

1H 2014

INFRASTRUCTURE

AND BUILDINGS CONSTRUCTION SURVEY

Sentine 1

NEW ZEALAND

INTHIS ISSUE

Where is investment expected to increase?

What will drive this investment?

What have we learnt from the rebuild process so far?

How is the industry's approach to procurement changing?

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THE REVIEW

Sentiment is on the rise in New Zealand's buildings and infrastructure industry. More investor confidence is evident and several regions have seen a lift in optimism, while anticipation in Christchurch remains high but appears to have plateaued.

These findings align with other recent measures that indicate elevated levels of confidence in the wider business community, as well as strengthening fundamentals such as high migration. Realising these opportunities in the economy will depend on tackling the key constraints of capacity and affordability, such as the recent Budget measures that seek to alleviate industry challenges in the infrastructure and housing markets.

Generally, respondents are more upbeat about future prospects, particularly in the buildings market, where optimism jumped from 53 to 89 percent of respondents expecting increased investment, driven by interest in retail, tourism and residential developments. In the infrastructure market, 72 percent expect rising workloads, mainly in land development, transport and water projects.

Key challenges for the industry in catering to this rising investment interest include skills and materials shortages, as well as cost escalation. In Canterbury, where sentiment has cooled slightly, the industry is also grappling with funding certainty and the need for greater decisiveness to build momentum. However, with more promising developments, such as the recently released Public Sector Rebuild Programme of Work, the industry will be better equipped to manage the risks that such a huge undertaking presents, and can work together to achieve the best outcomes for the city.

Workload expectations trend



Note: Industry sentiment in the buildings market has been surveyed since 2010, while the infrastructure market and the Hamilton region have been tracked since 2012. Here the trend in net workload expectations is shown quarterly over this period.

KEY INDICATORS

WORKLOAD AND INVESTMENT EXPECTATIONS

Infrastructure market optimism lifts

72%

72 percent expect more work in the infrastructure delivery market over the next three years Ongoing investment in roads

61%

61 percent expect growth in road transport projects over the next three years Buildings outlook solid

89%

89 percent expect increased investment in the buildings market over the next 12 months, up from 53 percent six months ago Residential momentum picks up

66%

66 percent expect to see further uplift in residential development over the next 12 months

INDUSTRY DRIVERS AND BARRIERS Rebuild ambitions moderate

44%

44 percent of Canterbury respondents support an ambitious approach to the rebuild, down from 57 percent in our previous survey Rebuild labour costs increase

72%

72 percent of respondents expect Canterbury labour costs to increase by over 5 percent in the next three years Skills and materials biggest challenge

40%

40 percent of respondents identified skills and materials shortages as a key challenge for the industry Sustainability considerations low

19%

Only 19 percent believe sustainability is given a high level of consideration in investment planning

INFRASTRUCTURE MARKET

EXPENDITURE AND WORKLOAD EXPECTATIONS

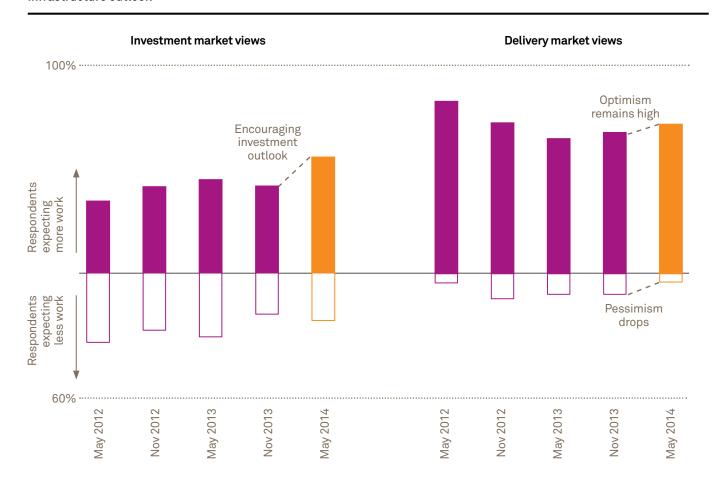
There is a strengthening outlook across the board in the infrastructure market.

The investment market in infrastructure saw a promising jump in sentiment, with 56 percent now expecting an increase in infrastructure spending over the next three years – up from 42 percent in our November 2013 survey.

Consultants and contractors in the delivery market have reported solid infrastructure workloads; 82 percent of respondents saw a steady or increasing amount of work on their books over the last 12 months.

The outlook for the infrastructure delivery market remains promising with a considerable proportion (72 percent) expecting more projects over the next three years, up from 68 percent in our last survey.

Infrastructure outlook



Note: These measures of improving or declining expectations represent the proportion of respondent views on market direction – not the actual anticipated change in workloads.

New Zealand Infrastructure and Buildings Construction Sentiment

1H 2014

WORKLOAD BY REGION AND SECTOR

Infrastructure work expectations improved in all regions except Canterbury, where work expectations eased slightly but remained high compared to the other regions.

The most improved infrastructure outlook was in the Central North Island, where 38 percent of respondents expect to see growth in infrastructure investment in this region over the next three years (up from 29 percent previously). This is a turnaround from our November 2013 survey, when the outlook dropped by 9 percentage points, suggesting a certain degree of sentiment volatility in this smaller market.

