

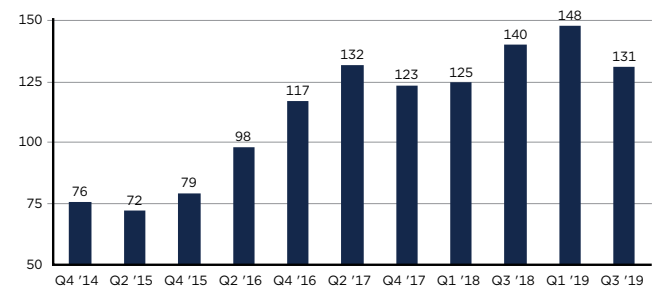


Q3 2019 RLB CRANE INDEX® HIGHLIGHTS

- Total of 131 cranes on construction sites in the major centres. (95 in Auckland, 10 in Queenstown and 9 in Christchurch).
- Q3 2019 RLB Crane Index® fell from 187 to 166 this edition.
- National fall of 17 long-term cranes with 51 additions and 68 removals
- Auckland recorded its first fall since the start of the Index in 2014
- Christchurch recorded largest fall of 9 cranes
- Residential index is holding steady, falling slightly from 255 to 245, down 4%, but still making up 41% of all long-term cranes across the entire construction sector
- The non-residential downswing was driven by cranes being removed from retail and hotel projects across the country
- Since the last edition, one of the country's largest crane companies, Tower Cranes New Zealand, entered receivership with most of their cranes sold to contractors and other operators
- The overall RLB Crane Index® has been re-indexed from the previous edition to a new base date of Q4 2015

CRANE ACTIVITY - NEW ZEALAND

NUMBER OF CRANES



Q3 2019 RLB CRANE INDEX® SUMMARY

CITIES	KEY SECTORS	
AUCKLAND	CIVIC HOTEL	
CHRISTCHURCH	CIVIL MISC.	
DUNEDIN	COMMERCIAL RECREATION	
HAMILTON	EDUCATION RESIDENTIAL	
QUEENSTOWN	HEALTH RETAIL	
TAURANGA	MISC. INCLUDES MIXED USE AND OTHER SECTOR PROJECTS	
WELLINGTON	LEGEND INCREASE IN NUMBER OF CRANES DECREASE IN NUMBER OF CRANES CRANE NUMBERS STEADY	

NEW ZEALAND

The 12th edition (Q3 2019) of the RLB Crane Index® fell 11 per cent from the record high seen in the last edition. As outlined within the report a net 17 cranes were removed from the skies around New Zealand. Total cranes across the country now number 131, down from 148 in Q1 2019.

Sixty-eight long-term cranes were removed and 51 cranes commenced on sites around the country over the past six months.

The residential sector now accounts for 41% of all cranes counted, up from 38% in the previous index.

All cities, with the exception of Hamilton, contributed to the net fall of cranes with the biggest fall in Christchurch with a net 9 cranes removed from site.

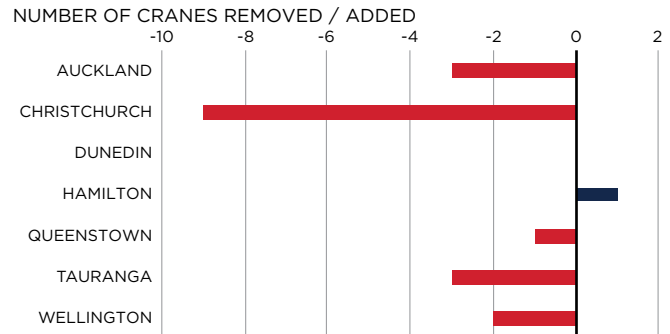
The retail sector recorded the biggest sectoral fall with 12 cranes removed from projects across Auckland (nine) and Christchurch (three).

Infrastructure spending across the country is increasing the number of long-term cranes with 22 long-term cranes now on projects around New Zealand. Auckland showcases more than 90% of New Zealand's long-term civil cranes. Key projects include Americas Cup works, upgrades of many of the wharfs around Auckland (Basin viaduct, Queen's wharf and Captain Cook wharf) and key road projects (Rosedale Bridge and new bus lane works on Auckland's North Shore, Paul Mathews Rd and works on Lower Queen St is a CRL rail project.

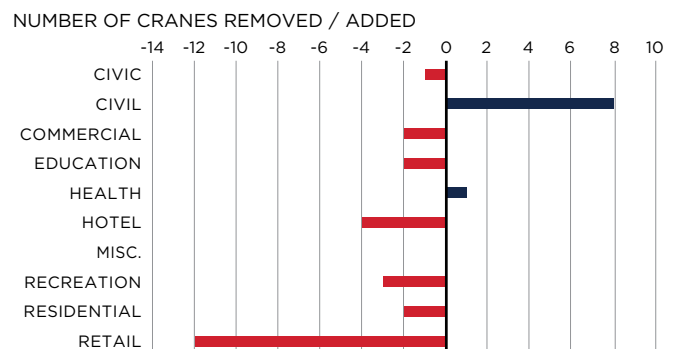
Residential cranes only dropped by two and make up 41% of all long-term cranes within the key cities across the country, highlighting the volume of apartment projects still to build.

Overall retail long-term cranes dropped significantly due to the opening of the \$750m Westfield Newmarket development, advanced progress at Commercial Bay and Sylvia Park, and the near completion of the new Ballantynes building in Christchurch. Retail cranes across the country fell from 18 cranes to 6.

