

August 2022 (based on July 2022 Starts Stats)

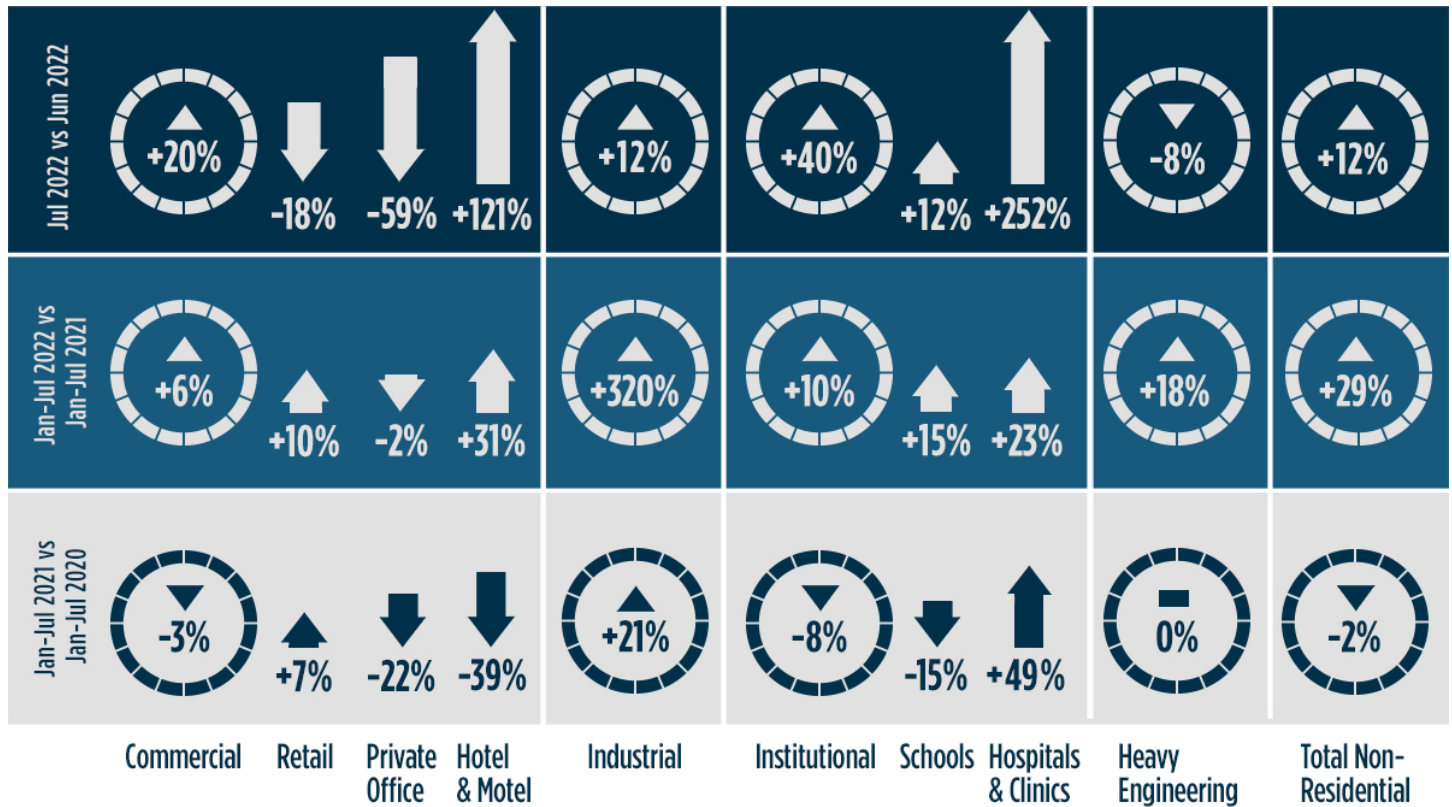
Construction Industry Snapshot



July's Nonresidential Construction Starts +12% M/M, +32% Y/Y & +29% Ytd

ConstructConnect announced today that July 2022's volume of construction starts, excluding residential work, was \$53.7 billion, an increase of +12.2% compared with June's figure of \$47.9 billion. Half of July's Top 10 groundbreakings were mega projects.

July 2022 compared with July 2021 was +32.3%. The year-to-date performance of nonresidential starts has been +29.4% vs Jan-July 2021. Ytd Grand Total starts (i.e., including residential) have been +15.7%.



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Mega Projects Seized the Spotlight Again

ConstructConnect announced today that July 2022's volume of construction starts, excluding residential work, was \$53.7 billion (green shaded box, bottom of page 11), an increase of +12.2% compared with June's figure of \$47.9 billion (originally reported as \$47.5 billion).

As has occurred consistently over the last several months, the latest period's results were given a big boost by mega projects. Such undertakings carry an estimated value of a billion dollars or more each. Half of July's Top 10 groundbreakings were of such a nature (see Table 8, page 8).

The first quarter of this year had only one mega project, for \$2.0 billion. Then at the beginning of Q2, the trickle became a torrent. In April, there were five mega projects with a total estimated value of \$17.1 billion. May featured four mega projects for \$20.0 billion. June was somewhat quieter, serving up three ultra-large projects for \$7.8 billion. Then July came storming back with five mega projects adding up to \$13.3 billion. The largest of the five was a General Motors battery cell manufacturing plant in Lansing, Michigan, for \$7.0 billion.

July 2022's total dollar volume of nonresidential construction starts was ahead by one-third, +32.3%, when compared with July 2021. On a year-to-date basis, total nonresidential starts have been +29.4% versus January to July of last year.

To complete the starts picture, the GRAND TOTAL (i.e., adding residential to nonresidential activity) in July 2022 was +12.0% m/m, +16.8% y/y and +15.7% ytd.

Nonresidential Building Starts the Pacesetter

There are three major sub-categories of total starts: residential, nonresidential building and heavy engineering/civil. On a year-to-date percentage-change basis in July 2022, nonresidential building starts performed best, +37.1%, with engineering also nicely ahead, +18.1%. Residential was left spinning its wheels, -0.1%.

On a month-to-month basis, nonresidential building was out front as well, +24.3%, but it was residential in second place, +11.5%. The engineering category of starts faltered, -7.5%.

