DHARAM
CONSULTING

CONSTRUCTION MARKET OUTLOOK

CHICAGO

August 2020

This note provides an overview of the Chicago construction market, including the current economic environment amid the ongoing Covid-19 pandemic and its implications on the local projects market. We assess the construction cost drivers currently at play and provide Dharam Consulting's view on the outlook for prices.

Photo: Rubenstein Forum I diller scofidio + renfro I University of Chicago

CONTENTS

DHARAM CONSULTING VIEW	1
CONSTRUCTION COST DRIVERS	2
Market Activity	2
Construction Indicators	3
Building Costs + Supply Chain Capacity	5
Labor Cost	6
Material Prices	7
CURRENT CONSTRUCTION PIPELINE	9
BID SUBMISSION PRICES	12

DHARAM CONSULTING VIEW

Construction activity in Chicago is expected to peak this year. Reflecting a decrease in the value of construction starts this year, the development pipeline of new work is expected to start moderating from end 2020.

We estimate that bid submission prices rose by 5.5% in 2019, moderately above our earlier expectations. The economic fallout associated with the Covid-19 pandemic has had an immediate impact on the US construction sector, its supply chain and business cash flows. Consequently, bid submission prices have become a lot more competitive, with an increasing number of (sub-) contractors aggressively bidding for work, putting downward pressure on construction inflation. We see price escalation at 0% for 2020 on average in the Chicago market. We expect a gradual return of construction inflation next year. Should project starts in 2021 rebound stronger than we anticipate, this could lead to a spike in cost escalation next year, as the supply chain may not be able to react fast enough to increasing volumes.

Our central bid submission price forecast is based on the following assumptions:

» Some disruption to industry activity will continue, with local Covid-19 outbreaks recurring throughout the year, halting and/ or slowing work on site periodically in 2020/21.

» Projects that were meant to commence in summer/ fall 2020 may be reconsidered in light of potential changes in demand, with clients expected to take a wait-and-see approach and potentially commence these projects in late 2020 /spring 2021 once a broader recovery takes hold.

» Delayed recovery, with contractors chasing work and clients able to pick sourcing at very prices. Contractor margin reduction in a more competitive market.

» Overall level of work is reduced due to lower demand and confidence, resulting in lower demand for labor and materials.

» Industry capacity can be mostly retained.

CONSTRUCTION COST

DRIVERS

Market Activity

The longest economic expansion in US history has been derailed by the Covid-19 pandemic, which caught the world economy off guard and caused unprecedented damage to global labor markets.

In the US, the economic damage has been enormous, as rigorous public-health responses with wide-ranging restrictions on passenger transportation, labor mobility, factory and office closures impacted households, businesses and supply chains across the board. Faced with sharply declining production and employment, consumers and businesses alike are deferring non-essential consumption and investments. Consequently, the US economy contracted sharply in the second quarter of 2020 (chart 1).

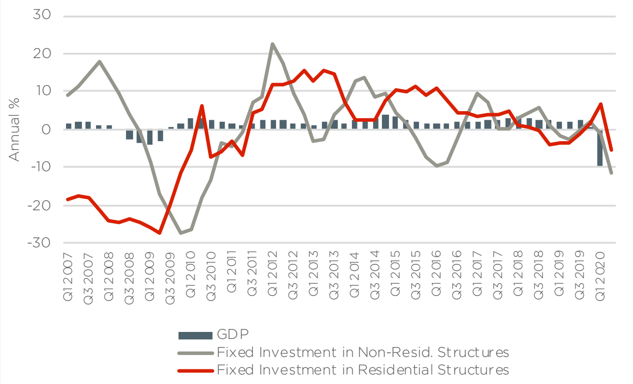
A gradual re-opening of the economy has begun and the "stay-at-home" orders issued in March and April were partially lifted in some states and cities in May/ June. At the same time, government pandemic assistance payments were distributed to households and businesses. Since May, the unemployment rate slowly ticked down from April's near 40-year high of 14.7%, but still stood at 10.2% in July.

Initial jobless claims also dipped in recent weeks, but the number of people filing to receive unemployment insurance benefits for the first time remains high by historic standards (chart 2). Following an unprecedented monetary and fiscal stimulus, discussions about additional government support for households and businesses are underway. At the same time the Fed is expected to keep interest rates at a record low of 0-0.25% over the medium term.

The sharp downturn appears to have bottomed out, with some economic indicators, such as the manufacturing and non-manufacturing (services) sector activity indices moving into positive territory in recent months. Nevertheless, the recovery appears fragile and the ongoing health crisis has forced renewed lockdowns in some states.

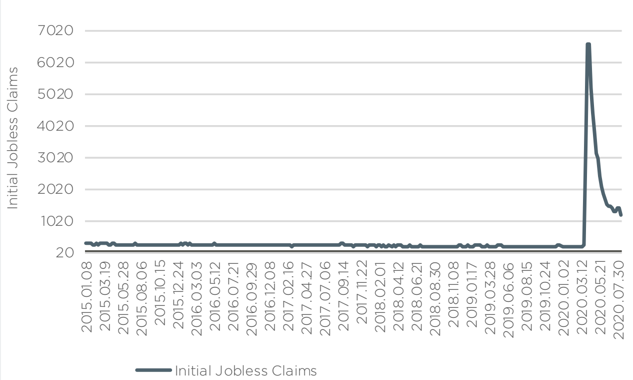
The majority of economic commentators now expect a more prolonged downturn rather than a swift v-shaped recovery of the economy in the second half of this year. Adding to the subdued economic backdrop are a weak global economic environment, the policy uncertainty amid the 2020 US elections, as well as continuing political and trade tensions with China and other countries. The impact of the pandemic will play out over the longer term, most notably as changing travel preferences and work practices are already causing a shift in workspace demand, as well as reallocation of capital investments and labor.