The progress that has been made by the Stronger Christchurch Infrastructure Rebuild Team (SCIRT) on repairing fundamental infrastructure elements in the Canterbury market would explain the slight easing in those expecting to see rising workloads. However, plenty is still to be done in transport and other types of infrastructure.

At a national level, there is ongoing work expected in roads and telecommunications as well as rising expectations for growth in the aviation and water sectors.

The ongoing optimism in the transport sector was reaffirmed by the Budget in May (which was released after respondents were surveyed). Transport was a big winner, with \$375 million earmarked to the NZ Transport Agency to accelerate Auckland transport projects. In addition to the anticipated work in Auckland, a number of other road projects are underway in other regions, such as the \$2.5 billion Wellington Northern Corridor.

The outlook in the aviation sector also strengthened in our latest Sentiment results. Positive sentiment rose by 10 percentage points, spurred on by growth plans at Auckland Airport, such as a northern runway, as well as upgrades and maintenance works in Christchurch.

Growing optimism in the water sector (up by 6 percentage points), is encouraged by increasing capital programmes in Auckland, and the number of relatively large wastewater or other water projects in the planning and/or procurement stage. This is reflected in the 12 percentage point increase in respondents (in Auckland) expecting increased investment in water compared to our November 2013 survey.

Outside of Auckland, forecast spend is still below previous years. However, optimism may be improving, albeit off a low base, as general economic growth triggers development, which in turn provides the demand and funding for water infrastructure renewals, replacement and new assets. In the Waikato, there is pressure on water take, supply and treatment for rural growth areas, which is contributing to wider discussions about how to manage the region's water resources.

Optimism may also be increasing as a result of further support from the government's Irrigation Acceleration Fund, now in its second of five years of grant funding, and from Crown Irrigation, constituted in July last year, providing for the Crown's participation in the construction and operation of off-farm irrigation infrastructure (further boosted in this year's Budget).

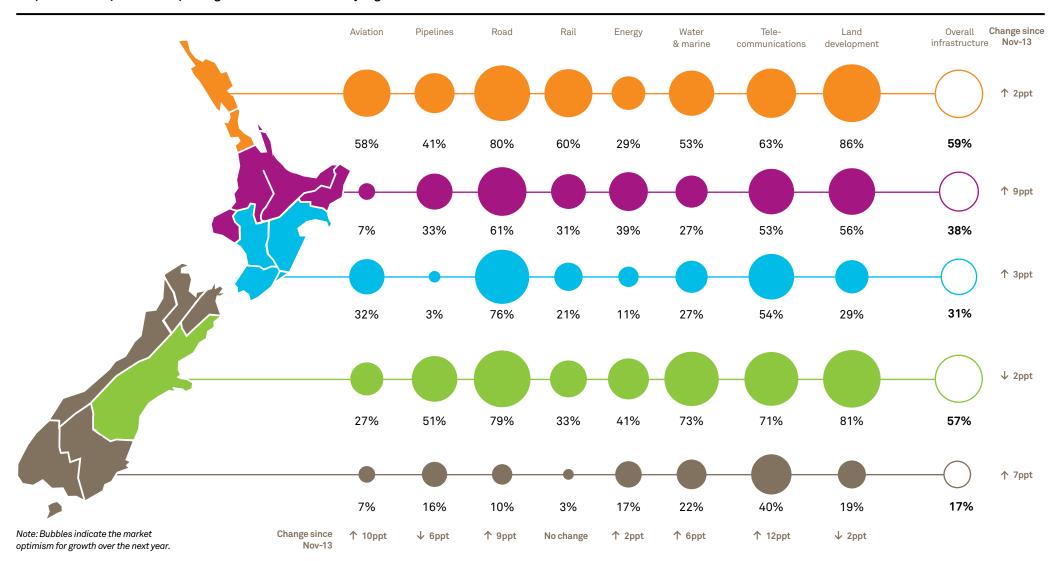
Continuing investment into infrastructure across New Zealand is recognition of it being a catalyst for businesses to grow and boost economic performance.

Mike O'Halloran
Director Transportation & Environment, AECOM

Growing capital programmes and the large number of significant wastewater and water projects out to market gives optimism, particularly in Auckland. However, our latest Sentiment results have also picked up a slight increase in the proportion of the investment market with declining expectations. Is there perhaps a growing perception that some of the programmes are more aspirational than realistic, constrained by concern over affordability?

Geoff Milsom
Director Water & Infrastructure Services, AECOM

Proportion of respondents expecting increased investment by region



BUILDINGS MARKET

EXPENDITURE AND WORKLOAD EXPECTATIONS

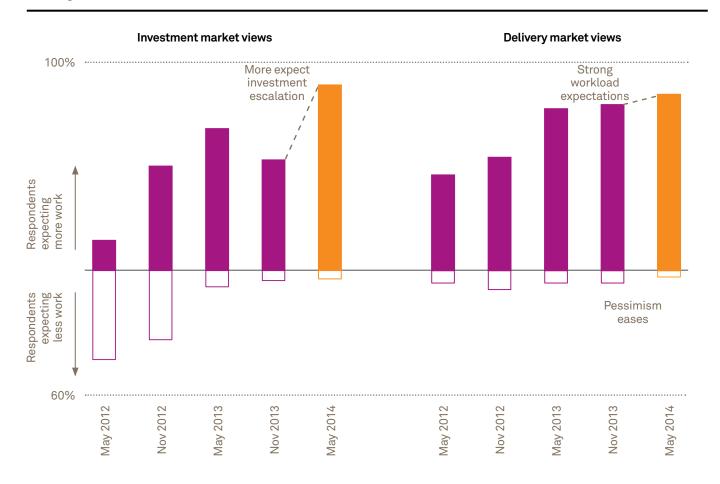
The buildings market shows a clear upturn in positive sentiment.