NEW ZEALAND NET CRANE MOVEMENT BY CITY



NEW ZEALAND NET CRANE MOVEMENT BY SECTOR



CRANE ACTIVITY - NEW ZEALAND

	OPENING COUNT		MOVEMENT			CLOSING COUNT	
	Q1 2019	%	+	-	NET	Q3 2019	%
AUCKLAND	98	66.2%	33	-36	-3	95	72.5%
CHRISTCHURCH	18	12.2%	3	-12	-9	9	6.9%
DUNEDIN	1	0.7%	0	0	0	1	0.8%
HAMILTON	3	2.0%	3	-2	1	4	3.1%
QUEENSTOWN	11	7.4%	7	-8	-1	10	7.6%
TAURANGA	9	6.1%	2	-5	-3	6	4.6%
WELLINGTON	8	5.4%	3	-5	-2	6	4.6%
TOTAL	148	100.0%	51	-68	-17	131	100.0%

CRANE ACTIVITY - NEW ZEALAND BY SECTOR

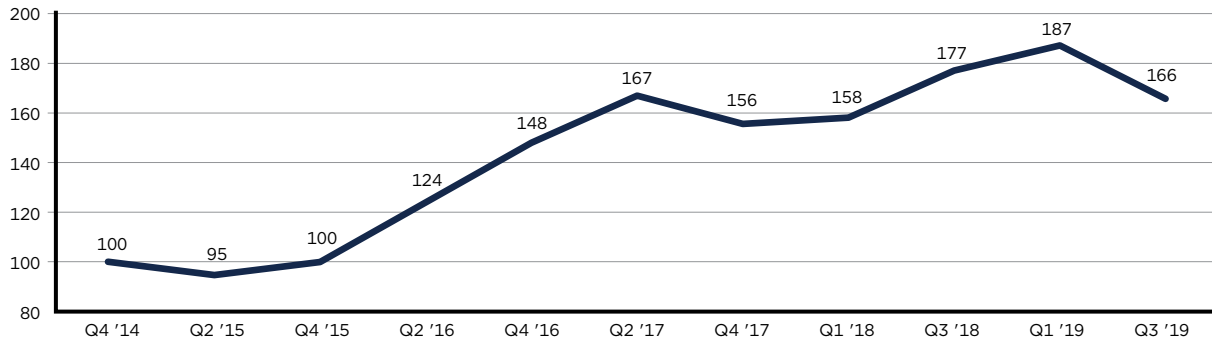
	OPENING COUNT		MOVEMENT			CLOSING COUNT	
	Q1 2019	%	+	-	NET	Q3 2019	%
CIVIC	8	5.4%	2	-3	-1	7	5.3%
CIVIL	14	9.5%	12	-4	8	22	16.8%
COMMERCIAL	23	15.5%	9	-11	-2	21	16.0%
EDUCATION	3	2.0%	0	-2	-2	1	0.8%
HEALTH	1	0.7%	1	0	1	2	1.5%
HOTEL	14	9.5%	6	-10	-4	10	7.6%
MISC.	6	4.1%	4	-4	0	6	4.6%
RECREATION	5	3.4%	0	-3	-3	2	1.5%
RESIDENTIAL	56	37.8%	16	-18	-2	54	41.2%
RETAIL	18	12.2%	1	-13	-12	6	4.6%
TOTAL	148	100.0%	51	-68	-17	131	100.0%

NEW ZEALAND

The New Zealand RLB Crane Index® recorded its first fall in four editions. The index fell 21 points from 187 to 166. Since the low of 95 in Q2 15, the index has risen by 75%.

RLB CRANE INDEX® - NEW ZEALAND

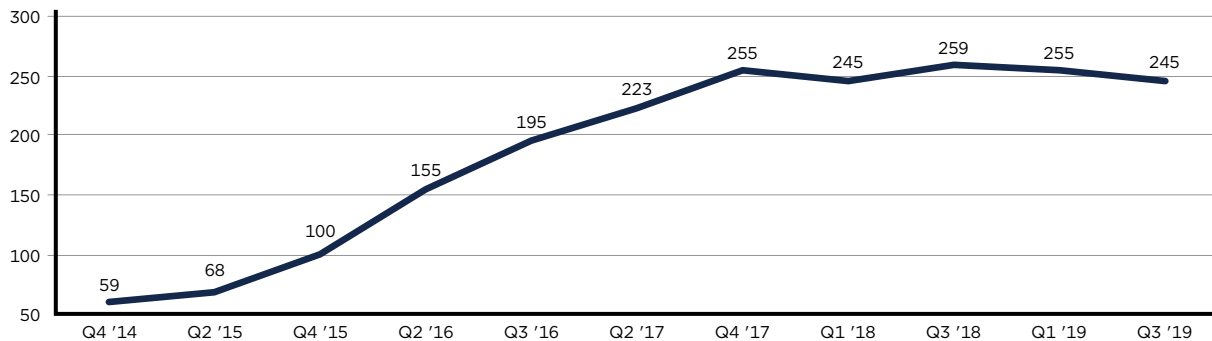
BASE: Q4 2015 = 100



The residential index has been steadily growing since Q4 2014 but has appeared to plateau with the past five editions maintaining values within a small band of between 245 to 259. This reflects the importance of the sector in providing necessary dwellings within New Zealand due to strong migration and population growth over the period.

NEW ZEALAND - RESIDENTIAL CRANE INDEX

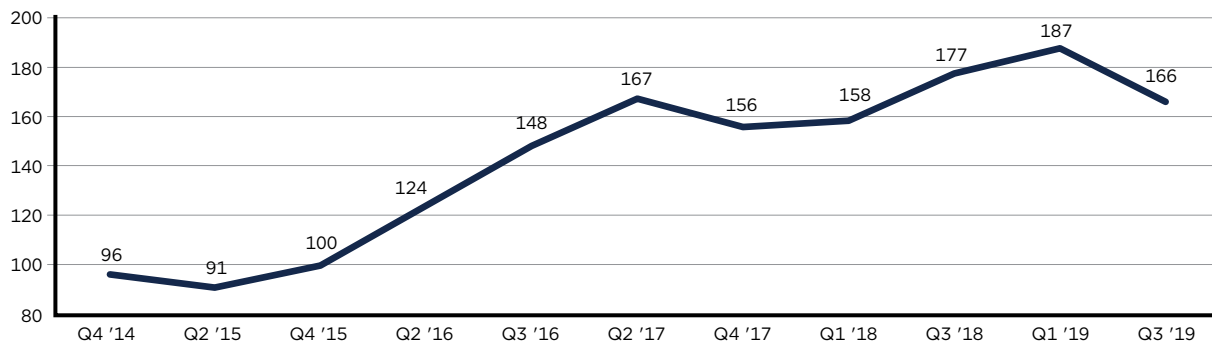
BASE: Q4 2015 = 100



The non-residential index has had significant growth since Q4 2014, but has suffered an 11% fall this edition. The retail sector with the significant progress and completion of a number of key projects was not offset by the rise in civil numbers. The hotel and recreation sectors also contributed to the drop in the non-residential index with long-term cranes being removed. The hotel sector remains very active with 7 cranes removed and three new cranes commencing on new hotel projects in Auckland.