CHART 1: US ECONOMIC ACTIVITY



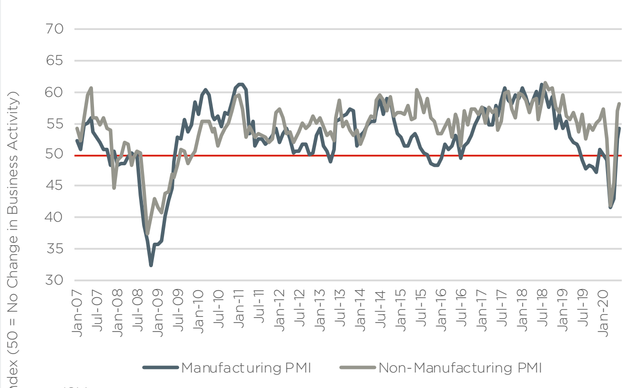
Source: BEA

CHART 2: US INITIAL JOBLESS CLAIMS



Source: ISM

CHART 3: BUSINESS ACTIVITY INDICATORS

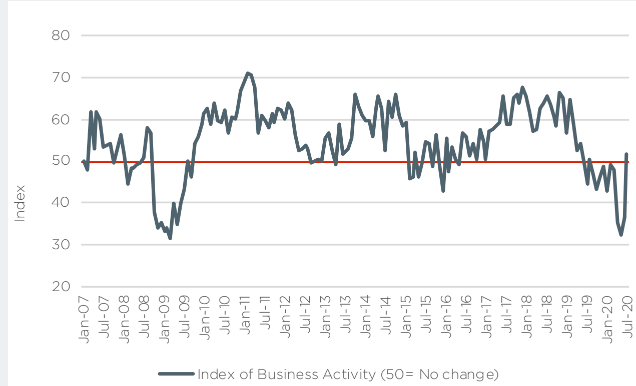


Source: ISM

Chicago has lagged the wider expansion of the US economy, but nevertheless activity has been relatively firm over the past years. In 2019 the Chicago metro area added 22,000 jobs, a 0.6% increase on 2018. This compares to a 1.4% increase in jobs across the US. Most of the job growth occurred within education and healthcare services, and the financial services sectors. Employment in the metro area declined by 5.5% in the first half of this year, in line with wider national trends. Business activity remains subdued, despite the stabilization seen since July (chart 3).

The outlook for Chicago depends on developments within the wider national economy, certainty around wider fiscal and economic policies that are being enacted at the federal level, as well as state specific conditions related to potential local Covid-19 related restrictions, local budget constraints as well as sales tax revenues (which have plummeted).

CHART 4: CHICAGO BUSINESS BAROMETER



Source: ISM

Unsurprisingly, the anticipated slowdown in industry activity this year has been exacerbated by the Covid-19 pandemic induced economic shock. Nationally construction spending held stable at an annualized $1,355 billion in June 2020, but with construction inflation at around 3.5% nationally, this translates into a decline in construction volumes. Looking ahead, construction spending is set to slow in the months ahead, given the fall in project starts in 2020, which are ranging between a 10-20% decline so far this year.

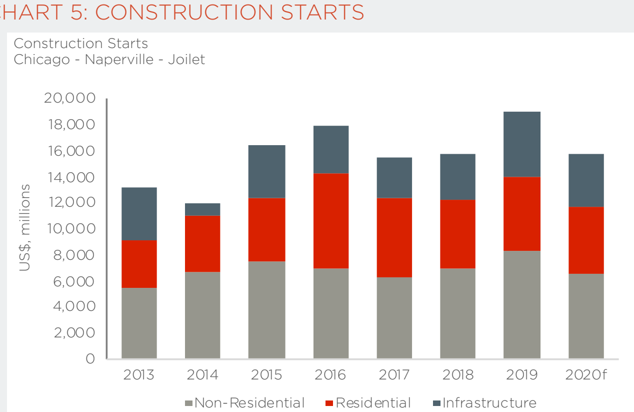
Dodge now forecasts that non-residential construction starts will fall by 20% on average this year, while residential starts are expected to decline by 15% nationally. Infrastructure starts are expected to hold stable. This will impact construction spending and cash flows in 2021-2022. Dodge forecasts the value of construction starts (unadjusted for construction inflation) to increase by 5%-15% in 2021.

Whilst projects have to abide by social distancing and other health procedures, construction has been deemed essential infrastructure in Chicago and as such the industry was and is exempt from stay-at-home orders. Most projects continued. Civil disturbances caused temporary stoppages over the past few weeks, but work appears to largely be back on track. Nevertheless, the supply chain is adjusting and there are a couple of high-profile projects that have been put on hold, with the Covis-19 pandemic cited as the main reasons for project stops.

For example, the plans for the $185 million observatory at the top of the Aon Center have stalled, while the construction of the 74-story $470 million 1000M residential tower was put on hold by its developers Time Equities, JK Equities and Oak Capitals.

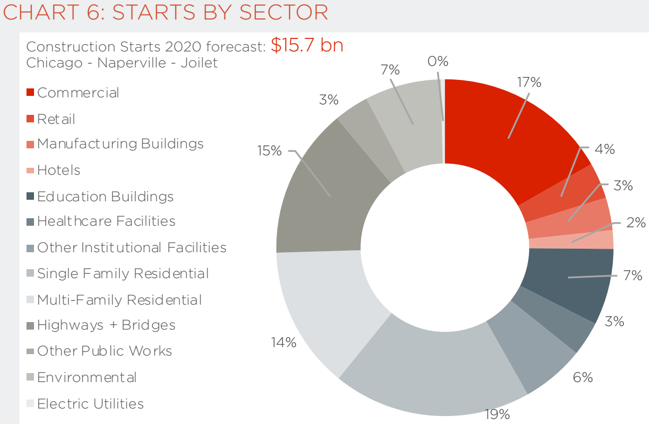
The developers are citing concerns by their financing partner over the economic outlook and demand as the main reason for the pause in work to allow for an underlying review of project fundamentals. More positively, a number of construction projects in Chicago continued to proceed as planned over the past half year. For example, the $250 million Fulton Labs project in Fulton Market developed by Trammel Crow Co. broke ground earlier this year.

CHART 5: CONSTRUCTION STARTS



Source: ENR, Dodge Data

CHART 6: STARTS BY SECTOR



At the beginning of the year, Dodge Analytics expected the value of project starts to decline by 17% to $15.7 billion compared to $18.95 billion seen in 2019, which was a record high (chart 5, 6). Our view is that the Covid-19 pandemic has so far not caused a more dramatic fall in project starts this year. The non-residential sector is expected to see the largest drop in project starts this year, falling by a fifth from $8.36 billion in 2019 to $6.57 billion this year (chart 7, 8).