The most notable jump occurred in the buildings investment space, with 89 percent of developers and Government bodies investing in this sector expecting an influx of investment over the next 12 months. This is a considerable rise from our previous survey in November 2013, when 53 percent believed this was the case.

Contractors, consultants and others involved in delivering projects in the buildings sector share this optimism, with 85 percent expecting a rise in their workloads over the next 12 months, compared to 80 percent in our last survey.

Pessimism levels across both the investment and delivery markets continue to ease – indicating that more are responding to current momentum in the industry.

Buildings outlook



Note: These measures of improving or declining expectations represent the proportion of respondent views on market direction – not the actual anticipated change in workloads.

WORKLOAD BY REGION AND SECTOR

Across the North Island, sentiment has improved considerably in terms of work in the buildings industry. Following a drop in sentiment in our November 2013 survey, the Lower North Island has regained considerable ground with 50 percent of respondents now feeling optimistic about growth in the buildings industry (up from 28 percent previously).

Existing buildings remains the top nomination for growth, with 74 percent of respondents expecting to see increased investment, due in part to ongoing seismic strengthening works, addressing the nationwide leaky building issue and increasing tenant expectations regarding building quality. Despite the optimism, the economics associated with upgrading existing buildings is being challenged, with many feasibility studies concluding it is more cost effective to rebuild rather than repair.

Education is on the rise across all regions to an average of 59 percent of respondents expecting increased workloads, up from 47 percent in our November survey. With Government signalling \$858 million of new spending on education over four years, sentiment is likely to remain positive.

There was also an improvement in the outlook for other public buildings, which is currently lower down in the list in terms of growth outlook compared to other sectors. Perhaps the industry is anticipating a rise in spending in this area post-election.

Tourism and leisure spending is expected to rise as development in the sector is encouraged by increasing visitor numbers. Statistics New Zealand figures show an annual increase of 6 percent in short-term visitors, as arrivals from Indonesia and Singapore both grew more than 17 percent.

There was a lift in expectations for retail and mixed use developments. The retail sector showed particular improvement in the Central and Lower North Island, with investment expectations increasing by 20 and 29 percentage points respectively.

Confidence in the residential market remains high, with an 11 percentage point jump in those expecting to see greater investment in this sector. Demand in the housing market will be boosted by high levels of migration. In the year ended April 30, New Zealand gained a net 34,400 migrants, almost three times the average annual net inflow in the past 20 years and the highest since 2003.

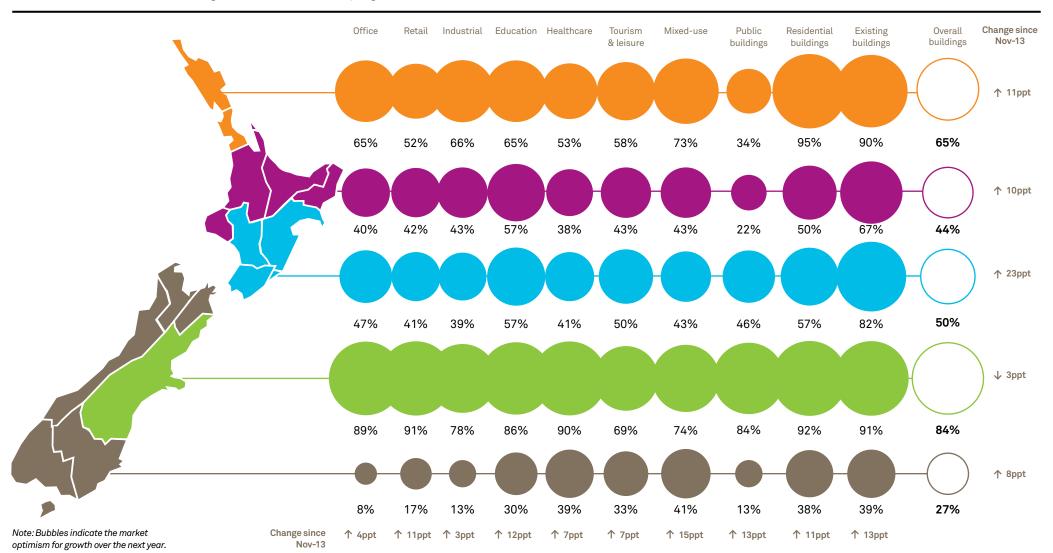
Measures in the Budget are expected to help alleviate the strain on affordability in the housing market, in addition to the Auckland Housing Accord, which has already designated 63 special housing areas to deliver an extra 33,500 dwellings. In Canterbury, it is estimated that less than 1,000 replacement or new houses have been built, with demand for more than 15,000 expected as part of the rebuild.

