RLB Rider Levett Bucknall

RIDERS DIGEST 2021

NORTH AMERICA EDITION

RIDERS DIGEST 2021 EDITION

This document serves as a summary of cost information and related data on the construction industry.

COMPILED BY

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RIDERS DIGEST

Cost information in this publication is indicative and for general guidance only and is based on rates ruling at Q2 2021.

ACKNOWLEDGEMENTS

WHERE INFORMATION IS REQUIRED ON A SPECIFIC PROJECT, IT IS ESSENTIAL THAT PROFESSIONAL ADVICE IS OBTAINED.

NAME: _____

ADDRESS: _____

_____

☎ BUSINESS: _____

MOBILE: _____

ADDRESSES AND TELEPHONE NUMBERS

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FOREWORD

Welcome to the 2021 edition of the Riders Digest

A compendium of North America cost data and related information as well as international cost data.

Rider Levett Bucknall is an international property and construction consultancy firm with over 120 offices worldwide. By integrating local knowledge and expertise with global understanding, we provide our clients with professional advice that is second to none.

Our approach allows us to deliver successful outcomes to property and construction projects by tailoring our services to match client goals and needs. Our team specializes in creating, evaluating, and managing project controls that address the critical issues of time, cost, scope, and quality in the built environment.

Rider Levett Bucknall is well known for its cost research through a variety of publications, such as our Quarterly Cost Reports, International Cost Reports, White Papers and area-specific market studies. This commitment to research and innovation, as well as our hands-on experience, has given us an edge on the most up-to-date construction industry market knowledge.

I hope that you find our cost data and related information both informative and useful in your business.

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PRESIDENT, NORTH AMERICA

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SACRAMENTO CONVENTION CENTER EXPANSION & RENOVATION

SACRAMENTO, CALIFORNIA

The Sacramento Convention Center (SCC) Expansion and Renovation project is part of a $350 Million landmark program, enhancing and transforming aging cultural facilities into modern and synergistic public congregation centers with refreshed character and improved guest and patron experiences.

A main goal of this project is to revitalize downtown Sacramento's Entertainment District, hence active and regular community involvement and support for this program has been playing a particularly important role.

Rider Levett Bucknall (RLB), in association with Conventional Wisdom, are providing a variety of services to the City of Sacramento for the renovations of the Memorial Auditorium, Convention Center and the Community Center Theater. RLB is responsible for overseeing the integrated planning, design and some construction processes as an extension of the City staff. RLB's management approach includes extensive stakeholder and City Council participation, coordination and presentations.

INTERNATIONAL CONSTRUCTION

CONSTRUCTION COSTS

The costs stated in this section represent hard construction costs and reflect the standards and specifications normal to that country or region. Variation in costs may be experienced for factors such as site conditions, climatic conditions, standards of specification, market conditions, etc. Costs for associated site development work such as site formation, utilities, paving, parking and landscaping are excluded.

Figures also exclude furniture, fittings and equipment (FF&E) with the exception of figures for Hong Kong, China and Singapore, which do include FF&E in hotel costs.

All project soft costs such as land acquisition, design and engineering fees, entitlements, permitting and financing are excluded. No allowance has been included to cover possible changes in construction costs between the date of this publication and any future date.

Figures on the following pages are stated in construction costs per gross square foot in local currency. For your convenience, local currency exchange rates to USD($) at 1 June 2021 are provided in the table below.

CURRENCY	EXCHANGE RATE TO USD		
Australian Dollar	AUD	0.7771	
British Pound	GBP	1.4178	
Chinese Yuan	CNY	0.1576	
Hong Kong Dollar	HKD	0.1293	
Indonesian Rupiah	IDR	0.0001	
South-Korean Won	KRW	0.0009	(‘000)
Malaysian Ringgit	MYR	0.2423	
New Zealand Dollar	NZD	0.7212	
Philippine Peso	PHP	0.0210	
Qatari Rial	QAR	0.2724	
Saudi Riyal	SAR	0.2683	
Singapore Dollar	SGD	0.7580	
United Arab Emirates Dirham	AED	0.2711	
Vietnamese Dong	VND	0.000	(‘000)

CONSTRUCTION COSTS

LOCATION /CITY	LOCAL CURRENCY	COST PER SF			
		OFFICE BUILDING			
		PREMIUM		GRADE A	
		LOW	HIGH	LOW	HIGH
NORTH AMERICA @ Q2 2021					
BOSTON	USD	350	550	225	325
CALGARY	CAD	235	310	200	285
CHICAGO	USD	280	450	175	280
DENVER	USD	250	350	175	225
HONOLULU	USD	310	560	260	420
LAS VEGAS	USD	200	350	135	190
LOS ANGELES	USD	240	360	180	265
NEW YORK	USD	360	830	210	520
PHOENIX	USD	220	350	140	195
PORTLAND	USD	230	315	210	310
SAN FRANCISCO	USD	380	650	300	500
SEATTLE	USD	565	670	230	335
TORONTO	CAD	235	320	200	285
WASHINGTON DC	USD	325	500	225	325
ASIA @ Q4 2020					
BEIJING	RMB	935	1,375	860	1,320
GUANGZHOU	RMB	830	1,265	765	1,155
HO CHI MINH CITY	VND ('000)	2,880	3,545	2,650	2,850
HONG KONG	$HKD	2,420	3,605	2,070	2,770
JAKARTA	RP ('000)	1,300	1,710	970	1,245
KUALA LUMPUR	RINGGIT	300	430	235	345
MACAU	MOP	1,910	2,665	1,695	2,370
MANILLA	PHP	4,045	5,965	-	-
SEOUL	KRW ('000)	280	340	210	260
SHANGHAI	RMB	895	1,320	795	1,235
SINGAPORE	SGD	315	440	295	425
EUROPE @ Q4 2020					
BELFAST	GBP	155	225	340	225
BIRMINGHAM	GBP	225	315	220	335
BRISTOL	GBP	235	335	215	335
CARDIFF	GBP	205	290	195	290
EDINBURGH	GBP	330	430	310	410
LONDON	GBP	240	310	235	310
SHEFFIELD	GBP	225	380	210	275
MIDDLE EAST @ Q4 2020					
ABU DHABI	AED	615	730	495	690
DUBAI	AED	645	775	520	730
RIYADH	SAR	655	830	625	785
OCEANIA @ Q4 2020					
ADELAIDE	AUD	325	410	280	340
AUCKLAND	NZD	460	550	440	525
BRISBANE	AUD	325	420	300	355
CANBERRA	AUD	375	550	310	445
CHRISTCHURCH	NZD	425	510	395	475
DARWIN	AUD	335	430	275	410
GOLD COAST	AUD	300	385	260	310
MELBOURNE	AUD	370	425	325	370
PERTH	AUD	325	430	270	375
SYDNEY	AUD	420	485	375	425
WELLINGTON	NZD	475	560	425	505

All costs are stated in local currency as shown below.
Refer to www.rlb.com/ccc/

COST PER SF					
RETAIL				RESIDENTIAL MULTI STORY	
MALL		STRIP SHOPPING			
LOW	HIGH	LOW	HIGH	LOW	HIGH
200	300	150	240	185	315
225	300	125	175	165	225
185	290	135	220	165	400
95	150	80	175	125	250
230	525	195	460	215	470
120	480	80	145	100	405
160	350	135	195	235	370
310	620	670	360	220	420
120	220	95	160	100	250
210	315	185	260	210	315
300	475	260	400	390	600
260	440	230	335	205	465
245	300	140	185	215	255
175	300	140	225	200	340
1,025	1,560	895	1,400	510	710
950	1,345	820	1,235	470	635
2,235	2,975	-	-	1,875	2,620
2,420	3,070	2,070	2,690	2,315	3,715
705	970	-	-	855	1,720
225	375	-	-	260	485
2,100	2,585	1,775	2,260	1,505	2,180
4,185	6,470	5,445	7,210	3,335	7,805
190	270	155	240	185	250
935	1,480	830	1,345	460	655
205	355	-	-	260	335
250	340	75	145	155	205
335	470	105	200	190	265
650	460	105	195	140	195
315	445	100	190	205	270
400	560	125	235	280	470
335	475	110	205	230	290
295	415	10	180	205	260
430	680	-	-	510	680
460	720	-	-	550	720
355	645	385	550	580	1,105
175	325	140	200	265	370
340	370	200	250	500	550
235	385	150	215	325	400
260	435	135	275	345	515
285	315	160	205	395	445
190	285	135	230	220	270
270	375	130	195	235	345
255	365	140	190	315	415
205	310	110	270	235	345
235	495	180	235	335	450
335	355	-	-	440	540

CONSTRUCTION COSTS

LOCATION /CITY	LOCAL CURRENCY	COST PER SF			
		HOTELS			
		3 STAR		5 STAR	
		LOW	HIGH	LOW	HIGH
NORTH AMERICA @ Q2 2021					
BOSTON	USD	275	390	400	580
CALGARY	CAD	200	250	310	455
CHICAGO	USD	290	410	400	660
DENVER	USD	250	350	300	500
HONOLULU	USD	345	575	545	785
LAS VEGAS	USD	150	300	350	550
LOS ANGELES	USD	285	365	380	560
NEW YORK	USD	330	445	445	670
PHOENIX	USD	185	275	350	550
PORTLAND	USD	260	365	340	440
SAN FRANCISCO	USD	410	600	500	750
SEATTLE	USD	310	410	410	620
TORONTO	USD	220	280	425	540
WASHINGTON DC	USD	265	400	400	600
ASIA @ Q4 2020					
BEIJING	RMB	1,185	1,505	1,585	2,100
GUANGZHOU	RMB	1,130	1,345	1,505	1,935
HO CHI MINH CITY	VND ('000)	2,710	3,505	3,860	4,630
HONG KONG	$HKD	3,040	3,525	3,660	4,495
JAKARTA	RP ('000)	1,455	2,045	1,940	2,585
KUALA LUMPUR	RINGGIT	270	375	540	755
MANILLA	PHP	2,585	2,985	3,230	3,955
MANILLA	PHP	5,995	7,555	9,255	10,895
SEOUL	KRW ('000)	18,470	25,655	42,090	61,760
SHANGHAI	RMB	1,130	1,455	1,535	2,045
SINGAPORE	SGD	345	395	450	520
EUROPE @ Q4 2020					
BELFAST	GBP	115	170	185	255
BIRMINGHAM	GBP	155	235	260	360
BRISTOL	GBP	160	215	275	365
CARDIFF	GBP	155	225	240	335
EDINBURGH	GBP	210	270	310	420
LONDON	GBP	175	215	260	350
SHEFFIELD	GBP	140	190	225	355
MIDDLE EAST @ Q4 2020					
ABU DHABI	AED	635	895	950	1,265
DUBAI	AED	665	1,000	1,000	1,560
RIYADH	SAR	690	860	1,830	2,155
OCEANIA @ Q4 2020					
ADELAIDE	AUD	295	380	400	490
AUCKLAND	NZD	505	600	700	775
BRISBANE	AUD	325	450	450	615
CANBERRA	AUD	335	570	460	690
CHRISTCHURCH	NZD	460	505	560	680
DARWIN	AUD	305	380	385	480
GOLD COAST	AUD	300	430	430	600
MELBOURNE	AUD	335	430	475	635
PERTH	AUD	280	385	385	515
SYDNEY	AUD	375	475	515	710
WELLINGTON	NZD	460	515	570	755