On the institutional sector side, the fall is led by fewer healthcare and education project starts than last year, while there are also significantly fewer commercial projects commencing on site. Hospitality and leisure projects were expected to see a rise in project starts this year, but we expect that some of these projects will have come under review given current market conditions. The residential sector is forecast to see a 10% fall in the value of project starts, though we generally continue to see heightened demand for residential space in the city. Further major developments are in the pipeline, in particular in the South Loop, the North Branch corridor and across Downtown (chart 9).

The value of infrastructure project is expected to remain firm at around $4 billion this year, led by continued investment in roads and highways projects for large-scale masterplan developments, as well as the roll out of the airport expansion project (chart 10).

Overall, we maintain our view and anticipate a more conservative attitude to risk over the next few years. There are significant risks to future demand levels including a prolonged economic downturn and slow recovery, elevated construction costs, as well as uncertainty over domestic policy decisions pre and post US elections later this year. On the positive side, we see continued investor interest in the local Chicago market and favorable decisions by the city to allow large projects to go ahead.

The $7 billion "The 78" and the $6 billion "Lincoln Yards" remain the biggest proposed developments in Chicago in recent history that will transform the city's skyline and create new neighborhoods. While some of the timelines may move backwards given the current market conditions, we still expect these projects to continue to drive the construction workflow in the city over the next few years.

CHART 7: NON-RESIDENTIAL PROJECT STARTS

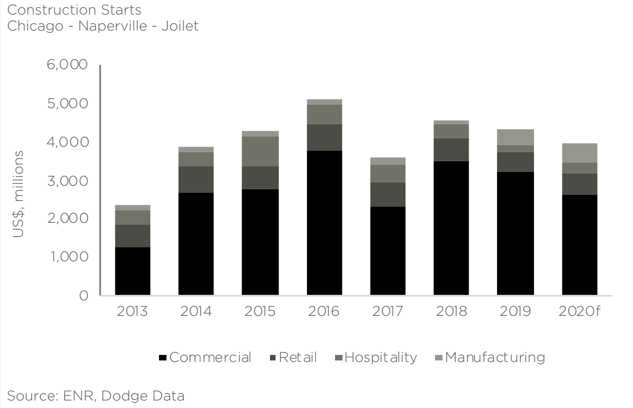


CHART 8: INSTITUTIONAL PROJECT STARTS

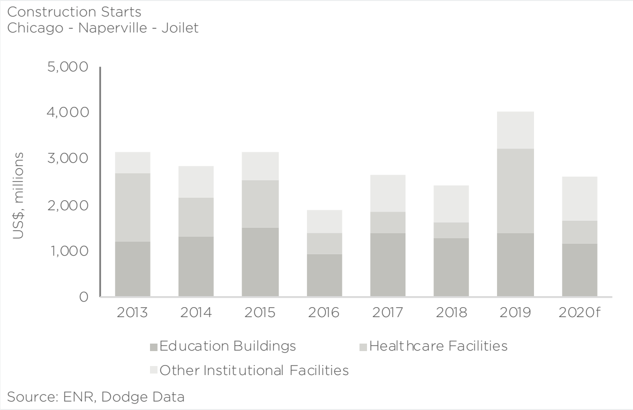


CHART 9: RESIDENTIAL PROJECT STARTS

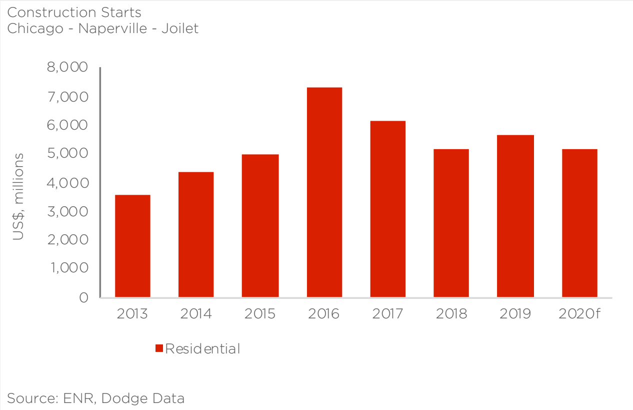
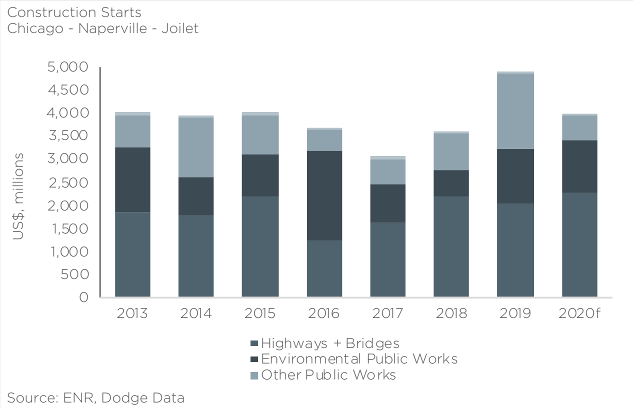


CHART 10: INFRASTRUCTURE PROJECT STARTS



National building costs

Nationally, building cost inflation (BCI) and construction cost inflation (CCI) as reported by the ENR increased 1.6% and 1.2%, respectively in the year to August 2020. This compares to BCI of 1.9% and CCI of 2.0% in 2019 as a whole. Input price escalation in 2020 was lower compared to the preceding year across materials, skilled labor and common labor cost.

Bid submission price escalation started to moderate in Q1 2020, as the start of the Covid-19 pandemic meant lockdowns and work stop orders across a number of states. According to the Turner Construction Cost Index, contractor prices increased by an annual 4.8% in Q1 2020 and 2.4% in Q2 2020, compared to a 5.4% increase in 2019.Nationally, we expect outturn cost inflation to continue to slow in 2020, in line with lower construction spending.

Construction demand

Despite the current slowdown in project starts, construction activity on site in Chicago remains high, as work progresses so far despite the wider economic slowdown. Construction activity is judged to peak this year, with the flow of work expected to start slowing – from a high level – towards the end of this year. Going forward, we anticipate a more conservative attitude towards risk over the next few years.