Y/Y Trailing 12-Month Starts Moved Sideways

Other statistics often beloved by analysts are trailing twelve-month (TTM) results and these are set out for all the various type-of-structure categories in Table 10 on page 11 of this report.

Grand Total TTM starts in July 2022 on a month-to-month basis were +1.5%, a slight pickup from June's stand pat pace of 0.0%, but a slowing versus May's +3.1%.

On a year-over-year basis in July 2022, GT TTM starts were +13.5%, the same as in June (also +13.5%), but a little behind May's +15.0%.

Residential PIP Numbers Up by a Fifth

'Starts' compile the total estimated dollar value and square footage of all projects on which ground is broken in any given month. They lead, by nine months to as much as two years, put-in-place (PIP) statistics from the Census Bureau which are analogous to work-in-progress payments as the building of structures proceeds to completion.

PIP numbers cover the 'universe' of construction, new plus all manner of renovation activity, with residential traditionally (i.e., over the decade preceding the pandemic) making up two-fifths (about 40%) of the total and nonresidential, three-fifths (i.e., the bigger portion, at around 60%).

Over the past several years, however, the mix has undergone a massive and startling shift. In 2021's full year PIP results, the residential to nonresidential relationship was about half and half. Through June of this present year, 2022, the ratio, on a not seasonally adjusted (NSA) basis, has swung even more in favor of the former, with residential at 53.0% and nonresidential at 47.0%.

The January-June 2022 over January-June 2021 total dollar volume of PIP construction was +10.7%, with residential at +20.8% and nonresidential, a barely advancing +1.2%. As the second half of 2022 proceeds, and the months tick by, the big disparity in gains will almost certainly narrow. Residential construction activity is notoriously susceptible to shrinkage under a climbing interest rate regime. (Conversely, it receives a big boost when mortgage rates are declining.)

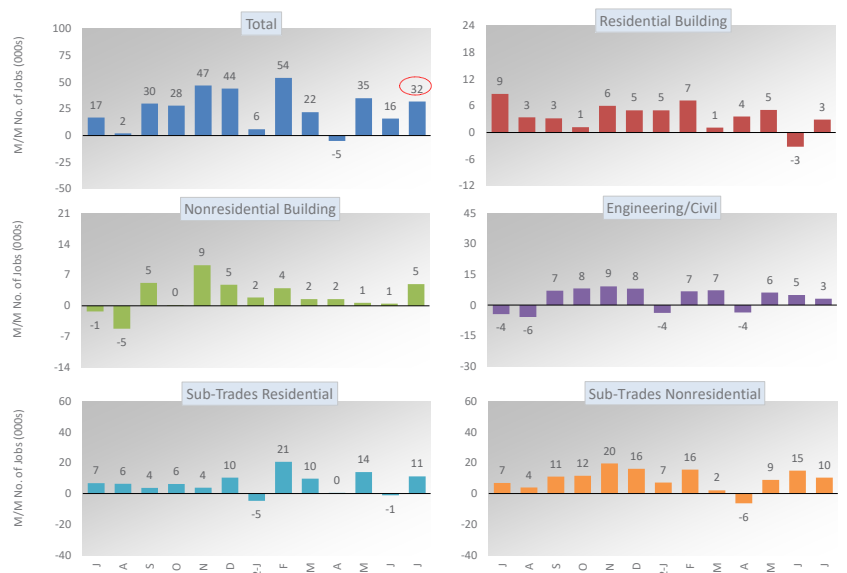
TABLE 1: VALUE OF UNITED STATES NONRESIDENTIAL CONSTRUCTION STARTS — JULY 2022 (ConstructConnect®)

	Jan-Jul 2022 (\$ billions)	% Change Jan-Jul 22 vs Jan-Jul 21	% Change Jul 22 vs Jul 21	% Change Jul 22 vs Jun 22
Hotel/Motel	5.714	31.0%	133.1%	121.0%
Retail/Shopping	8.640	10.4%	22.1%	-17.5%
Parking Garage	1.252	8.2%	-0.4%	-9.0%
Amusement	4.352	1.7%	-10.6%	127.7%
Private Office	10.358	-2.0%	-61.8%	-58.6%
Government Office	7.431	4.9%	-30.6%	5.2%
Laboratory	2.108	47.4%	-12.4%	-34.9%
Warehouse	14.379	-11.9%	29.1%	76.8%
Miscellaneous Commercial *	7.603	35.7%	119.0%	63.4%
COMMERCIAL (big subset)	61.838	5.5%	2.4%	19.7%
INDUSTRIAL (Manufacturing)	56.759	320.0%	311.9%	11.6%
Religious	0.508	-15.7%	36.4%	-30.4%
Hospital/Clinic	13.716	22.8%	206.1%	251.8%
Nursing/Assisted Living	2.214	-39.3%	-41.4%	-3.2%
Library/Museum	1.922	15.2%	-2.9%	115.8%
Fire/Police/Courthouse/Prison	4.425	-4.1%	25.5%	31.0%
Military	5.243	8.4%	36.0%	98.7%
School/College	44.466	14.5%	61.5%	11.5%
Miscellaneous Medical	4.189	2.4%	14.5%	6.6%
INSTITUTIONAL	76.683	10.4%	64.5%	40.4%
Miscellaneous Non-residential	3.959	5.6%	23.8%	27.2%
NONRESIDENTIAL BUILDING	199.239	37.1%	65.8%	24.3%
Airport	4.137	30.9%	91.4%	67.3%
Road/Highway	52.958	23.3%	-6.6%	-7.8%
Bridge	16.759	43.8%	28.8%	-22.5%
Dam/Marine	4.254	16.7%	35.7%	78.4%
Water/Sewage	25.363	22.1%	19.6%	-2.4%
Miscellaneous Civil (power, pipelines, etc.)	13.353	-20.1%	-64.8%	-34.9%
HEAVY ENGINEERING (Civil)	116.824	18.1%	-8.2%	-7.5%
TOTAL NONRESIDENTIAL	316.062	29.4%	32.3%	12.2%

* Includes transportation terminals and sports arenas.

Source: ConstructConnect Research Group/Table: ConstructConnect.