All costs are stated in local currency as shown below.
Refer to www.rlb.com/ccc/

COST PER SF					
CAR PARKING				INDUSTRIAL WAREHOUSE	
MULTI STORY		BASEMENT			
LOW	HIGH	LOW	HIGH	LOW	HIGH
85	140	100	160	110	190
85	105	95	135	95	145
80	125	125	170	110	185
125	145	140	175	100	160
110	160	155	285	160	250
50	85	60	150	70	100
105	125	135	195	125	190
100	180	140	220	120	210
50	80	75	120	75	125
120	160	140	225	160	240
140	160	260	300	175	250
105	155	180	230	145	205
85	125	120	165	95	120
65	80	85	135	120	190
270	370	450	785	680	840
240	345	425	745	615	745
995	1,480	2,040	2,780	700	1,055
950	1,155	1,990	2,720	150	180
375	485	430	645	515	655
85	130	130	250	110	195
-	-	1,130	1,425	-	-
-	-	-	-	5,735	7,330
2,790	3,435	100	130	145	175
255	360	470	785	475	600
80	140	150	220	115	140
30	60	75	125	30	55
45	80	95	165	50	70
50	95	115	180	50	75
40	75	95	165	45	75
50	100	135	220	55	100
65	80	120	175	55	80
35	110	70	110	40	75
190	375	300	475	180	285
260	400	345	500	230	325
265	330	335	405	380	415
75	105	145	210	80	120
135	200	280	325	100	135
110	160	185	235	90	130
85	140	115	200	90	150
110	155	225	250	95	130
80	135	125	165	90	155
90	150	175	235	90	130
95	145	145	205	75	125
70	110	195	335	60	85
90	140	130	215	85	110
160	185	325	345	135	150

RLB CONSTRUCTION BID PRICE INDEX

(Annual % Change)

LOCATION	2018	2019	2020	2021 (F)	2022 (F)	2023 (F)
AFRICA @ Q4 2020						
CAPE TOWN	5.0	5.1	5.7	NP	NP	NP
JOHANNESBURG	4.2	5.1	5.5	5.7	NP	NP
MAPUTO	0.5	1.0	NP	NP	NP	NP
NORTH AMERICA @ Q4 2020						
BOSTON	4.4	4.4	3.2	4.0	3.0	3.0
CALGARY	7.3	0.0	4.6	3.0	3.0	3.0
CHICAGO	7.6	5.6	-1.3	3.0	3.0	3.0
DENVER	4.0	4.1	1.3	2.0	2.5	3.0
HONOLULU	4.9	6.1	1.2	0.0	3.0	3.0
LAS VEGAS	5.4	4.9	1.5	3.0	3.0	4.0
LOS ANGELES	4.4	2.0	3.2	3.0	3.0	3.0
NEW YORK	4.5	5.4	3.2	4.0	4.0	3.0
PHOENIX	6.7	4.7	1.3	3.0	3.0	3.0
PORTLAND	7.1	5.1	1.1	4.0	3.0	3.0
SAN FRANCISCO	6.7	7.2	2.9	4.0	5.0	5.0
SEATTLE	6.5	5.6	1.7	2.0	2.5	3.0
TORONTO	9.5	13.7	6.0	2.3	2.3	3.0
WASHINGTON DC	6.5	4.3	2.6	3.0	3.0	3.5
ASIA @ Q4 2020						
BEIJING	2.9	2.0	1.6	3.0	2.0	2.0
CHENGDU	6.2	0.5	2.4	3.0	3.0	3.0
GUANGZHOU	4.6	-0.4	-4.3	4.0	3.0	3.0
HONG KONG	-4.9	-4.0	-5.7	-2.0	2.0	2.0
MACAU	-4.3	-4.0	-5.7	-2.0	2.0	2.0
SEOUL	4.5	2.6	2.6	2.3	1.1	1.1
SHANGHAI	2.5	-0.8	2.8	3.0	3.0	3.0
SHENZHEN	4.1	1.3	1.4	3.0	3.0	3.0
SINGAPORE	1.6	2.0	6.5	6.5	3.0	3.0
EUROPE @ Q2 2021						
AMSTERDAM	5.6	2.4	-4.4	-3.5	NP	NP
BIRMINGHAM	2.5	2.1	0.0	3.5	3.5	4.0
BRISTOL	3.0	2.2	0.5	2.0	4.5	5.0
BUDAPEST	10.0	9.4	3.7	6.0	NP	NP
LONDON	1.2	0.9	0.00	1.5	1.7	2.5
SHEFFIELD	1.3	2.1	2.6	3.0	3.6	3.6
MANCHESTER	1.1	2.0	2.6	3.5	3.5	3.5
MOSCOW	1.8	5.1	2.5	3.5	3.5	3.5
OSLO	3.5	2.9	-3.4	3.5	3.5	4.5
MIDDLE EAST @ Q4 2020						
ABU DHABI	3.1	2.3	3.0	3.5	3.0	3.0
DUBAI	2.9	2.3	3.0	3.5	3.0	3.0
RIYADH	4.8	3.0	2.1	3.0	3.5	3.5

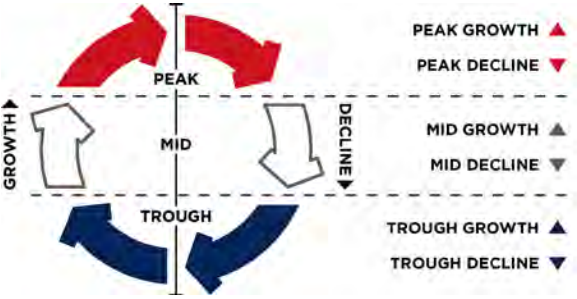
(F) Forecast
(NP) Not Published

LOCATION	2018	2019	2020	2021 (F)	2022 (F)	2023 (F)
OCEANIA @ Q4 2020						
ADELAIDE	3.5	3.6	0.3	1.5	2.0	2.0
AUCKLAND	5.8	3.0	-2.0	-1.5	1.5	1.5
BRISBANE	1.2	1.2	-4.0	3.0	3.0	3.0
CANBERRA	3.5	3.5	3.0	2.8	2.8	2.8
CHRISTCHURCH	2.9	1.9	1.1	1.5	2.0	2.0
DARWIN	0.5	0.5	0.8	1.2	1.5	1.5
GOLD COAST	1.9	0.8	-3.1	2.5	3.0	3.0
MELBOURNE	3.9	2.8	1.0	1.5	2.5	2.5
PERTH	1.0	1.5	1.6	2.7	3.0	3.0
SYDNEY	4.8	3.8	0.1	2.2	3.0	3.0
TOWNSVILLE	3.0	2.8	0.7	3.0	3.0	3.0
WELLINGTON	5.7	3.0	3.1	3.0	3.0	3.0

CONSTRUCTION MARKET ACTIVITY

The construction market activity model, located to the right, illustrates the different growth and decline zones in a theoretical construction industry business cycle. The tabulation in the preceding and following pages provides an overview of the relative growth/decline of each development sector in various cities. Each city has its own business cycle in the context of its own economy and as such the performance of each development sector is not strictly comparable between cities. Information is current as of Q2 2021.

UNITED STATES	HOUSES	APARTMENTS	OFFICES
Boston	▼	▽	▼
Chicago	▽	▽	▽
Denver	▽	▽	▽
Honolulu	△	▲	▼
Las Vegas	▲	▼	▼
Los Angeles	▽	▽	▽
New York	▽	▼	▲
Phoenix	▲	▲	▽
Portland	▼	▼	▲
San Francisco	▲	▲	△
Seattle	▽	▽	▽
Washington, D.C.	▼	▲	▽
CANADA			
Calgary	▲	▲	▽
Toronto	▼	▼	▼



INDUSTRIAL	RETAIL	HOTEL	CIVIL
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△	▲	▽	△
△	▲	▲	▲

CONSTRUCTION MARKET ACTIVITY

AFRICA	HOUSES	APARTMENTS	OFFICES
Cape Town	▽	▽	▽
Durban	▽	▼	▽
Gaborone (Botswana)	▽	▽	▽
Johannesburg	▽	▽	▼
Maputo (Mozambique)	▽	▽	▽
Port Louis (Mauritius)	▽	▽	▽
NORTH ASIA			
Beijing	▼	▽	▽
Chengdu	▼	△	▲
Guangzhou	▼	△	▼
Hong Kong	▽	▽	▽
Macau	▽	▽	▽
Seoul	▼	▼	▽
Shanghai	▼	▼	▲
Shenzhen	▽	△	▼
SOUTHEAST ASIA			
Ho Chi Minh City	▼	▼	▽
Jakarta	▽	▽	▽
Kuala Lumpur	▽	▼	▼
Singapore	▽	▽	▽

INDUSTRIAL	RETAIL	HOTEL	CIVIL
▽	▽	▽	▽
▼	▽	▽	▽
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CONSTRUCTION MARKET ACTIVITY

UNITED KINGDOM	HOUSES	APARTMENTS	OFFICES
Birmingham	▲	▲	△
Bristol	△	△	△
London	▲	▲	△
Manchester	▲	▲	△
EUROPE			
Amsterdam	▲	▲	▲
Athens	▼	▼	△
Berlin	△	▽	△
Budapest	▲	▲	△
Madrid	▼	▼	▲
Milan	▼	▼	▼
Moscow	▼	▲	▼
Oslo	△	△	▽
Paris	▼	▲	▼
Istanbul	▼	▼	▼
Prague	▲	▲	△
Warsaw	▲	▲	▲
MIDDLE EAST			
Abu Dhabi	△	▼	▼
Doha	▲	▲	▼
Dubai	▼	▼	▼
Riyadh	△	▲	△

INDUSTRIAL	RETAIL	HOTEL	CIVIL
▲	▼	▼	▲
▽	▽	▽	▽
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△	▼	▼	▲
▲	▼	▼	△
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▽	▼	▼	▲
▲	▼	▽	▼
△	▽	▼	▼
▲	▼	▼	▽

CONSTRUCTION MARKET ACTIVITY

AUSTRALIA	HOUSES	APARTMENTS	OFFICES
Adelaide	▽	▼	△
Brisbane	▽	▽	▲
Canberra	▽	▼	▽
Darwin	△	▼	△
Gold Coast	▲	▼	▼
Melbourne	▼	▽	▽
Perth	▽	▼	▽
Sydney	▽	▽	▼
Townsville	▼	▼	▼

NEW ZEALAND			
Auckland	▲	▽	▼
Christchurch	▲	▼	▼
Wellington	▲	△	△

INDUSTRIAL	RETAIL	HOTEL	CIVIL
▽	▼	△	▼
▽	▽	▲	△
△	▼	▲	▼
△	▼	△	▲
▲	▼	△	▼
▼	▽	▼	▲
▲	▽	▼	△
▼	▼	▼	▲
▼	▼	NP	▲

▲	▼	▼	▲
▲	▼	▼	△
△	▽	▽	▲

NATIONAL INSTITUTE OF HEALTH - BUILDING 10 EAST WING ▲

BETHESDA, MARYLAND

The National Institutes of Health (NIH), part of the US Department of Health and Human Services, is the nation's medical research agency. NIH's Bethesda, Maryland campus is situated on 300+ acres with more than 75 buildings dedicated clinical and biomedical research.

