survey result.

continues to provide valuable ongoing accessibility training to the industry and the BIA has been directing TA and building certifier staff to this training.

Alternative Solutions

In all of the TAs and building certifiers reviewed there have been problems highlighted in the process of assessing Alternative Solutions. A recent guidance document published by the BIA addressing monolithic cladding systems has touched on Alternative Solution assessment. This is assisting building officials to improve their performance in the weathertightness area. Work is also under way in the development of the BOINZ Code of Practice to introduce more general Alternative Solution assessment guidelines.

Mixed quality of Producer Statements

There is a heavy reliance placed on Producer Statements by the building control industry. While some TAs have formal policies and procedures in place, others do not have satisfactory Producer Statement acceptance regimes. Most building certifiers generally have these in place because they have been required to do so in their quality assurance manuals. The BIA continues to work with specific TAs where it is recognised they have weaknesses in this area. Publications are also being prepared to help highlight this issue and provide some direction to the regulatory building control and engineering design industry.

John Buchan, Christchurch City Council

Christchurch City Council has seen an increase in building activity during the June 2004 year. Overall building consent numbers rose by 2.4 percent. Within these figures dwelling units increased by 8 percent from the previous year. The creation of new subdivisions has continued at a fast pace.

Industrial and commercial work has also been increasing and the value of commercial industrial work consented in May, June and July was well ahead of the same months in 2003.

During the year the problems of weathertightness have been highlighted with proposed changes to the Building Act being a response and part of a range of measures to solve the problem.

Industry is aware of the problem and manufacturers have introduced better systems and products to improve the performance of buildings. Inspectors report that builders have adopted the new methods, and use of wraps and flashings around openings has increased markedly and is much better understood.

The education initiatives by the BIA and BRANZ have helped the whole industry to understand the issues. Training and education about the new Building Bill and changes to the Building Code will be essential in the next year. Territorial authority staff will need additional training to ensure a smooth transition to the new building regime.

Building Code waivers

Section 34(4)(a) of the Building Act states that a TA may grant a building consent which is subject to certain conditions. This power has traditionally been used infrequently by territorial authorities with nine waivers being issued during the three-month period January to March 2004. However, this has increased to 31 waivers issued during the June quarter (Table 6).

The June quarter figures are remarkable in that Clutha District Council has notified 21 of the 31 waivers issued during the period. These 21 all involved Code Clause B2 being waived in relation to second-hand solid fuel heater installations. The BIA is discussing this issue with Clutha District Council.

Table 6: Building Code waivers

| | B2 Durability | C3 Spread of fire | F4 Safety from falling | G6 Airborne and impact sound | G7 Natural light | Total |
|-------------------|-------------------------|-----------------------------|----------------------------------|----------------------------------------|----------------------------|--------------|
| Clutha District | 21 | | | | | 21 |
| Napier City | | 3 | | | | 3 |
| Manukau City | | 1 | | | | 1 |
| Auckland City | | 2 | | | | 2 |
| Rodney District | | | 2 | | | 2 |
| Tauranga District | | | | 1 | | 1 |
| Wellington City | | | | | 1 | 1 |
| Total | 21 | 6 | 2 | 1 | 1 | 31 |

The April to June figure of 31 waivers compares to a long-term average¹⁸ of approximately 30 waivers per quarter, approximately a third of which are usually issued to Code Clause C3. Once again, C3 waivers feature prominently in the June quarter figures.

A common situation leading to a C3 Code waiver is where a building is close to a boundary which requires walls on or close to the boundary to be fire-rated to prevent spread of fire. Where these boundaries are beside public parks or rights of way, or other areas which are not going to be built on, the territorial authority often waives the fire rating requirements. Sometimes, though, the title is also marked so that, in the event of any building being erected on the adjacent area, the waiver could be withdrawn. C3 waivers are also sometimes granted for car parks in apartment buildings. Where each car park has a unit title, the Building Code requires a fire wall

¹⁸ Refer to *BIA News* no. 132 for a 19-month summary of the Code Clause waivers that were notified to the BIA to March 2002.

between adjacent parks. Generally this requirement is waived by territorial authorities on the condition that nothing, other than a vehicle, is stored in the park.

The BIA continues to monitor territorial authorities' use of Code waivers to determine whether to highlight any problem with the Building Code or other performance issues. There are plans to amend the Code to address issues that recent waiver patterns have highlighted.

