SECOND QUARTER 2023

INTERNATIONAL REPORT

CONSTRUCTION MARKET INTELLIGENCE

RLB Rider Levett Bucknall

INDEPENDENT CONSULTANTS, LOCAL KNOWLEDGE AND EXPERTISE, GLOBAL NETWORK

As the largest independent and most geographically prevalent construction cost consultancy of its kind in the world, Rider Levett Bucknall (RLB) has access to the foremost construction market intelligence.

RLB collects and collates construction data and forecast trends—on a global, regional, country, city and sector basis—from its comprehensive network of offices around the globe. The RLB International Report, which is published half-yearly, presents a snapshot of this data.

Each RLB office contributes to the global intelligence, providing insights into the conditions and trends that impact the local construction industry. The information gathered and disseminated by each office includes:

- RLB Crane Index®
- Forecast Tender Price Index uplifts
- RLB Construction Market Activity Cycle
- Key building type cost ranges in local currencies

TENDER PRICE INDEX

RLB's Tender Price Index (TPI) showcases the historical and forecast movements in construction cost inflation and escalation on an annual basis. The TPI annual rate represents an overall forecast of the movement of construction costs for the industry within the key cities of RLB's network of offices.

BUILDING COST RANGES

RLB's regularly updated Building Cost Ranges can be found via the RLB website (www.rlb.com/ccc).

Each region's Cost Intelligence publication features current building cost ranges, and each publication can be found on www.rlb.com under the 'Insights' tab.

CONSTRUCTION MARKET INTELLIGENCE

A summary of Construction Market Intelligence is provided by each region, highlighting the issues that are impacting the construction industry, and providing key insights into current construction price movements.

RLB MARKET ACTIVITY CYCLE

The RLB Market Activity Cycle focuses on ten key sectors within the overall construction economy. Local RLB Directors assess the current position of each sector within the market activity cycle for each respective city.

RELATIVITY INDEX

Using TPI data and cost modelling, RLB provides a general cost comparison for building costs between locations. The Relativity Index ranks each city in respect of other locations within the RLB network of offices. Currently, 48 cities are included in the index.

RLB CRANE INDEX®

The RLB Crane Index® provides a simplified measure of the current state of the construction industry's workload in key locations around the world. RLB offices record fixed crane numbers across key cities by project sector, which provides an overview of how markets change over time.

Cover Image: Tower Bridge, London, United Kingdom

RLB publishes key industry intelligence data throughout the year. For more detailed sector, city, country and regional data, please review our regional or country specific publications. These can be found under the 'Insights' tab of **RLB.com**.

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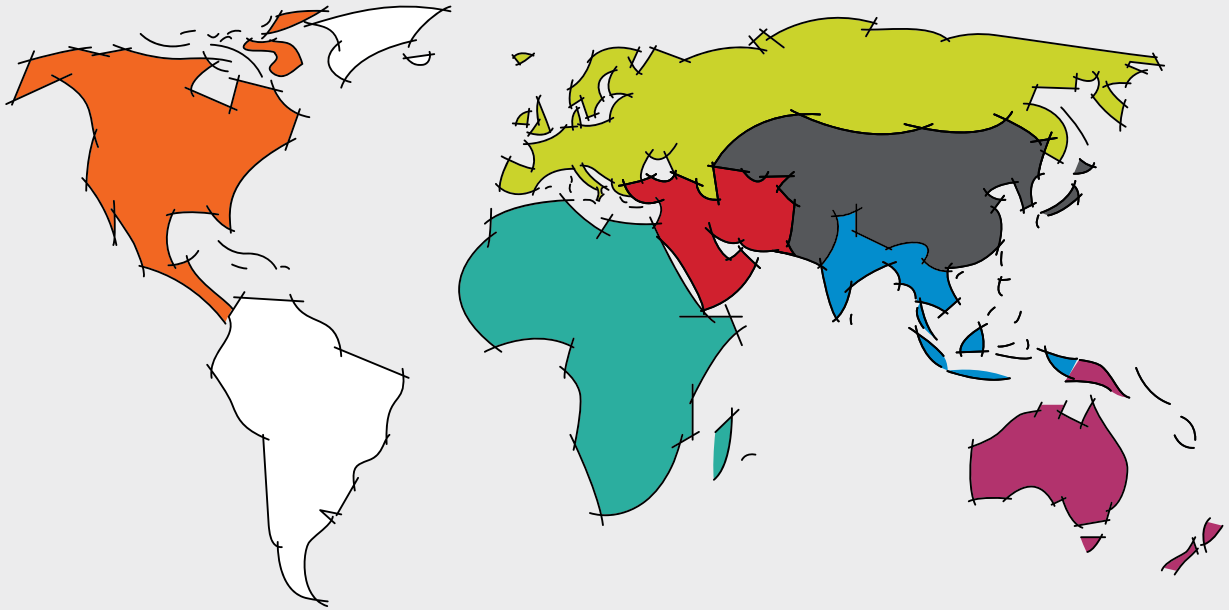


Each coloured region represents a section within the **Regional Intelligence** pages of this report.

EXECUTIVE SUMMARY

In April 2023, RLB's Global Board identified several global challenges impacting the group and the wider construction industry. The industry is dynamic and continually evolving, facing disruptive changes in politics, economy, society, and environment, leading to a redefinition of traditional construction delivery. One of the most significant impacts is the shift towards sustainable development, creating new client offerings, such as carbon quantification in buildings. Consequently, the demand for skilled expertise in sustainable design features and green building practices is increasing as the industry transitions towards greener and more sustainable outputs.

The application of disruptive technologies, such as 3D printing, robotics, modular construction, bioplastics, and engineered wood, can improve the efficiency, safety, and sustainability of traditional construction. However, the impact of technology on the industry is also changing the skills and expertise required by construction professionals. Therefore, investment and training in digital surveying tools and the use of artificial intelligence (AI) are crucial in enhancing efficiency, accuracy, and collaboration. These technologies necessitate a new set of skills and expertise from our staff.

As a result of the modern and evolving needs of the built environment, RLB is leading the way in creating sustainable solutions to meet issues faced. Of note is our commitment to mitigate the impact of our industry to the environment globally. We are developing at pace, solutions to meaningful carbon quantification, management and mitigation of buildings and ensuring that our business is itself carbon neutral globally by 2030. Our second key commitment is to truly understand and leverage the extensive data we produce on the projects we deliver and to put this work to the benefit of our clients and industry.

Over the past 24 months, the global construction industry has faced numerous challenges that have put significant pressure on all industry participants. Rising construction costs, volatile weather, material logistics, and industry solvency have all had a major impact. While these factors are largely beyond the control of the industry, their consequences have been significant.

As we entered 2023, the industry continued to face risks associated with high inflation levels, subdued project commencements, and increasing financial vulnerabilities. However, in the past six months, there has been a slight easing of pressures within the industry. The RLB Market Activity Cycle survey results show a general trend of a shift from the trough zone to the mid zone, indicating an upward movement within the cycle. Some sectors that were previously in the peak zone have also moved to the mid zone, indicating a global realignment towards a more cautious market.

As the development cycle moves towards the mid zone, future development commencement decisions will be influenced by current factors affecting construction inflation. While concerns about material costs, supply chain logistics, abnormal weather patterns, and reduced anti-pandemic measures have plateaued according to our escalation issues survey, higher wages and general inflation have increased their influence on construction escalation.

Despite these recent improvements, the global construction industry still faces significant challenges into 2023:

1. Supply chain disruptions.
2. Skilled labour shortage.
3. Rising construction costs: Construction costs have been steadily increasing, although the rate of increase appears to be slowing. Factors such as material price hikes, labour shortages, and stricter regulations contribute to these rising costs.
4. Sustainability and climate change: The industry is under increasing pressure to prioritize sustainability and environmental responsibility. Meeting green building standards, reducing carbon emissions, and adopting sustainable practices require additional investments and specialised expertise.
5. Technology adoption and integration: The construction industry is undergoing a digital transformation with the adoption of technologies like Building Information Modelling (BIM), drones, and automation. However, integrating these technologies into existing workflows and upskilling the workforce remain significant challenges for many companies.
6. Infrastructure funding gaps: Many countries struggle with significant funding gaps in infrastructure, limiting their ability to invest in new projects and maintain existing infrastructure.
7. Regulatory complexity: The construction industry is subject to complex and evolving regulations, including building codes, safety standards, and environmental regulations. Navigating these regulations and ensuring compliance adds complexity and costs to construction projects.

Addressing these challenges requires collaboration among industry stakeholders, investment in training and development programs, adoption of innovative technologies, and a strong focus on sustainable practices.

As the largest independent construction and property consultancy of its type globally, RLB has a pool of talent 4,500 deep, comprising over 2,500 construction cost professionals, 700 project, scheduling, and programme managers, 350 sustainability, contract, procurement, and building lifecycle advisors, and 250 Building Surveyors and Health & Safety advisors.

By identifying future impacts and investing in solutions for its clients and staff, RLB aims to lead by example and shape the future of the industry in everything it does.

Rhodes Central Shopping Centre, Sydney, Australia

RLB TENDER PRICE INDEX

RLB's Tender Price Index (TPI) forecast percentage uplift ranges continue to highlight the volatility surrounding pricing and tender returns. RLB offices across the globe, apart from those in North Asian cities, are reporting tender submissions in which costs are higher than would have been expected in 2021. The spreads between the tenderers' bids have widened, and there is a clear reluctance on the part of bidders to fix prices for any length of time.

RLB's Tender Price Index (TPI) forecast percentage uplift ranges appear to have peaked with most RLB offices forecasting a softening of construction escalation for calendar year 2023. Almost all RLB offices across the globe are reporting tender pricing that indicate that construction cost increases have slowed after the peaks in 2022.

Globally, 45% of RLB offices are reporting 2023 escalation rates higher than those forecasted in the Q4 2022 edition of this publication. The level of volatility is high. Thirty-two percent recorded the same escalation rates and 23% forecast escalation rates for 2023 lower than those published previously.