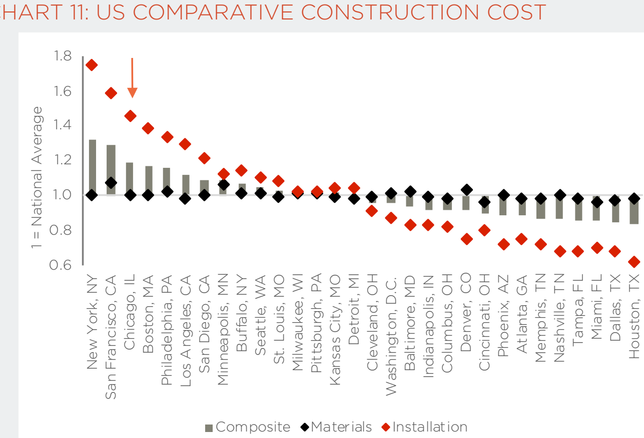
A number of large commercial and residential projects are being delivered in the local market, which is keeping the supply chain busy for a while.

Photo: Simpson Querrey Biomedical Research Center I Feinberg Northwestern

Local market capacity and input costs

Construction input costs in Chicago remain amongst the highest in the country. Building costs are estimated to have been 19% higher in 2020 than the national average, according to the ENR (chart 11). In comparison, costs in 2019 were 21% higher than the national average. Whilst material costs are on average similar to the US national average, the index for labor (installation) is 46% higher than the national average in 2020.

CHART 11: US COMPARATIVE CONSTRUCTION COST



Building Cost + Supply Chain Capacity

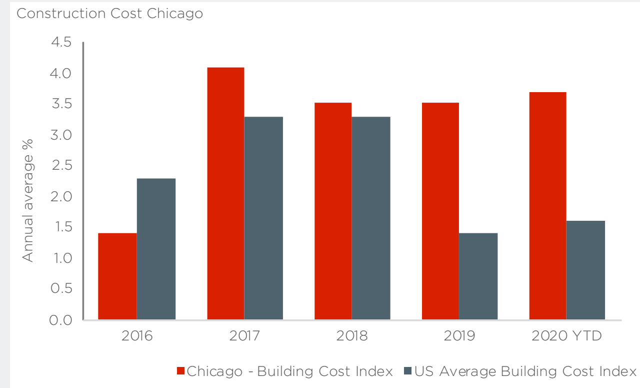
Building input cost inflation remains significantly higher in Chicago than nationally, with the BCI recording a 3.7% increase in the first eight months of this year, compared to 2019 (chart 12).

Supply chain capacity had tightening significantly since 2017, especially on projects such as very tall high-rise buildings where complexity and scale leads to a smaller available pool of expertise. More recently, the wider economic and construction slowdown nationally has made the local bidding environment more competitive, with more contractors and sub-contractors chasing work to maintain their workload.

This is giving clients more choice during the bidding process with more competitive bid returns being achieved than only a year ago. Consequently, we expect a stabilization in bid submission prices this year.

Looking ahead, there is a risk that the decline in industry capacity from current job losses may not be recouped over the next few years and consequently, the large-scale projects in the local pipeline may face renewed capacity constraints in the years ahead in a market that has been impacted by a lack of skilled labor over the past years. However our base assumption is that industry capacity can be mostly retained through government support programmes and expectations of a broader resumption in work later this year.

CHART 12: CHICAGO BUILDING COST INFLATION



Source: ENR,

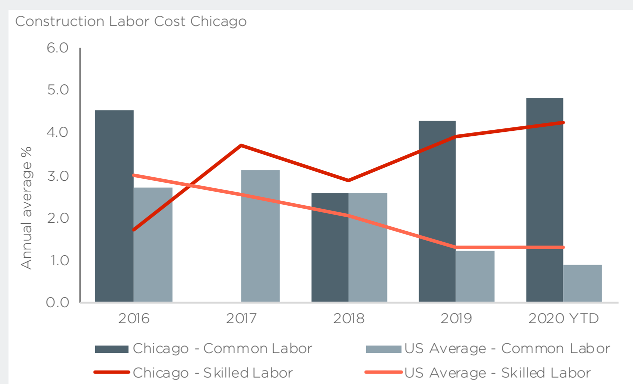
Labor Cost

Construction employment in Chicago started to level off over the course of 2019, as a significant number of projects were completed. Since the start of the Covid-19 pandemic, job numbers have taken a significant hit, with the fall in employment accelerating over the course of the year to date. Overall, employment fell by 4.8% in the year to June 2020, but the second quarter recorded a 9% decline in construction jobs. Construction overall is faring somewhat better than the wider Chicago economy, where an 11.4% decrease in employment was recorded in the second quarter of this year compared to the same period a year earlier.

Nationally, labor cost inflation has slowed this year. The ENR skilled labor cost index increased by 1.3% in the year to August 2020, while the common labor cost index for the U.S. average rose by 0.9%. Labor cost inflation remained much higher in Chicago so far this year according to the ENR. For common labor the index recorded a 4.8% increase in the year to August, while the skilled labor index was up 4.3% over the same period.

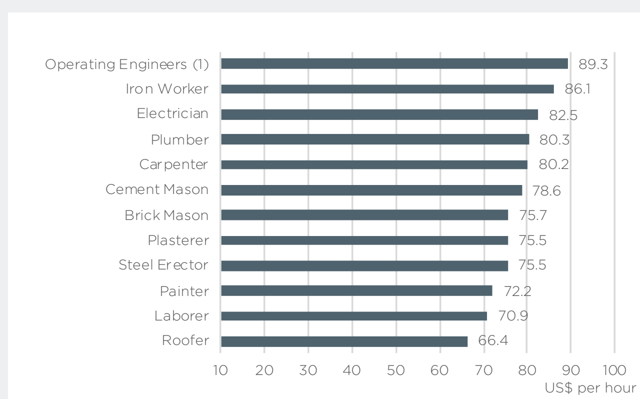
Union labor dominates the local industry and the current prevailing wage rates for specific trades are shown in chart 14. Overall the increase in prevailing wages has been modest over the past two years. There are varying degrees of labor capacity availability in the region, where a limited pool of specific skilled labor can cause significantly cost escalation for some trades. However, in light of recent market developments we have seen a significant easing in the capacity constraints for specific trades, with bidding becoming more competitive.