NEW ZEALAND - NON-RESIDENTIAL CRANE INDEX

BASE: Q4 2015 = 100



AUCKLAND

Auckland's RLB Crane Index® fell by 3% for the first time ending the long running upward trend since the inception of the index. The Q3 2019 index fell from 297 to 288, representing a net fall of 3 cranes

The decrease of three cranes across Auckland was a result of 33 new long-term cranes and 36 removed bringing the region's total to 95 cranes. Almost 100% of cranes removed from sites across Auckland were positioned on new sites which highlights the ongoing buoyancy within the market.

The drop in crane numbers for the first time is in contrast to the volume of work put in place in Auckland for the twelve months to June 2019. Total volume grew 20% from the previous 12 months, now totalling \$10.1b. Increases were seen in both the residential and non-residential sectors, with increases in work of 16% and 28% respectively.

The pipeline of new projects continues to be strong in Auckland, with the value of new and altered building consents rising by 10% for the twelve months to June 2019, to \$9.2b. Consents for both residential and non-residential increased with 11% and 9% respectively.

Residential cranes remain at just under 50% of the 95 cranes across Auckland with 46 long-term cranes in residential projects across the city. Increases in crane numbers were seen within the commercial sector (three), health sector (one) and the civil sector (nine).

Within the civil infrastructure sector there has been strong growth during the period with eleven new cranes placed, four for the Americas Cup (2021) wharfs and bases, two at the SH1 widening, busway and bridge works in Rosedale, the Ferry Terminal at Downtown and the Ameti busway, with a single crane



KEY SECTORS

CIVIC	↔
CIVIL	↕
COMMERCIAL	↕
EDUCATION	↗
HEALTH	↕
HOTEL	↗
MISC.	↗
RESIDENTIAL	↔
RETAIL	↗

MISC. INCLUDES MIXED USE AND OTHER SECTOR PROJECTS

OVERALL STATUS

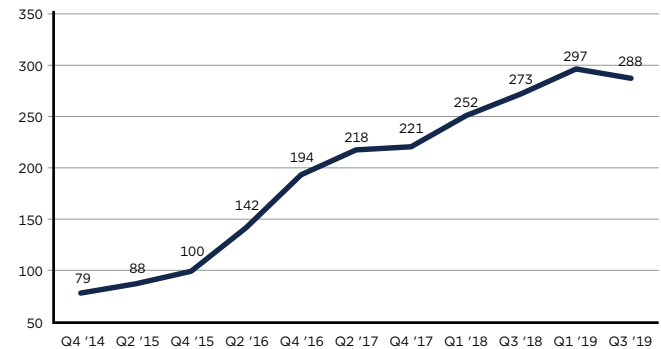


LEGEND

↕	INCREASE IN NUMBER OF CRANES	↗	DECREASE IN NUMBER OF CRANES	↔	CRANE NUMBERS STEADY
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RLB CRANE INDEX® - AUCKLAND

BASE: Q4 2015 = 100



CRANE ACTIVITY - AUCKLAND

	OPENING COUNT		MOVEMENT			CLOSING COUNT	
	Q1 2019	%	+	-	NET	Q3 2019	%
CIVIC	4	4.1%	1	-1	0	4	4.2%
CIVIL	11	11.2%	11	-2	9	20	21.1%
COMMERCIAL	12	12.2%	7	-4	3	15	15.8%
EDUCATION	2	2.0%	0	-2	-2	0	0.0%
HEALTH	0	0.0%	1	0	1	1	1.1%
HOTEL	10	10.2%	3	-7	-4	6	6.3%
MISC.	1	1.0%	0	-1	-1	0	0.0%
RECREATION	0	0.0%	0	0	0	0	0.0%
RESIDENTIAL	46	46.9%	10	-10	0	46	48.4%
RETAIL	12	12.2%	0	-9	-9	3	3.2%
TOTAL	98	100.0%	33	-36	-3	95	100.0%

AUCKLAND

at the Port of Auckland's multi-storey carpark. Cranes were removed from the Albert Street CRL services infrastructure works and the SH1 bridge widening in South Auckland.

Nine cranes were removed within the retail sector, at Westfield Newmarket, Commercial Bay retail and at Sylvia Park's carpark. Long-term cranes remained at the mall extension at Sylvia Park and one crane on the carpark site at Westfield Newmarket.

Seven new cranes have been removed from hotel projects reducing the sector count to six. These included the Fu Wah Park Hyatt, Ramada Suites, Sky City, Quest expansion and Ramada Manuka. New cranes were sighted for 31 Beach Road hotel, Cordis Hotel expansion and the co-located Holiday Inn Express and Even Hotel tower on Wyndham St.