GRAPH 1: CHANGE IN LEVEL OF U.S. CONSTRUCTION EMPLOYMENT, MONTH TO MONTH (M/M) — TOTAL & BY CATEGORIES — JULY 2022



Monthly average jobs creation in the U.S. construction sector so far in 2022 has been +23,000. Last year's comparable figure for Jan-Jul was +5,000. ... Total U.S. jobs growth presently +4.2% y/y; construction also +4.2% y/y.

For each month, 'net' = zero. 'Sub-trade' in BLS data referred to as 'specialty' trade.

Data Source: Bureau of Labor Statistics (BLS)/Chart: ConstructConnect.

Continued on page 3

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PIP numbers, being more spread out, have smaller peak-over-trough percent-change amplitudes than the 'starts' series. As an additional valuable service for clients and powered by its extensive 'starts' database, ConstructConnect, in partnership with Oxford Economics, a world-leader in econometric modeling, has developed put-in-place construction statistics by types of structure for U.S. states, cities and counties, actuals and forecasts. ConstructConnect's PIP numbers are being released quarterly and are featured in a separate reporting system.

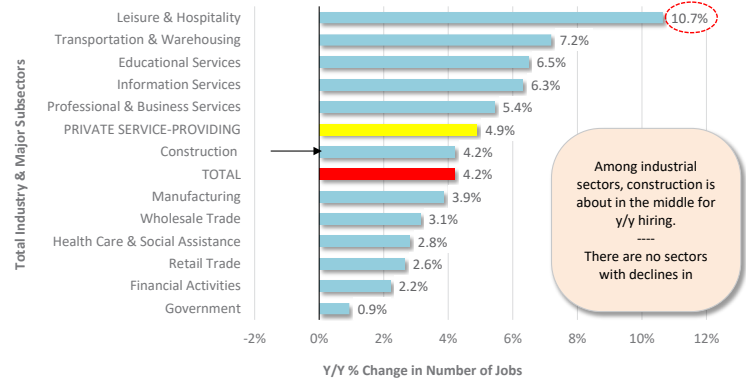
Construction Claimed a Hefty Share of July's Total Jobs Increase

Construction's share of U.S. total non-farm employment in the monthly labor market report issued by the Bureau of Labor Statistics (BLS) is slightly more than 5.0%. To claim its proportional share of July's economy-wide number-of-jobs increase of +528,000, the figure for construction would have been +27,000. Instead, it was higher at +32,000. The year-to-date monthly average of construction employment is now +23,000 jobs versus +5,000 in June-July 2021. In July 2022, residential (+11,000) and non-residential (+10,000) sub-contractors accounted for most of the month-to-month climb in the total construction jobs count.

Construction doesn't usually record a not seasonally adjusted (NSA) unemployment rate that is lower than for all jobs. Lately, though, the exception has been the rule. Construction's NSA U rate in July was 3.5%, comparing favorably with the 'all jobs' NSA U rate of 3.8%. The

Continued on page 4

GRAPH 3: Y/Y JOBS CHANGE, U.S. TOTAL INDUSTRY & MAJOR SUBSECTORS — JULY 2022 (BASED ON SEASONALLY ADJUSTED PAYROLL DATA)



July 2022's y/y changes in employment within the pandemic's initially hardest-hit sector, 'leisure & hospitality', were: 'hotels/motels', +14.9%; 'amusements/gambling', +11.7%; and 'restaurants & bars', +9.1%.

Data source: Payroll Survey, U.S. Bureau of Labor Statistics (Dept of Labor)/Chart: ConstructConnect.

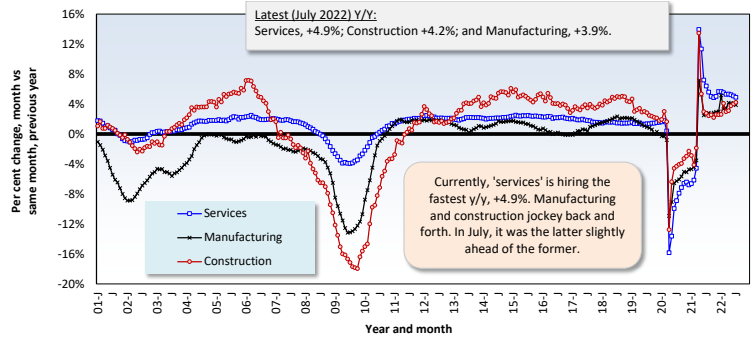
TABLE 2: MONITORING THE U.S. EMPLOYMENT RECOVERY — JULY 2022

The Big Drop (revised data)	Change in Number of Jobs (Millions)		% Change		Jobs Recovery Since Apr 2020, Millions	Claw Back Ratio		
	April 2020 vs Feb 2020 (Feb 2020 was last month unaffected by COVID-19)	Millions	Jul 2022 vs Feb 2020 (Feb 2020 was last month unaffected by COVID-19)	Jul 2022 vs Jun 2022 (i.e., vs previous month)			Jul 2022 vs Feb 2020 (Feb 2020 was last month unaffected by COVID-19)	Jul 2022 vs Jun 2022 (i.e., vs previous month)
-21.991	-14.4%	Grand Total	0.032	0.528	0.0%	0.3%	22.023	100.1%
-18.475	-17.0%	Private Services-Providing	0.557	0.402	0.5%	0.4%	19.032	103.0%
-1.362	-10.7%	Manufacturing	0.041	0.030	0.3%	0.2%	1.403	103.0%
-1.108	-14.5%	Construction	0.082	0.032	1.1%	0.4%	1.190	107.4%
-2.245	-14.4%	Retail Trade	0.208	0.021	1.3%	0.1%	2.453	109.2%
-0.506	-8.7%	Transportation & Warehouse	0.745	0.021	12.9%	0.3%	1.251	247.3%
-0.280	-3.2%	Financial Activities	0.095	0.013	1.1%	0.1%	0.375	133.9%
-2.302	-10.8%	Professional & Business	0.986	0.089	4.6%	0.4%	3.288	142.8%
-0.261	-9.0%	Information Services	0.117	0.013	4.0%	0.4%	0.378	144.8%
-2.839	-11.5%	Education and Health	-0.103	0.122	-0.4%	0.5%	2.736	96.4%
-8.203	-48.3%	Leisure & Hospitality	-1.214	0.096	-7.1%	0.6%	6.989	85.2%
-0.975	-4.3%	Government	-0.597	0.057	-2.6%	0.3%	0.378	38.8%

The present U.S. total jobs count of 152.5 million is a match for peak employment in February 2020, before the arrival of the coronavirus. In other words, all of the huge jobs loss in the Spring of 2020 has finally been restored. As an indicator of a full return to 'normalcy', however, leisure & hospitality is perhaps the sector to watch most carefully. Its present jobs claw-back ratio of 85.2% still has a ways to go to reach 100.0%.