	2022	2023 (F)	2024 (F)	2025 (F)	2026 (F)	2027 (F)
AFRICA						
CAPE TOWN	9.4	6.0	6.2	NP	NP	NP
DURBAN	8.0	5.1	NP	NP	NP	NP
GABORONE	9.0	6.1	NP	NP	NP	NP
JOHANNESBURG	5.0	6.0	6.7	6.2	6.2	NP
MAPUTO	4.1	NP	NP	NP	NP	NP
MIDDLE EAST						
ABU DHABI	4.0	3.5	2.0	2.0	2.0	2.0
DOHA	5.2	4.2	3.2	3.0	3.0	NP
DUBAI	4.0	3.5	2.0	2.0	2.0	2.0
RIYADH	5.1	6.7	5.8	5.4	4.9	4.1
NORTH ASIA						
BEIJING	(2.5)	0.0	2.0	2.0	2.0	2.0
CHENGDU	(1.1)	0.2	1.0	2.0	2.0	3.0
GUANGZHOU	(2.6)	2.0	2.5	3.0	3.0	3.0
HONG KONG	7.4	4.0	4.0	4.0	4.0	4.0
MACAU	0.5	2.0	2.0	2.0	2.0	2.0
SEOUL	7.3	9.6	7.9	7.3	6.8	6.4
SHANGHAI	(2.4)	4.1	3.0	3.0	3.0	3.0
SHENZHEN	(2.6)	3.0	3.0	3.0	3.0	3.0
SOUTHEAST ASIA						
HO CHI MINH CITY	4.6	5.8	4.8	4.0	4.0	4.5
JAKARTA	5.1	5.1	NP	NP	NP	NP
KUALA LUMPUR	10.5	4.0	NP	NP	NP	NP
SINGAPORE	10.1	4.8	3.0	3.0	3.0	NP
AMERICA						
BOSTON	9.1	7.0	6.5	5.0	4.0	4.0
CHICAGO	11.2	6.0	5.0	4.0	4.0	3.0
DENVER	8.5	6.7	6.5	6.3	6.0	5.5
HONOLULU	5.1	6.0	7.0	5.0	4.0	3.0
LAS VEGAS	7.0	6.0	5.5	5.0	4.5	4.0
LOS ANGELES	7.4	5.5	4.0	4.0	3.0	3.5
NEW YORK	7.6	6.5	6.0	5.5	4.5	4.0
PHOENIX	8.4	6.0	5.5	4.5	3.5	3.5
PORTLAND	9.5	7.0	6.0	5.0	4.5	4.0
SAN FRANCISCO	6.1	6.5	6.0	5.5	5.0	4.5
SEATTLE	9.7	6.5	6.0	5.0	4.5	4.0
WASHINGTON D.C.	7.8	6.5	4.5	4.0	3.5	3.5

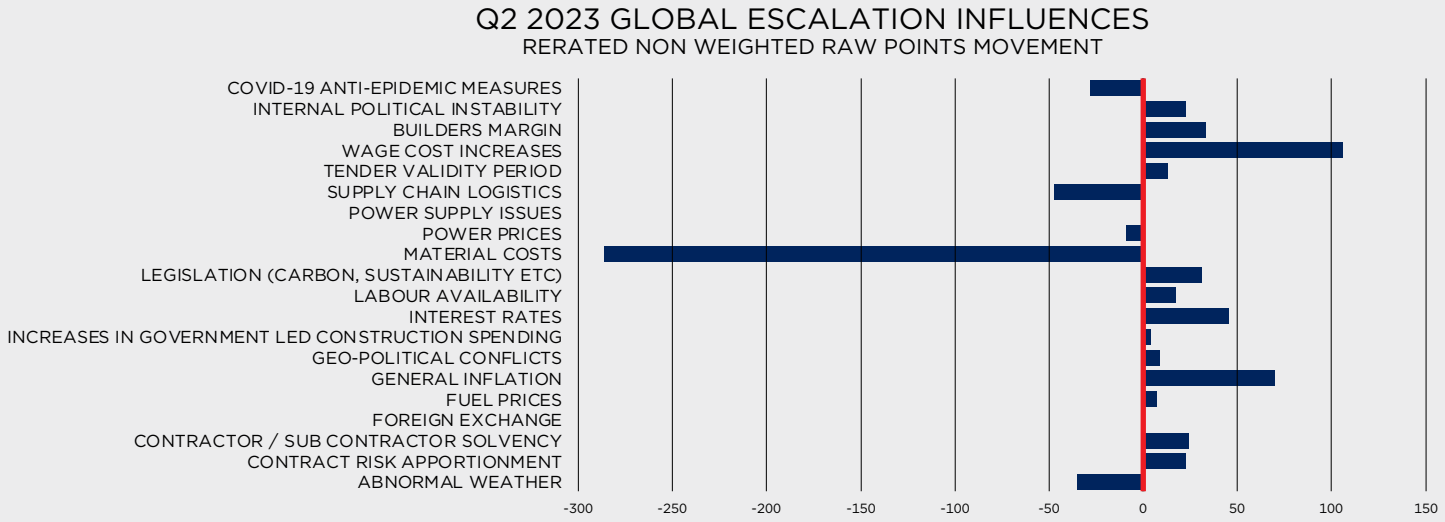
	2022	2023 (F)	2024 (F)	2025 (F)	2026 (F)	2027 (F)
CANADA						
CALGARY	8.8	4.5	4.0	4.0	3.5	3.5
TORONTO	12.6	5.5	5.5	4.5	4.5	4.0
AUSTRALIA						
ADELAIDE	12.5	5.1	4.1	3.0	3.0	3.0
BRISBANE	10.5	5.1	5.1	5.1	5.1	5.1
CANBERRA	5.0	4.5	3.8	3.5	3.0	3.0
DARWIN	8.0	5.5	4.5	4.0	4.0	4.0
GOLD COAST	15.5	10.5	5.0	5.0	5.0	4.0
MELBOURNE	8.0	5.0	3.5	3.5	3.5	3.5
PERTH	9.4	5.6	4.4	3.6	3.0	3.0
SYDNEY	6.9	3.9	3.5	3.5	3.5	3.5
TOWNSVILLE	12.6	8.0	5.0	4.0	4.0	4.0
NEW ZEALAND						
AUCKLAND	12.0	5.5	4.0	3.0	2.5	2.5
CHRISTCHURCH	9.0	5.0	4.0	3.0	2.5	2.5
WELLINGTON	9.0	5.0	4.0	3.0	3.0	3.0
UNITED KINGDOM						
CARDIFF	7.0	4.0	3.0	3.0	3.0	3.0
BIRMINGHAM	7.0	3.8	3.0	3.0	3.3	3.3
BRISTOL	7.5	4.5	3.0	2.0	2.0	2.0
LONDON	7.5	4.0	3.0	3.0	4.0	4.0
NORTH WEST	7.0	5.5	4.0	4.0	4.0	4.0
THAMES VALLEY	6.0	3.5	2.5	3.0	4.0	4.0
YORKSHIRE & HUMBER	8.5	4.0	3.5	4.0	3.5	3.5
IRELAND & MAINLAND EUROPE						
AMSTERDAM	4.5	(0.3)	2.7	3.8	5.4	4.6
BERLIN	14.7	6.0	3.0	3.0	3.0	3.0
COPENHAGEN	4.0	6.0	4.0	3.0	3.0	NP
OSLO	8.1	4.6	2.6	2.4	NP	NP
PRAGUE	23.0	12.0	4.0	2.0	2.0	NP
VIENNA	12.5	6.5	2.5	2.0	2.0	NP
WARSAW	16.6	7.2	5.0	3.6	3.3	2.5

REGIONAL CONSTRUCTION INDUSTRY INFLUENCES ON ESCALATION

In the Q4 2022 International Report, RLB offices around the globe were surveyed on the key items that were influencing construction escalation within their region. Twenty impacts were identified and rated out of a combined total of 200. Consolidated in the Q4 2022 report, it showed that materials cost was the dominant factor in construction escalation volatility. All offices for the Q2 2023 rerated their initial scores and the results have seen considerable movements within the 20 items selected. The movement in raw scores for the six months are portrayed on the chart on this page.

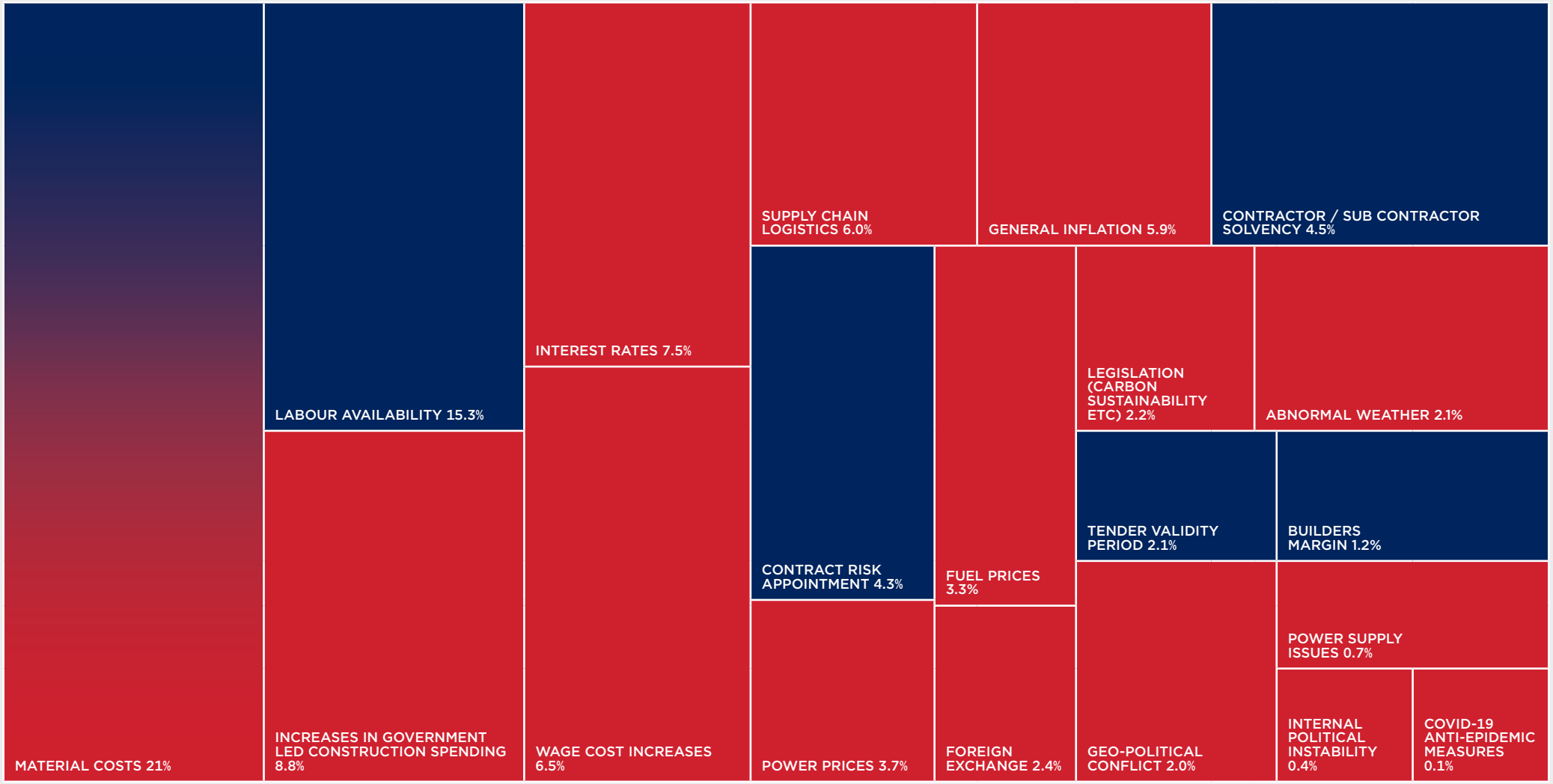
Materials cost, the most volatile influence throughout 2021 and 2022, has softened the most according to most offices. Other influences such as anti-COVID-19 measures, supply chain logistics, and abnormal weather influences have seen their influence on construction inflation reduce over the past six months. On the other hand, wage cost increases, general inflation, and increasing interest rates are seeing their influence rise.