CHART 13: LABOR COST INDEX



Source: ENR,

CHART 14: CHICAGO PREVAILING WAGES



Source; Chicago, Cook County

After a deep plunge in the early months of this year, global commodity prices have recovered some of their price losses. Commodity prices are reacting to cautious signs of rebounding demand, most notably in China though monthly economic indicators have also been somewhat more positive in the US and Europe recently.

Price risks are still judged to be on the downside as the full economic impact of Covid-19 pandemic is still playing out with recovery scenarios moving away from a sharp v-shaped rebound in the second half of this year. Factors such as the deterioration in US-China relations, policy changes around tariffs (i.e. there has been a re-imposition of tariffs by the US on Canadian aluminium imports) are adding to uncertainty in the market.

Domestically, construction material price inflation slowed significantly this year. In the three months to July the index for material inputs to construction industries showed a 4.3% year-on-year decrease. In the year to date, prices are down 2.9% compared to the same period in 2019.

In contrast, ENR reports a higher rate of material price inflation, with the national index up 2.4% in the first eight months of this year compared to the same period in 2019. In Chicago, the ENR recorded material price inflation of 2.2% so far in 2020.

Some building materials have seen a significant rise in prices in recent months. Softwood lumber prices rose by an annual 15.9% in the three months to July 2020. According to industry reports, producers had expected a sharper downturn in the residential construction sector and had cut back production. Steady demand has driven down inventories with mills now increasing production and commanding higher prices. Concrete products have also increased in recent months. In contrast, steel prices remain subdued. In the three months to June, steel plate and HRC prices were down 323% and 20%, respectively compared to a year earlier. Prices continue to trail well below the 25% tariff-induced premium from 2018.

Recent trends in commodities and material prices are shown in figures 15-18 and tables 1-2.

CHART 15: COMMODITIES PRICES

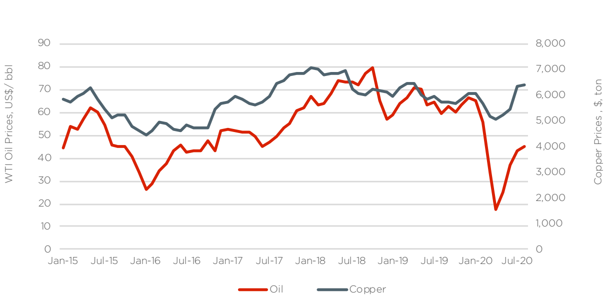
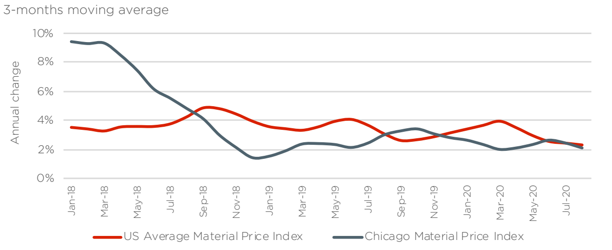


CHART 16: ENR MATERIAL PRICE INDEX



ENR Material Price Index	Chicago Annual %	US average Annual %
2018	5.2%	4.0%
2019	2.6%	2.2%
2020 ytd	2.2%	2.4%

CHART 17: MATERIALS INPUT TO CONSTRUCTION

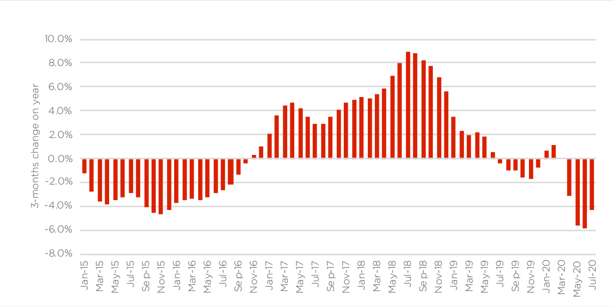


CHART 18: DOMESTIC BUILDING MATERIALS

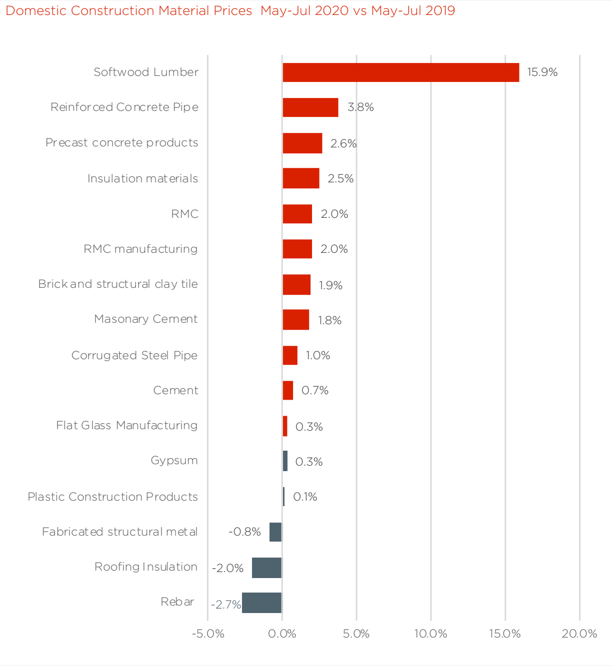


TABLE 1: MATERIAL PRICES

Material	Unit	Date	Price		3 months annual Change %
Reinforced Concrete Pipe	"24, $/ft	Aug-20	36.9	▲	3.8%
Corrugated Steel Pipe	"36, $/ft	Aug-20	35.0	▲	1.0%
Roofing Insulation	Unfaced, $/sf	Aug-20	8.4	▼	-2.0%
Masonary Cement	70-lb bag, $/ton	Aug-20	10.7	▲	1.8%
RMC	4,000psi, $/CY	Aug-20	140.7	▲	4.6%
Rebar	Grade 60, $/CWT	Aug-20	52.8	▼	-2.7%
Steel Plate	ton	Jun-20	587.7	▼	-32.9%
HRC	ton	Jun-20	497.5	▼	-19.9%

TABLE 2: GYPSUM PRICE ANNOUNCEMENTS

Latest Material Price change		
Gypsum Wallboard	Jan-20	15%*
Interior Finishing		
Cement Board		
Plaster		

* a 30-day notice will be provided in advance of a second increase date

Sources: ENR, LME, BLS, National Gypsumrice Bulletin, EIA

Material Prices

CURRENT
CONSTRUCTION PIPELINE

Our view: Despite the wider economic slowdown, local construction activity remains relatively firm currently on the back of a record value of project starts in 2019. We do expect the construction pipeline to slow due to a significant fall in project starts this year, though a number of large-scale construction projects are likely to keep the supply chain busy in the near to medium term. Nevertheless, uncertainty is high in the current economic environment and project owners will be more cautious as high construction cost coupled with a changing market are likely to impact on project feasibility, potentially pushing the delivery time of some of the planned projects backward.