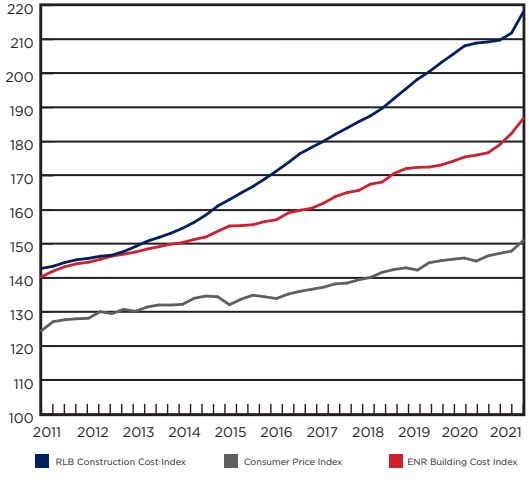
The E Wing of Building 10, comprising 250,000 SF, is being renovated and updated to provide new space for over 800 employees and house new labs, offices, and classrooms. Building 10 is home to the Clinical Center, the world's largest clinical research hospital, where there are approximately 1,600 clinical research studies in progress.

RLB provided construction cost estimating services during the schematic design phase, as well as design development phase through construction documents. This major modernization construction project is slated to be complete in late 2021.

NORTH AMERICA CONSTRUCTION

INFLATION INDEX COMPARISON

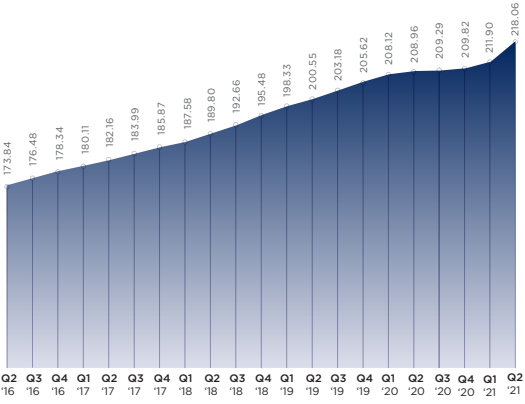
The chart below shows the relative differences in inflation between the cost of general goods and services (represented by the U.S. Bureau of Labor Statistics' Consumer Price Index), the cost of construction materials and labor (represented by Engineering News-Record's Building Cost Index) and the bid cost of construction (represented by Rider Levett Bucknall's National Construction Cost Index).



Sources: U.S. Bureau of Labor Statistics, Engineering News-Record.

NATIONAL CONSTRUCTION COST INDEX

The National Construction Cost Index shows how construction costs have changed each quarter since April 2017.

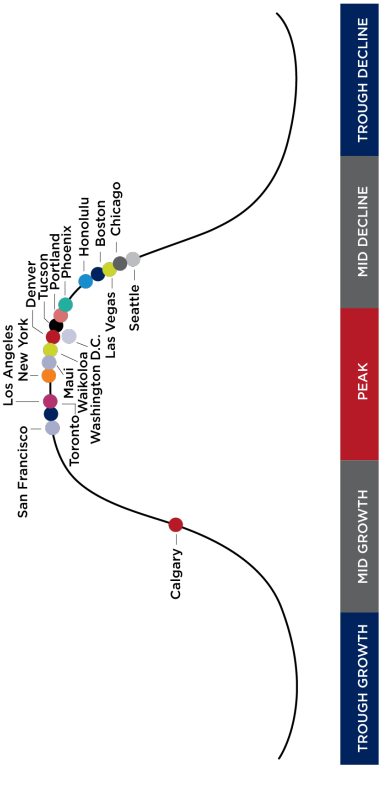


QUARTER	COST INDEX
April 2017	182.16
July 2017	183.99
October 2017	185.87
January 2018	187.58
April 2018	189.80
July 2018	192.66
October 2018	195.48
January 2019	198.33
April 2019	200.55
July 2019	203.18
October 2019	205.62
January 2020	208.12
April 2020	208.96
July 2020	209.29
October 2020	209.82
January 2021	211.90
April 2021	218.06

CONSTRUCTION ACTIVITY CYCLE

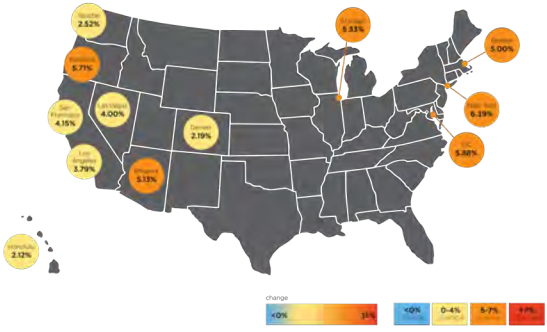
The chart below depicts the position of each city in a theoretical construction industry business cycle. The aim of the chart is to provide an overview of the relative performance of each city in the context of its own economy.

Each city has its own industry business cycle, and as such, the city cycles are not directly comparable with each other. As the amplitude and frequency of the cycle(s) are not expressed in this chart, there is no direct parameter of extent of the cycle or of its time period.



COMPARATIVE COST INDEX

The Comparative Cost Index tracks the bid cost of construction in each city, which includes, in addition to costs of labor and materials, general contractor and subcontractor overhead costs and fees (profit). The index also includes sales and use taxes that standard construction contracts attract.



City	April 2020	April 2021	Annual % Change
Boston	23,534	24,711	5.00%
Chicago	23,596	24,854	5.33%
Denver	15,804	16,150	2.19%
Honolulu	26,333	26,891	2.12%
Las Vegas	15,459	16,077	4.00%
Los Angeles	22,706	23,567	3.79%
New York	27,734	29,507	6.39%
Phoenix	16,004	16,824	5.13%
Portland	17,357	18,348	5.71%
San Francisco	29,040	30,246	4.15%
Seattle	19,318	19,804	2.52%
Washington, DC	22,518	23,841	5.88%

INPUTS TO CONSTRUCTION COSTS

LABOR

Labor used in direct construction activities.

MATERIALS

Materials which are incorporated into the completed project as well as temporary materials (such as plywood used in formwork).

EQUIPMENT

Equipment used in the construction process such as pumps, generators, material hoists, cranes and the like.

SUBCONTRACTORS

Construction work undertaken for the general contractor by sub-contractors (including tiered subcontractors).

BONDS

Guarantees extended by a third party to the owner of a building under construction that the building will be satisfactorily completed (performance bonds) and/or that payment to subcontractors and suppliers will be made (payment bonds).

INSURANCE

Insurances including builder's risk insurance, general liability insurance, automobile liability insurance, professional liability insurance (for any work performed on a design/build basis), subcontractor default insurance (sub-guard) and the like.

TAXES

Taxes levied on the whole of construction or on construction labor and/or materials.

GENERAL CONTRACTOR OVERHEAD & PROFIT

There are two types of overhead costs; on-site (often referred to as General Conditions or General Requirements) and off-site (often referred to as Home Office Overhead). Profit is the fee charged by the general contractor for undertaking the project and is sometimes referred to as 'profit and risk'.

SUPPLY & DEMAND
(WHAT THE MARKET WILL BEAR)

The sum of the above costs are not always what the project will cost the owner (or the entity for whom the project is being constructed). In a weak market the contact sum may be significantly less than the figured costs (such as zero figuring for home office overhead and profit) but in a booming market may be well above the figured costs (when prices are increased to take advantage of the buoyant market).

MECHANICAL COMPARATIVE LABOR INDEX

The Comparative Labor Index shows the relative cost of construction labor among the markets listed as of June 2021, using labor wage costs in Phoenix, Arizona as a baseline.

COMPARATIVE LABOR INDEX	
Boston	157.0
Chicago	140.0
Denver	91.0
Honolulu	133.0
Las Vegas	120.0
Los Angeles	124.0
New York	179.0
Phoenix	100.0
Portland	114.0
San Francisco	181.0
Seattle	137.0
Washington, D.C.	108.0

Source: Davis-Bacon Wage Determinations at June 2021

MECHANICAL & ELECTRICAL COSTS

The costs stated in this section reflect the standards and specifications normal to that region. Variation in costs may be experienced for factors such as site conditions, climatic conditions, standards of specification, market conditions, etc.

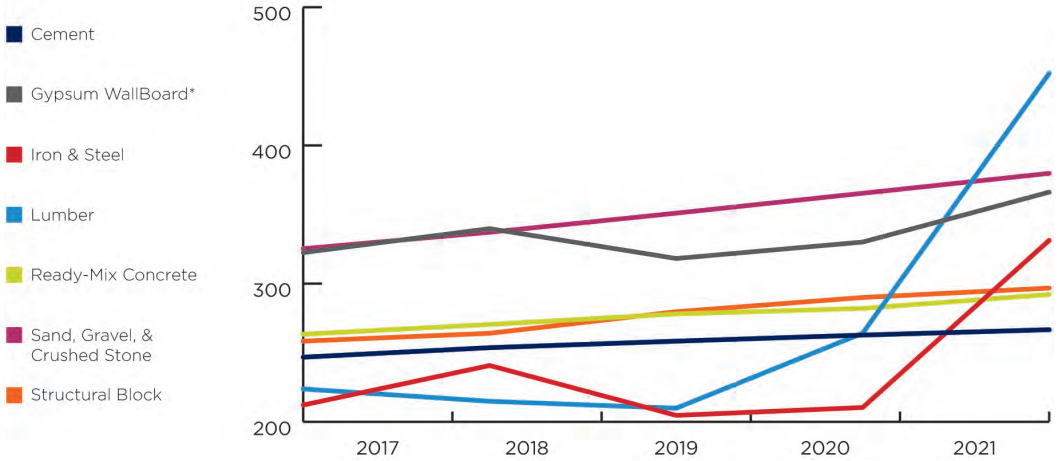
All costs are stated in USD($) per square foot, based on rates at June 2021 .