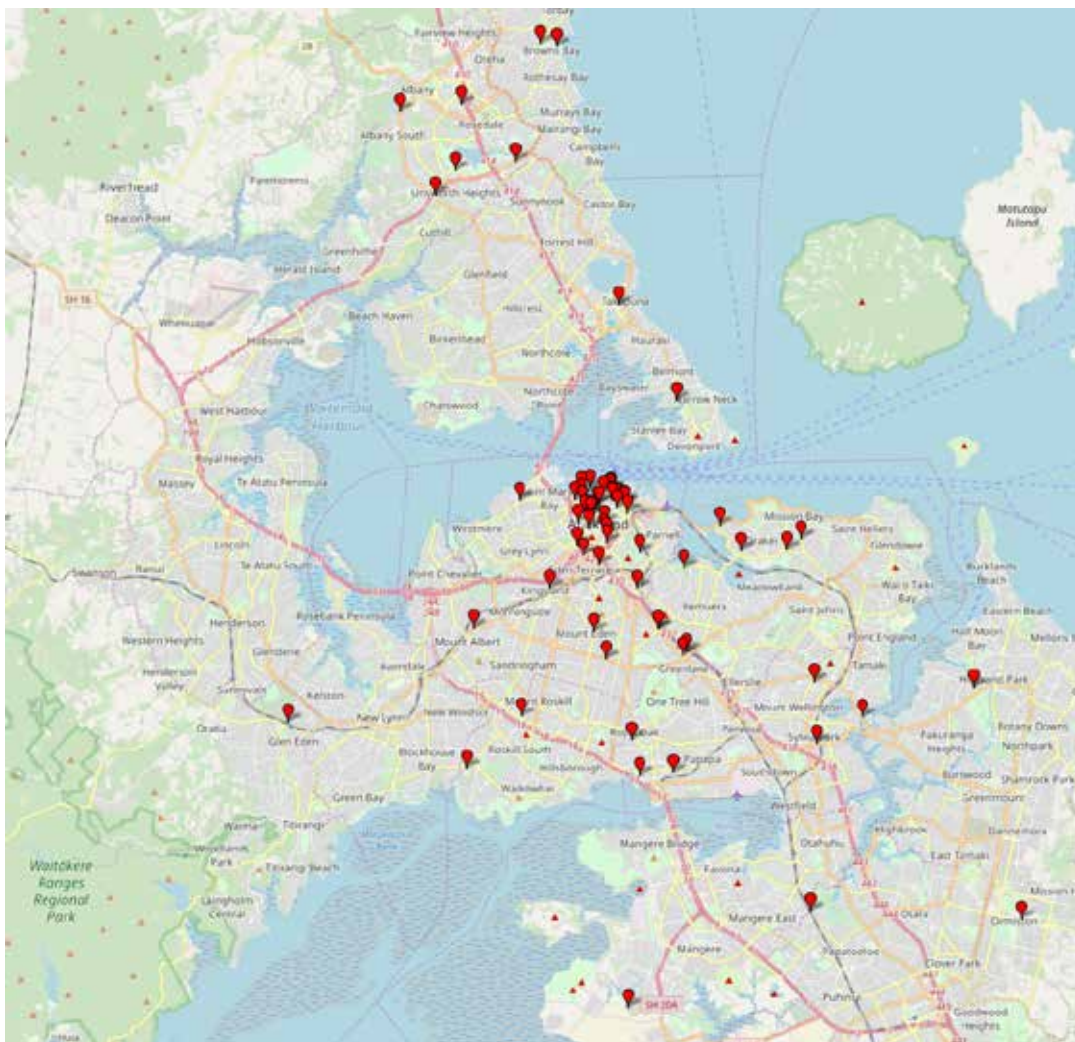
The commercial sector saw an increase of three cranes for this edition. Seven cranes were placed on new projects at Fanshawe Street, Orminston Town Centre,

Foodstuffs HQ at the airport, 10 Madden Street in the Wynyard Quarter and at Great South Road in Epsom. Projects nearing completion which saw crane removals at Customs Street, Corinthian Drive in Albany, Dilworth School and at Briscoes HQ office development in Morningside.

All education cranes were removed from the University of Auckland's Engineering School and Building B507 at Park Road, Grafton.

The civic sector saw one crane removed from the Sky City Convention Centre leaving three onsite and one new crane at the Auckland Museum redevelopment. The crane removed from the Mt Eden Prison in the miscellaneous sector.

Auckland's residential cranes account for 85% of all the residential cranes in New Zealand and 35% of all cranes nationally. This includes cranes on projects for multi-storey residential apartments, private houses, student accommodation and the aged residential care sector.



CHRISTCHURCH

It is now almost 9 years since the 2011 earthquake that impacted Christchurch. Since then, approximately \$28b of works have been undertaken across Canterbury.

The completion of key rebuilding projects over the past five years has seen a gradual reduction in the Christchurch RLB Crane Index® since the highs of 2014. This is in line with the completion of important civic projects for the region. From the heights of the rebuilding works in 2014 where the index recorded a value of 100, the index has now fallen almost 70% to 29 as at Q3 2019. Of course, the recovery period saw unprecedented levels of crane activity, but it would now seem that the index has bottomed out to more normal levels within Christchurch.

After falling in the last edition, the Christchurch index fell 50% to 29. Twelve long-term cranes were removed from projects and only three cranes added, resulting in a decrease of nine cranes.

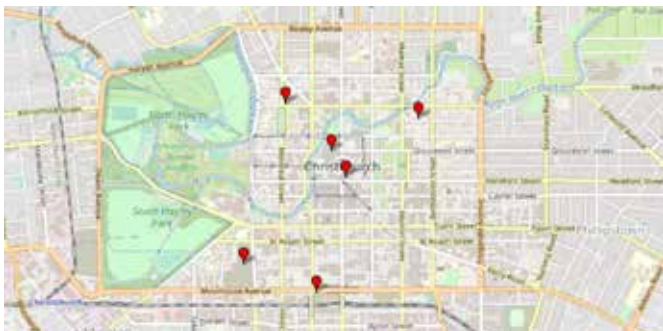
Whilst there has been a steep fall of the index, the value of new building work put in place in Canterbury fell only 3% for the 12 months ending 30 June 2019, compared to the previous 12 months. Falls were felt in both residential and non-residential work put in place with a drop of 3.8% and 2.8% respectively.