Statistics New Zealand building consents reaffirm these rising workloads. The value of non-residential building consents rose 13 percent to \$4.4 billion in the year ended March while the value for residential buildings gained 32 percent to \$6.9 billion.

The considerable rise in anticipated spend in the building market on both the investment and delivery sides of the market will put significant pressures on project costs and schedules. The industry needs to better leverage technology, supply chain efficiencies and smarter procurement solutions to mitigate these pressures.

Craig Davidson
Director Buildings + Places, AECOM

Proportion of respondents expecting increased investment by region



INDUSTRY SPOTLIGHT

FOCUS ON CANTERBURY

Barometer of ambition for the rebuild

Aspirations for the rebuild for the most part remain ambitious as the industry seeks to embrace the opportunities for reinvention it presents.

The results here are similar to the level of support seen in our surveys during 2013, however, there are two notable points of difference.

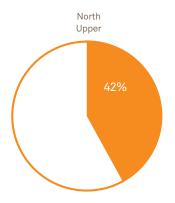
In the North Island, there is more uniform support for an ambitious rebuild, with those in favour of this rising by 15 percentage points in the Lower North Island and 12 points in North Island Central.

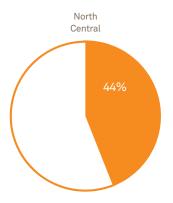
There has also been a shift in the viewpoint of Canterbury industry participants; only 44 percent of Canterbury respondents are currently in favour of an ambitious approach (down from 57 percent in November 2013). This reflects growing concerns about cost escalation, timeframes and the availability of resources in the region.

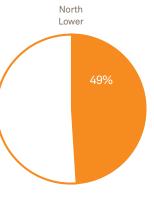
Despite these concerns, Canterbury business confidence remains high. Results from the Canterbury Employers' Chamber of Commerce April survey indicated that 90 percent of respondents are upbeat about their prospects over the next 12 months.

An ambitious Canterbury rebuild – level of support from the industry

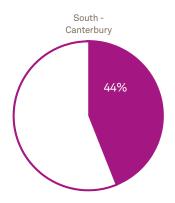
North Island

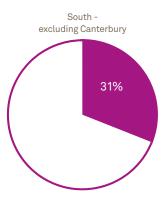






South Island





The level of Canterbury respondents committed to an ambitious rebuild has now dipped below the half-way point – indicating a growing frustration in the industry.

Canterbury Rebuild: Longer. Slower. Flatter.

Nearly half of industry respondents expect the peak of the rebuild to occur in 2016 (41 percent in Canterbury, compared to 46 percent elsewhere). Previously, more participants had expected this to occur in 2015.

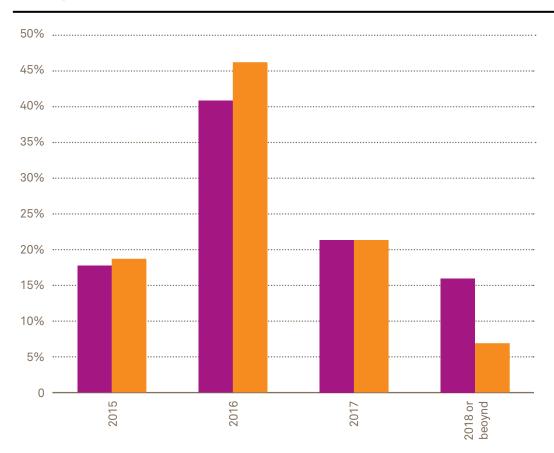
There has also been a rise in those expecting a later peak in 2017, now at 21 percent, compared to less than 10 percent in our previous survey.

Recent monthly consented works figures show a good start to 2014 in terms of projects progressing. In February 2014, we saw \$80.6 million worth of earthquake-related consents, the highest value approved in a single month since New Zealand Statistics began tracking these in September 2010. These consent figures, combined with our on-the-ground accounts, suggest some improved momentum in the central city rebuild.

Several respondents were careful to point out that an ambitious rebuild does not preclude the possibility of timely completion; "I don't accept a trade-off between quality and time. Reduced timescales can give increased quality... eg prefinished components and off site construction." This was a recurring theme within these Sentiment results; the need to look beyond old ways of working to achieve the best outcomes for the community.

The Public Sector Rebuild Programme of Work (released on 14 May 2014 after the Sentiment Survey was conducted) provides more information and transparency about the Government's rebuild intentions and planned construction activity, through to 2021. The new timeframes have provided a reality check with some projects, such as the Central Library and the Metro-Sports Facility, being pushed out from the last quarter of 2016 to mid- to late- 2017. It is worth noting that, of the \$40 billion investment planned, so far only 10-15 percent has been spent, according to a recent Deloitte analysis.

When do you expect the peak of the rebuild to occur?