Data source: Bureau of Labor Statistics (BLS)/Table: ConstructConnect.

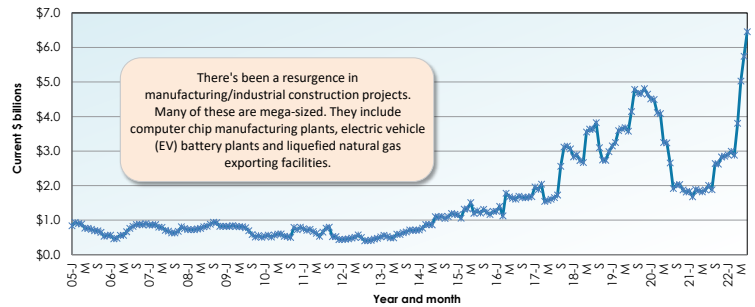
GRAPH 2: U.S. EMPLOYMENT JULY 2022 — % CHANGE Y/Y BASED ON SEASONALLY ADJUSTED (SA) DATA



The latest data points are for July, 2022.

Data source: Payroll Survey, Bureau of Labor Statistics (U.S. Department of Labor)/Chart: ConstructConnect.

GRAPH 4: U.S. MANUFACTURING/INDUSTRIAL CONSTRUCTION STARTS — CONSTRUCTCONNECT



The last data point is for July 2022.

Data source: ConstructConnect. Graph: ConstructConnect.

Continued from page 3

3.5% figure for construction in July was an improvement on June's 3.7% and was less than half July 2021's level of 7.5%.

July's *Employment Situation* report marked a watershed moment for the U.S. overall economy. The total number of jobs finally returned to their perch from before the pandemic. The huge nosedive in positions that occurred between February and April 2020 has now been fully reversed. The jobs claw-back ratio is 100.1%; for construction, it's 107.4%.

Interestingly, July's year-over-year gain in construction employment, at +4.2%, was the same as for 'all jobs', also +4.2%. The sector hardest hit by the stay-at-home guidelines of the past couple of years, 'leisure and hospitality', has seen its employment surge +10.7% y/y.

In other segments of the economy with close ties to construction, the latest y/y percentage changes in employment have been as follows: oil and gas exploration and development, +21.3%; machinery and equipment rental and leasing, +8.1%; architectural and engineering design services, +6.3%; real estate, +3.1%; cement and concrete product manufacturing, +2.9%; and building materials and supplies dealers, -4.0%. Only the last number points to a disappointing retreat in employment.

Design services work leads into later onsite activity. Therefore, the +6.3% increase for design services jobs is a positive read on the prospects for future hardhat employment. Furthermore, the latest (June 2022) Architecture Billings Index (ABI) from the American Institute of Architects (AIA), which provides a gauge of the demand for construction design services, stayed healthy at 53.2 (versus 53.5 in May, so slightly less upbeat), above the 50.0 benchmark figure that separates more sales from less, month to month.

Pluses and Minuses among Type of Structure Sub-categories

July 2022's total nonresidential starts bump of +12.2% month-to-month (m/m) was led by institutional (+40.4%), with commercial (+19.7%) and industrial (+11.6%) also lending helping hands. Only heavy engineering/civil was reluctant to move forward (-7.5%).

The plus one-third (+32.3%) leap in total nonresidential starts, July of this year versus July of last year (y/y), originated primarily with industrial (+311.9%) and institutional (+64.5%), as commercial dawdled (+2.4%) and engineering took a step back (-8.2%).

As for July's year-to-date (ytd) gain of +29.4% for total nonresidential starts, it owed much to industrial (+320.0%), although engineering (+18.1%) and institutional (+10.4%) also assisted significantly. Commercial played only a small positive role (+5.5%).

There are two dominant sub-categories of total nonresidential starts. When the volumes of 'roads/highways' and 'schools/colleges' are added together, they account for 30.9% of July's total nonresidential starts ytd (i.e., shares of 16.8% and 14.1% respectively).

The three percentage-change metrics for street starts in July 2022 were -7.8% m/m and -6.6% y/y, but +23.3% ytd. Educational facility starts were more upbeat: +11.5% m/m; +61.5% y/y; and +14.5% ytd. The improvement in school starts is being driven primarily by 'colleges and universities', +27.3% ytd, and 'pre-school and elementary' structures, +20.3% ytd.

Important beyond roads within the engineering sub-category are 'water/sewage' and 'bridge' starts. The former in July was -2.4% m/m, but +19.6% y/y and +22.1% ytd; the latter was -22.5% m/m, but +28.8% y/y and +43.8% ytd.

Important beyond schools in institutional are three medical sub-categories - i.e., 'hospitals/clinics', 'nursing/assisted living' and 'miscellaneous medical'. Their combined starts in July 2022 were +136.7% m/m; +102.2% y/y; and +6.4% ytd. 'Hospital/clinic' groundbreakings on their own were +22.8% ytd. (A \$1.2 billion hospital project in Pittsburgh was initiated in July - see Top 10, page 8.)

Among commercial starts in July, notable year-to-date increases have been recorded by 'miscellaneous', +35.7%, and 'laboratories', +47.4%. 'Miscellaneous' includes 'transportation terminal' starts which, by themselves, are +36.2%

TABLE 3: CONSTRUCTION STARTS IN SOME ADDITIONAL TYPE OF STRUCTURE SUB-CATEGORIES — ConstructConnect®

	Jan-Jul 2022 (\$ billions)	% Change vs Jan-Jul 2021
Sports Stadiums/Convention Centers	\$3.710	35.2%
Transportation Terminals	\$3.894	36.2%
Courthouses	\$0.910	-43.0%
Police Stations & Fire Halls	\$2.239	30.5%
Prisons	\$1.276	-1.9%
Pre-School/Elementary	\$13.637	20.3%
Junior & Senior High Schools	\$18.563	5.5%
K-12 (sum of above two categories)	\$32.200	11.3%
Special & Vocational Schools	\$1.147	-2.2%
Colleges & Universities	\$11.119	27.3%
Electric Power Infrastructure	\$5.449	-27.1%

Source: ConstructConnect/Table: ConstructConnect.