Building consents fell by 1.1% to \$3.4B for the twelve months ending June 2019. This follows on from the 0.4% fall in 2018 over 2017. The strong consent values should see stable construction growth over the next few years.

Three cranes were removed from the Metro sports centre project after commencing in our last edition, two long-term cranes remain on site. Two cranes also were removed from the Convention Centre leaving two to complete the works.

Developments completed or nearing completion where cranes have been removed include Ballantynes, Ravenscar House, Park Tower on Latimer, Kathmandu, and commercial projects in Armagh Street and High Street.

New cranes sighted include the Spotlight Superstore on Moorhouse Avenue, Cranmer Gardens on Kilmore Street and the NZ Fire Services Transalpine Headquarters in Chester Street East.



KEY SECTORS

CIVIC	
COMMERCIAL	
MISC.	
RECREATION	
RESIDENTIAL	
RETAIL	

MISC. INCLUDES MIXED USE AND OTHER SECTOR PROJECTS

OVERALL STATUS

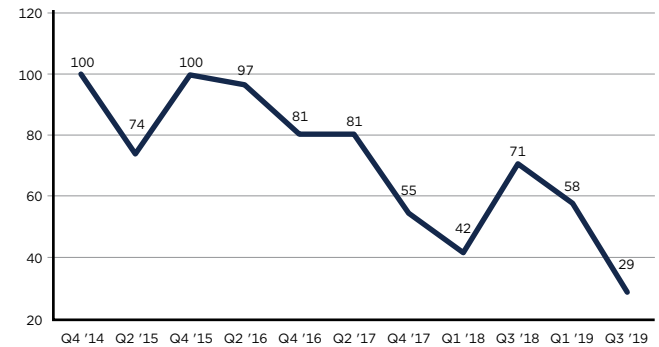


LEGEND

	INCREASE IN NUMBER OF CRANES		DECREASE IN NUMBER OF CRANES		CRANE NUMBERS STEADY
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RLB CRANE INDEX® - CHRISTCHURCH

BASE: Q4 2015 = 100



CRANE ACTIVITY - CHRISTCHURCH

	OPENING COUNT		MOVEMENT			CLOSING COUNT	
	Q1 2019	%	+	-	NET	Q3 2019	%
CIVIC	4	22.2%	1	-2	-1	3	33.3%
CIVIL	0	0.0%	0	0	0	0	0.0%
COMMERCIAL	4	22.2%	0	-2	-2	2	22.2%
EDUCATION	0	0.0%	0	0	0	0	0.0%
HEALTH	0	0.0%	0	0	0	0	0.0%
HOTEL	0	0.0%	0	0	0	0	0.0%
MISC.	1	5.6%	0	-1	-1	0	0.0%
RECREATION	5	27.8%	0	-3	-3	2	22.2%
RESIDENTIAL	1	5.6%	1	-1	0	1	11.1%
RETAIL	3	16.7%	1	-3	-2	1	11.1%
TOTAL	18	100.0%	3	-12	-9	9	100.0%

DUNEDIN

One crane in Dunedin remains at the University of Otago Eccles building (formally Research Support Facility project).

Dunedin now has confirmation of the new hospital projects and these should commence in late 2020 onwards providing a boost to the local and wider South Island construction industry.



KEY SECTORS

EDUCATION



OVERALL STATUS



LEGEND



INCREASE
IN NUMBER
OF CRANES



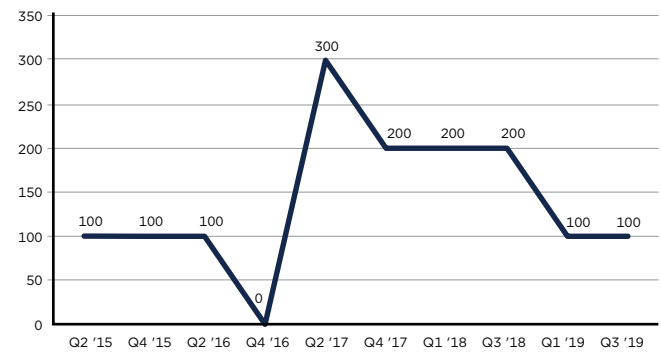
DECREASE
IN NUMBER
OF CRANES



CRANE
NUMBERS
STEADY

RLB CRANE INDEX® - DUNEDIN

BASE: Q4 2015 = 100



CRANE ACTIVITY - DUNEDIN

	OPENING COUNT		MOVEMENT			CLOSING COUNT	
	Q1 2019	%	+	-	NET	Q3 2019	%
CIVIC	0	0.0%	0	0	0	0	0.0%
CIVIL	0	0.0%	0	0	0	0	0.0%
COMMERCIAL	0	0.0%	0	0	0	0	0.0%
EDUCATION	1	100.0%	0	0	0	1	100.0%
HEALTH	0	0.0%	0	0	0	0	0.0%
HOTEL	0	0.0%	0	0	0	0	0.0%
MISC.	0	0.0%	0	0	0	0	0.0%
RECREATION	0	0.0%	0	0	0	0	0.0%
RESIDENTIAL	0	0.0%	0	0	0	0	0.0%
RETAIL	0	0.0%	0	0	0	0	0.0%
TOTAL	1	100.0%	0	0	0	1	100.0%

HAMILTON

Hamilton's crane count increased to four for this edition, lifting the RLB Crane Index® to 200.