To assess the local procurement market and its impact on trade resources and cost inflation, we have analyzed the currently known large private project pipeline in Chicago.

Our current pipeline contains nearly 60 active projects (table 3), a significant number of which are towers of more than 40 stories. This list is by no means exhaustive and includes only those projects with published project value and construction dates. There are four mega projects under construction and in design phase: the O'Hare Airport expansion, Lincoln Yards, One Central Chicago and The 78.

The majority of projects are underway or due to start this year. Of the ones in the near-term pipeline, the largest ones are the $7 billion "The 78" masterplan development, where infrastructure works are already under way. Major works are planned to start towards the end of this year and the contractors are on track to complete the Wells-Wentworth Connector by late 2021. The new neighbourhood development is planned to be rolled out over the next 20 years.

We estimate that 38 large projects, together totaling over $3 billion in construction costs were completed between Q4 2018 and early 2020, the largest of which One Bennet Park, the phase 1 of the Simpson Querrey Biomedical Research Center and the Nema Chicago residential tower.

This year, some 13 large projects are scheduled for completion, including the $950 million Vista Tower, Old Main Post Office commercial project and the Aspire residential tower.

TABLE 3: CHICAGO LARGE PROJECTS PIPELINE

PROJECT	Sector	Construction US$, million	Start	Completion	Developer/ Owner
LARGE-SCALE PROJECTS UNDERWAY					
One Central Chicago	Mixed-use	3,800	2022	2032	Landmark Development
Vista Tower	Mixed-use	950	Q3 2016	Q3 2020	Magellan Development, Dalian Wanda
ORD21	Transportation	8,500	2018	2028	City of Chicago
O'Hare Terminal 5 Expansion	Transportation	1,200	Q1 2019	Q4 2021	City of Chicago
O'Hare Global Terminal (T2 replacement)	Transportation	2,200	2023	2028	City of Chicago
Airport Transit System Modernization / Transit center	Transportation	786	Q4 2018	Q4 2020	City of Chicago
The 78	Mixed-use	7,000	2020	2034	Related Midwest
Phase 1 (1.5m sqft office space, 700,000 sqft residential, 100,000 sqft retail, hospitality)	Mixed-use	2,000	Q1 2020	2024	Related Midwest
Wells-Wentworth Connector	Transportation		Q1 2021		Related Midwest
Discovery Partners Institute (DPI)	Research	235+	Q4 2020	2023	University of Illinois
Other Phases	Mixed-use	5,500	2025	2034	Related Midwest
Lincoln Yards	Mixed-use	6,000	2019	2034	Sterling Bay
Lakeshore East	Mixed-use	1,100			Magellan Development, LendLease
Cascade (Parcel K/L)	Mixed-use	N/A	Q3 2019	Q4 2021	Magellan Development, LendLease
Cirrus (Parcel J on 211 N. Harbor Drive)	Mixed-use	N/A	Q3 2019	Q4 2021	Magellan Development, LendLease
Parcel I	Mixed-use	N/A	2022	2025	Magellan Development, LendLease
Red and Purple Line Modernization	Transportation	2,100	Q1 2019	2025	CTA
Southbank (5 residential towers)	Mixed-use	1,200	2016	2026	Lendlease
Union Station	Hospitality + Leisure, Commercial	900-1000	Q4 2019	Q4 2022	Riverside I&D, Convexity Partners
Tribune East Tower	Residential MU	1000	2022	2025	CIM Group, Golub & Company
One Chicago	Residential MU	850	Q2 2019	Q1 2022	JDL Development
Riverline	Mixed-use	800	2019		CMK Companies
Old Main Post Office	Commercial MU	800	2017	2020	601W
Wolf Point Salesforce Tower	Commercial MU	800	Q2 2020	2023	Hines, Kennedy
Willis Tower Renovation	Mixed-use	500-668	Q4 2017	Q4 2019	Blackstone Group
Rubschlager Building at Rush	Healthcare	473	Q2 2019	2022	Rush University
1000M (1000 South Michigan Avenue)	Residential MU	470	Q4 2019	2023	Time Equities, JK Equities, Oak Capitals
110 North Wacker (Bank of America Tower)	Commercial	300 - 660	Q2 2018	Q1 2021	Howard Hughes Corp, Riverside I&D
725 W. Randolph	Residential + Hospitality	350-395	Q3 2020	2022	Related Midwest
Triangle Square	Residential MU	200	Q1 2020	2021	Belgravia Group
Aon Center (Observatory)	Hospitality + Leisure	185	2019	Q2 2021	601W
BMO Tower	Commercial MU	132.6	Q4 2019	Q2 2021	Irgens
369 W. Grand	Residential MU	120	2019	2021	Onni
2111 S Wabash Avenue (Aspire)	Residential MU	76+	Q1 2019	Q3 2020	Draper and Kramer
Southbridge Phase 1	Mixed-use	90	Q2 2020	Q3 2021	McCaffrey Interests, The Community Builders
167 N Green Street	Commercial MU	60	Q1 2019	Q3 2020	Shapack Partners, Focus Development
U of C Woodlawn Residential Commons	Residential	102	Q3 2018	Q3 2020	University of Chicago
1125 W. van Buren	Residential MU	100	Q3 2019	Q2 2021	Tandem
800 Fulton Market	Residential MU	95	Q1 2020	2021	Thor Equitites
AMLI 808	Residential	80	Q1 2020	Q2 2021	AMLI Residential
Damen Green Line Station	Transportation	60	Q2 2019	Q2 2021	CTA
1400 Monroe	Residential	34	Q1 2020	Q3 2021	JK Equities
Fulton East	Commercial	26	Q1 2019	Q3 2020	Bob Wislow/ Camille Julmy
MAJOR PROJECTS WITH UNDISCLOSED CONSTRUCTION COST					
353 West Grand	Residential MU	N/A	Q3 2019	Q4 2021	Onni
Old Town Park Phase 3	Residential MU	N/A	Q3 2019	Q3 2021	Onni
717 South Clark Street (Imprint)	Residential MU	N/A	Q2 2019	Q4 2020	CMK Company
734 N Milwaukee (Avenir)	Residential MU	N/A	Q3 2018	Q1 2020	Tandem
Bentham Chicago	Residential MU	N/A	Q1 2019	Q4 2020	Sedgwick Development
Alta Grand Central	Residential	N/A	2019	Q4 2020	D2, Wood Partners
Superior House	Residential	N/A	Q2 2019	Q3 2020	Ascend RE
David M. Rubinstein Forum	Education	N/A	Q3 2018	Q3 2020	University of Chicago
Student Wellness Center	Education	N/A	Q2 2019	Q4 2020	University of Chicago
410 S. Wabash Avenue	Residential MU	N/A	Q1 2020	Q4 2021	LMC
Parkline	Residential MU	N/A	Q4 2019	2021	Thomas Roszak/Dan Moceri
320 N. Sangamon	Commercial	N/A	Q4 2019	Q1 2021	Tishman Speyer, Mark Goodman & Ass.
448 N. LaSalle	Commercial	N/A	Q1 2020	Q1 2021	CA Ventures, Midwest Property Group
OTHER LARGE-SCALE PROJECTS PROPOSED					
1200 W. Fulton	Commercial MU	N/A	Proposed		IBT Group
400 Lake Shore Drive Towers (2x) (ex Spire)	Residential + Hospitality	1,000	Proposed		Related Midwest
Obama Presidential Center	Mixed-use	500	Planned		
Source: Bldup, Curbed Chicago, Architects Magazine, Dharam Consulting					