GRAPH 5: U.S. CONSTRUCTION JOB OPENINGS (FROM JOLTS REPORT)
(3-MONTH MOVING AVERAGES PLACED IN LATEST MONTH)

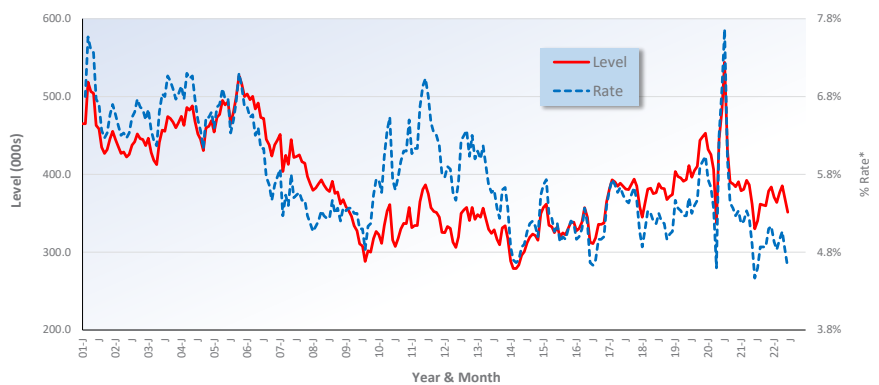


The JOLTS 'openings' figures for construction, both as a level and a rate, finally stopped climbing in June and fell back a bit. In a historical context, however, they still remained inordinately elevated.

*Rate is number of job openings end-of-month as % of 'construction employment plus number of job openings'. Latest seasonally adjusted data points are for June 2022. ... JOLTS = Job Openings and Labor Turnover Survey.

Data source: Bureau of Labor Statistics (Dept of Labor)/Chart: ConstructConnect.

GRAPH 6: U.S. CONSTRUCTION JOB HIRES (FROM JOLTS REPORT)
(3-MONTH MOVING AVERAGES PLACED IN LATEST MONTH)



The 'hires' numbers for construction, both level and rate, from June's JOLTS report were quite weak and moving in the wrong direction, downwards. Strong 'openings' but minimal 'hires' is a problem being seen everywhere.

*Rate is number of hires during month as % of construction employment.

Latest seasonally adjusted data points are for June 2022. ... JOLTS = Job Openings and Labor Turnover Survey.

Data source: Bureau of Labor Statistics (Dept of Labor)/Chart: ConstructConnect.

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ytd. On the heels of earlier horrific coronavirus-related declines, it's nice to see recent pickups in 'hotel/motel' (+31.0% ytd) and 'retail/shopping' starts (+10.4% ytd). The 'warehouse' category of starts, though, a winner over the past couple of years, is now in the doldrums (-11.9% ytd).

None of the foregoing, though, is as impressive as what's been happening in the industrial type-of-structure sub-category. Manufacturing starts in July were +11.6% m/m (a restrained gain due to extreme strength in June as well), +311.9% y/y and +320.0% ytd (see Graph 4).

Upticks in Most Trend Graphs

Page 9 of this Industry Snapshot sets out the history, January 2005 to the present, of 12-month moving ConstructConnect starts averages for a dozen construction types-of-structure. The moving average (placed in the latest month) approach is designed to capture trends.

There are recent upticks in nearly all the graphs. The only ones still holding back are 'private office buildings' and 'miscellaneous civil'. The former is likely to take a while to regain vitality. The latter will revive with the initiation of a major electric power project, or significant railroad work, and/or one or more big urban rapid transit jobs.

The JOLTS Story Centers on Hires

For ease of viewing, Graphs 5 and 6 show 'smoothed' curves (i.e., based on three-month moving averages, placed in the latest month) for the Job Openings and Labor Turnover Survey (JOLTS) results pertaining to construction industry 'openings' and 'hires'.

'Openings' in construction, both as a level and rate, currently remain historically high, but they have moved a little off their peaks of a month ago. More challenging to interpret, though, are the 'hires' numbers. 'Hires' as both a level and rate are falling. The rate, in particular, is approaching a multi-year low.

The difficulty in signing up willing qualified workers is not a problem confined to construction. It is prevalent in many sectors and helps explain why, as discussed in the next section, wages are climbing rapidly.

Compensation Rates Continue to Roar

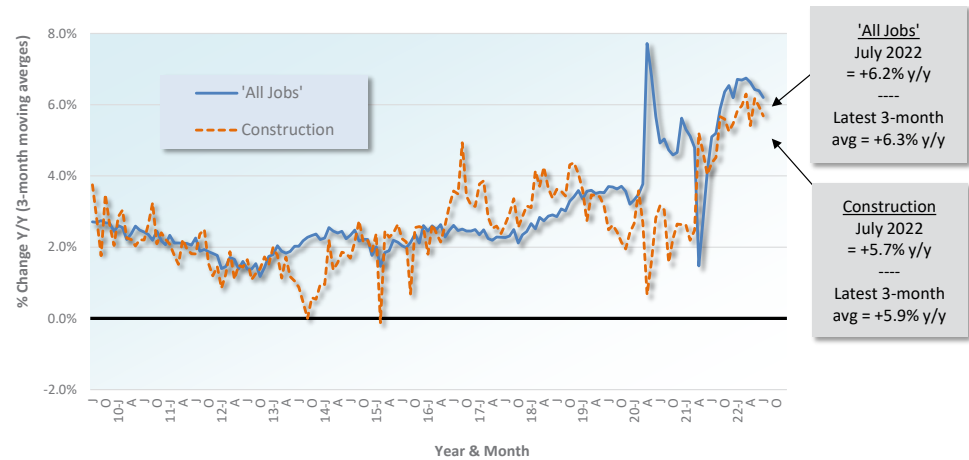
Tables B-3 and B-8 of the monthly *Employment Situation* report, from the BLS, record average hourly and average weekly wages for industry sectors. B-3 is for all employees (i.e., including bosses) on non-farm payrolls. B-8 is for 'production and non-supervisory personnel' only (i.e., it excludes bosses). For 'all jobs' and construction, there are eight percentage changes to spotlight.