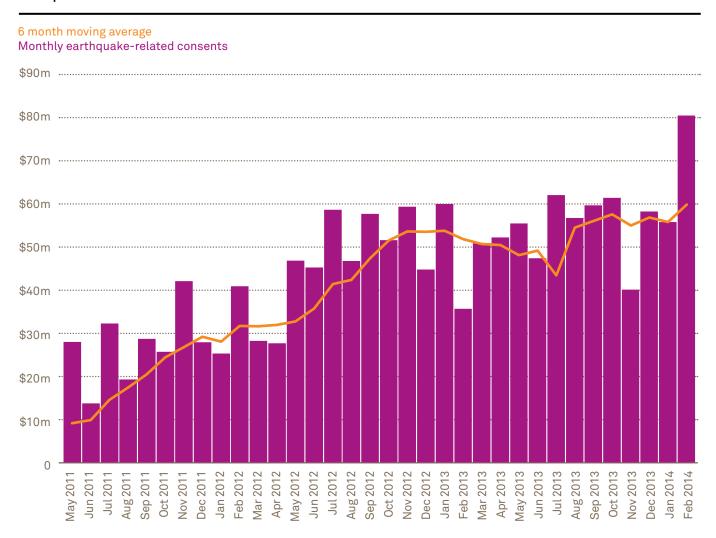


South Island - Canterbury Rest of New Zealand

The Public Sector Rebuild Programme of Work has provided much needed transparency so industry can now respond. The focus however, needs to remain on quality, so the people of Canterbury have a long term, sustainable rebuild and world-class city that is fit for the 21st Century.

Shaun Hubbard Regional Manager South Island, AECOM

Earthquake-related consents



Source: Statistics New Zealand

Rebuild challenges

We asked respondents to rate several factors in terms of their effect on the progress of the rebuild. Funding, the consenting process, and increasing costs emerged as key concerns.

In November 2013 survey respondents' top ranked concerns were regulations, the consenting process and increasing costs. Six months on, frustrations around regulations appear less of a concern for those in Canterbury, perhaps indicating the issue has been addressed.

Canterbury respondents also had a slightly different view of the top rebuild hurdles and were less focused than the rest of the industry on cost escalation, but more concerned about securing funding. Many also acknowledged the interdependency of these two issues.

In Christchurch, concerns increased about public funding, 60 percent saw this as a serious stumbling block (up from 38 percent previously). This may be related to perceptions about Christchurch City Council and a shortfall of funds, rather than a lack of commitment to projects. Significant delays in some precincts have been linked by respondents to a lack of funding, while other areas are showing more promising signs of progress, with construction work on site at the Avon River, Justice and Emergency Services precincts.

The increasing cost of development remained the top obstacle for rebuild projects (nominated by 58 percent, compared to 51 percent last survey). This is a key sticking point in getting funding approval, contracts awarded and projects completed.

Skills shortages slowing the pace of the rebuild is not seen as an immediate concern for the industry, but there was a rise in those nominating it as a worrying factor slowing the pace of the rebuild (45 percent, up from 39 percent). Anecdotal reports also suggest growing pressures on key trades. The unemployment rate in the city is also very low at 3.3 percent, which may be constraining growth.

Access to information for planning and scheduling works is another key barrier identified by industry participants. This is more of a prominent issue for those outside of Canterbury (52 percent, compared to 45 percent in Canterbury), perhaps demonstrating that those businesses who do not have an existing presence in the local market are finding it harder to understand project opportunities and timelines. An inability to plan for upcoming flows of work will also exacerbate the resourcing issue discussed earlier.



58 percent of respondents viewed increasing costs as a key hurdle for rebuild projects

There is a real opportunity to assist the industry by ensuring that internationally proven structured Programme Management methodologies are put in place as the rebuild progresses. Doing so will help ensure that we efficiently deliver capital programmes and realise the wider social, environmental and economic promises for Canterbury and the rest of New Zealand.

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Matthew Heal
Practice Area Lead – Programme Management, AECOM

Top factors slowing the pace of the rebuild Canterbury view Overall view Public funding Increasing costs Private funding Consenting process Insufficient information for planning Regulations Skills shortage

More of a rebuild barrier —

Rebuild competition and cost

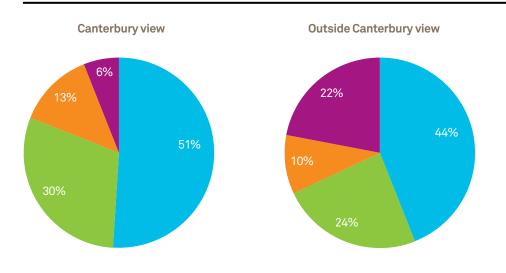
More than half of those operating in the Canterbury market have seen competition for work intensify over the last 12 months. More respondents outside the Canterbury market have also witnessed further competition to win work, 44 percent in this survey compared to 36 percent in November 2013.

As previously mentioned, cost is currently a key issue for the rebuild. In Canterbury, many have already seen costs rising, but over the next three years even more expect to see price hikes. The components of cost increases over the last 12 months, as well as what will push prices up over the next three years are summarised in the rebuild cost factors chart.

Labour is the top cost factor, while notable rises in energy and fuel costs are also expected. This issue will be most acutely felt in the Canterbury market, where 72 percent of respondents expect labour costs to increase by over 5 percent in the next 3 years. This compares to 45 percent of industry participants who expect similar rises in other labour markets across the country.

While labour and material costs are rising, the industry needs to turn its attention to ways of becoming more efficient. Technologies and new practices are part of that toolkit; the management of asset and design information enabled by Building Information Modelling (BIM) will bring efficiencies not only in the construction phase, but also across the operating life of new or existing assets.