Globally, material costs still account for the highest influence on escalation with a 21% share of influence. Construction labour availability and government lead construction spending follow with a 15.3% and 8.8% global share respectively.



GLOBAL CONSOLIDATED INFLUENCES ON ESCALATION

RED = EXTERNALLY CONTROLLED BLUE = INTERNALLY CONTROLLED



GLOBAL MARKET SECTOR ACTIVITY

Since the Q4 2022 International Report was published, there has been a global movement of the cycle towards the mid activity zone. Almost 6% of sectors previously within the trough zone have moved upwards within the cycle to the mid zone. This represents 60 sectors across the 55 cities surveyed. The peak zone also saw a movement upwards with 1.1% or 23 sectors move into the peak zone.

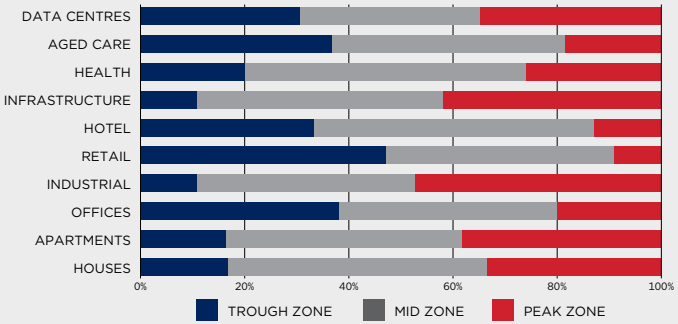
Currently, 28% of all sectors are in the peak zone of the activity cycle, which is up from 27% six months ago. 46% of sectors are in the mid zone, up from 39% previously reported, and the trough zone represents 26% of all sectors from the 55 cities responding. The trend globally is that the development cycle has moved slightly upwards with more cities highlighting more sectors within the mid and peak zones overall.

The movement for the last six months generally highlights a positive sentiment of global activity. The movement of sectors to the mid zone (in grey) from the trough zone (in blue) highlights this movement.

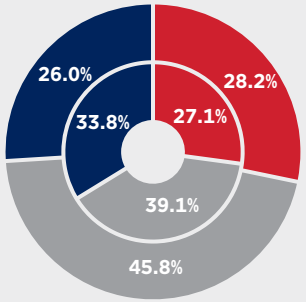
The introduction of new sectors for this edition will enable the future tracking of activity within the Health, Aged Care, and Data Centre sectors. Globally these sectors are all showing strong global growth indications with the 80% of cities indicating that they are within the growth phase and 26% within the peak zone of the cycle.

As can be seen in the consolidated activity charts, more than two thirds of global sectors are in the growth phase of the cycle, highlighting the potential for growth within the global industry. This of course is counted by the many challenges presenting themselves in all regions.

CONSOLIDATED GLOBAL ACTIVITY ZONE RATIOS BY SECTOR

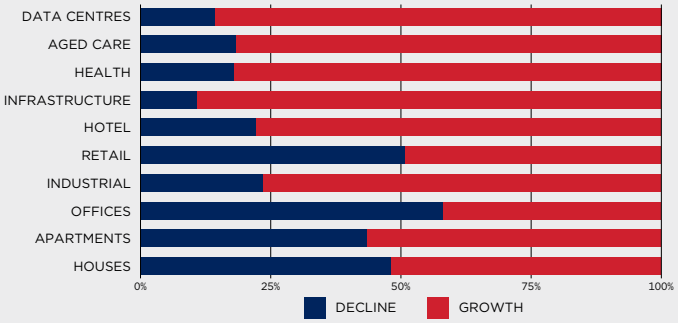


GLOBAL CONSOLIDATED ACTIVITY ZONE RATIOS

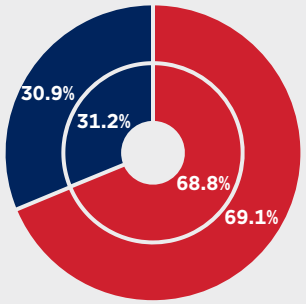


OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

CONSOLIDATED GLOBAL ACTIVITY PHASE RATIOS BY SECTOR

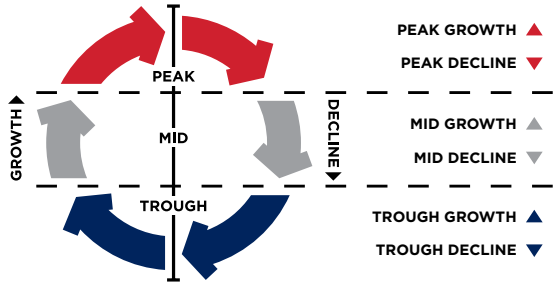


GLOBAL CONSOLIDATED ACTIVITY PHASE RATIOS



OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

RLB MARKET SECTOR ACTIVITY CYCLE



Activity within the construction industry traditionally has been subject to volatile cyclical fluctuations. The RLB Market Activity Cycle (cycle) is a representation of the development activity cycle for the construction industry within the general economy.

Within the general construction industry, RLB considers ten sectors to be representative of the industry as a whole. These sectors are: houses, apartments, offices, industrial, retail, hotel, civil, health, aged care and data centres.

Each sector is assessed as to which of the three zones (peak, mid and trough) best represents the current status of the sector within the cycle, then further refined by identifying whether the current status is in a growth phase or a decline phase.

GLOBAL MARKET SECTOR ACTIVITY

Overview

The 'up' and 'down' arrows within the tables represent whether the sector is in a growth or decline phase, with the colour of the arrow determining the zone within the cycle. The three colours identified in the cycle diagram (red, grey and blue) represent the peak, mid and trough zones of the cycle.

	HOUSES	APARTMENTS	OFFICES	INDUSTRIAL	RETAIL	HOTEL	CIVIL	HEALTH	AGED CARE	DATA CENTRES
AFRICA										
CAPE TOWN		▲	▲	▲	▼	▲	▲			▲
DURBAN	▲	▲	▼	▲	▲	▼	▲	▼	▲	▲
JOHANNESBURG	▲	▲	▼	▲	▲	▲	▲	▼	▼	▲
MIDDLE EAST										
ABU DHABI	▲	▼	▲	▲	▼	▲	▲	▼	▲	▲
DOHA	▲	▼	▼	▲	▼	▼	▼	▲		▲
DUBAI	▲	▼	▼	▲	▼	▲	▲	▼	▲	▲
RIYADH	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
NORTH ASIA										
BEIJING	▼	▼	▲	▼	▲	▲	▲	▲	▲	▼
CHENGDU	▲	▼	▼	▼	▼	▲	▲	▲	▲	▲
GUANGZHOU	▼	▼	▼	▲	▼	▼	▲	▲	▲	▲
HONG KONG	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
MACAU	▲	▲	▲	▼	▼	▼	▲	▲	▼	▼
SEOUL	▼	▼	▲	▲	▲	▲	▼	▲	▲	▲
SHANGHAI	▼	▼	▼	▲	▼	▼	▲	▲	▼	▲
SHENZHEN	▼	▲	▼	▲	▼	▼	▲	▲	▲	▲
SOUTHEAST ASIA										
HO CHI MINH CITY	▼	▼	▼	▲	▼	▼	▲	▼	▼	▲
JAKARTA	▲	▲	▼	▲	▲	▲	▲	▲	▲	▲
KUALA LUMPUR	▲	▲	▼	▼	▲	▲	▲	▲	▲	▲
SINGAPORE	▲	▲	▲	▲	▲	▲	▲	▲	▲	▼
AMERICA										
BOSTON	▲	▲	▲	▲	▼	▲	▲	▲	▼	▼
CHICAGO	▼	▲	▲	▲	▼	▲	▲	▲	▲	▲
DENVER	▼	▼	▼	▲	▲	▲	▲	▼	▲	▲
HONOLULU	▲	▲	▼	▲	▲	▲	▲	▲	▼	
LAS VEGAS	▼	▼	▼	▲	▲	▲	▲	▲	▲	▲
LOS ANGELES	▲	▲	▼	▲	▼	▲	▲	▲	▲	▲
NEW YORK	▲	▼	▼	▲	▲	▲	▲	▲	▲	▲
PHOENIX	▼	▼	▲	▲	▲	▲	▲	▲	▲	▲
PORTLAND	▲	▲	▼	▼	▼	▲	▲	▲	▲	▲
SAN FRANCISCO	▲	▲	▼	▲	▲	▲	▲	▲	▲	▲
SEATTLE	▲	▲	▼	▲	▲	▲	▲	▲	▲	▲
WASHINGTON D.C.	▼	▲	▲	▲	▲	▼	▲	▲	▲	▲
CANADA										
CALGARY	▼	▲	▼	▲	▲	▲	▲	▼	▲	▲
TORONTO	▼	▲	▲	▲	▲	▲	▲	▲	▲	▲

	HOUSES	APARTMENTS	OFFICES	INDUSTRIAL	RETAIL	HOTEL	CIVIL	HEALTH	AGED CARE	DATA CENTRES
AUSTRALIA										
ADELAIDE	▲	▼	▲	▲	▼	▲	▲	▲	▲	▲
BRISBANE	▼	▼	▲	▲	▼	▲	▲	▲	▲	▲
CANBERRA	▼	▼	▼	▼	▲	▲	▲	▲	▲	▲
DARWIN	▲	▲	▼	▲	▲	▲	▲	▲	▲	▲
GOLD COAST	▼	▼	▲	▲	▼	▲	▲	▲	▲	▲
MELBOURNE	▼	▲	▲	▼	▲	▲	▲	▲	▼	▼
PERTH	▼	▼	▼	▲	▲	▼	▲	▲	▲	▲
SYDNEY	▼	▼	▼	▲	▲	▲	▲	▲	▲	▲
TOWNSVILLE	▼	▲	▲	▼	▲		▲			
NEW ZEALAND										
AUCKLAND	▼	▼	▼	▼	▼	▼	▼	▲	▼	▲
CHRISTCHURCH	▲	▲	▼	▲	▼	▲	▲	▲	▲	▲
WELLINGTON	▼	▼	▲	▲	▲	▲	▲	▲	▲	
UNITED KINGDOM										
BIRMINGHAM	▼	▲	▲	▲	▲	▲	▼	▲	▲	▲
BRISTOL	▲	▲	▼	▲	▲	▲	▲	▲	▲	▲
CARDIFF	▲	▲	▼	▲	▼	▼	▼	▲	▲	▲
LONDON	▲	▲	▲	▼	▼	▲	▲	▼	▲	▼
NORTH WEST	▲	▲	▲	▲	▼	▲	▲	▲	▲	▲
THAMES VALLEY	▼	▲	▼	▼	▼	▲	▼	▼	▲	▼
YORKSHIRE & HUMBER	▲	▲	▼	▼	▼	▲	▲			
EUROPE										
AMSTERDAM	▼	▼	▼	▲	▼	▲	▲	▲	▼	▲
COPENHAGEN	▼	▼	▼	▼	▼	▼	▲			

Whyalla Secondary College, Whyalla Norrie, South Australia, Australia

RLB CRANE INDEX®

OVERVIEW

In September 2012, the Rider Levett Bucknall Oceania Research and Development and communication teams created the RLB Crane Index® as a simple insight into the construction sector's health in Australia. It was based on the theory that cranes in the sky supported the construction industry, which is a significant contributor to Australia's economic growth.