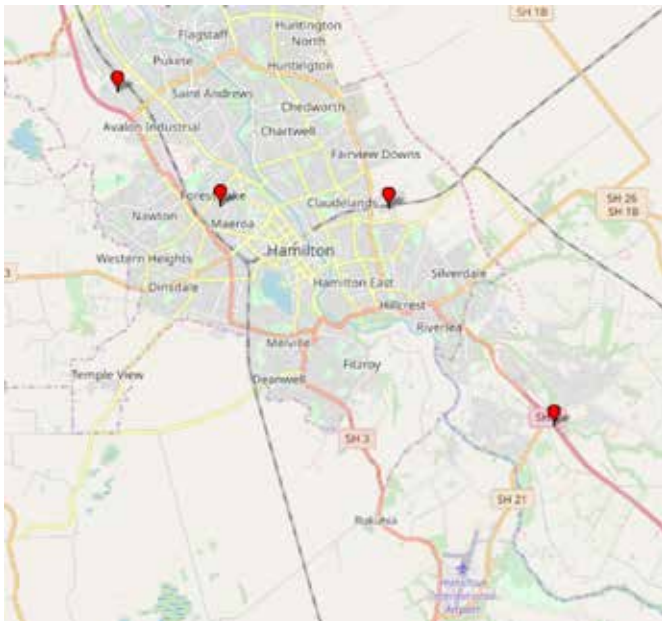
The value of building work put in place within the Waikato region increased to \$2.3b for the 12 months ending 30 June 2019, a 13% increase on the previous twelve months. Residential work put in place increased by 11%, while non-residential work put in place jumped 17%.

One commercial crane has been removed from Te Rapa with one remaining within the industrial precinct in Te Rapa.

One crane has been placed within the Innovation Park precinct for a new food processing facility

One long-term civil crane was placed at the Mangaonua Stream Bridge with one removed at Tamahere Bridge on the Waikato Expressway.

A Tower crane has been installed in Alma Street for the Novotel hotel extension.



KEY SECTORS

CIVIL	
COMMERCIAL	
HOTEL	
MISC.	

MISC. INCLUDES MIXED USE AND OTHER SECTOR PROJECTS

OVERALL STATUS

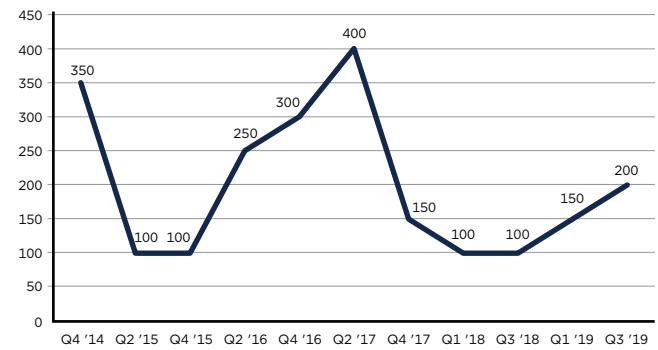


LEGEND

	INCREASE IN NUMBER OF CRANES		DECREASE IN NUMBER OF CRANES		CRANE NUMBERS STEADY
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RLB CRANE INDEX® - HAMILTON

BASE: Q4 2015 = 100



CRANE ACTIVITY - HAMILTON

	OPENING COUNT		MOVEMENT			CLOSING COUNT	
	Q1 2019	%	+	-	NET	Q3 2019	%
CIVIC	0	0.0%	0	0	0	0	0.0%
CIVIL	1	33.3%	1	-1	0	1	25.0%
COMMERCIAL	2	66.7%	0	-1	-1	1	25.0%
EDUCATION	0	0.0%	0	0	0	0	0.0%
HEALTH	0	0.0%	0	0	0	0	0.0%
HOTEL	0	0.0%	1	0	1	1	25.0%
MISC.	0	0.0%	1	0	1	1	25.0%
RECREATION	0	0.0%	0	0	0	0	0.0%
RESIDENTIAL	0	0.0%	0	0	0	0	0.0%
RETAIL	0	0.0%	0	0	0	0	0.0%
TOTAL	3	100.0%	3	-2	1	4	100.0%

QUEENSTOWN

The Queenstown RLB Crane Index® continues to maintain a value in excess of 300. For the past six editions the index has maintained a value of in excess of 300 highlighting the strength of the Queenstown construction sector.

Although the index dropped by 9%, seven new cranes were added and eight were removed from projects, bringing the crane count to ten.

The only two commercial cranes at the Shotover Jet project on Frankton Street have been removed and two miscellaneous cranes for the light industrial development on Glenda Drive were erected.

Within the hotel sector, two cranes remained for the Holiday Inn Express project and one crane at the Ramada hotel, increasing the sector count to three.

The residential sector remained constant with four cranes. One crane was removed from the Millbrook development while one new crane was erected for a residential project in Malaghans Road, both in Arrowtown. Residential cranes remained at the Remarkable view development in Middleton Road, Marina Village and on Peninsula Road.

All retail cranes were removed from Queenstown Central, reducing the retail count to zero.

KEY SECTORS

COMMERCIAL	
HOTEL	
MISC.	
RESIDENTIAL	

MISC. INCLUDES MIXED USE AND OTHER SECTOR PROJECTS

OVERALL STATUS

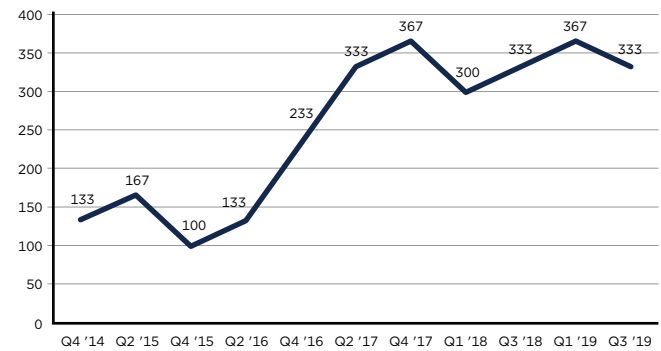


LEGEND

	INCREASE IN NUMBER OF CRANES		DECREASE IN NUMBER OF CRANES		CRANE NUMBERS STEADY
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RLB CRANE INDEX® - QUEENSTOWN