Competition in the rebuild market



Increased competition
No change
Decreased competition
Unsure

The industry is entering a period of fantastic opportunity but we need to be aware of the market forces that could derail some projects if they become unfeasible. The recent announcement in the Budget regarding the relaxation of import duties for construction materials may have some effect on construction prices but we suspect this will be minimal.

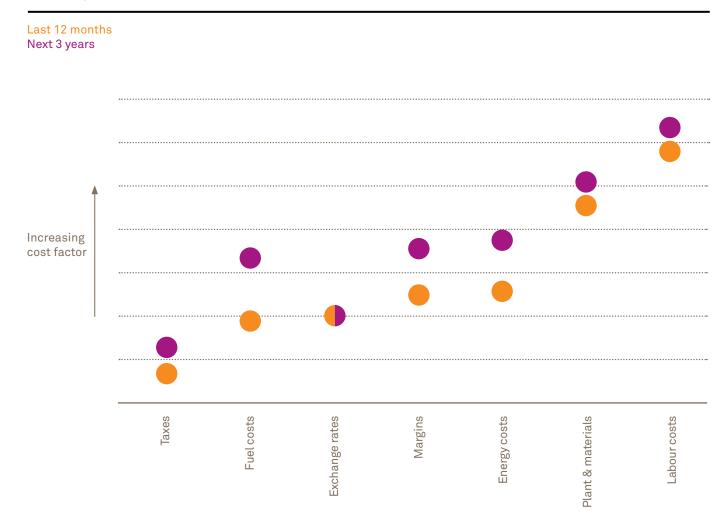
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Trevor Hipkins

New Zealand Lead – Programme, Cost, Consultancy,

Davis Langdon, an AECOM company

Canterbury rebuild cost factors



Rebuild process - taking stock

Reflecting on some of the lessons learnt so far and the key steps towards a successful rebuild, respondents had several suggestions to make about how the process could be improved.

There was a considerable amount of cross-over, with suggestions made in our previous survey, particularly around encouraging investment and having the right expertise at the helm of this monumental task.

Once again, the need for a single vision communicating decisive directions and building momentum was the top issue identified by participants (23 percent, up from 20 percent in the previous survey). This is seen as imperative to further progress and would enable "prioritisation and clear investment signals", as one respondent put it.

Calls for better programme planning increased in prominence, mentioned by 21 percent of respondents, compared to 15 percent in our November 2013 survey. Several mentioned the need for accountability and realistic timelines, while one respondent called for authorities to "adopt an outcomes-focused procurement strategy and incentivise integrated project delivery by private consortia".

Developers and building owners would achieve better and more economical outcomes through the early involvement of those involved in the delivery and operation of assets; "clients are paying significant penalties for rushed design and lack of consultation with all parties.... slow them down but partner up early".

Alongside these less hasty sentiments were comments from respondents underlining the importance of building confidence through momentum. This tension is evident in suggestions such as: "stop over planning and bloody build something".

Others called for involvement from a more diverse range of companies, as well as the necessity of local perspective. One suggested that "Central and Local Government forget their politics and work for the local community", another wanted the master plan to better engage with "the local community to address what it needs and desires".

Another significant role for authorities is to create the right kind of environment where private investors feel more confident to commit. One example of this is the need for greater "risk clarity in the new hazard spectrum". This greater understanding of risk in the rebuild landscape would also help resolve insurance issues, another crucial step towards progress on the rebuild.

In addition to these ongoing issues, there were a few new ideas mentioned in these latest Sentiment results, such as suggestions that greater practicality is required in considering where the rebuild is carried out, easing access to rebuild sites, but also a broader view of how the new CBD is unfolding, out of the traditional bounds of the old CBD.

Several respondents cautioned against a "return to old paradigms", while others called for a more inventive design path: "Canterbury is not innovative in its urban design aspiration... it is only slightly innovative in technical terms... it could be creating an exemplar new world modern garden city but instead is rebuilding an old square mile of London in the first four avenues."

Towards a successful rebuild

A single, coordinated vision (2)
Planning and procurement (4)
Provide certainty to stimulate invest (7)
Insurance resolution (1)
Manage and communicate timelines (3)
Attract a diversity of skills and players (6)

Government facilitation (5)

Pragmatism, recognise new CBD location (N/A)

Note: Previous rankings for ongoing issues are listed in brackets.

NATIONWIDE INDUSTRY CHALLENGES

While the rebuild is a central preoccupation for the industry, it is one significant part of a broader set of challenges facing the industry in the medium term.

By far the top nationwide concern for industry participants over the next few years is a shortage of appropriately skilled people to cater for the expected increase in work across the infrastructure and buildings sectors. This was identified by 40 percent of respondents.

The Government continues with its skills programmes but are we training enough people in the right sectors to address the industry's top concern? One respondent lamented that these training initiatives may take too long to produce workers when the industry needs them most: "skills training needed to start three years ago".

The interrelated issue of subsequent cost escalation, related to labour and materials costs, was also mentioned by many of these respondents. In response to this issue, many in the industry are calling for a greater sense of certainty around the scheduling of large complex projects and careful programme management.

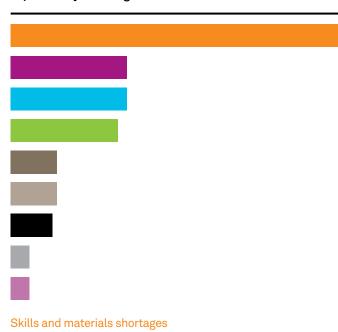
Regulatory burdens and uncertainties were identified by 14 percent, citing possible complications in Government commitments following the election in September. Some are contending with funding challenges and one respondent suggested that there is a "lack of engagement by developers with international investors".