The RLB Crane Index® has now grown and is published biannually in Australia, New Zealand, North America, North Asia, South East Asia, Southern Africa, England and Europe, as well as annually in the Middle East.

The Index currently tracks the number of cranes in 47 key cities within the RLB network of offices across the globe. It is anticipated that during the coming year further RLB and affiliate offices will be contributing crane numbers to extend the coverage across the globe.

The RLB Crane Index® provides a simplified measure of the current state of the construction industry's workload in each location. Each RLB office physically counts all fixed cranes on the city's skyline. Because of the geographic and topographical nature of each city counted, not all areas counted are the same. The same area is counted within a city for each count, but the areas are different for each city.

Globally, the trend for crane numbers for early 2023 is one of growing numbers. Crane activity has risen in all jurisdictions included except for Australia and Asia which saw a small reduction in crane numbers in our latest count.

Increasing crane activity has been seen in New Zealand, North America, and South Africa.

AUSTRALIA CITIES	Q3 2021	Q1 2022	Q3 2022	Q1 2023	MOVEMENT % CHANGE
ADELAIDE	11	16	17	18	5.9%
BRISBANE	83	79	82	77	-6.1%
CANBERRA	33	31	23	17	-26.1%
CENTRAL COAST	10	10	10	13	30.0%
DARWIN	-	2	2	4	100.0%
GOLDCOAST	35	40	52	56	7.7%
HOBART	-	-	2	1	-50.0%
MELBOURNE	180	192	206	189	-8.3%
NEWCASTLE	9	12	12	9	-25.0%
PERTH	37	55	51	51	0.0%
SUNSHINE COAST	13	16	16	20	25.0%
SYDNEY	295	348	380	365	-3.9%
WOOLONGONG	12	12	15	16	6.7%
AUSTRALIAN CITIES	**718**	**813**	**868**	**836**	**-3.7%**

NEW ZEALAND CITIES	Q3 2021	Q1 2022	Q3 2022	Q1 2023	MOVEMENT % CHANGE
AUCKLAND	96	108	104	103	-1.0%
CHRISTCHURCH	14	12	10	14	40.0%
DUNEDIN	1	1	5	6	20.0%
HAMILTON	4	3	4	5	25.0%
QUEENSTOWN	8	8	8	15	87.5%
TAURANGA	5	3	5	5	0.0%
WELLINGTON	16	15	12	9	-25.0%
NEW ZEALAND CITIES	**144**	**150**	**148**	**157**	**6.1%**

AMERICAN CITIES	Q3 2021	Q1 2022	Q3 2022	Q1 2023	MOVEMENT % CHANGE
BOSTON	12	9	10	9	-10.0%
CHICAGO	7	10	18	14	-22.2%
DENVER	15	21	32	36	12.5%
HONOLULU	6	6	9	14	55.6%
LAS VEGAS	2	2	3	12	300.0%
LOS ANGELES	51	51	46	47	2.2%
NEW YORK	10	12	14	10	-28.6%
PHOENIX	2	2	3	9	200.0%
PORTLAND	15	12	15	14	-6.7%
SAN FRANCISCO	13	15	14	17	21.4%
SEATTLE	39	37	42	51	21.4%
WASHINGTON DC	35	26	26	26	0.0%
UNITED STATES CITIES	**207**	**203**	**232**	**259**	**11.6%**

CANADA CITIES	Q3 2021	Q1 2022	Q3 2022	Q1 2023	MOVEMENT % CHANGE
CALGARY	32	31	21	20	-4.8%
TORONTO	225	252	230	238	3.5%
CANADIAN CITIES	**257**	**283**	**251**	**258**	**2.8%**
NORTH AMERICAN CITIES	**464**	**486**	**483**	**517**	**7.0%**

MIDDLE EAST CITIES	Q4 2018	Q4 2019	MOVEMENT % CHANGE
DUBAI	1,193	1,345	-
ABU DHABI	338	257	-
DOHA	468	401	-
MIDDLE EASTERN CITIES	**1,999**	**2,003**	**-**

AFRICAN CITIES	Q3 2021	Q1 2022	Q3 2022	Q1 2023	MOVEMENT % CHANGE
DURBAN	21	-	6	9	50.0%
CAPE TOWN	29	-	24	36	50.0%
STELLENBOSCH	2	-	3	6	100.0%
JOHANNESBURG	20	-	23	35	52.2%
PRETORIA	18	-	28	43	53.6%
SOUTH AFRICAN CITIES	**90**	**-**	**84**	**129**	**53.6%**

HONG KONG	Q4 2021	Q4 2022	MOVEMENT % CHANGE
HONG KONG	**182**	**169**	**-7.1%**

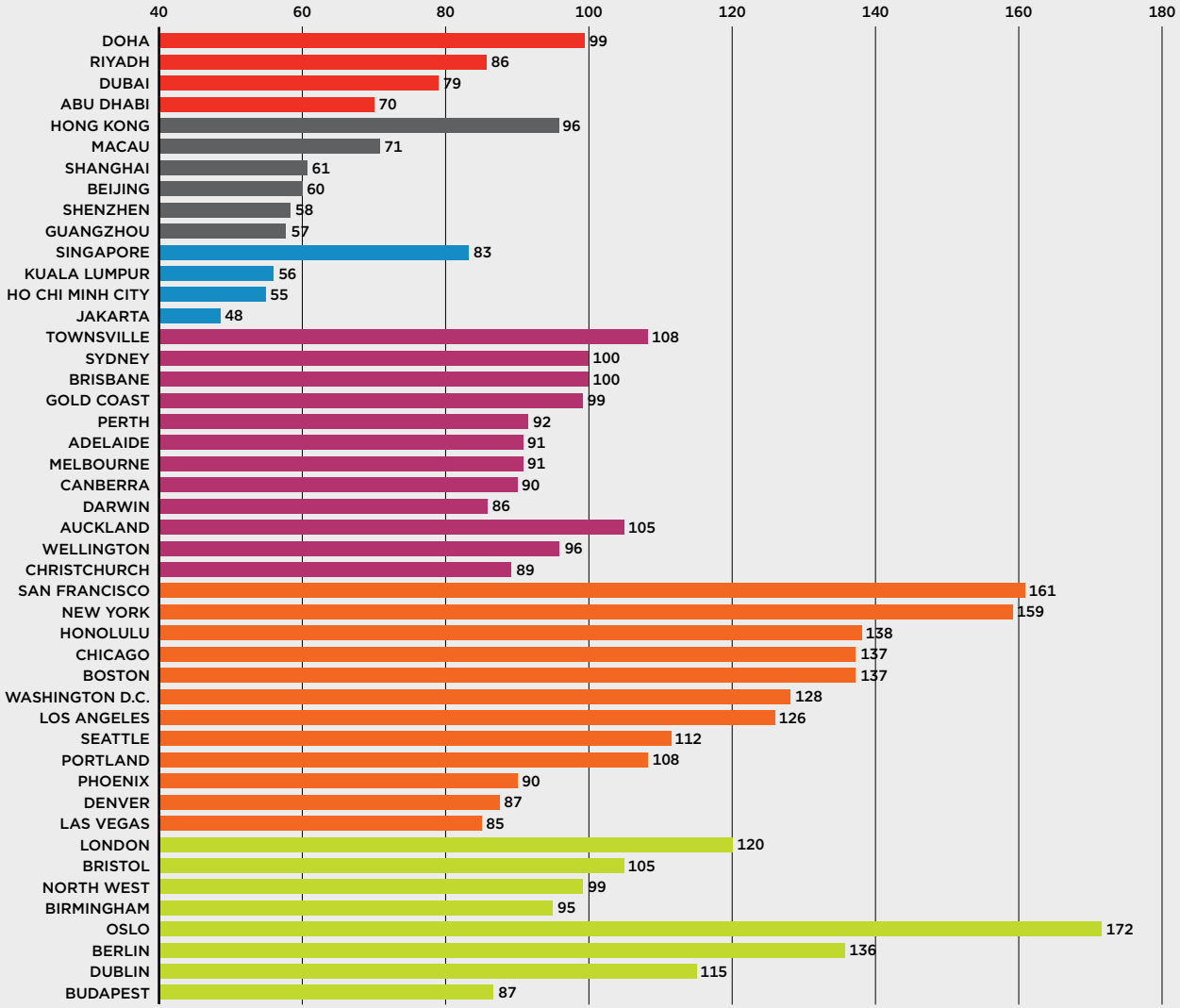
SOUTH ASIA	Q3 2021	Q1 2022	Q3 2022	MOVEMENT % CHANGE
SINGAPORE	466	520	500	-3.8%
JAKARTA	74	49	37	-24.5%
HO CHI MINH CITY	120	122	118	-3.3%
KUALA LUMPUR	443	314	272	-13.4%
SOUTH ASIA CITIES	**1,103**	**1,005**	**927**	**-7.8%**

GLOBAL CONSTRUCTION COST RELATIVITY INDEX

RLB's Construction Cost Relativity Index identifies the relative cost of constructing similar buildings across the globe. The Index is based on the local costing of standard building models and baskets of goods. These are costed globally, and within regions, using the same quantities and similar specifications. They are costed in local currencies and relativities are calculated using a combination of statistical methods, including:

- Conversion into one currency method by converting local currency model costs using USD and the International Monetary Fund's (IMF) published Purchasing Power Parity (PPP)
- RLB developed EKS multilateral index
- RLB Relativity Factor, a weighted sum of 'one currency' results.

The resultant index highlights the relativity in construction costs between key global cities as at Q2 2023.