BASE: Q4 2015 = 100



CRANE ACTIVITY - QUEENSTOWN

	OPENING COUNT		MOVEMENT			CLOSING COUNT	
	Q1 2019	%	+	-	NET	Q3 2019	%
CIVIC	0	0.0%	0	0	0	0	0.0%
CIVIL	0	0.0%	0	0	0	0	0.0%
COMMERCIAL	2	18.2%	0	-2	-2	0	0.0%
EDUCATION	0	0.0%	0	0	0	0	0.0%
HEALTH	0	0.0%	0	0	0	0	0.0%
HOTEL	3	27.3%	2	-2	0	3	30.0%
MISC.	2	18.2%	2	-1	1	3	30.0%
RECREATION	0	0.0%	0	0	0	0	0.0%
RESIDENTIAL	4	36.4%	3	-3	0	4	40.0%
RETAIL	0	0.0%	0	0	0	0	0.0%
TOTAL	11	100.0%	7	-8	-1	10	100.0%

TAURANGA

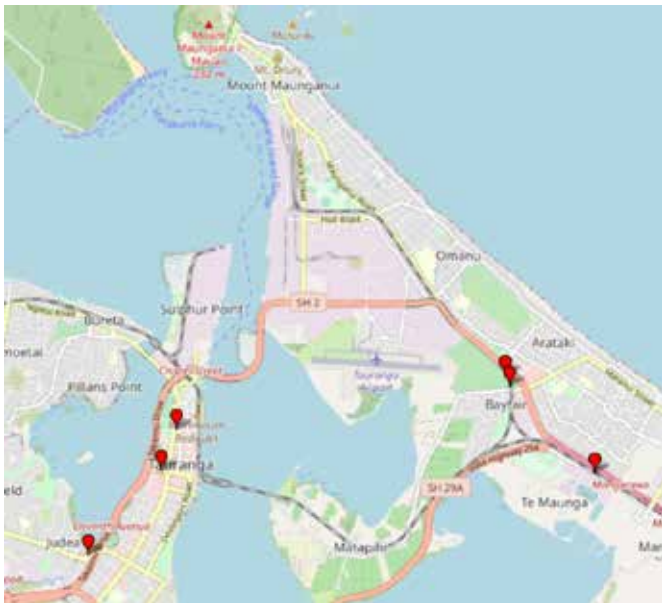
Tauranga's RLB Crane Index® continues its roller-coaster ride falling to 300 from 450 in the last edition. Six cranes now dot the landscape on both sides of the bridge.

Five cranes were removed and two new cranes have been added since our last edition.

Cranes have been removed from the Zespri office building (commercial), Tauranga crossing stage 2 (retail), bridge works on the SH36 (civil), Quest apartments (hotel) and Latitude residences (residential).

New cranes that have been placed at both Mainfreight's depot on Truman Lane and the former Melrose retirement village in Tauranga.

Cranes remain at Bayfair shopping centre, Harrington Street transport hub, Baypark & Bayfair Road link and Farmers on Elizabeth Street.



KEY SECTORS

CIVIL	
COMMERCIAL	
HOTEL	
MISC.	
RESIDENTIAL	
RETAIL	

MISC. INCLUDES MIXED USE AND OTHER SECTOR PROJECTS

OVERALL STATUS

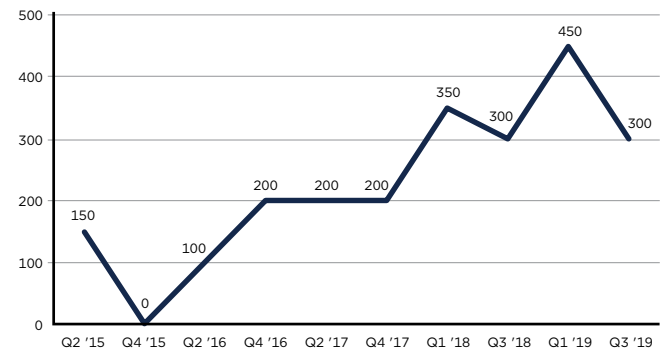


LEGEND

	INCREASE IN NUMBER OF CRANES		DECREASE IN NUMBER OF CRANES		CRANE NUMBERS STEADY
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RLB CRANE INDEX® - TAURANGA

BASE: Q4 2015 = 100



CRANE ACTIVITY - TAURANGA

	OPENING COUNT		MOVEMENT			CLOSING COUNT	
	Q1 2019	%	+	-	NET	Q3 2019	%
CIVIC	0	0.0%	0	0	0	0	0.0%
CIVIL	2	22.2%	0	-1	-1	1	16.7%
COMMERCIAL	1	11.1%	1	-1	0	1	16.7%
EDUCATION	0	0.0%	0	0	0	0	0.0%
HEALTH	0	0.0%	0	0	0	0	0.0%
HOTEL	1	11.1%	0	-1	-1	0	0.0%
MISC.	1	11.1%	0	0	0	1	16.7%
RECREATION	0	0.0%	0	0	0	0	0.0%
RESIDENTIAL	1	11.1%	1	-1	0	1	16.7%
RETAIL	3	33.3%	0	-1	-1	2	33.3%
TOTAL	9	100.0%	2	-5	-3	6	100.0%

WELLINGTON

Wellington's RLB Crane Index® fell to 67 from 89 at the last edition. Six cranes remain visible on the skyline around Wellington. Five long-term cranes finished on site and two new long-term cranes have commenced on site since our last count.

The value of building work put in place for Wellington increased 3% for the 12 months ending 30 June 2019, compared with the same period in 2018. This rise was driven by a 12% increase in residential work put in place during the period, while non-residential work fell by 11%.

Cranes were removed from the biosecurity labs on Ward Street in Upper Hutt, apartment block in Molesworth Street office tower refurbishment in Lambton Quay an apartment block in Jackson Street and the Paetutu apartment block.

New cranes have been observed at a new residential apartment project in Victoria Street, the return of a crane at the Indian High Commission in Pipitea Street and at the Queensgate shopping mall in Lower Hutt Central.

Cranes remained onsite assisting the construction of Wellington Children's hospital, residential apartments in Dixon St and a commercial project in Willis St.