Several respondents also questioned whether current procurement approaches, across both the public and private sectors, were ideal. A tendency towards "the lowest price wins" is expected to be exacerbated by further cost escalation.

However, others highlighted the need to carefully consider these definitions of cost on a project, such as the tension between "future proofing vs reactive projects". Project decision-makers need to consider how to implement the best measures for the entire lifecycle of an asset, while adjusting these priorities based on user expectations. Achieving this balanced approach in the design of our buildings and infrastructure will better serve the future needs of communities across the country.

In addition to increasing optimism and clear investment signals in Auckland and Christchurch, it is also encouraging to see improvement in other regions. This points to a strengthening New Zealand economy, supported by the Government's strong statement of intent for the infrastructure and buildings markets in the recent Budget.

John Bridgman
Managing Director, AECOM New Zealand



Skills and materials shortages
Governance and regulations
Cost escalation
Funding

Poor procurement
Programme management

Top industry challenges

Quality and resilience

Global financial markets
Over-confident developers

PROCUREMENT

One issue of growing significance to the industry is finding suitable approaches to procurement both in Canterbury and beyond.

Respondents were keen to point out that selecting a procurement approach very much depends upon the project type and client, but in general the industry considered Negotiated Contracts, Alliancing or Design and Construct the best value for money. Those working in Canterbury had a similar view to the rest of the country and agreed that these were the top three procurement methods.

The industry's view is relatively consistent compared to our previous survey in November 2013. Negotiated Contract and Construction Management both rose in terms of value for money ratings, from 50 to 55 percent for the former, and from 32 to 55 percent for the latter. Conventional Lump Sum dropped below the average value line in its rating by respondents.

Views remained divided on Public-Private Partnerships (PPP), but there was slightly less opposition to this form of procurement; 36 percent classified this in a lesser value rating compared to 44 percent in our November survey.

PPPs are expected to become an increasingly viable option as public sector funding becomes more constrained, both at a local and national level. The long term service contracts involved with the PPP model of procurement will cover the significant upfront capital expenditure required to get projects up and running. However, several respondents also expressed concerns about these types of projects costing taxpayers more in the long term, so transparent value-formoney scrutiny was necessary.

When we asked respondents about their preferred procurement method (rather than the most value for money method), Negotiated Contracts still emerged as the top choice for respondents.

The benefits of early contractor involvement were stressed: "allow all players to contribute in value engineering", particularly in a capacity constrained environment where flexible procurement processes were crucial for "long planning windows to secure expertise, and build capacity - get all key participants and skills committed early...and risk management, not risk avoidance".

There were two opposing trends in views of risk allocation on projects. Some felt that given signs of greater momentum in the market, the private sector was more willing to take on risk, while others believed that contractors were still being asked to take on risk. As well as bumping up prices, one respondent was concerned about how this may play out if contractors "do not have the experience to value the risk which could lead to company failures".

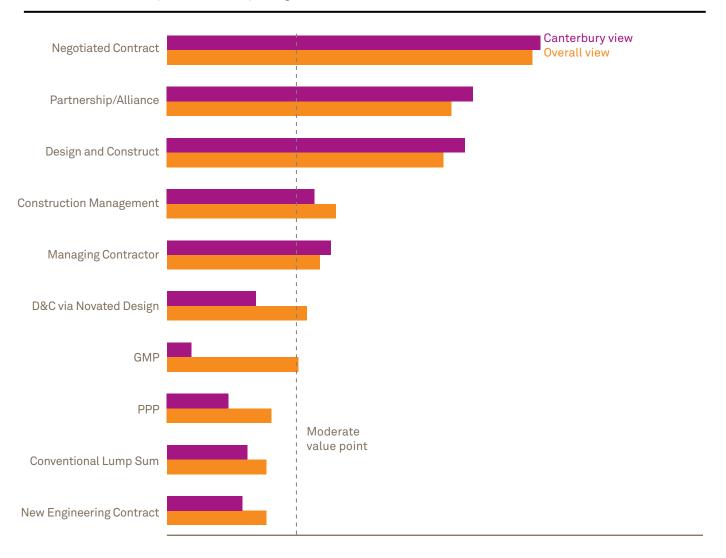


55 percent of overall respondents rated Negotiated Contracts as excellent value for money



36 percent of overall respondents rated PPPs as above average in terms of value for money

Procurement methods by value for money rating



RESILIENCE AND SUSTAINABILITY

The industry's views on how resilience and sustainability are considered in project investments demonstrate that there is much progress to be made in these areas. There was little change in this thinking compared to our survey six months ago in November 2013.

While there is a reasonable level of focus in the industry on planning for resilience in respect to the threat of natural disasters (39 percent believe that this is given a high level of consideration in investment planning), 16 percent of respondents still felt that the industry could improve its thinking in this area.

In contrast, only 19 percent of respondents believe sustainability is given a high level of consideration in project plans. Cost was still the biggest barrier to adopting sustainability measures. As one respondent noted, it is "always the first item to be culled when cost is a constraint". Others explained that the benefits need to be better demonstrated – for example, clients are not interested in a certification for the sake of it, they need to see "material benefits" such as a reduction in operating or other costs.