RELATIVITY INDEX	CITY	REGION	MOVEMENT	POSITION
1	**OSLO**	EUROPE	▶	0
2	**SAN FRANCISCO**	AMERICAS	▶	0
3	**NEW YORK**	AMERICA	▶	0
4	**HONOLULU**	AMERICAS	▶	0
5	**CHICAGO**	AMERICAS	▲	1
6	**BOSTON**	AMERICAS	▼	1
7	**BERLIN**	EUROPE	▶	0
8	**WASHINGTON DC**	AMERICAS	▶	0
9	**LOS ANGELES**	AMERICAS	▶	0
10	**LONDON**	EUROPE	▶	0
11	**DUBLIN**	EUROPE	▶	0
12	**SEATTLE**	AMERICAS	▶	0
13	**PORTLAND**	AMERICAS	▲	4
14	**TOWNSVILLE***	OCEANIA	▲	11
15	**AUCKLAND**	OCEANIA	▼	2
16	**BRISTOL**	EUROPE	▼	2
17	**SYDNEY**	OCEANIA	▼	1
18	**BRISBANE**	OCEANIA	▲	1
19	**DOHA**	MEA	▼	1
20	**GOLD COAST**	OCEANIA	▶	0
21	**NORTH WEST***	EUROPE	▼	6
22	**HONG KONG**	ASIA	▼	1
23	**WELLINGTON**	OCEANIA	▼	1
24	**BIRMINGHAM**	EUROPE	▼	1
25	**PERTH**	OCEANIA	▲	1
26	**ADELAIDE**	OCEANIA	▲	1
27	**MELBOURNE**	OCEANIA	▼	3
28	**PHOENIX**	AMERICAS	▶	0
29	**CANBERRA**	OCEANIA	▶	0
30	**CHRISTCHURCH**	OCEANIA	▲	1
31	**DENVER**	AMERICAS	▲	2
32	**BUDAPEST**	EUROPE	▶	0
33	**DARWIN**	OCEANIA	▲	1
34	**RIYADH**	MEA	▼	4
35	**LAS VEGAS**	AMERICAS	▶	0
36	**SINGAPORE**	ASIA	▶	0
37	**DUBAI**	MEA	▶	0
38	**MACAU**	ASIA	▶	0
39	**ABU DHABI**	MEA	▶	0
40	**SHANGHAI**	ASIA	▲	3
41	**BEIJING**	ASIA	▼	1
42	**SHENZHEN**	ASIA	▶	0
43	**GUANGZHOU**	ASIA	▼	2
44	**KUALA LUMPUR**	ASIA	▲	1
45	**HO CHI MINH CITY**	ASIA	▼	1
46	**JAKARTA**	ASIA	▶	0

*Townsville and North West UK (Manchester) prior period relativities have been adjusted in this edition to reflect adjustments in overall global relativity calculations

Hasso Plattner School of Design Thinking, Cape Town, South Africa

AFRICA

CURRENT MARKET CONDITIONS

South Africa is currently facing an economic downturn characterized by high unemployment rates, political instability, and low economic growth, which has negatively impacted the construction industry. The presence of construction business forums has further discouraged private sector investment, leading to threats of violence and disruptions on construction sites. These challenges have resulted in increased costs, delays, and unsafe working environments.

Another significant factor affecting the construction industry is the "brain drain," where skilled workers are emigrating in search of better economic opportunities. This loss of valuable human capital has reduced the industry's capacity for innovation and entrepreneurship while driving up demand and costs due to a shortage of skilled workers.

Load-shedding, the scheduled power outages to manage electricity demand, has had a substantial impact on construction projects. Manufacturing costs have increased, and programs have been delayed, further reducing investor spending. The continuous rise in interest rates has compounded these challenges, leading to a significant decrease in investor confidence.

In KwaZulu-Natal, the construction sector has experienced stunted growth, particularly following the riots and looting in July 2021 and destructive floods in May 2022. Investor confidence in the region has declined, but there are signs of a slow turnaround, especially in the industrial sector with the expansion of the N2/N3 corridor. The mass residential and student accommodation sectors have shown remarkable growth as the shortage of student housing has become evident.

Cape Town has witnessed significant population growth due to migration and urbanization, leading to increased demand for residential, commercial, and infrastructure developments. Sustainability has become a key focus, with green buildings prioritizing water conservation and energy efficiency. There is also a growing demand for the redevelopment and renovation of existing infrastructure in older suburbs and the central business district.

Johannesburg has experienced considerable growth in the residential and data centre sectors. Some developers are constructing data centres without committed tenants due to the rising demand for IT space.

CONSTRUCTION COST IMPACT

In South Africa, the country's high inflation, reaching a six-year high, has had a significant impact on the cost of construction materials. This inflationary pressure adds to the challenges faced by the construction industry.

Fluctuations in the exchange rate and the increasing price of crude oil have also played a crucial role in construction escalation. These factors lead to higher project costs, reduced profitability, and potentially lower investment in the industry. The South African Rand is currently at its weakest level since April 2020, further exacerbating the situation.

Load-shedding, the scheduled power outages implemented to manage electricity demand, has had a detrimental effect on businesses across the country, including the construction sector. These power disruptions result in delays in project timelines, safety concerns, decreased productivity, and damage to plant and equipment. Contractors need to incorporate alternative methods of power generation in their overheads to mitigate the impact on their schedules and tender rates.

The volatility of raw material costs is another significant driver of construction escalation. The ongoing war in Ukraine and the resulting sanctions against Russia have contributed to increased construction costs and limited availability of materials. The global supply chain has faced constant challenges, negatively affecting South African projects, particularly those relying on long lead equipment procured from abroad, such as data centres.

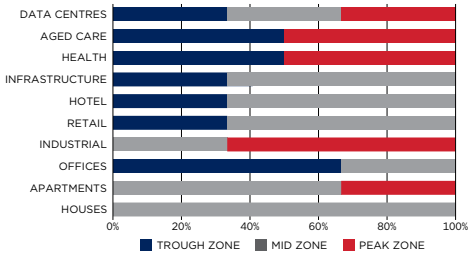
These factors collectively contribute to the escalation of construction costs in South Africa and pose challenges for the industry's sustainability and growth.

RLB TPI ANNUAL % MOVEMENT

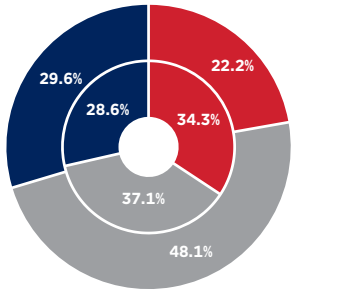
	CURRENT		PREVIOUS		MOVEMENT	
	2023	2024	2023	2024	2023	2024
CAPE TOWN	**6.0**	**6.2**	6.0	6.2	*0.0*	*0.0*
DURBAN	**5.1**	**NP**	5.1	-	*0.0*	-
GABORONE	**6.1**	**NP**	6.1	-	*0.0*	-
JOHANNESBURG	**6.0**	**6.7**	6.0	NP	*0.0*	-

PREVIOUS = FORECAST @ Q4 2022
CURRENT = FORECAST @ Q2 2023

AFRICA REGION ACTIVITY ZONE RATIOS BY SECTOR



MARKET SECTOR ACTIVITY



OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

Guggenheim, Abu Dhabi

MIDDLE EAST

CURRENT MARKET CONDITIONS

The UAE's tourism industry remains strong, with Dubai becoming the world's top destination with over 14 million visitors last year. The closure of Expo and the recent FIFA World Cup in Qatar have contributed to the continued demand for tourism. While hotel developments may be reaching their peak, refurbishment and retrofitting projects are still active. Tender activity is high, particularly for infrastructure projects in the capital, and the Northern Emirates like Ras al Khamiah are emerging as market players with new hotel developments. Following the increase in FED rates, mortgage rates in the UAE have also risen, but demand for villas and luxury properties remains steady as buyers seek to fix interest rates and invest instead of facing rising rents. The UAE is actively promoting an ESG agenda, with a focus on carbon and sustainability policies after the success of COP 27 in Egypt. The consideration of operational and life cycle costs in fee proposals indicates a shift towards more long-term and sustainable decision making. As other Gulf countries compete to become business and trade hubs, the UAE showcases its flexibility and ambition, as demonstrated by the switch to a Monday to Friday working week.

The Giga projects initiated by KSA's Public Investment Fund have significantly contributed to the expansion of the Saudi construction industry. These projects aim to diversify the economy and provide employment opportunities for Saudi citizens. With the lifting of COVID-19 restrictions, the supply chain has improved, and material prices have stabilized. However, the pandemic highlighted the need for better resilience in the construction industry, particularly in managing supply chain disruptions. The rise in development projects has also increased the demand for housing, especially for expatriates, further driving the need for construction work. The government's focus on environmentally friendly practices and new technology adoption in construction is influencing the industry. Moreover, recent diplomatic successes and regional stability have made Saudi Arabia an attractive destination for investment, migration, and tourism, positively impacting Vision 2030. Despite challenges such as labour and material shortages, the construction market in Saudi Arabia is poised for further growth, driven by the elimination of COVID-19 restrictions, economic diversification efforts, technological advancements, and geopolitical stability.

CONSTRUCTION COST IMPACT

The UAE market faces pressure on its resources (human, capital, and materials) due to the high demand from KSA. Rising fuel prices and general inflation have led to increased costs, but intense tender competition has kept major cost hikes in check, especially for projects that prioritize local materials and labour. However, there remains an imbalance in contract risk apportionment, with terms and conditions heavily favoring principals. With growing competition from KSA, it is important for the UAE to make conditions more attractive and move away from the "lowest price wins" mentality in tenders. While land plots in prime city centre locations like Dubai are scarce, developments in suburban areas such as Arabian Ranches 3 and Mira continue to expand due to readily available and competitively priced land. Tenants and homeowners are willing to travel for more affordable and spacious living opportunities in these areas.

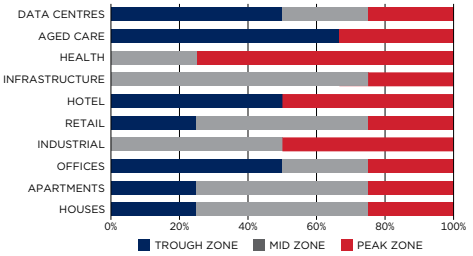
KSA's increased construction spending for Vision 2030 projects is a primary cause of escalating costs. The rising demand for construction projects has considerably raised labor and material prices. The Saudi building industry faces challenges in finding competent contractors, potentially due to the area's reputation for late payments. Local contractors have a wide selection of jobs due to the high volume of work, allowing them to focus on projects near their base of operations and increase profit margins. However, accepting work closer to major city hubs has led to significant price hikes for outlying projects, causing an imbalance in project distribution across the nation. The large number of Vision 2030 projects announced has strained the local supply chain, resulting in price increases for key materials such as concrete and steel. Wages are also increasing due to the abundance of job opportunities. In conclusion, the cost growth in the Saudi construction sector is a complex issue with multiple causes. Although there is significant demand for construction projects, the supply chain struggles to keep up, leading to rising labour and material costs. Addressing factors such as late payment, implementing dynamic procurement methodologies, and expanding global supply chains could potentially reduce cost inflation and create a more sustainable construction market in Saudi Arabia.