LOCATION	M/E INDEX	SCHOOLS						HOSPITAL	
		ELEMENTARY		HIGH SCHOOL		UNIVERSITY		GENERAL	
		LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
NORTH AMERICA									
Boston	1.47	65	90	90	135	105	165	185	280
Calgary	1.45	65	90	90	135	100	160	185	275
Chicago	1.48	65	90	90	135	105	165	185	280
Denver	0.96	45	60	60	90	70	105	120	180
Honolulu	1.60	75	100	95	145	115	180	200	305
Las Vegas	0.96	45	60	60	90	65	105	120	180
Los Angeles	1.40	65	85	85	130	100	155	175	265
New York	1.75	80	110	105	160	125	195	220	335
Phoenix	1.00	45	60	60	90	70	110	125	190
Portland	1.09	50	70	65	100	75	120	140	205
San Francisco	1.80	80	110	110	165	125	200	230	340
Seattle	1.18	55	75	70	110	85	130	150	225
Toronto	1.78	80	110	110	165	125	200	225	340
Washington, D.C.	1.42	65	90	85	130	100	155	180	270

LOCATION	M/E INDEX	OFFICES - CLASS A				SHOPPING				HOTELS			
		PRIME		SECONDARY		CENTER		STRIP		5 STAR		3 STAR	
		LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
NORTH AMERICA													
Boston	1.47	90	150	80	105	55	80	40	65	110	160	75	110
Calgary	1.45	90	150	80	105	55	80	40	60	110	155	75	110
Chicago	1.48	90	150	80	110	55	80	40	65	115	160	80	110
Denver	0.96	60	100	50	70	35	50	30	40	75	105	50	70
Honolulu	1.60	100	165	85	115	60	85	45	70	120	170	85	120
Las Vegas	0.96	60	100	50	70	35	50	25	40	75	105	50	70
Los Angeles	1.40	85	145	75	100	50	75	40	60	105	150	75	105
New York	1.75	110	180	95	130	65	95	50	75	135	190	90	130
Phoenix	1.00	60	105	55	75	35	55	30	45	75	110	55	75
Portland	1.09	70	110	60	80	40	60	30	45	85	115	55	80
San Francisco	1.80	110	185	95	130	65	95	50	75	135	195	95	135
Seattle	1.18	75	120	65	85	45	65	35	50	90	125	60	90
Toronto	1.78	110	185	95	130	65	95	50	75	135	190	95	135
Washington, D.C.	1.42	90	145	75	105	50	75	40	60	110	150	75	105

LOCATION	M/E INDEX	PARKING				INDUSTRIAL				RESIDENTIAL MULTISTORY			
		MULTI-STORY		BASEMENT		WAREHOUSE		ATTACHED OFFICE		INVESTMENT		OCCUPIED	
		LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH
NORTH AMERICA													
Boston	1.47	15	20	20	30	15	35	40	80	50	75	65	105
Calgary	1.45	15	20	15	30	15	35	40	80	50	75	65	100
Chicago	1.48	15	20	20	30	15	35	40	80	50	80	65	105
Denver	0.96	10	15	10	20	10	20	30	50	35	50	40	70
Honolulu	1.60	15	20	20	30	15	35	45	85	55	85	70	115
Las Vegas	0.96	10	15	10	20	10	20	25	50	35	50	40	65
Los Angeles	1.40	15	20	15	25	15	30	40	75	50	75	60	100
New York	1.75	15	25	20	35	20	40	50	95	60	90	80	125
Phoenix	1.00	10	15	10	20	10	25	30	55	35	55	45	70
Portland	1.09	10	15	15	20	10	25	30	60	40	55	50	75
San Francisco	1.80	15	25	20	35	20	40	50	95	60	95	80	125
Seattle	1.18	10	15	15	25	15	25	35	65	40	60	50	85
Toronto	1.78	15	25	20	35	20	40	50	95	60	95	80	125
Washington, D.C.	1.42	15	20	15	25	15	30	40	75	50	75	65	100

MATERIALS PRICE INDEX



*For Gypsum Wall Board only, Base = 100 at 1994

Average year-to-date as of June 2021

Source: Bureau of Labor Statistics

GEORGE BROWN COLLEGE

TORONTO, ONTARIO

George Brown College experienced growth and the need to expand its properties with a fourth campus dedicated to health science. The new Waterfront Health Sciences Campus is an integrated vertical campus which consolidates George Brown's schools of Dental Health, Health and Wellness, Health Services Management and Nursing.

The project included the campus development and a parking facility, as well as a community recreation facility that will be shared between the college and City of Toronto.

RLB was retained by Waterfront Toronto to assist in cost control and cost separation consulting. The pre-construction stage services included cost planning, estimating, milestone cost estimating and reporting, elemental and trade cost analysis, risk analysis, value engineering, tender stage, bid review and analysis.

During the construction phase, the RLB team provided cost control, change order reviews, contemplated change reviews, and progress payment reviews.

Collectively, this project demonstrates RLB's experience providing all of the services required while working collaboratively with clients, designers and other consultants throughout all stages of delivery.

International Cost Measurement Standards (ICMS)

INTERNATIONAL COST MEASUREMENT STANDARDS (ICMS)

INTRODUCTION

The aim of ICMS is to, "... provide a structure and format for classifying, defining, measuring, analysing and presenting construction costs that will provide consistency and transparency across international boundaries." (ICMS Coalition)[1].

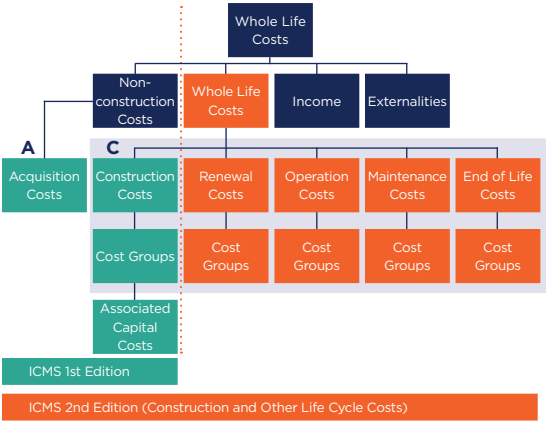
WHAT IS IT AND WHY?

The ICMS project is backed by more than 40 building and surveying national groups and professional bodies globally, working as the ICMS Coalition.

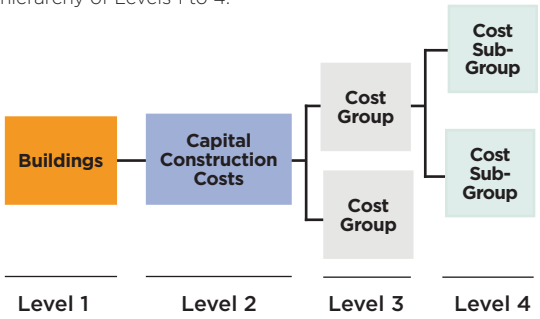
ICMS has been designed to be back-to-back with International Property Measurement Standards (IPMS), but addresses the cost aspects of projects. First issued in July 2017 as ICMS, ICMS2 was issued in September 2019. Whereas the original edition featured only Construction Costs, ICMS2 now addresses Whole Life Costs in the ACROME format:

- **A** Acquisition Costs (formerly within Construction Costs)
- **C** Construction Costs
- **R** Renewal Costs
- **O** Operation Costs
- **M** Maintenance Costs
- **E** End of Life Costs

This arrangement is depicted as below:



The original ICMS costs structure was arranged in a hierarchy of Levels 1 to 4:



Level 1: Project or Sub-Project - mandatory, classification by essence and principal purpose

Level 2: Cost Category - mandatory, to permit high level comparison between projects

Level 3: Cost Group - mandatory, equivalent of NRM's Group Elemental

Level 4: Cost Sub-Group - non-mandatory, but subject to Level 3 constraints

This first edition orientation can be shown for a set of categories as follows:

Table 1: Example - ICMS Layout

Cost Code	Description
	Cost Category (Level 2)
	Cost Group (Level 3)
	Cost Sub-Group (Level 4)
1	Capital Construction Costs
1.02	Substructure
1.02.020	Foundations up to top of lowest floor slabs: 010 - excavation and disposal 020 - lateral supports 030 - raft footings, pile caps, column bases, wall footings, strap beams, tie beams 040 - substructure walls and columns 050 - lowest floor slabs and beams (excluding basement bottom slabs) 060 - lift pits

PROVIDENCE PARK STADIUM

PORTLAND, OREGON

Providence Park is home to the Portland Timbers soccer team and lives right in the heart of Portland's downtown. With the recent expansion, more fans will be able to fit in the stadium for each game.

The Portland Timbers planned to spend $50M to add 4,000 seats at Providence Park by 2020. The design added four new tiers of seating to the stadium's east side with a cantilevered roof jutting out over most of the new seats. This expands the stadium's capacity from 21,144 to 25,218. The work also created an arcade-like adjacent to the stadium along Southwest 18th Avenue. RLB served as the cost management team for the project. All involved in this expansion will have a significant effect on the Portland sports community, as the Timbers have sold out every game in their MLS history. They also had a season ticket waiting list of 13,000 names. 80% of the new seats have been dedicated to season ticket holders, and 20% of them will be open as single-game seats. The expansion will ensure that more fans can cheer on their beloved Timbers at every game.

RLB provided cost estimating services for the famous Providence Park Stadium, home to the Portland Timbers; helping to begin a new era for Portland Timbers fans and for the entire neighborhood near the stadium.

Rider Levett Bucknall | Life

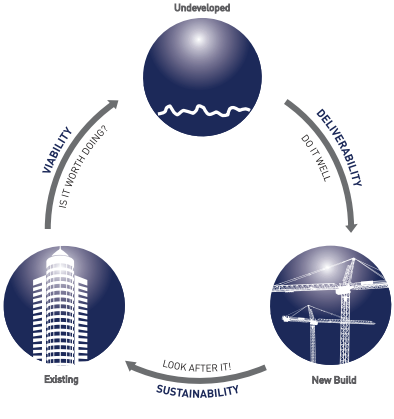
RIDER LEVETT BUCKNALL | LIFE

INNOVATIVE TOOLS TO HELP YOU ACHIEVE MORE EFFICIENT, COST CONSCIOUS AND ENVIRONMENTALLY SUSTAINABLE RESULTS–NOW AND INTO THE FUTURE.

Forward-thinking organizations are taking proactive measures to use their resources wisely. Along with technological advances to improve efficiency, there has been a significant and lasting shift toward preventing waste by making better use of existing assets.

More and more organizations have a heightened interest in project solutions which maximize performance, enhance value, and minimize environmental impact. Facing limited capital resources, building owners and managers must find the right balance between initial capital cost and long-term operation and maintenance costs.

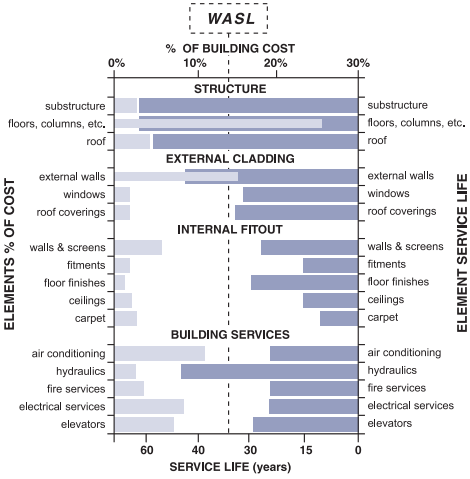
Rider Levett Bucknall|Life addresses this need by providing building owners and managers with new tools, methods, and information, allowing them to make well-informed decisions that represent their best long-term financial and sustainable interests.



RELIFING®

Rider Levett Bucknall's proprietary RElifing® service is a mathematically-based methodology to help building owners capture the remaining value and extend the life of their buildings after years of service.