From July 2022's Table B-3 (including bosses), year-over-year all-jobs earnings were +5.2% hourly and +4.6% weekly. Construction workers, as a subset of 'all jobs', did somewhat better with y/y hourly and weekly increases of +5.5% in both instances. From Table B-8 for production and non-supervisory workers (i.e., excluding bosses), the all-jobs wage jumps were +6.2% hourly and +5.3% weekly. Construction workers trailed a little hourly, +5.7%, but had the advantage weekly, +6.0%.

Material Cost Increases Decelerate

July 2022's y/y results for three building related BLS Producer Price Index (PPI) series were: (A) 'construction materials special index', +10.9% (about even with June's +10.7%); (B) 'inputs to new construction index, excluding capital investment, labor, and imports', +12.7% (a little under the previous month's +13.4%); and (C) 'final

GRAPH 7: AVERAGE HOURLY EARNINGS Y/Y — 'ALL JOBS' & CONSTRUCTION



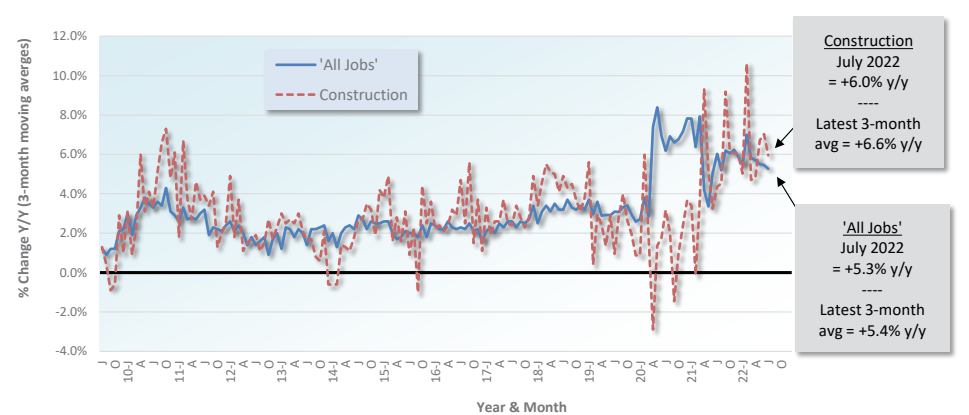
Even at +6.2% y/y, hourly wages aren't matching the rapid pace of CPI-U inflation, +9.1% y/y in June 2022. The average annual increase for 'construction workers' from 2010 to 2019 was +2.3%; for 'all jobs' over the same period, +2.4%.

From 'Production Workers and Non-supervisory Personnel' Table (B8).

The latest data points are for July, 2022.

Data Source: Bureau of Labor Statistics (BLS)'s Employment Situation report/Chart: ConstructConnect.

GRAPH 8: AVERAGE WEEKLY EARNINGS Y/Y — 'ALL JOBS' & CONSTRUCTION



The y/y increase in weekly wages paid to construction workers soared in Feb 2022, +10.6%. Some moderation has occurred since then. Presently & unusually, the NSA unemployment rate in construction (3.5%) is under the 'all jobs' NSA U rate (3.8%).

From 'Production Workers and Non-supervisory Personnel' Table (B8).

The latest data points are for July, 2022.

Data Source: Bureau of Labor Statistics (BLS)'s Employment Situation report/Chart: ConstructConnect.

demand construction', designed to capture bid prices, +23.1% (going another notch beyond the prior figure of +19.2%).

(A) comes from a data series with a long history, but it's confined to a limited number of major construction materials. (B) has a shorter history, but it's more comprehensive in its coverage, although it includes some items (e.g., transportation) that aren't strictly materials.

What's important to know, though, is that the y/y change in the bid price index (+19.2%) has caught up with, and moved beyond, the average y/y change for the two material input cost indices $((10.9\% + 12.7\%)/2 = +11.8\%)$. There were times around a year into the pandemic when contractors weren't able to adjust their prices enough to recover material cost increases.

Concerning the cost of some major construction material inputs, as revealed in the

PPI data set for July 2022 published by the BLS, asphalt is +73.8% y/y; diesel fuel is +71.3%; hot rolled steel bars, plates, and structural shapes, +28.6%; gypsum, +15.8%; ready-mix concrete, +12.0%; cement, +8.9%; aluminum mill shapes, +12.5%; copper wire and cable, -6.1%; and softwood lumber, -7.0%. There's also an 'inputs to highways and streets' PPI index and it's +15.4% y/y.

The value of construction starts each month is derived from ConstructConnect's database of all active construction projects in the U.S. Missing project values are estimated with the help of RSMeans' building cost models. ConstructConnect's non-residential construction starts series, because it is comprised of total-value estimates for individual projects, some of which are super-large, has a history of being more volatile than many other leading indicators for the economy.

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July 2022's 'Grand Total' Starts +15.7% Ytd

From Table 10 on page 11 of this report, ConstructConnect's total residential starts in July 2022 were +11.5% m/m, -3.0% y/y, and -0.1% ytd. Multi-family starts in July were +20.8% m/m, +2.1% y/y and +4.4% ytd. Single-family starts were +8.5% m/m, -4.8% y/y and -1.8% ytd.

Including home building with all nonresidential categories, **Grand Total** starts in July 2022 were +12.0% m/m, +16.8% y/y and +15.7% ytd.

ConstructConnect adopts a research-assigned 'start' date. In concept, a 'start' is equivalent to ground being broken for a project to proceed. If work is abandoned or re-bid, the 'start' date is revised to reflect the new information.

Regional Construction Activity

As we progress into the second-half of 2022, regional construction data point to flat to slowing activity in most regions. At more granular levels, however, including state and metropolitan statistical areas (MSAs), there are opportunities to highlight.

Based on data from ConstructConnect's *Expansion Index* (see next section), the top states for planned projects, now versus a year ago, are as follows: Texas, Ohio, West Virginia, Hawaii, Florida, Vermont, Georgia, Idaho, and Nevada.

Delving deeper, some cities with high *Expansion Index* readings are Springfield, Ohio; Bay City, Michigan; Jackson, Mississippi; Kokomo, Indiana; and Killeen-Temple-Fort Hood, Texas.