RLB TPI ANNUAL % MOVEMENT

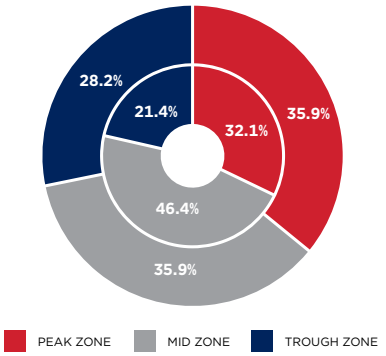
	CURRENT		PREVIOUS		MOVEMENT	
	2023	2024	2023	2024	2023	2024
ABU DHABI	**3.5**	**2.0**	4.5	4.5	*(1.0)*	*(2.5)*
DOHA	**4.2**	**3.2**	4.9	3.9	*(0.7)*	*(0.7)*
DUBAI	**3.5**	**2.0**	4.5	4.5	*(1.0)*	*(2.5)*
RIYADH	**6.7**	**5.8**	8.2	7.4	*(1.5)*	*(1.6)*

PREVIOUS = FORECAST @ Q4 2022
CURRENT = FORECAST @ Q2 2023

MIDDLE EAST REGION ACTIVITY ZONE RATIOS BY SECTOR



MARKET SECTOR ACTIVITY



OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

Shaw Auditorium, Hong Kong University of Science and Technology, Hong Kong

NORTH ASIA

CURRENT MARKET CONDITIONS

China's domestic GDP in Q1 2023 demonstrated a growth rate of 4.5% y-o-y. While the economic indicators remain stable, there are certain challenges in achieving a balanced domestic economic recovery and dealing with the uncertain global geopolitical situation. In the first quarter of 2023, real estate development investment in different regions of China displayed varying degrees of decline. Particularly, the western region experienced a y-o-y decrease of 12.3%, with a total investment of RMB 493.7 billion.

China's economic recovery gained momentum with the relaxation of epidemic policies. After three years of epidemic control, income decline, urbanization slowdown, demographic ageing, and tightened supervision, the real estate investment and new commercial housing sales have witnessed a decline for five consecutive quarters. However, the rate of decline narrowed in Q1 2023. To promote stable economic growth, relevant national departments have implemented several measures to address the challenges faced by the industry and ensure steady development.

In 2023, the Hong Kong economy is expected to undergo a robust recovery, primarily due to the resumption of cross-border land transportation and the revival of the mainland economy. The building and construction sector has shown significant growth of 4.1% year-on-year in real terms, surpassing the 2.1% increase in Q3. Notably, the public sector has experienced remarkable growth of 8.8%.

Conversely, the construction market in South Korea (ROK) is anticipated to face an overall downturn due to unfavourable economic conditions, such as a cooling real estate market, insolvency risks in project financing for real estate, and reduced public infrastructure investment. To tackle the issues arising from an excess of unsold apartments and the new town policy implemented during the previous economic boom, direct government purchase measures may help alleviate the problem. Additionally, the government's previous initiatives for intensive investment in the country's "livelihood-improving" social overhead capital policy and the revitalization of decrepit infrastructure are approaching their conclusion. In this regard, construction companies are encouraged to participate in maintenance projects, leading to an expected increase in interest in public maintenance and redevelopment projects. A slowdown in ROK's domestic construction industry is anticipated.

CONSTRUCTION COST IMPACT

In Q1 2023, construction costs in Shanghai showed moderate increases for steel and copper, while the costs of concrete and glass remained stable. Labour costs also experienced a 2.2% increase during the same period.

Supported by national policies, there is an expected rise in construction volume for affordable housing and long-term rental housing, while the volume of commercial and residential buildings is declining. China's fixed asset investments are currently focused on public facilities, transportation, urban infrastructure, data centres, and smart plant upgrades. These investments aim to stabilize the price levels of construction costs.

In Hong Kong, the development of strategic growth areas like The Northern Metropolis and the Kau Yi Chau Artificial Islands remains a major initiative. The 2023-24 Land Sale Programme, which includes 12 residential sites, was recently announced. Combined with railway property development and redevelopment projects, the potential land supply in 2023 is expected to exceed the annual demand projected in Hong Kong's Long Term Housing Strategy. Additionally, the Housing Bureau has identified several sites for light public housing development, with plans to deliver 30,000 units in the next five years. These initiatives are expected to have a positive impact on the industry's outlook, with a moderate increase anticipated in Hong Kong's tender price index in the upcoming quarters.

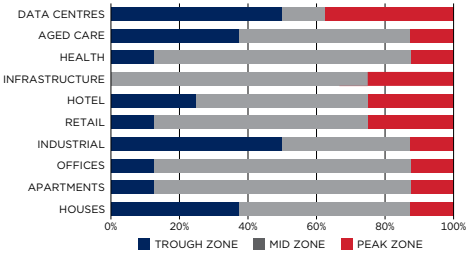
In ROK, the costs of major construction raw materials have increased, including a 10% year-on-year increase for cement and ready-mixed concrete. However, the pace of increment has slowed down, with a slight rise in the cost of construction intermediate products compared to the previous month. The ROK Ministry of Land, Infrastructure, and Transport increased the standard market unit price for construction work, resulting in some issues such as disputes between principals and contractors over additional costs. On the other hand, high interest rates have reduced buyers' appetite, leading to lower housing prices and affecting investor sentiment. This may weaken economic growth in ROK and exert downward pressure on the tender prices of construction projects.

RLB TPI ANNUAL % MOVEMENT

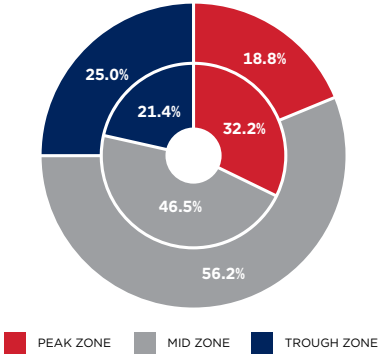
	CURRENT		PREVIOUS		MOVEMENT	
	2023	2024	2023	2024	2023	2024
BEIJING	**0.0**	**2.0**	2.0	2.0	*(2.0)*	*0.0*
CHENGDU	**0.2**	**1.0**	3.0	3.0	*(2.8)*	*(2.0)*
GUANGZHOU	**2.0**	**2.5**	2.0	3.0	*0.0*	*(0.5)*
HONG KONG	**4.0**	**4.0**	4.0	4.0	*0.0*	*0.0*
MACAU	**2.0**	**2.0**	2.0	2.0	*0.0*	*0.0*
SEOUL	**9.6**	**7.9**	9.1	8.4	*0.5*	*(0.4)*
SHANGHAI	**4.1**	**3.0**	3.0	3.0	*1.1*	*0.0*
SHENZHEN	**3.0**	**3.0**	1.0	2.0	*2.0*	*1.0*

PREVIOUS = FORECAST @ Q4 2022
CURRENT = FORECAST @ Q2 2023

NORTH ASIA REGION ACTIVITY ZONE RATIOS BY SECTOR



MARKET SECTOR ACTIVITY



OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

Marina Bay Sands, Singapore

SOUTH ASIA

CURRENT MARKET CONDITIONS

The construction sector in Southeast Asia is expected to continue growing in 2023, although at a slower pace. Construction demand in most of the region is projected to be like or better than last year. There is a significant number of housing and industrial construction projects in the pipeline across the markets. However, the slowdown in the global technology sector has led to reduced investments in expansion within the region.

The prices of core construction materials remain higher compared to pre-pandemic levels due to factors such as elevated material prices, high interest rates, inflation, and taxes. This particularly impacts countries that heavily rely on imported construction materials, contributing to higher construction costs in the region.

In Malaysia, despite a glut in residential properties, consumer spending on big-ticket items like houses is muted due to a possible recession on the horizon and high interest rates. Conversely, Cambodia is experiencing high demand for affordable housing due to a housing shortage caused by population growth and urbanization.

In Indonesia, developers are taking a wait-and-see approach in the second half of the year leading up to the elections scheduled for the first quarter of 2024. Consequently, mega project opportunities for high-rise and commercial buildings are not expected in the near term.

Vietnam, while still an attractive destination for foreign corporate entities, has witnessed a decline in investment in the first four months of the year due to weak global demand and domestic political and regulatory uncertainties. Additionally, high borrowing interest rates and difficulties in accessing capital are putting strain on local businesses.

In Singapore, the government is actively promoting transformation efforts across the built environment value chain. This includes requirements for greener buildings with higher energy efficiency, as well as increased productivity through off-site fabrication and automation. These measures aim to reduce the nation's reliance on foreign labour in the long term.

CONSTRUCTION COST IMPACT

Construction costs in the region are steadily increasing by around 5% in 2023. The industry continues to face various challenges, including intense global competition for resources, a shortage of labour, sporadic disruptions in the supply chain, an energy crisis, high interest rates, sticky inflation, and global economic uncertainties. Within the region, factors such as rising material costs, limited availability of labour, logistical challenges in the supply chain, and increasing wages are the main drivers behind the escalating construction costs.

Interest rate adjustments in the US have had a ripple effect in the Southeast Asia region, with local banks also raising interest rates. This has created financial pressures in the regional markets. The rising interest rates are likely to impact pre-sales of new developments, as potential homeowners delay purchases and private developers hesitate to launch new projects. Economic concerns for this year are expected to continue dampening the demand.

Inflationary pressures remain high, with projected rates exceeding the optimal range for the year. General inflation is a key factor driving the escalation of construction costs in the region. The costs of raw materials and operational overheads have increased, causing pre-contract projects in various markets to go over budget. While global material prices have shown signs of moderating, prices in general are still on the rise. Additionally, geopolitical issues such as the conflict in Ukraine continue to impact energy prices and global supply chains.

The labour shortage remains a significant challenge for countries in the region, although the situation has improved since most national borders reopened in 2022. However, the adjustment period between reopening and reaching market equilibrium is taking longer than anticipated. In some markets, labour wages have reached historical highs due to a combination of inflation and labour shortage, further driving up construction costs.

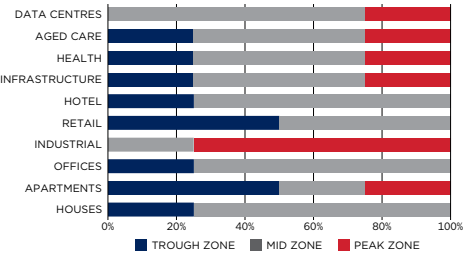
Furthermore, stricter compliance with health and safety regulations, quality standards, and legislation in the region will also exert short-term pressure on the escalation of construction costs.