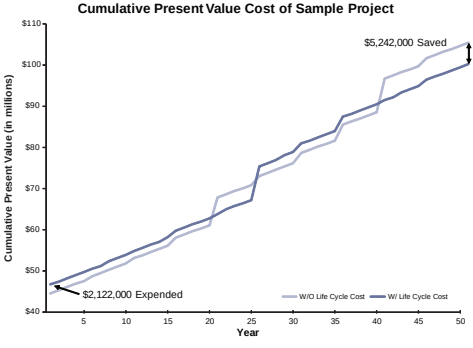
RElifing® determines the 'useful life' of a building by analyzing the cost and service life of its various components–structure, external claddings, internal fit-out, and building systems—and then calculating the total life expectancy or Weighted Average Service Life (WASL) RElifing® then analyzes and prices the recommendations for maintenance, upgrades, renovation, and replacement of various building components necessary to extend the building's life expectancy to certain milestones. When this analysis is compared with the cost to build new, owners are presented with a quantitative tool to determine which investment option will make the best use of functional and financial resources.



LIFE CYCLE COST + CARBON MODELING

This service is our response to the challenges property owners face in reconciling commercial viability with efficiency, sustainability, and environmental sensitivity throughout a structure's life cycle. Using our model, owners can develop facilities which are not only cost effective to build but operationally efficient over their life span.

Sophisticated owners recognize that the capital cost of a facility may be less significant when compared with the total cost of ownership over time. An integrated Life Cycle Cost model enables capital and life cycle characteristics of individual components, elements, and whole buildings to be modeled and forecasted over the life of a proposed facility.



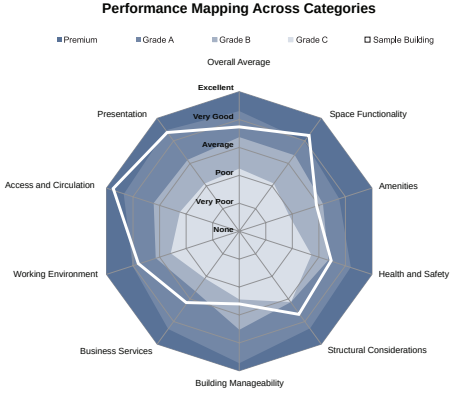
Interdependencies between variables are established and comparison of multiple options provides a frame of reference for making important long-term investment decisions. The model can also be used to calculate carbon footprint, LEED™, energy and CO_2 consumption, water consumption, and capital allowances.

The Rider Levett Bucknall model can be used at all stages of the asset life cycle from inception, through design development and into operation.

BUILDING QUALITY ASSESSMENT

There is a critical link between the quality of an office building and its ultimate performance as an asset. Yet, there is no prevailing rating system in place to measure a facility's relative strengths and weaknesses in relation to industry standards and tenant expectations.

Our Building Quality Assessment service addresses this need with a standardized method for quantifying and evaluating building quality based on standard criteria across a number of general categories (space functionality, amenities, building operations, etc.). The service provides a quality grade for a specific facility based on its physical characteristics and an 'apples to apples' comparative analysis against other similar structures.



The analysis highlights categories where the facility did not perform to the expected standards of quality and identifies areas where upgraded capacity or utility could be considered to enhance the grading performance of the building. This evaluation enables the optimization of the right mix of quality factors to match investor, owner, and user objectives.

UCHEALTH - STEADMAN HAWKINS CLINIC DENVER AND CU SPORTS MEDICINE

ENGLEWOOD, COLORADO

The new build medical office building, UCHealth Steadman Hawkins Clinic Denver and CU Sports Medicine, is a world-class facility designed to treat and prevent injuries of all athletes. The facility is 142,000 SF with an adjacent parking structure of 162,240 SF. Within the facility, there are six operating rooms and short stay and recovery patient rooms. An ambulatory unit serves for emergency treatments and surgeries.

RLB's involvement with the project included providing cost estimating services during the early program and conceptual and schematic design phases. We assisted UCHealth in the selection of a general contractor and participated in the interview and review process. Once the contractor was selected, we conducted peer reviews of the contractor's design development phase estimates to develop an IGMP. We reviewed award recommendations from the contractor and reviewed the FGMP. We performed periodic schedule reviews during construction and tracked the status of the project in reports to UCHealth. As construction finalized, RLB provided change order review services.

RESOURCES

BUILDING INFORMATION MODELING (BIM)

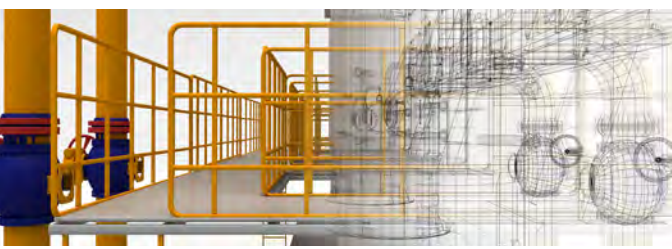
WHAT IS BIM?

BIM is a collaborative process based around a digital model of a building. BIM is not software, nor is it simply a 3D model of a building - the fundamental difference being that the BIM file contains "information" which provides a co-ordinated single source of truth for use by all stakeholders. The "I" in BIM, therefore, is the key element.
The BIM process is used to create, manage and share information on a project throughout its life-cycle. It can be used to design, construct and operate buildings in a common environment, with the same information being used by all parties. Designing in a BIM environment involves assembling objects to form the digital model. Each object has information embedded/attributed to it e.g. a door (the object) has its weight, color, size etc. (the attributes) embedded within the object.

The information attributed to the objects can be accessed and re-used by other parties, which provides a coordinated single source of truth for use by all stakeholders. This facilitates collaboration, greater efficiency, data consistency and co-ordination of the model in a virtual environment. Examples of information attributed to objects include:

- Visual data
- Dimensional and geometric data
- Functional data
- Performance data
- Specification data
- Cost data
- Construction program data

The information contained within a BIM file is described in a number of ways; typically by the type of data and level of detail. Commonly used terms to describe this information include BIM Maturity Levels, Level of Detail or Development and BIM Dimensions.



OUR POLICY ON BIM

RLB embraces BIM and is working within BIM environments across all of our service areas.

To support this change in our working environment, RLB has developed its own in-house software which interfaces with numerous file formats created by common software used by designers and consultants. Our software also dynamically links to our extensive cost database creating an integrated and consistent service for our clients. We conduct in-house training to RLB staff in BIM and emerging technologies, and we have developed training manuals to up skill our Cost Managers, building surveyors and project managers in the principles and day-to-day benefits of BIM.

INTEGRATION

Through existing and new relationships, RLB has collaborated with design teams to fully understand how designers input data and information. This knowledge allows effective communication on both our requirements and expectations, to meet a common goal for the client and ultimately achieve the best outcome for the project. Our in-house specialized software enables us to link the model parameters, creating efficiencies and productive outcomes.

GLOBAL EXPERIENCE

RLB has invested over a decade of research and development in BIM, and is leading the implementation of BIM and emerging technologies that support cost planning, procurement and cost management throughout the whole project cycle. RLB has a dedicated Global Digital Advancement Committee which pools international knowledge and skills within the organization, and distributes it throughout an established global network. The committee also has dedicated subgroups that focus on the production of standardized protocols, training strategies and implementation, analytical thinking of models and the information received within them. These subgroups also oversee the super-user groups and facilitate a BIM and technology forum for RLB globally.

BENEFITS OF WORKING IN A BIM ENVIRONMENT

The BIM process is used to create, manage and share information on a project throughout its life cycle. It can be used to integrate the design, construction, operation and maintenance in a common environment, with the same information used by all parties.

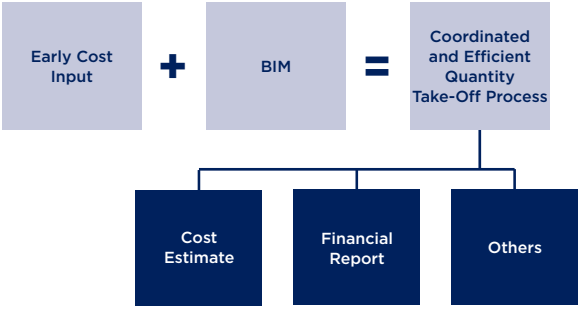
RLB views BIM as a collaborative process based around a digital model of a building, and has the skill sets and tools to realize the benefits of working in a BIM environment. Collaboration and a common understanding at the outset will allow us to work more efficiently, adding greater value to project outcomes.

- **Efficiency** – More efficient use of time with increased validation and coordination, providing greater accuracy and resulting in reduction in build costs
- **Collaboration** – the whole team works with common data
- **Quality** – Visualization increases communication among team members, adding value and reducing risk
- **Clarity** – 3D visualization communicates design detail with greater accuracy to all team members and to the client
- **Accuracy** – Better communication and clarity, increased accuracy and reduced rework

The key difference between 2D/3D drawings and a BIM object is that rather than a series of connected lines to form a shape (e.g. a door), a BIM object is a self-contained shape that can have powerful information embedded/attributed to it. This information can be useful to cost estimators for quantity extraction, market research and pricing.

Examples of information data attributed to objects include:

- Visual
- Dimensional and geometric
- Functional
- Performance
- Specification
- Sequencing information and build time
- Life cycle and maintenance information



Level of Development

The Level of Development (LOD) specification released by the BIM Forum (bimforum.org) is a useful reference that enables users to specify and describe both the content and the reliability of objects in the 3D model. The relationship between the content entered into the model and the reliability of the information that can be extracted remains parallel as design progresses.

BIM Dimensions

There is some discussion as to the exact content of each level, but the definitions below are generally accepted with each additional dimension adding more information to the BIM model.

3D **DESIGN**
Three Dimensional representation of the building, with basic attributes

4D **PROGRAM & SCHEDULING**
3D BIM w/ the addition of Time and Program/Scheduling information

5D **COST ESTIMATING**
4D BIM w/ the addition of Cost information

6D **OPERATION / MAINTENANCE**
5D BIM w/ the addition of Sustainability, Operational, and Energy information

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Leadership in Energy and Environmental Design (LEED) is a voluntary green building certification system which recognizes that a building or community was designed and built using strategies aimed at improving performance across the following sustainability metrics: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Developed by the U.S. Green Building Council (USGBC), LEED provides building owners and operators with a concise framework for identifying and implementing practical and measurable green building design, construction, operations, and maintenance solutions.

HOW LEED WORKS

LEED can be applied to any building type and any building life cycle phase. It promotes a whole-building approach to sustainability by recognizing performance in six key areas:

- Location and Transportation
- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality

LEED points are awarded on a 110-point scale, and credits are weighted to reflect their potential environmental impacts. Within the 110 possible points, 10 bonus credits are available; six of which are awarded for innovation in design and four of which address regionally specific environmental issues.

LEED Certification is achievable in one of five current rating systems: Building Design and Construction; Interior Design and Construction; Operations and Maintenance; Residential; and Cities and Communities, each with a distinct weighting system.