KEY SECTORS

COMMERCIAL	
HEALTH	
MISC.	
RESIDENTIAL	

MISC. INCLUDES MIXED USE AND OTHER SECTOR PROJECTS

OVERALL STATUS

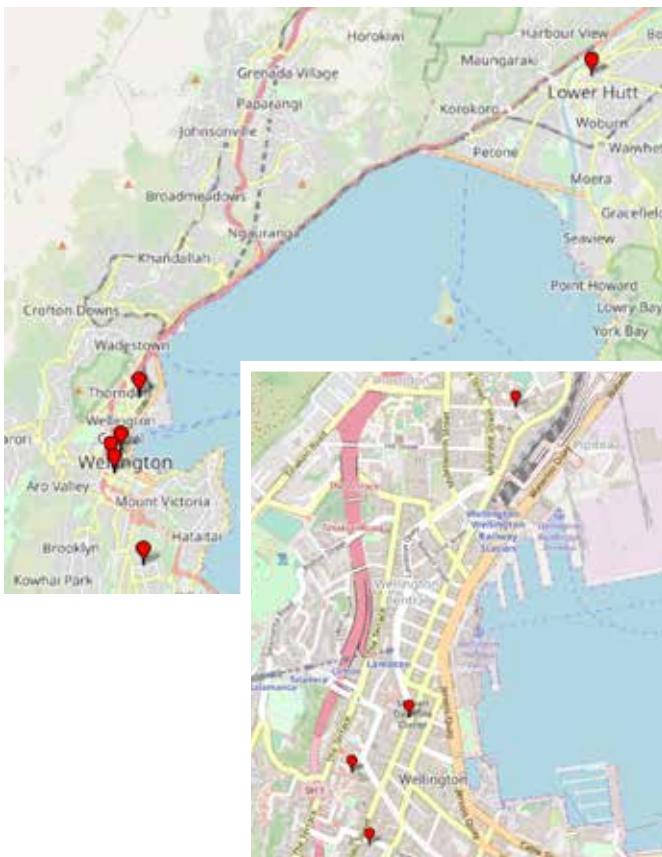
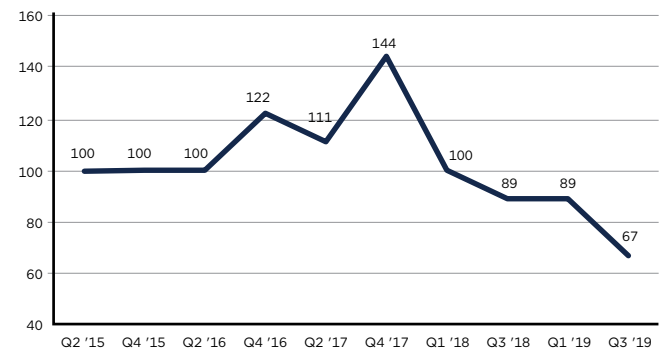


LEGEND

	INCREASE IN NUMBER OF CRANES		DECREASE IN NUMBER OF CRANES		CRANE NUMBERS STEADY
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RLB CRANE INDEX® - WELLINGTON

BASE: Q4 2015 = 100



CRANE ACTIVITY - WELLINGTON

	OPENING COUNT		MOVEMENT			CLOSING COUNT	
	Q1 2019	%	+	-	NET	Q3 2019	%
CIVIC	0	0.0%	0	0	0	0	0.0%
CIVIL	0	0.0%	0	0	0	0	0.0%
COMMERCIAL	2	25.0%	1	-1	0	2	33.3%
EDUCATION	0	0.0%	0	0	0	0	0.0%
HEALTH	1	12.5%	0	0	0	1	16.7%
HOTEL	0	0.0%	0	0	0	0	0.0%
MISC.	1	12.5%	1	-1	0	1	16.7%
RECREATION	0	0.0%	0	0	0	0	0.0%
RESIDENTIAL	4	50.0%	1	-3	-2	2	33.3%
RETAIL	0	0.0%	0	0	0	0	0.0%
TOTAL	8	100.0%	3	-5	-2	6	100.0%

ABOUT THE RLB CRANE INDEX®

The RLB Crane Index® is published by Rider Levett Bucknall biannually in Australia, New Zealand, USA, Gulf States and Southern Africa. The New Zealand RLB Crane Index® tracks the numbers of cranes in the key cities within New Zealand.

The RLB Crane Index® gives a simplified measure of the current state of the construction industry's workload in each of these locations.

Each RLB office physically counts all fixed cranes on each city's skyline twice yearly which provides the base information for the index. This information is then applied to a base date (2nd edition Q4 2014), which enables the RLB Crane Index® to be calculated highlighting the relative movement of crane data over time for each city.

Subsequent movements in crane numbers were applied to the base RLB Crane Index® to highlight the crane movements in each city over time based on the relative count in Q4 2014.

Using the RLB Crane Index® table data makes for quick comparisons in determining city by city crane activity. For example, when comparing Auckland cranes for the base period of Q4 2014, against the count in Q2 2018, the following formula can be used to determine the percentage increase (or decrease).

$$\text{PERCENTAGE CHANGE} = \left[\frac{\text{CRANE INDEX}_{\text{CP}} - \text{CRANE INDEX}_{\text{PP}}}{\text{CRANE INDEX}_{\text{PP}}} \right] \times 100$$

where Crane Index_{cp} is the RLB Crane Index_{cp} for the current period and Crane Index_{pp} is the RLB Crane Index® for the previous period.

HEATMAPS & LOCALITY MAPS

The RLB Crane Index® hotspot and locality maps offer a pictorial representation of the collected data for each city using a heatmap indicator to indicate the level of crane activity. The size of hotspot is relative to the scale of the map and is not an indication of the crane count in that position. The heatmap uses blue to indicate a lower crane activity, and the brighter red insert to indicate higher crane activity.

The location of the pins are indicative only and have been positioned to convey the general spread of cranes within a city.

The levels of intensity are calculated on a map by map basis and should not be compared between different cities.

Locality maps have been created by RLB at GPSVisualiser.com using Leaflet and map data from OpenStreetMap.org

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