schemes, including airport related work for ORD21, The 78, Lincoln Yards and One Central Chicago. So far, these projects proceed as planned (with the exception of Once Central Chicago where the roll out has been pushed by two years) which is driving a renewed increase in the flow of project work from 2022.

Our analysis of the flow of trade resources within the current pipeline for the top 30 projects by value is summarized in chart 20. The analysis includes only active projects and excludes any projects completed between Q4 2018 and Q2 2020.

The analysis shows the easing in workflow starting in the final quarter of this year and into 2021, as a number of major projects are progressing through the later stages of construction towards completion. These projects have drawn up significant resources over the past 24 months, contributing to the significant increase in construction prices seen in 2018 and 2019, in particular for MEP and fit-out contractors.

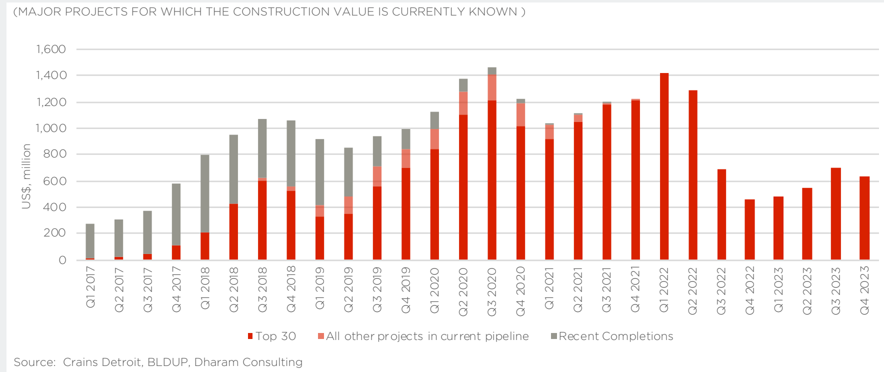
The peak resource demand by trade based on the current active pipeline and the total recent projects in the market is shown in table 4.

There are significant schemes in the longer-term pipeline, such as the already mentioned The 78, and O'Hare airport redevelopment, which will have a significant impact on the local market, though there long time frame should limit the pressure on trade resource demand.

More significantly, given the current market conditions, we see an easing in resource constraints in the market to the point where contractors and sub-contractors are becoming increasingly more aggressive in their pricing behavior in order to win projects and maintain their work levels.

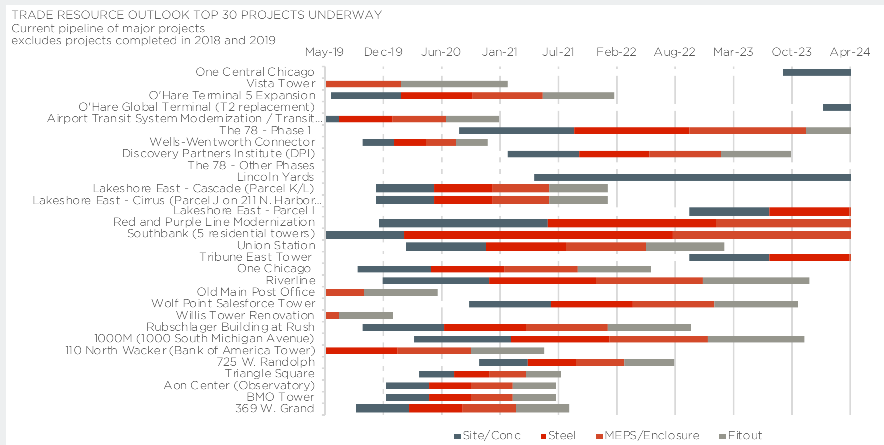
The top 10 contractors in the MidWest region and their revenues over the past three years are shown in chart 21. The local market is more fragmented than other regions in the US, with the top 10 contractors accounting for just over 40% of the market (2019).