	New Const.	Core & Shell	Schools	Retail	Data Centers	Warehouse & Dist. Centers	Hospitality	Healthcare
Integrative Process	1	1	1	1	1	1	1	1
Location & Transportation	16	20	15	16	16	16	16	9
Sustainable Sites	10	11	12	10	10	10	10	9
Water Efficiency	11	11	12	12	11	11	11	11
Energy & Atmosphere	33	33	31	33	33	33	33	35
Materials & Resources	13	14	13	13	13	13	13	19
Indoor Environmental Quality	16	8	16	15	16	16	16	16
Innovation	6	6	6	6	6	6	6	6
Regional Priority	4	4	4	4	4	4	4	4
Total Possible	110	110	110	110	110	110	110	110

LEED credits are per v4.1, November 2020.

A project must satisfy all prerequisites and earn a minimum number of points to be certified at one of four levels.

LEED CERTIFICATION SCORING (out of a possible 100 points + 10 bonus points)	
Certified	40+ points
Silver	50+ points
Gold	60+ points
Platinum	80+ points

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

ELIGIBILITY

Building types that are eligible for certification include, but are not limited to, offices, retail and service establishments, institutional buildings (e.g., libraries, schools, museums and religious institutions), hotels and residential buildings of three or less or four or more habitable stories, residential homes, and cities.

WHO USES LEED?

Architects, real estate professionals, facility managers, engineers, interior designers, landscape architects, construction managers, lenders, and government officials all use LEED to help transform the built environment to sustainability.

Many U.S. state and local governments are adopting LEED for public-owned and public-funded buildings; there are LEED initiatives in federal agencies, including the Departments of Defense, Agriculture, Energy, and State; and LEED projects are in 165 countries worldwide, including Canada, Brazil, Mexico, and India.

BENEFITS

There are both environmental and financial benefits to earning LEED certification.

LEED-certified buildings are designed to:

- Lower operating costs and increase asset value
- Reduce waste sent to landfills
- Conserve energy and water
- Be healthier and safer for occupants
- Reduce harmful greenhouse gas emissions
- Qualify for tax rebates, zoning allowances and other incentives in hundreds of cities
- Demonstrate an owner's commitment to environmental stewardship and social responsibility

PROCUREMENT OPTIONS

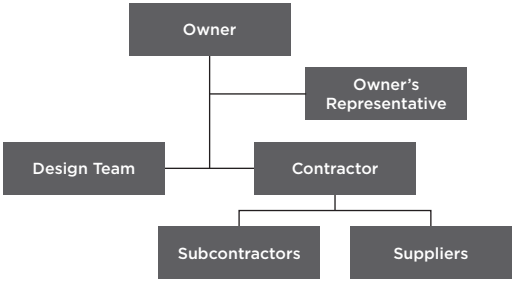
Selecting the best procurement method for a project is fundamental to its success, and will affect its cost, schedule, quality and team relationships throughout the project's development. Procurement strategies should be considered at the earliest opportunity and should be weighed with regards to owner and project requirements. Rider Levett Bucknall can advise on an appropriate route to best meet these requirements.

Descriptions of some of the more common procurement routes – along with advantages and concerns to consider before utilizing – are on the following pages.

Rider Levett Bucknall is also well versed in implementing projects using Integrated Project Delivery and other collaborative practices. Through these proactive strategies, owners can align the interests of the project team to operate in a more efficient and effective manner, delivering a superior project and ultimately increasing value for the owner.

PROCUREMENT OPTIONS

DESIGN-BID-BUILD



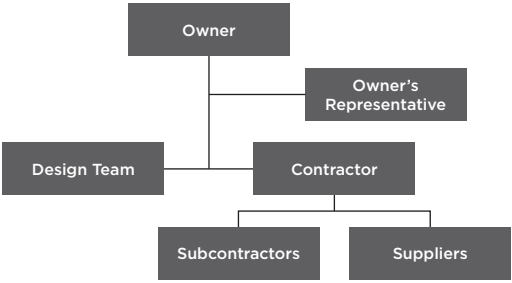
KEY FEATURES

- Owner contracts with design team first, then with construction team after design is complete
- Design fully complete prior to contractor bidding
- Construction starts after design and bidding processes are complete

ADVANTAGES	CONCERNS / RISKS
▪ Best potential for competitive construction bidding (lowest price) ▪ Contractor familiarity with process ▪ Accommodates owner input throughout design process ▪ Facilitates check and balance process between design and construction	▪ Construction starts only after design and bidding is complete ▪ Design and construction related decisions must be made early ▪ No contractor input to design process ▪ Competitive bidding creates higher risk for change orders and litigation ▪ No team-oriented approach

SEQUENCE

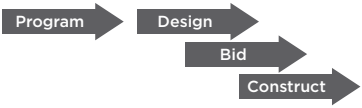
CONSTRUCTION MANAGER AT-RISK



KEY FEATURES

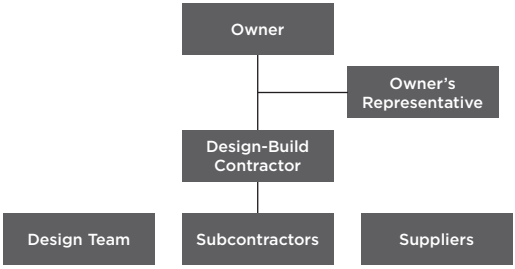
- Owner contracts with design team and construction team concurrently at beginning of design process
- Contractor provides cost and constructability input throughout design process
- Contractor provides guaranteed maximum price (GMP) based on partial design
- Construction can start prior to design completion

ADVANTAGES	CONCERNS / RISKS
• Early construction start facilitates expedited schedule (fast track) • Contractor advice informs design, typically generates more efficient design • Accommodates owner input through design • Facilitates check and balance process between design and construction • Pricing and cost control performed during preconstruction	• Limited competitive bidding • Added cost of contractor participation in design process • Timing and assumptions of GMP contract must be closely managed • Contingencies must be closely monitored and managed

SEQUENCE 

PROCUREMENT OPTIONS

DESIGN-BUILD

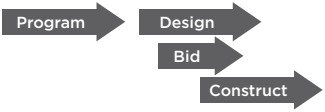


KEY FEATURES

- Owner executes one contract with integrated design/construction team based on program requirements
- Design/construction team executes full design, bidding and construction process based on requirements
- Construction typically starts before design completion

ADVANTAGES	CONCERNS / RISKS
• Single point of responsibility and risk for design and construction • Early construction start facilitates expedited schedule • Contractor can integrate design with construction for more efficient schedule • Cost certainty at outset (for work included in requirements document)	• Owner input in design process is limited; owner requirements must be clearly outlined and communicated before start of process • Limited competitive bidding • Integrated contract eliminates check and balances between design and construction • Quality of end product must be closely monitored

SEQUENCE



CALCULATION FORMULAE

TO FIND	CALCULATE
Area of triangle	Base × ½ × height
Area of circle	(radius)² × 3.1416
Area of sector of circle	Lengths of arc × ½ × radius
Area of square, rhombus	Base × height
Area of equilateral triangle	(Side)² × 0.433
Area of trapezium	Height × ½ × (sum of parallel sides)
Area of ellipse	Major axis × minor axis × 0.7854
Area of parabola	⅔ × base × height
Circumference of a circle	Diameter × 3.1416
Surface area of sphere	4 × (radius)² × 3.1416
Surface area of cone	(radius x slant side × 3.1416) + area of base
Volume of cylinder	Area of base × height
Volume of cube or prism	Length × breadth × depth
Volume of cone	Height × ⅓ × area of base
Volume of hexagonal prism	(Side)² × height × 2.598
Volume of sphere	⁴⁄₃ × (radius)³ × 3.1416

CONVERSION FACTORS

TO CONVERT	MULTIPLY BY
LENGTH	
Inches into centimeters	2.54
Centimeters into inches	0.394
Feet into meters	0.305
Yards into meters	0.914
Meters into feet	3.281
Feet into meters	0.305
Yards into meters	0.914
Meters into yards	1.094
Kilometers into miles	0.621
Miles into kilometers	1.609
AREA	
Square meters into square feet	10.764
Square feet into square meters	0.093
Square yards into square feet	9.0
Square yards into square meters	0.836
Square kilometers into square miles	0.386
Square kilometers into hectares	100.0
Square miles into square kilometers	2.59
Square miles into acres	640.0
Acres into square feet	43,560
Acres into square meters	4,046.86
Acres into hectares	0.405
Hectares into acres	2.471
TEMPERATURE	
Degree Celsius to Degree Fahrenheit	(°C x 9/5) + 32
Degree Fahrenheit to Degree Celsius	(°F – 32) x 5/9

ONTARIO LOTTERY & GAMING CASINOS

ONTARIO

Ontario Lottery and Gaming Corporation (OLG), the governing gaming body of the province of Ontario, has undertaken major casino, hotel and entertainment centre construction projects throughout the province. These facilities are a major attraction in their respective areas and help to provide economical advantages for the communities.

Major builds with RLB's involvement as cost consultant include the Fallsview Resort and Casino, Caesars Windsor Hotel and Casino, Casino Rama Resort and Hotel, and the Great Blue Heron Casino.

RLB provided design stage cost estimates through the various design milestones for these projects including Value Engineering exercises when needed. Construction stage services included contract payment administration and monitoring on behalf of OLG.

About RLB

ABOUT RLB

Confidence today inspires tomorrow

With a network that covers the globe and a heritage spanning over two centuries, Rider Levett Bucknall is a leading independent organisation in cost management and quantity surveying, project management and advisory services.

Our achievements are renowned: from the early days of pioneering quantity surveying, to landmark projects such as the Sydney Opera House, HSBC Headquarters Building in Hong Kong, the 2012 London Olympic Games and CityCenter in Las Vegas.

We continue this successful legacy with our dedication to the value, quality and sustainability of the built environment. Our innovative thinking, global reach, and flawless execution push the boundaries. Taking ambitious projects from an idea to reality.

OUR VISION

Creating a better tomorrow

The Rider Levett Bucknall vision is to be the global leader in the market, through flawless execution, a fresh perspective and independent advice.

Our focus is to create value for our customers, through the skills and passion of our people, and to nurture strong long-term partnerships.

By fostering confidence in our customers, we empower them to bring their imagination to life, to shape the future of the built environment, and to create a better tomorrow.

OUR VALUES

At the heart of everything we do
At Rider Levett Bucknall doing the right thing matters.