Others felt that strengthening commitments to sustainability would require a legislative or client imperative. Despite these hurdles, respondents have seen progress in areas such as "designers becoming more sensitive in choice of materials, methodology", "recycling, reuse, contract KPIs", and "more recycled materials being used in the construction sector nationwide".

The biggest improvement to be made is in the area of resilience in relation to the changing climate. A growing majority believe that this only garners a low level of consideration in investment planning (61 percent, up from 54 percent in our previous survey). By neglecting this area, decision makers are missing a valuable opportunity to take a more integrated and comprehensive approach to risk mitigation.

A more broadly informed investment decision process would also improve thinking around resilience. This would help incorporate resilience into earlier stages of the investment process, so it is part of a long-term view, rather than relegated as an after-thought.

This sort of resilience planning will be strengthened by governments taking the lead and partnering with other organisations. Christchurch's recent Rockefeller Foundation 100 Resilient Cities workshop, facilitated by AECOM, in partnership with Christchurch City Council, focused on sharing lessons and bringing a diverse set of stakeholders together to ensure that it is not just the city's infrastructure that improves its resilience, but also the community as a whole. This idea of learning from other cities was also suggested by one survey respondent: "Use the 1931 experience of Napier and look at the future rewards by what is happening in the area now from their forethought in the rebuild".

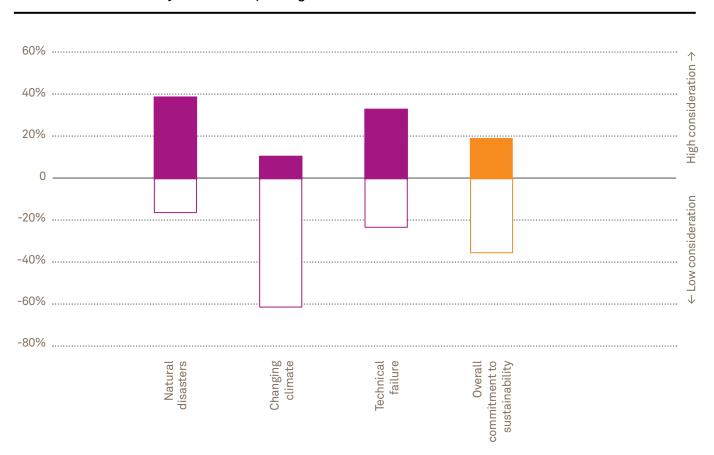
There is a real sense of renewed enthusiasm in the public sector to understand resilience. This is inherently woven into the whole concept of developing cities and looking after the communities within them in a way that carefully balances environmental, social and economic sustainability. We cannot burden our future generations with the legacy of our waste, our social disregard or our debt.

Ian Martin Regional Manager Wellington, AECOM



Only 19 percent of respondents believe sustainability is given a high level of consideration in investment planning

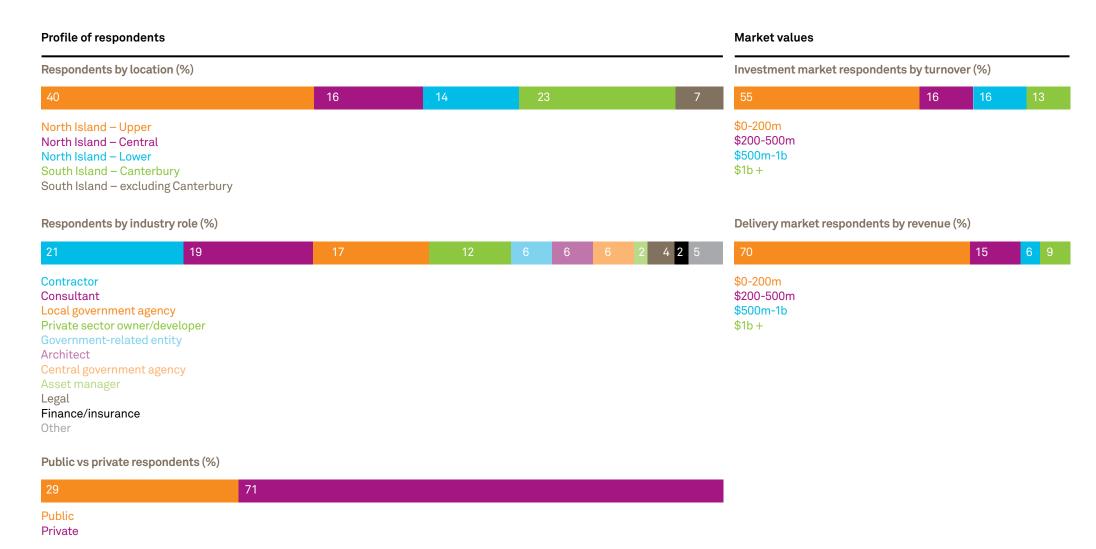
Resilience and sustainability in investment planning



Note: Figures represent the proportion of respondent views on high/low levels of consideration.

SURVEY SAMPLE – A BROAD VIEW

Survey participants are selected based on their role in the industry. Leading thinkers and decision makers are selected from the buildings and infrastructure markets.



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