RLB TPI ANNUAL % MOVEMENT

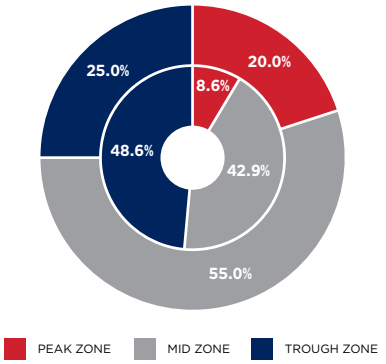
	CURRENT		PREVIOUS		MOVEMENT	
	2023	2024	2023	2024	2023	2024
HO CHI MINH CITY	**5.8**	**4.8**	5.1	5.1	*0.7*	*(0.3)*
JAKARTA	**5.1**	**NP**	NP	NP	-	-
KUALA LUMPUR	**4.0**	**NP**	4.0	NP	*0.0*	-
SINGAPORE	**4.8**	**3.0**	5.0	3.0	*(0.2)*	*0.0*

PREVIOUS = FORECAST @ Q4 2022
CURRENT = FORECAST @ Q2 2023

SOUTH ASIA REGION ACTIVITY ZONE RATIOS BY SECTOR



MARKET SECTOR ACTIVITY



OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

Hyatt House Sacrament, California, America

University of Arizona, Applied Research Lab, Arizona, America

NORTH AMERICA

CURRENT MARKET CONDITIONS

The construction industry in 2023 faces a range of challenges and opportunities across different regions. In the Midwest, a shortage of skilled labor creates difficulties for project quality and management, resulting in high construction prices and quality issues.

In Denver, there is thriving commercial construction activity, particularly in the River North (RiNo) District, driven by the Expanding Housing Affordability Policy. Honolulu is in a transition phase. With a robust pipeline of potential projects, but economic uncertainty and rising interest rates pose threats to their realization. Las Vegas witnesses increased construction activity due to the strong recovery in travel and tourism spending, with significant projects driven by the redevelopment of the Fontainebleau and the return of Formula 1 racing.

The city of New York is predicted to sustain its growth in construction spending, primarily driven by infrastructure projects and government spending. Portland sees robust activity in data center construction but faces challenges in the commercial office space and retail sectors. While both single-family and multi-family residential construction thrive. The San Francisco Bay Area experiences lower construction spending and starts compared to pre-Covid figures, while Seattle witnesses a rise in transit work, sustainability-driven projects, and mixed-use developments. In Washington, DC, contractors remain busy, leading to non-competitive bidding practices, and material costs remain high.

Alberta, Canada, is predicted to sustain its growth despite difficulties caused by high inflation and interest rates. Ontario, Canada, experiences rapid expansion in the construction market, fuelled by a backlog of infrastructure projects and commercial structure development. Labor shortages present challenges, and the residential sector may slow down due to rising interest rates, but migration and the renovation industry contribute to overall construction activity.

Overall, labor shortages, material costs, economic uncertainty, and fluctuations in interest rates all play vital roles in influencing the pace and direction of construction activity in each respective area.

CONSTRUCTION COST IMPACT

Construction costs have remained higher than average due to labor shortages, material availability issues, supply and demand trends, and increased costs of living. The cost of goods has been escalating at historical rates, leading to a domino effect on overall construction costs. However, there are some positive developments such as a reduction in raw material costs, though long lead times and material shortages still impact the industry.

In Denver, the labor shortage in the construction trade continues to pose a significant challenge, with a struggle to find new talent and a higher rate of skilled worker attrition. In Honolulu, construction cost changes have been influenced by factors such as stabilizing raw material costs, careful pursuits by contractors, and timing considerations for optimal value capture. Fuel costs and the pressure on wages are driving up construction costs nationwide, and rising interest rates have led to project delays.

Across various regions like Alberta, Arizona, San Francisco Bay Area, and Seattle, the shortage of skilled labor and material costs are the main drivers of cost escalation. In Ontario, rising construction demand and labor shortages have led to limited availability and increased pricing for materials and labor. Municipal high-rise development fees and rising energy costs also contribute to construction cost increases.

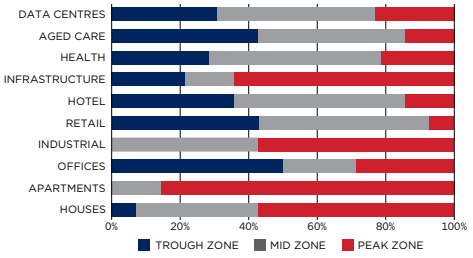
Overall, the construction industry is facing challenges such as labor shortages, material availability issues, rising costs, and market saturation. These factors contribute to cost escalation and necessitate careful planning and efficient strategies for successful project execution.

RLB TPI ANNUAL % MOVEMENT

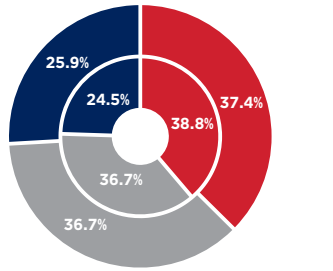
	CURRENT 2023	CURRENT 2024	PREVIOUS 2023	PREVIOUS 2024	MOVEMENT 2023	MOVEMENT 2024
BOSTON	**7.0**	**6.5**	7.0	6.0	*0.0*	*0.5*
CHICAGO	**6.0**	**5.0**	6.0	5.5	*0.0*	*(0.5)*
DENVER	**6.7**	**6.5**	7.0	6.5	*(0.3)*	*0.0*
HONOLULU	**6.0**	**7.0**	6.0	5.5	*0.0*	*1.5*
LAS VEGAS	**6.0**	**5.5**	6.0	5.5	*0.0*	*0.0*
LOS ANGELES	**5.5**	**4.0**	6.0	5.5	*(0.5)*	*(1.5)*
NEW YORK	**6.5**	**6.0**	7.0	6.5	*(0.5)*	*(0.5)*
PHOENIX	**6.0**	**5.5**	7.0	6.0	*(1.0)*	*(0.5)*
PORTLAND	**7.0**	**6.0**	6.0	5.5	*1.0*	*0.5*
SAN FRANCISCO	**6.5**	**6.0**	6.5	6.0	*0.0*	*0.0*
SEATTLE	**6.5**	**6.0**	7.0	6.5	*(0.5)*	*(0.5)*
WASHINGTON D.C.	**6.5**	**4.5**	7.0	6.0	*(0.5)*	*(1.5)*
CANADA						
CALGARY	**4.5**	**4.0**	5.0	4.5	*(0.5)*	*(0.5)*
TORONTO	**5.5**	**5.5**	7.0	6.0	*(1.5)*	*(0.5)*

PREVIOUS = FORECAST @ Q4 2022
CURRENT = FORECAST @ Q2 2023

NORTH AMERICA REGION ACTIVITY ZONE RATIOS BY SECTOR



MARKET SECTOR ACTIVITY



OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

Brookfield Place, Sydney, New South Wales, Australia

AUSTRALIA

CURRENT MARKET CONDITIONS

In both New South Wales and Victoria , government-led projects in hospitals, schools, and infrastructure are the main drivers of construction activity. The private sector remains cautious amid concerns of the general economic outlook. Rising interest rates have impacted residential starts, but increasing rental rates and immigration may lead to increased activity.

Elsewhere demand remains steady in the aged care, industrial and private health sectors. In the commercial sector, there is a shift towards upgrading B and C grade assets to remain competitive in the market while the build-to-rent sector continues to gain momentum, supported by recent federal tax changes that encourage foreign investment within the sector.

The Queensland government is awarding major hospital projects worth $10bn, straining limited resources and leading to forecasted construction cost increases in 2024. A $5bn corrections program and a $3bn Education program are also planned, followed by the Olympic Games venues. Residential construction has slowed due to high costs and interest rates. The commercial sector is active, with 80 Ann Street and 360 Queen Street projects underway. The industrial sector is seeing strong demand for storage and distribution centers. Infrastructure projects include Cross River Rail, Brisbane Metro, and the Inland Rail, with upgrades to the M1.

The Northern Territory experiences strong growth in the defence and infrastructure sectors, aiming for a $40 billion economy by 2030. Major defence projects, including the Tindal RAAF air base Redevelopment and Larrakeyah defence precinct upgrades, are underway.

In summary, construction activity in Australia faces common global challenges, such as rising costs, labour shortages, and funding concerns, as well as region-specific dynamics. While government-led projects provide stability, the private sector is being impacted by economic uncertainty. The residential, commercial, and infrastructure sectors exhibit varying levels of activity across different regions, emphasising the need for resource allocation and strategic planning to ensure sustainable growth in the construction industry.

CONSTRUCTION COST IMPACT

Construction costs in various regions of Australia face common challenges that significantly impact the industry. The cities of Melbourne and Sydney both experience a reduction in pricing uncertainty as raw material prices stabilize. However, specific trades are encountering cost increases and limited availability of materials. The investments made by state governments in construction projects contribute to the industry's stabilisation but also exert pressure on the supply and demand dynamics. Meanwhile, the private sector grapples with elevated funding costs and a declining housing market. The scarcity of skilled labour and instances of insolvency continue to influence upward adjustments in tender pricing and contractor margins. Additionally, inflation and the renegotiation of employment agreements are expected to drive labour rates up.

In Brisbane, there is currently a temporary deceleration in the escalation of construction costs due to a downturn in the residential sector. However, the implementation of forthcoming programs and the imminent Olympic games are expected to revive construction activities, highlighting the need for skilled resources from other regions or overseas.

On the Gold Coast, there continues to be a persistent upward trend in construction costs, primarily driven by limited resources and reduced competition. Nonetheless, with a decrease in the number of new residential projects, the annual rate of cost escalation is projected to ease. Challenges such as shortages of skilled resources, productivity loss, and instances of insolvency persist in this region.

In the Australian Capital Territory (ACT), pressures remain as to the availability of labour, although the rate of cost increases has slowed down. It is not expected that the situation will stabilize to historical averages over the short term.

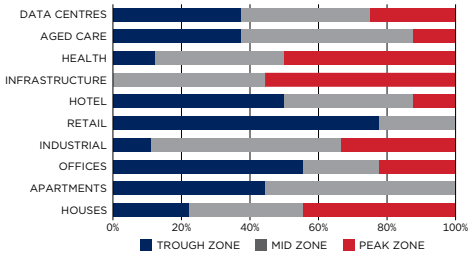
Within the West and North, escalation is being driven by fragmented supply chains, rising fuel prices, and shortages of labour.