CHART 19: PROJECT CASHFLOW FORECAST



Source: Crains Detroit, BLDUP, Dharam Consulting

CHART 20: TRADE RESOURCE OUTLOOK - 30 MAJOR PROJECTS UNDERWAY

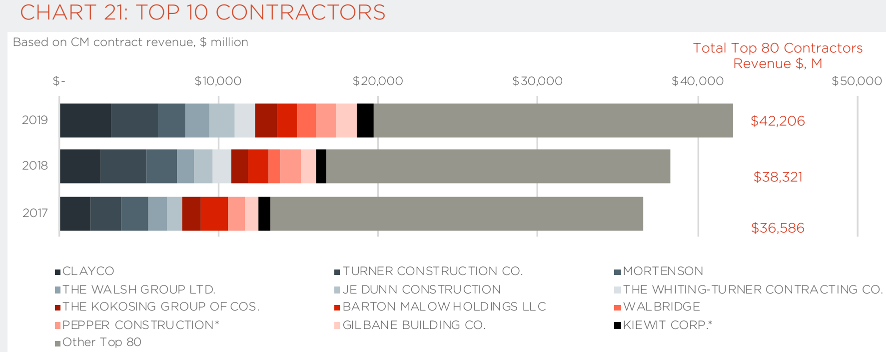


Source: Bisnow, Curbed Chicago, Architects Magazine, Dharam Consulting

TABLE 4: ESTIMATION OF TRADE RESOURCE DEMAND

Trade	Peak Demand Major Current Projects Pipeline	Current + 2018-Q2 2020 Project Completions
Peak Site Concrete	Q2 2020	Q2 2019
Peak Steel	Q4 2020	Q4 2019
Peak MEPS/Enclosure	Q3 2021	Q2 2020
Peak FITOUT	Q1 2022	Q4 2020
Source: Dharam Consulting		

CHART 21: TOP 10 CONTRACTORS



Source: BizJournal, Dharam Consulting

BID SUBMISSION PRICE

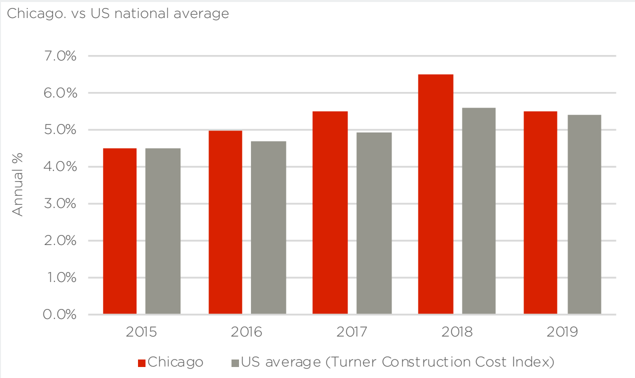
INFLATION

Contractor prices increased by 5.4% in 2019. Since then, construction activity has slowed significantly on the back of Covid-19 pandemic related work-stoppage orders in a large number of states where the industry was deemed non-essential. Consequently, the market has become more competitive with pricing increasingly reflecting the need to maintain work levels. Our analysis of bid submission prices in Chicago shows that price escalation was higher than the national average over the past two years, with prices estimated to have increased by 6.5% and 5.5% on average in 2018 and 2019, respectively (chart 22). This was the largest annual increase over the past decade and a reflection of tighter resource capacity in the local market in those years.

In line with the national picture, the momentum in pricing stalled in Q2 2020 and we expect bid submission prices to level off mover the course of this year. For 2020 as a whole and the first half of 2021 we do not foresee major changes in prices compared to current levels. This is based on the view that construction in Chicago largely continued through the current economic crisis with only a small number of large projects put on hold so far. Should we see a longer period of subdued economic activity with no signs of a recovery, we expect that an increasing number of projects may come under review. Overall, we forecast bid submission prices to see no change in 2020, with a modest uptick in bid submission price escalation in the second half of 2021. In the subsequent two years (2022 and 2023) we expect a moderate uptick in bid submission price inflation (chart 23). Should project starts in 2021 rebound stronger than we currently anticipate, this could lead to a spike in cost escalation next year, as the supply chain may not be able to react fast enough to increasing volumes. Our forecast is based on the following assumptions:

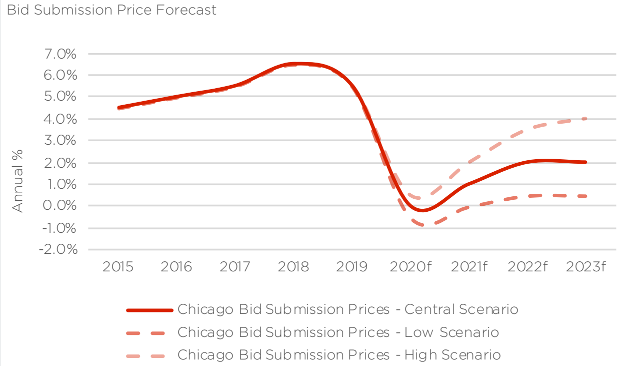
- Fiscal stimulus and other H&S related mitigation actions allow a restart of economic activity and reduce the need for a complete lockdown.
- Current high level of pipeline work expected to level off, but no dramatic decline in work is expected as projects largely progress as planned.
- Uncertainty over wider US economic and construction outlook could impacts investor confidence in the local market and push some projects backward.
- Large masterplan projects will sustain workflow, but these are phased over long time periods and roll-out will be subject to market demand which is increasingly uncertain.
- Resource constraints that had been visible across the market is easing, more competitive pricing behavior expected by contractors and sub-contractors.
- Large and experienced contractors as well as specialist contractors are expected to remain in high demand with those contractors still able to achieve higher prices and protect their margins. Other contractors and trades are becoming less able to pick and choose their projects.
- Industry capacity can be mostly retained through government support programmes and expectations of a broader resumption in work later this year.

CHART 22: BID SUBMISSION PRICE INFLATION



Source: Turner Construction, Dharam Consulting

CHART 23: BID SUBMISSION PRICE INFLATION



Source: Dharam Consulting

Photo: Discovery Partners Institute I STL Architects

DHARAM
CONSULTING

Dharam Consulting is an Independent Construction Consultancy specializing in providing proactive and value adding Cost and Risk Services that contribute towards successful outcomes for our clients and their projects. (A registered MBE company)

NAICS	541600
DUNS	060108988
CAGE	733VO
VENDEX	VS00028893
MBE NY PIN	10013LAI291P

Harpy Lally
Managing Director
hlally@dharamconsulting.com
+1 718 913 9420

Andrew Smith
Managing Director
asmith@dharamconsulting.com
+1 862 208 8206

Simon Hough
Director
shough@dharamconsulting.com
+1 610 554 6560

David Pearson
Director
dpearson@dharamconsulting.com
+1 267 455 4244

Owain Jones
Director
ojones@dharamconsulting.com
+1 617-913-4345