As corroborated by the above results, the change in planned construction activity across the USA moving into the second half of 2022 is well diversified.

Beyond pure geographics, the impetus behind the latest construction activity results is less than evenly distributed. The data points to concentrated activity by select verticals with industrial and government having significantly better prospects. Relative weakness is evident in the commercial and educational verticals.

Michael Guckes, Senior Economist

Expansion Index Monitors Construction Prospects

A rule of thumb is that nonresidential construction is a lagging indicator among economic measures. Companies are hesitant to undertake capital spending until their personnel needs are rapidly expanding and their office square footage or plant footprints are straining capacity. Plus, it helps if profits are abundant. Also, today's greater tendency to work from home has made office occupancy and the resulting need for construction much more difficult to assess. The 'rule', however, may not hold true under the present circumstances, with the weakness in such areas as retail spending to be offset by a rich deposit of large industrial and engineering construction projects to mine.

Each month, ConstructConnect publishes information on upcoming construction projects at its *Expansion Index* web location, to be found by clicking on this link, <https://www.constructconnect.com/expansion-index>

The *Expansion Index*, for hundreds of cities in the U.S. and Canada, calculates the ratio, based on dollar volume, of projects in the planning stage, at present, divided by the comparable figure a year ago. The ratio moves above 1.0 when there is currently a larger dollar volume of construction 'prospects' than there was last year at the same time. The ratio sinks below 1.0 when the opposite is the case. The results are set out in interactive maps for both countries.

TABLE 4: 2022 YTD RANKING OF TOP 20 STATES BY \$ VOLUME OF NONRESIDENTIAL CONSTRUCTION STARTS — ConstructConnect®

	Jan-Jul 2022	% Change vs Jan-Jul 2021
1 Texas	\$50,748,622,036	73.0%
2 California	\$23,828,739,086	12.9%
3 New York	\$16,832,866,256	34.4%
4 Louisiana	\$15,254,594,163	359.0%
5 Florida	\$14,919,696,941	6.7%
6 Michigan	\$14,327,141,059	131.6%
7 North Carolina	\$11,861,261,982	35.2%
8 Pennsylvania	\$11,022,100,032	26.2%
9 Kentucky	\$10,419,380,300	336.3%
10 Illinois	\$9,962,076,145	24.1%
11 Indiana	\$8,413,591,635	67.1%
12 Georgia	\$8,057,779,625	5.6%
13 Ohio	\$7,762,885,884	-20.4%
14 Washington	\$6,512,248,625	26.0%
15 Virginia	\$6,029,919,959	11.2%
16 Wisconsin	\$5,719,509,445	12.0%
17 Massachusetts	\$5,658,883,355	-32.3%
18 New Jersey	\$5,602,727,076	27.0%
19 Minnesota	\$5,533,867,604	-22.1%
20 Missouri	\$5,010,287,974	-10.7%

Figures are comprised of non-res building & engineering (residential is omitted).

TABLE 5: 2022 YTD RANKING OF TOP 20 STATES BY \$ VOLUME OF NONRESIDENTIAL BUILDING CONSTRUCTION STARTS — ConstructConnect®

	Jan-Jul 2022	% Change vs Jan-Jul 2021
1 Texas	\$36,765,671,257	104.8%
2 California	\$14,676,166,711	20.1%
3 Louisiana	\$12,873,964,119	524.9%
4 Michigan	\$10,397,848,246	276.2%
5 New York	\$10,092,940,826	30.7%
6 Florida	\$9,396,937,154	6.4%
7 Kentucky	\$9,017,242,621	564.4%
8 North Carolina	\$8,338,654,147	25.5%
9 Pennsylvania	\$6,669,005,984	8.7%
10 Georgia	\$5,784,744,335	13.9%
11 Indiana	\$5,278,641,954	81.8%
12 Illinois	\$5,172,704,984	29.7%
13 Ohio	\$4,088,636,126	-32.8%
14 Massachusetts	\$4,061,789,744	7.1%
15 Washington	\$3,573,063,257	9.7%
16 Virginia	\$3,448,756,336	-10.5%
17 Maryland	\$3,329,018,717	30.2%
18 Wisconsin	\$3,172,039,258	34.2%
19 Tennessee	\$3,026,904,628	-43.8%
20 Utah	\$2,615,829,058	16.5%

TABLE 6: 2022 YTD RANKING OF TOP 20 STATES BY \$ VOLUME OF HEAVY ENGINEERING/CIVIL CONSTRUCTION STARTS — ConstructConnect®

	Jan-Jul 2022	% Change vs Jan-Jul 2021
1 Texas	\$13,982,950,779	22.8%
2 California	\$9,152,572,375	3.0%
3 New York	\$6,739,925,430	40.2%
4 Florida	\$5,522,759,787	7.2%
5 Illinois	\$4,789,371,161	18.6%
6 Pennsylvania	\$4,353,094,048	67.4%
7 Michigan	\$3,929,292,813	14.8%
8 Ohio	\$3,674,249,758	0.2%
9 Minnesota	\$3,661,757,488	-29.3%
10 North Carolina	\$3,522,607,835	65.6%
11 New Jersey	\$3,378,546,991	93.7%
12 Indiana	\$3,134,949,681	47.0%
13 Washington	\$2,939,185,368	53.8%
14 Virginia	\$2,581,163,623	64.8%
15 Wisconsin	\$2,547,470,187	-7.2%
16 Missouri	\$2,416,428,321	25.7%
17 Louisiana	\$2,380,630,044	88.5%
18 Georgia	\$2,273,035,290	-10.8%
19 Colorado	\$2,241,470,419	34.9%
20 Iowa	\$2,102,903,049	22.8%

Data source and Tables: ConstructConnect.

Alex Carrick is Chief Economist for ConstructConnect. He has delivered presentations throughout North America on the U.S., Canadian and world construction outlooks. Mr. Carrick has been with the company since 1985. Links to his numerous articles are featured on [Twitter @ConstructConnx](#), which has 50,000 followers.