We believe we all have a responsibility to support the communities in which we live and work. Our global values are based on these seven insights:

People Invest in our people and value their contribution

Industry Lead by example and shape the future of our industry in everything we do

Community Be aware of our social responsibilities and make our contribution to the community

Environment Be conscious of the difference we can make in creating a better tomorrow

Customers Challenge the norm, give fresh perspectives and deliver flawlessly

Suppliers Act with integrity, honesty and fairness in all our relationships

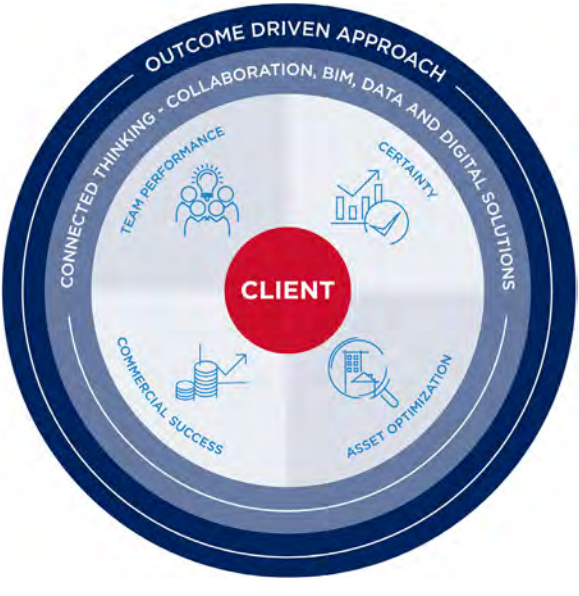
Shareholders Be a self-owned organisation, be financially robust, and deliver agreed financial plans

OUTCOME DRIVEN APPROACH

We believe the best outcomes only come from the best people.

At Rider Levett Bucknall, our approach allows us to deliver successful outcomes to property and construction projects by tailoring our services to match client goals and needs. Our team specializes in creating, evaluating, and managing project controls that address the critical issues of time, cost, scope, and quality in the built environment.

We are a recognized industry leader and a trusted advisor to our clients, with a network that covers the globe and a heritage spanning over two centuries. Our experience has taught us that to achieve success in today's market, it is vital to manage risks and opportunities. From pre-construction, through construction, to turnover, our primary goal is to afford clients the level of certainty they need to make critical, real-time decisions to ensure the commercial success of their projects.



AN OUTCOME-DRIVEN APPROACH TO SERVICES

CERTAINTY

In contributing to project certainty, we provide clients with the knowledge, resources, and tools necessary to make confident and informed decisions.

ASSET OPTIMIZATION

Our commitment to our clients is founded on our expert knowledge and passion for delivering quality projects that truly satisfy owners' and stakeholders' needs and demands. We do this by leveraging our expertise and lessons learned, to anticipate challenges and turn them into opportunities for long-term facility success.

TEAM PERFORMANCE

Team performance is an essential part of achieving project success. We collaborate and manage the dynamic of a project team to allow members' work to contribute to effective communication, transparency, and partnership, to safely and successfully meet project goals.

COMMERCIAL SUCCESS

Project success does not simply mean 'on time and on budget'. It also means that stakeholder expectations are met, that value has been provided to the community, and that sustainability goals have been achieved.

OPPORTUNITIES AT RLB

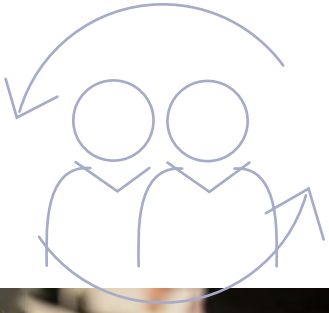
We invest in our people and value their contribution. Our people are united through our shared values, and these principles are integral to our identity, to our culture and they underpin our long history and our heritage. Whatever stage of your career, we will provide a stimulating environment to help you fulfil your potential.

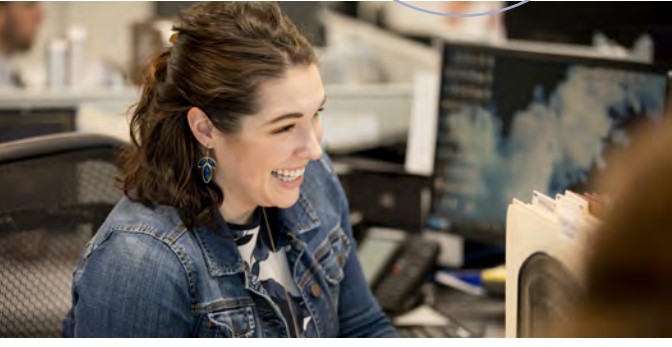
CAREERS AT RLB

Help us bring imagination to life

If you're looking for an opportunity to embrace new ideas, be part of a thriving global community, and have fantastic career options, Rider Levett Bucknall is for you.

Visit **www.RLB.com/en/page/careers/** to learn more.





PROFESSIONAL INTERNSHIPS AT RLB

Build your reputation on ours

At Rider Levett Bucknall, we recognize the value and skills that students can bring to RLB through our internship program. These opportunities allow students to gain hands-on experience in all facets of the company. If you are currently a student or are a recent graduate, we invite you to consider our professional internship.

Benefits:

- Practical project experience
- Ability to earn an income while studying
- Working on a variety of projects
- Flexibility around your university schedule
- Resources to support study such as library, equipment and software
- Full-time or part-time work opportunities
- Networking opportunities
- Structured career progression

Duration:

Internship durations are tailored to the individual need and the school requirements. Some of our interns stay with us as little as three months to a year. They also tend to come back each summer to receive additional training.

Guidelines:

Must be currently enrolled in an accredited school with an emphasis on the industry.

MEET YYDHVIR SAHARAN

Time with Firm: 5 years
Role: Senior Cost Manager
Location: Tucson, Arizona

Yudhvir began with RLB as a Cost Estimator Intern in our Phoenix office, while attending Arizona State University. During the pursuit of his Master of Science degree, Yudhvir joined our team as a part-time Cost Estimator for our Phoenix office. He later transitioned to a full-time Cost Estimator role, and has since taken an opportunity in our Tucson office as a Cost Manager.

> My internship with RLB has been a very educational journey. I admire the support and guidance from the outstanding team at Phoenix office. RLB invests a lot in interns, and provides real world experience in construction cost management, value engineering, budget analysis. What I enjoyed the most as a new cost estimator was the opportunity to work on a variety of projects; a county jail, training center, airport terminal, and dormitory building are just a few on the long list. This experience has given an exceptional boost to my skills, knowledge and confidence essential to starting my estimating career.

- Yudhvir Saharan, Cost Manager, Tucson, AZ

AMERICAS ALLIANCE

We are delighted to announce the formation of RLB Americas Alliance. This Alliance is a significant step toward the growth of our global practice and builds an even stronger platform to service clients, operating across the Americas.

Our first Americas Alliance partner is Adippsa, a project and construction management firm based in Lomas de Chapultepec, Mexico. For over 35 years, Adippsa has been the project manager on projects totaling, in excess of, 70M square feet, providing clients with the experience to take their projects from a planning stage to successful operation, managing costs, quality, and ensuring on-time delivery.

Adippsa's services allow them to accompany their customers during the different stages of design and construction: from the planning to the operation. In each project that they take on, they are fully involved, putting to good use our ample experience and following their core values: Integrity and Open Communication to achieve high quality services.

Visit www.adippsa.com/adippsa/ to learn more.

GRANT HIGH SCHOOL

PORTLAND, OREGON

Grant High School in Portland, OR, is a historical building that required significant renovations. Originally opened in 1924, the Classical Revival style Grant High School physical facility consists of several buildings totaling approximately 293,000 sf of built space on an approximately 14.5-acre site. The school is home to just over 1,800 students, who relocated to Marshall High School for the duration of the renovations. Although the project had tight deadlines and a strict budget, the students were able to return to their fully modernized school on time for the Fall 2019 school year. The interior of the building was gutted and completely rebuilt. The project also included the addition of a new three-story common area, a new gymnasium, seismic retrofitting, and additional classroom space.

RLB completed their role as cost estimator for the two-year modernization of Grant High School. RLB was able to help ensure that the project was designed to the budget set out by the district. The construction team was able to fully modernize the internal areas of the school while staying true to the 1920's style of the original brick building on the exteriors.

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GRANT HIGH SCHOOL ▲

PORTLAND, OREGON

Grant High School in Portland, OR, is a historic building that required significant renovations of the school. Originally opened in 1924, the Classical Revival style Grant High School physical facility consists of several buildings totaling approximately 293,000 SF of built space on an approximately 14.5-acre site. The school is home to just over 1800 students, who relocated to Marshall High School for the duration of the renovations. Although the project had tight deadlines and a strict budget, the students were able to return to their fully modernized school on time for the Fall 2019 school year. The interior of the building was gutted and completely rebuilt. The project also included the addition of a new three-story common area, a new gymnasium, seismic retrofitting, and additional classroom space.

RLB completed their role as Cost Estimator for the two-year modernization of Grant High School. RLB was able to help ensure that the project was designed to the budget set out by the district. The construction team was able to fully modernize the internal areas of the school while staying true to the 1920's style of the original brick building on the exteriors.

PROFESSIONAL SERVICES

PROFESSIONAL SERVICES

Rider Levett Bucknall offers the following professional services on building and civil engineering projects including the specialist components of plumbing, mechanical, electrical, vertical transportation, fire and security systems.

COST CONSULTANCY SERVICES

The service encompasses cost estimating, cost management, the production of bid and contract documents, the financial administration of building contracts, and dispute resolution.

PLANNING STAGE COST CONTROL

- Budget report
- Elemental analysis
- Estimates
- Cost benefit studies
- Cost planning
- Cost negotiation

CONTRACTUAL ADVICE

- Project delivery systems
- Forms of contract
- Special contract clauses
- Bidding procedures
- Contractor suitability reports
- Design/Build & package deal contractual assessments

COST CONTROL DOCUMENTATION

- Bills of quantities
- Trade bills of quantities
- Provisional bills of quantities
- Simplified bills of quantities

BID ADVICE

- Assessment of bids
- Negotiation

CONSTRUCTION STAGE COST CONTROL

- Valuation of monthly progress claims
- Progressive budgetary reporting
- Change order review and negotiation
- Cost escalation calculations

PROJECT MANAGEMENT SERVICES

FEASIBILITY

- Definition of client's requirements
- Review of concept design
- Budget development
- Evaluation of environmental studies
- Preliminary project scheduling
- Cash flow and market analysis
- Risk analysis and identification
- Value engineering studies
- Feasibility studies and recommendations

DESIGN & DEVELOPMENT

- Consultant selection advice and contract negotiation
- Contract execution
- Prepare project scope
- Value engineering
- Confirm preliminary cost estimate and prepare cost plan
- Submit regular design status reports
- Advise on project delivery systems
- Prepare and monitor design documentation
- Manage and coordinate consultant team
- Chair regular project management meetings
- Maintain compliance with client objectives
- Negotiate with authorities as required
- Constructability review
- Provide design and feasibility reports
- Obtain client approval and sign off
- Prepare and monitor project schedule

PROJECT MANAGEMENT SERVICES

DOCUMENTATION & PRE-CONTRACT

- Formulate contract strategies
- Prepare conditions of contract
- Secure authority and client approvals
- Manage documentation
- Cost control of design against budget
- Check design against client's requirements
- Set up management reporting system
- Set up cost control procedures
- Prepare contract administration procedures
- Prepare project manual
- Chair project management meetings
- Prepare monthly project progress reports
- Coordinate the bid documents
- Prepare bid report with recommendations
- Formalize and execute contract
- Prepare and monitor project website