Rosemary Killip, Building Officials Institute of NZ

The Building Officials Institute represents over 700 building inspectors, private certifiers and consultants nationwide. Our members are at the coalface of regulation and compliance. We see how the industry performs or underperforms. Developers, owners, designers and tradespeople don't like being told what they can and can't do, but that is our job – to enforce the rules on the industry on behalf of the BIA.

Building officials are having to apply more rigour, and become more robust in their processes. We will be saying 'no' more often. It is very busy out there – consents are up, the market is still hot, that pace is fast, but market forces and lowest cost works against full compliance.

What our members have noticed.

- Owners are ignorant and ill-informed about their legal obligations.
- The standard of drawing and documentation for building consents is poor.
- Architects and designers do not own a set of the NZBC and Approved Documents and refer to non-specific requirements.
- There is a lack of skills on site, even amongst currently registered trades.
- The building inspector or certifier is expected to be the Clerk of Works which we are not.
- We need the support of local government at all levels to implement change.
- The lack of a national qualification for building officials over the past decade has not helped. Until last year no tertiary providers were interested in providing qualifications for our part of the industry.
- Recruitment in our industry is a problem, as it is in all sectors of building.

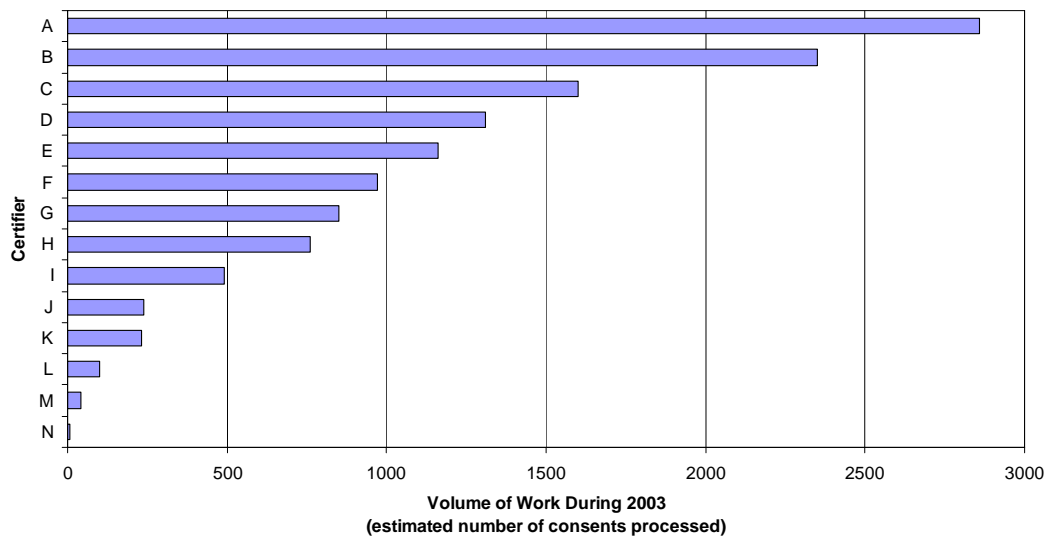
The trend at present is to provide more prescriptive solutions so everyone knows where they stand. The performance-based Building Code has allowed designers to be innovative, the trades to substitute product and market forces to rule above compliance – it has failed to deliver. It will take a long time to turn this situation around so compliance comes out on top. We need to work together with the regulator and the industry to perform better for the public.

Certifier industry activity

Approximately 120 people are employed in the private building certification industry. There is a concentration of capacity in the Auckland region, Wellington, Bay of Plenty and Canterbury regions, although other locations are also serviced.

Chart 22 provides an overview of the volume of work undertaken by the 14 ‘active’ private building certifiers during 2003.¹⁹ Five of these organisations process more than 1000 consents per year which is equivalent to the volume of work undertaken by mid-sized TAs. Private building certifiers themselves estimate that since the inception of the scheme in the mid-1990s until the end of 2003, they have issued approximately 60,000 building certificates, including 40,000 Code compliance certificates.²⁰ During the past three years, private building certifiers have processed approximately 17 percent of all building consents in New Zealand.²¹

Chart 22: Volume of work Processed by Building Certifiers
(for the 14 currently active certifiers)



Over the past six months, three certifiers have indicated they are exiting the industry and will not be seeking renewal of their building certifier approvals. Another person holding both a building certifier approval as an individual and acting as a signatory in a corporate certifier has not renewed their individual approval. No new applications have been received by the BIA during this period.