RLB TPI ANNUAL % MOVEMENT

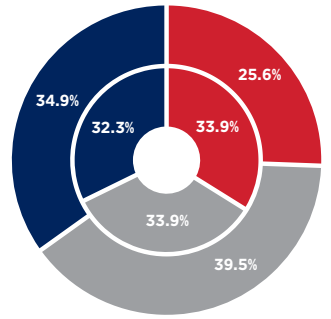
	CURRENT		PREVIOUS		MOVEMENT	
	2023	2024	2023	2024	2023	2024
ADELAIDE	**5.1**	**4.1**	3.8	3.0	*1.3*	*1.1*
BRISBANE	**5.1**	**5.1**	5.1	5.1	*(0.0)*	*0.0*
CANBERRA	**4.5**	**3.8**	4.0	3.5	*0.5*	*0.3*
DARWIN	**5.5**	**4.5**	5.0	4.0	*0.5*	*0.5*
GOLD COAST	**10.5**	**5.0**	7.5	3.0	*3.0*	*2.0*
MELBOURNE	**5.0**	**3.5**	4.0	3.5	*1.0*	*0.0*
PERTH	**5.6**	**4.4**	5.6	4.4	*0.0*	*0.0*
SYDNEY	**3.9**	**3.5**	3.9	3.5	*0.0*	*0.0*
TOWNSVILLE	**8.0**	**5.0**	8.0	4.0	*0.0*	*1.0*

PREVIOUS = FORECAST @ Q4 2022
CURRENT = FORECAST @ Q2 2023

AUSTRALIA REGION ACTIVITY ZONE RATIOS BY SECTOR



MARKET SECTOR ACTIVITY



OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

Sir Howard Morrison Centre, Rotorua, New Zealand

Credit photographer: Stephen Barker

NEW ZEALAND

CURRENT MARKET CONDITIONS

New Zealand is currently facing a high inflationary environment, prompting the central bank to raise the official cash rate to 5.5% in an effort to curb inflation. The aim is to bring inflation within the target band of 1 to 3%, as the current rate stands at around 7%. The combination of cost pressures in the wider economy and the high cost of borrowing has led to a decline in investment intentions, particularly in the residential building sector. This sector, which had previously experienced record-high house prices and building activity, is now facing a slowdown. The upcoming general election in October and uncertainty surrounding the composition of the next government are expected to further contribute to a state of investment hiatus, resulting in reduced activity for the rest of 2023.

While there are signs of capacity pressures easing in the construction industry due to the decline in residential activity, non-residential construction remains strong. Central government spending is supporting activity in social infrastructure, including hospitals, schools, and social housing. Major horizontal infrastructure projects are also helping to sustain construction activity. However, the availability of skilled labour, or rather the lack thereof, continues to pose a significant challenge for the industry. Despite the decrease in residential activity, skilled labour remains a top concern for businesses. The combination of underlying inflation, wage increases, and uncertain economic outlook has put businesses under cost pressures, making it difficult to pass on these increased costs. Recent liquidations of construction firms highlight the impact of skilled labour shortages, cost pressures, and cash flow issues in the challenging environment.

The outlook for the rest of 2023 appears subdued. A survey of architectural firms indicates that a net 54% of firms expect weaker commercial construction activity. While the aftermath of extreme weather events will contribute to significant spending on rebuilding and infrastructure in the coming years, it is expected that this spending will come at the expense of other planned projects. Overall, building activity is anticipated to decline in the coming years. Building sector firms remain the most pessimistic among the sectors surveyed, with a net 76% of them expecting a deterioration in general economic conditions in the coming months. Weaker demand is dampening confidence in the sector, as building sector firms report a continued decline in output and new orders.

CONSTRUCTION COST IMPACT

Cost volatility and rapid increases experienced in 2022 have eased in the first quarter of 2023. Supply chain issues have stabilised, and access to materials is returning to pre-pandemic conditions. However, the lack of skilled labour continues to be a significant cost pressure within the industry, along with underlying economic inflation and wage rates. While residential building activity has decreased, the non-residential sector remains solid, and construction prices have not shown any significant signs of decline yet. Despite the easing of construction demand, cost pressures in the building sector remain intense, with a net 86% of firms reporting higher costs in the March quarter. However, only 46% of firms increased prices, indicating the continued pressure on operating margins.

The cost of building is also impacted by legislation and building code changes aimed at sustainability and energy efficiency. Implementing these changes has led to increased costs, along with other compliance changes for seismic and passive fire considerations, significantly raising building costs compared to historical averages.

Supply chain issues have eased, and while some material prices like structural steel and reinforcing steel have stabilised, most material costs continue to rise, although at a modest pace compared to 2022. As immigration returns and residential construction and the overall economy decline, labour constraints are expected to ease, leading to a reduction in labour costs later this year. Contractor margins are also expected to decrease as supply exceeds demand. However, there is a shortage of Tier 1 contractors and subcontractors in New Zealand, and large or complex projects may not see significant cost reductions due to limited competition.

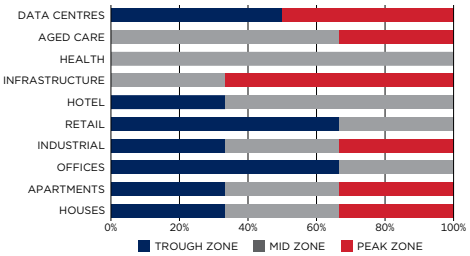
In 2022, the national average cost escalation in the main centres was 9% to 12%, the highest since the early 2000s. The forecast for 2023 suggests a moderation in the rate of escalation, but costs are still expected to rise at around 5%, remaining reasonably high.

RLB TPI ANNUAL % MOVEMENT

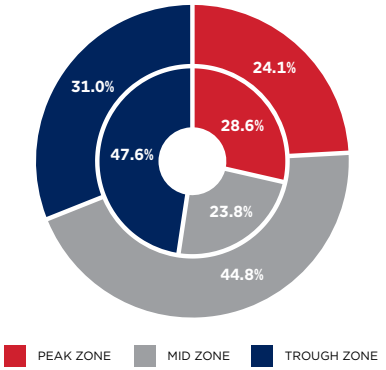
	CURRENT		PREVIOUS		MOVEMENT	
	2023	2024	2023	2024	2023	2024
AUCKLAND	**5.5**	**4.0**	5.5	4.0	*0.0*	*0.0*
CHRISTCHURCH	**5.0**	**4.0**	5.0	4.0	*0.0*	*0.0*
WELLINGTON	**5.0**	**4.0**	5.0	4.0	*0.0*	*0.0*

PREVIOUS = FORECAST @ Q4 2022
CURRENT = FORECAST @ Q2 2023

NEW ZEALAND REGION ACTIVITY ZONE RATIOS BY SECTOR



MARKET SECTOR ACTIVITY



OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

Data Science, AI and Modelling Centre (DAIM), Hull, United Kingdom

Credit to Premier Modular Ltd.

UNITED KINGDOM

CURRENT MARKET CONDITIONS

The general economy of the United Kingdom is currently living with the latest of 12 successive interest rate rises, the combination of which have taken the Bank of England Base Rate to 4.5%, a level not seen since 2008. Although the Bank, in its recent May Report, notes the ongoing burden of high levels of general inflation, its principal concern is that of the containment of inflation, which may yet lead to more increases in the cost of borrowing. Despite this, the Bank foresees inflation returning to target levels of 2-3% only in 2025. Moreover, there is also the prospect of significant additional pain being felt by large numbers of mortgagees nearing the end of fixed-interest-rate periods.

One plus-point is that technical recession has been avoided for the moment, even though the UK's economy is seen by the IMF as being the worst performing in the G7.

Alongside all of these issues, construction does appear to be performing well, with value of output up in the year to March 2023 by 23% over a base year to March 2020. New work orders' volumes too are up by almost 6% for this year, after being +12% last year using the same comparison. While new Infrastructure work orders have tailed-off somewhat, likely due to the actual commencement of rail projects under HS2, the outstanding performer in new work coming to market has been the Private Industrial sector, up by almost 60% on the base, for the second successive year.

The upshot of the above statistical analysis is that it depicts a construction market in the process of adjustment to the aftermath of the awarding of some very large infrastructure works projects, alongside stack-up concerns for commercial projects, and yet with ongoing awards of public sector works taking up some of any slack caused by projects' completions.

However, the national statistics belie the detail of the regional realities, analysis of which can be found in RLB's Tender Price Forecast (TPF) documents for the UK, published quarterly and available at RLB.com.

CONSTRUCTION COST IMPACT

Around the country, forecast pressures on tender prices have eased somewhat, as is reflected in the softening of forecast tender price uplifts for this year and looking forward. There is no doubt however, that times are challenging, as large projects roll to completion having passed through the aftermath of the worst features of the combination of Brexit, Covid and the effects of the Ukraine-Russia conflict. The advent of the combined disruptions to normal market functioning did of course give rise to an element of flexibility within otherwise rigid contractual conditions, where projects could otherwise have been at risk due to logistical and programme-related issues that could not have been foreseen at tender. The ample amount of work available in the industry provided protection at that time, but on the downslope of that, the return to a more limited workload availability gives rise to highly competitive bidding.

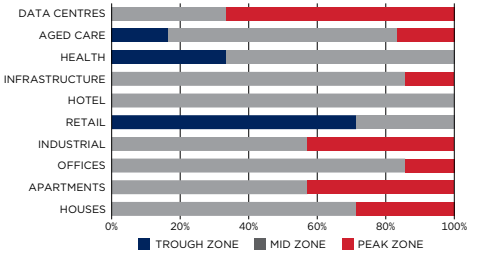
Contractors and sub-contractors nationwide are now having to tender for work at a time when clients' budgets have been stretched by build-price inflationary pressures fuelled by rapidly increasing builders' input costs. As a result, the search for replacement workload is affected by the built-in inflation of the last couple of years, and a current year only marginally less cost-affected. Overall, the need for new work is very definitely there, and so the competitive edge to pricing is returning and re-placing the lid on bid-price-expansion. With that however, comes added risk of cash flow concerns further down the road, if successful bidding contractors have to pare their bids to the bare minimum in order to gather turnover, a situation known only too well from previous cost and price expansionary peaks. The reductions in raw commodities prices have not necessarily passed through to materials' pricing, and the ongoing shortfall of both skilled and unskilled labour continues throughout the country, so actual falls in pricing seem unlikely, but certainly lesser uplift figures are showing through in regions' tender price forecasting.

RLB TPI ANNUAL % MOVEMENT

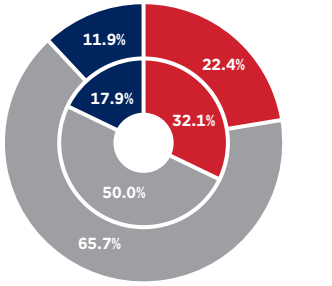
	CURRENT		PREVIOUS		MOVEMENT	
	2023	2024	2023	2024	2023	2024
CARDIFF	**4.0**	**3.0**	6.0	4.0	*(2.0)*	*(1.0)*
BIRMINGHAM	**3.8**	**3.0**	5.0	4.5	*(1.3)*	*(1.5)*
BRISTOL	**4.5**	**3.0**	3.0	2.5	*1.5*	*0.5*
LONDON	**4.0**	**3.0**	3.5	3.0	*0.5*	*0.0*
NORTH WEST	**5.5**	**4.0**	5.5	4.0	*0.0*	*0.0*
THAMES VALLEY	**3.5**	**2.5**	3.5	2.5	*0.0*	*0.0*
YORKSHIRE & HUMBER	**4.0**	**3.5**	3.0	3.5	*1.0*	*0.0*

PREVIOUS = FORECAST @ Q4 2022
CURRENT = FORECAST @ Q2 2023

UK REGION ACTIVITY ZONE RATIOS BY SECTOR



MARKET SECTOR ACTIVITY



OUTER RING – MARKET SECTORS AS AT Q2 2023
INNER RING – MARKET SECTORS AS AT Q4 2022

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