CONSTRUCTION

- Monitor and report schedule performance
- Coordinate documentation for fast-tracking
- Monitor contract compliance
- Manage documentation
- Identify potential delays and take action
- Process progress payments
- Monitor, analyze and forecast cash flows
- Enforce cost control procedures
- Chair cost management meetings
- Evaluate claims and manage disputes
- Prepare monthly project progress reports
- Identify potential cost overruns
- Evaluate extension of time claims
- Monitor contractor's performance
- Coordinate FF&E and fit-out procedures
- Maintain management reporting system
- Streamline and manage time and cost
- Monitor quality control

ADVISORY SERVICES

ALTERNATE DISPUTE RESOLUTION
- Arbitration of construction disputes
  - Private and AAA
  - Sole and panel
- Mediator of construction disputes
- Neutral third party evaluation
- Dispute review board members

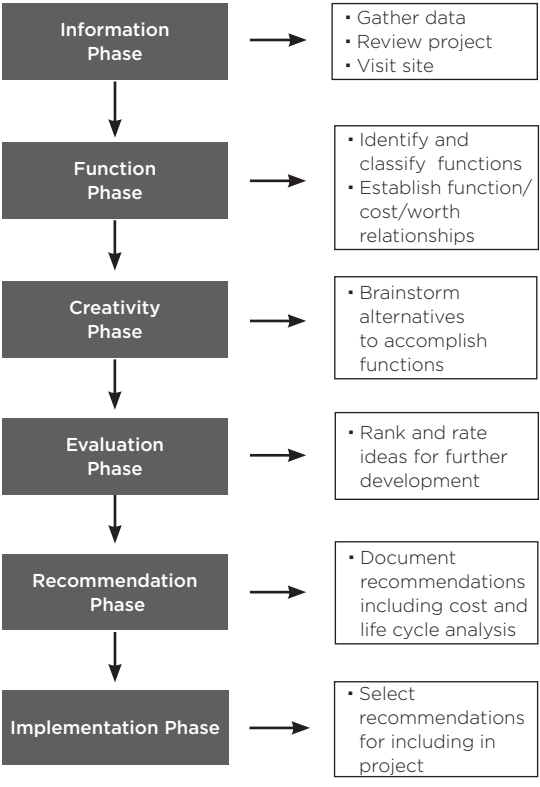
CONDITION ASSESSMENTS
- Due diligence pre-acquisition surveys
- Dilapidation/condition surveys

CONSTRUCTION CLAIMS
- Performance and payment bond investigations
- Analysis of outstanding change order claims
- Cost auditing
- Loss of efficiency/lost productivity analysis
- Disruption impact analysis
- Critical path analysis
- Changed conditions analysis
- Estimating reasonable value of work installed
- Construction management oversight and contract close out
- Expert Witness testimony
- Preparation or defense of
  - Requests for equitable adjustments
  - Delay claims
  - Excusable and compensable time extensions

CONSTRUCTION DEFECTS
- Analysis of residential and commercial construction defects
- Standard of workmanship
- Scope and cost of repair
- Registrar of Contractors testimony
- Expert witness testimony
- Defense of plaintiff

CONSTRUCTION ECONOMIC ADVICE
- Market analysis
- Cost research

STEPS TO FOLLOW IN THE VALUE MANAGEMENT PROCESS



AMERICAN SAVINGS BANK CAMPUS

HONOLULU, HAWAII

The American Savings Bank Campus project involved construction of an 11-story office building that serves as the new headquarters for American Savings Bank in Hawaii. Bringing together more than 650 teammates into a centrally located, modern office, the building was designed and constructed in alignment with the company's vision for a workplace that fosters innovation, collaboration and wellness.

Touted as the first new office building to be constructed in downtown Honolulu in nearly 25 years, development of the campus utilized unique construction methods and materials such as precast concrete that comprises the majority of the building and self-tinting View Dynamic Glass. The American Savings Bank Campus is also recognized as the first project in Hawaii to earn the WELL Health-Safety Rating from the International WELL Building Institute.

RLB provided project management services and cost consultancy support. RLB guided the client through value engineering exercises and contractor negotiations that resulted in millions of dollars in cost savings. With construction underway, the RLB team was key in navigating complex site challenges, schedule risks and driving the project to timely completion.

MISCELLANEOUS ITEMS

CALCULATION FORMULAE

TO FIND	CALCULATE
Area of triangle	Base × ½ × height
Area of circle	(radius)² × 3.1416
Area of sector of circle	Lengths of arc × ½ × radius
Area of square, rhombus	Base × height
Area of equilateral triangle	(Side)² × 0.433
Area of trapezium	Height × ½ × (sum of parallel sides)
Area of ellipse	Major axis × minor axis × 0.7854
Area of parabola	⅔ × base × height
Circumference of a circle	Diameter × 3.1416
Surface area of sphere	4 × (radius)² × 3.1416
Surface area of cone	(radius x slant side × 3.1416) + area of base
Volume of cylinder	Area of base × height
Volume of cube or prism	Length × breadth × depth
Volume of cone	Height × ⅓ × area of base
Volume of hexagonal prism	(Side)² × height × 2.598
Volume of sphere	⅔ × (radius)³ × 3.1416

CONVERSION FACTORS

TO CONVERT	MULTIPLY BY
LENGTH	
Inches into centimeters	2.54
Centimeters into inches	0.394
Feet into meters	0.305
Yards into meters	0.914
Meters into feet	3.281
Feet into meters	0.305
Yards into meters	0.914
Meters into yards	1.094
Kilometers into miles	0.621
Miles into kilometers	1.609
AREA	
Square meters into square feet	10.764
Square feet into square meters	0.093
Square yards into square feet	9.0
Square yards into square meters	0.836
Square kilometers into square miles	0.386
Square kilometers into hectares	100.0
Square miles into square kilometers	2.59
Square miles into acres	640.0
Acres into square feet	43,560
Acres into square meters	4,046.86
Acres into hectares	0.405
Hectares into acres	2.471
TEMPERATURE	
Degree Celsius to Degree Fahrenheit	(°C x 9/5) + 32
Degree Fahrenheit to Degree Celsius	(°F – 32) x 5/9

CONVERSION FACTORS

TO CONVERT	MULTIPLY BY
VOLUME AND CAPACITY	
Cubic feet into cubic meters	0.028
Cubic meters into cubic feet	35.315
Cubic yards into cubic meters	0.765
Cubic feet into liters	28.3168
U.S. pints into liters	0.473
U.S. quarts into liters	0.946
U.S. gallons into liters	3.785
Liters into U.S. gallons	0.264
Liters into U.S. pints	2.113
POWER	
Foot pounds-force/second into watts	1.356
Horsepower into watts	745.7
Kilowatts into horsepower	1.341
MASS	
Grams into ounces	0.035
Ounces into grams	28.350
Ounces into pounds	0.063
Ounces into kilograms	0.028
Pounds into kilograms	0.454
Kilograms into pounds	2.205
U.S. tons into metric tons	0.907
U.S. tons into pounds	2,000
Metric tons into pounds	2,204.623
Metric tons into U.S. tons	1.102
FORCE	
Newtons into pounds force	0.225

CALENDAR

JULY 2021

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST 2021

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

SEPTEMBER 2021

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

OCTOBER 2021

S	M	T	W	T	F	S
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10	11	12	13	14	15	16
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24	25	26	27	28	29	30
31						

NOVEMBER 2021

S	M	T	W	T	F	S
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

DECEMBER 2021

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

JANUARY 2022

S	M	T	W	T	F	S
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

FEBRUARY 2022

S	M	T	W	T	F	S
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6	7	8	9	10	11	12
13	14	15	16	17	18	19
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27	28					

CALENDAR

MARCH 2022

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
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20	21	22	23	24	25	26
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APRIL 2022

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24	25	26	27	28	29	30

MAY 2022

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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JUNE 2022

S	M	T	W	T	F	S
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5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

JULY 2022

S	M	T	W	T	F	S
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24	25	26	27	28	29	30
31						

AUGUST 2022

S	M	T	W	T	F	S
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

SEPTEMBER 2022

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

OCTOBER 2022

S	M	T	W	T	F	S
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
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IMPORTANT DATES

EVENT	DATE
New Year's Day	Wednesday, January 1
Martin Luther King Day	Monday, January 20
Chinese New Year	Saturday, January 25
Valentine's Day	Friday, February 14
Presidents' Day	Monday, February 17
Ash Wednesday	Wednesday, February 26
Daylight Savings Starts	Sunday, March 8
Saint Patrick's Day	Tuesday, March 17
Passover Begins	Thursday, April 9
Good Friday	Friday, April 10
Easter	Sunday, April 12
Passover Ends	Thursday, April 16
Mother's Day	Sunday, May 10
Memorial Day	Monday, May 25
Flag Day – USA	Sunday, June 14
Father's Day	Sunday, June 21
Canada Day	Wednesday, July 1
Independence Day – USA	Saturday, July 4
Labor Day	Monday, September 7
Rosh Hashanah	Saturday, September 19
Yom Kippur	Monday, September 28
Columbus Day	Monday, October 12
Thanksgiving Day - CAN	Monday, October 12
Daylight Savings Ends	Sunday, November 1
Veteran's Day	Wednesday, November 11
Thanksgiving Day – USA	Thursday, November 26
Hanukkah Begins	Friday, December 11
Hanukkah Ends	Friday, December 18
Christmas	Friday, December 25
Boxing Day - CAN	Saturday, December 26

IDD COUNTRY CODES & TIME DIFFERENCES

DESTINATION	IDD COUNTRY CODE	TIME DIFFERENCE FROM U.S. EST
Australia (Adelaide)	+61 (8)	+15:30
Australia (Brisbane)	+61 (7)	+15
Australia (Canberra)	+61 (2)	+16
Australia (Darwin)	+61 (8)	+14:30
Australia (Melbourne)	+61 (3)	+16
Australia (Perth)	+61 (8)	+13
Australia (Sydney)	+61 (2)	+16
Barbados	+1 (246)	+1
Cayman Islands	+1 (345)	+0
China (Coastal Cities)	+86	+13
France	+33	+6
Germany	+49	+6
Guam	+1 (671)	+15
Hong Kong	+852	+13
India	+91	+10:30
Indonesia (Jakarta)	+62	+12
Italy	+39	+6
Japan	+81	+14
Macau	+853	+13
Malaysia	+60	+13
Mexico (Mexico City)	+52	-1
Netherlands	+31	+6
New Zealand	+64	+18
Oman	+968	+9
Pakistan	+92	+10
Philippines	+63	+13
Qatar	+974	+8
Russia (Moscow)	+7 (495)	+8
Russia (Saint Petersburg)	+7 (812)	+8
Saudi Arabia	+966	+8
Singapore	+65	+13
South Korea	+82	+14
Spain	+34	+6
Sweden	+46	+6
Switzerland	+41	+6
Taiwan	+886	+13
Thailand	+66	+12
United Arab Emirates	+971	+9
United Kingdom	+44	+5
United States - Central	+1	-1
United States - Mountain	+1	-2
United States - Pacific	+1	-3
United States - Alaska	+1	-4
United States - Hawaii	+1	-5
Vietnam	+84	+12

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