Certifier technical competence satisfactory

In general, the reviews of private building certifiers continue to show that most certifiers demonstrate satisfactory compliance with their duties under the Building Act, with the exception of two poorly performing certifiers. Although a systematic comparison is difficult, the level of overall certifier technical capability compares favourably with the capability identified in recent

¹⁹ These figures are estimated from information collected during the BIA’s Technical Reviews and other interactions with certifiers. Note that the consent is actually issued by a territorial authority on the basis of a building certificate provided by the building certifier. These consent figures are inclusive in TA consent volumes, not additional to them.

²⁰ ‘Building certificates’ in this context are taken to include code compliance certificates and other documents issued to certify that any items of building work comply with specified provisions of the Building Code.

²¹ Statistics New Zealand data indicates that 63,451 building consents were issued in New Zealand during 2001, 70,015 during 2002, and 75,217 during 2003. The BIA estimates that the proportion of these consents processed by certifiers in this period was 16 percent during 2001, 18 percent during 2002 and 17 percent during 2003.

reviews of TAs. There are, however, exceptions to this general observation, with some common performance problems being observed across many certifiers.

Technical Reviews have revealed general problems at the interface between certifiers and TAs. These problems appear to have at least two causes.

- Competitive pressures.
- Perceptions of risk and possible legal liability by TAs if they become drawn into ‘partnership’ in some types of certifier activity.²²

These tensions create problems that affect the continuity and timeliness of consenting, inspection and certification processes. Customers can experience inconvenience, delay and costs because inspection functions have been split or shared between certifiers and TAs. This can happen for a number of reasons. For example, if the certifier is:

- only engaged to perform some but not all inspection functions
- not approved to certify a particular aspect of a building project (eg, their scope has been restricted by the BIA because they lack the skills or experience)
- required to hand over their functions to the TA because of an inability to complete work.²³

Complaints against private building certifiers

Five complaints about the activities of four certifiers have been received in the six-month period from January to June 2004. The rate of complaints is in line with the long-term average of approximately 10 complaints against private certifiers received each year. The complaints made over the past six months cover a variety of issues, including:

- failure to obtain consents
- undertaking inspections on unconsented building work
- failure to carry out inspections before issuing CCCs
- failure to follow the quality manual
- failure to address fire safety requirements of the Building Code
- a complaint that the certifier is unable to meet an award of damages made against them by the WHRS.

Significantly, only three of the 20 certifiers feature prominently in complaint statistics over the past two years. The majority of certifiers have not been the subject of any formal complaints to BIA staff during that period.

²² For example, scope restrictions, applied to certifiers by the BIA for technical or insurance reasons can result in certifiers and territorial authorities both needing to complete parts of the consenting, inspection and certification activities of a building.

²³ Section 57 of the Building Act requires a building certifier to notify the territorial authority if the building certifier becomes or expects to become unable to inspect all or any items for any reason. On receiving notification, the territorial authority must make such inspections and issue such notices to rectify as it considers necessary.

Certifier insurance

The BIA's biggest current concern with certifiers is with the approved insurance scheme and the level of protection available to consumers from it. If a certifier is found to be negligent in its performance and has caused a loss to the homeowner then the certifier must accept legal liability on the same basis as a TA had it undertaken the building control work. While TAs have the mechanisms to cover damages awarded (effectively from their rating base), certifiers do not have these mechanisms. The Building Act addresses this risk by requiring the BIA to approve a scheme of insurance.

The current scheme specifies this insurance must include retroactive indemnity which applies to claims first made during the period of insurance in respect of all certificates issued within a prior period of 10 years of the date of commencement of the cover and forward cover for 10 years if the certifier ceases operation. The BIA has expressed the view that these objectives should continue to be met. It considers that in light of the importance of the statutory functions that certifiers exercise under the Building Act when issuing building certificates and code compliance certificates, it is not appropriate to lower the standard of the objectives for any future scheme of insurance.

Issues that emerged late in 2003 and early 2004 highlighted problems in certifiers' insurance cover. These caused the BIA to initiate a formal review of the insurance scheme by PricewaterhouseCoopers (PWC) which commenced in March 2004. That review is now in the final stages of completion.

While the Authority is aware that various provisions affecting certifiers in the new Building Act will take effect early in 2005, any changes the Authority considers to the scheme of insurance in the context of the current review will be within the Authority's power under the Building Act 1991 to approve a 'scheme of insurance'. Resolution of these issues is expected to occur over the next several months.