INSIGHT view of starts statistics

TABLE 7: VALUE OF UNITED STATES CONSTRUCTION STARTS
ConstructConnect® INSIGHT VERSION — JULY 2022
ARRANGED TO MATCH THE ALPHABETICAL CATEGORY DROP-DOWN MENUS IN INSIGHT

	Jan-Jul 2022 (\$ billions)	% Change Jan-Jul 22 vs Jan-Jul 21	% Change Jul 22 vs Jul 21	% Change Jul 22 vs Jun 22
Summary				
CIVIL	116.824	18.1%	-8.2%	-7.5%
NONRESIDENTIAL BUILDING	199.239	37.1%	65.8%	24.3%
RESIDENTIAL	209.926	-0.1%	-3.0%	11.5%
GRAND TOTAL	525.988	15.7%	16.8%	12.0%
Verticals				
Airport	4.137	30.9%	91.4%	67.3%
All Other Civil	7.904	-14.3%	1.1%	12.4%
Bridges	16.759	43.8%	28.8%	-22.5%
Dams / Canals / Marine Work	4.254	16.7%	35.7%	78.4%
Power Infrastructure	5.449	-27.1%	-91.6%	-78.7%
Roads	52.958	23.3%	-6.6%	-7.8%
Water and Sewage Treatment	25.363	22.1%	19.6%	-2.4%
CIVIL	116.824	18.1%	-8.2%	-7.5%
Offices (private)	10.358	-2.0%	-61.8%	-58.6%
Parking Garages	1.252	8.2%	-0.4%	-9.0%
Transportation Terminals	3.894	36.2%	95.6%	291.3%
Commercial (small subset)	15.504	6.3%	-38.3%	-30.1%
Amusement	4.352	1.7%	-10.6%	127.7%
Libraries / Museums	1.922	15.2%	-2.9%	115.8%
Religious	0.508	-15.7%	36.4%	-30.4%
Sports Arenas / Convention Centers	3.710	35.2%	178.8%	-20.1%
Community	10.491	12.9%	6.4%	57.1%
College / University	11.119	27.3%	26.5%	66.8%
Elementary / Pre School	13.637	20.3%	82.7%	-11.0%
Jr / Sr High School	18.563	5.5%	72.0%	6.5%
Special / Vocational	1.147	-2.2%	62.3%	124.7%
Educational	44.466	14.5%	61.5%	11.5%
Courthouses	0.910	-43.0%	-46.6%	30.8%
Fire and Police Stations	2.239	30.5%	216.8%	42.7%
Government Offices	7.431	4.9%	-30.6%	5.2%
Prisons	1.276	-1.9%	-19.1%	4.1%
Government	11.855	1.4%	-15.5%	14.2%
Industrial Labs / Labs / School Labs	2.108	47.4%	-12.4%	-34.9%
Manufacturing	56.759	320.0%	311.9%	11.6%
Warehouses	14.379	-11.9%	29.1%	76.8%
Industrial	73.246	134.3%	170.0%	18.5%
Hospitals / Clinics	13.716	22.8%	206.1%	251.8%
Medical Misc.	4.189	2.4%	14.5%	6.6%
Nursing Homes	2.214	-39.3%	-41.4%	-3.2%
Medical	20.119	6.4%	102.2%	136.7%
Military	5.243	8.4%	36.0%	98.7%
Hotels	5.714	31.0%	133.1%	121.0%
Retail Misc.	3.959	5.6%	23.8%	27.2%
Shopping	8.640	10.4%	22.1%	-17.5%
Retail	18.313	14.9%	62.1%	36.1%
NONRESIDENTIAL BUILDING	199.239	37.1%	65.8%	24.3%
Multi-Family	60.247	4.4%	2.1%	20.8%
Single-Family	149.679	-1.8%	-4.8%	8.5%
RESIDENTIAL	209.926	-0.1%	-3.0%	11.5%
NONRESIDENTIAL	316.062	29.4%	32.3%	12.2%
GRAND TOTAL	525.988	15.7%	16.8%	12.0%

Table 1 conforms to the type-of-structure ordering adopted by many firms and organizations in the industry. Specifically, it breaks nonresidential building into ICI work (i.e., industrial, commercial and institutional), since each has its own set of economic and demographic drivers.

Table 7 presents an alternative, perhaps more user-friendly and intuitive type-of-structure ordering that matches how the data appears in ConstructConnect's on-line product 'Insight'.

Source: ConstructConnect/Table: ConstructConnect.

“Top Ten” projects of the month

TABLE 8: ConstructConnect’s TOP 10 PROJECT STARTS IN JULY 2022

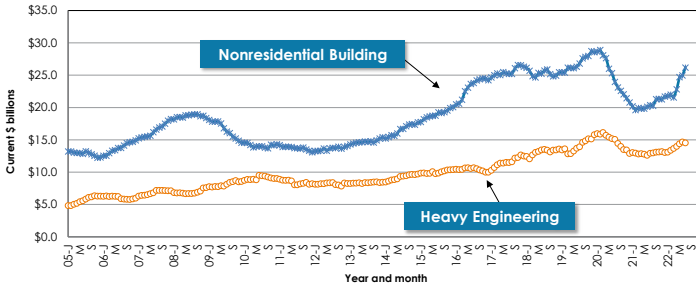
LOCATION (EAST TO WEST)	TYPE OF CONSTRUCTION	DESCRIPTION	SQUARE FEET 000S*	DOLLARS 000,000S
Massachusetts Boston	Residential	Bunker Hill Housing Redevelopment (fka One Charlestown) (6 structures; 2699 units) Multiple Locations Leggat McCall Properties LLC	2,841	\$1,400
Pennsylvania Pittsburgh	Institutional	Heart and Transplant Hospital at UPMC Presbyterian - University of Pittsburgh Medical Center (2 structures; 17 stories; 636 beds) 3420 Fifth Ave University of Pittsburgh Medical Center (UPMC)	1,200	\$1,500
Georgia Statesboro	Industrial	Aspen Aerogels Manufacturing Facility (1 structure) Aspen Aerogels	500	\$325
Michigan Lansing	Industrial	General Motors Lansing Battery Cell Manufacturing Plant (1 structure) General Motors Company	2,500	\$7,000
Illinois Chicago	Residential	1150 W Lake St (4 structures; 47 stories; 665 units) 1150 W Lake St LG Development Group	1,000	\$300
Texas Baytown	Industrial	TGS 500K (1 structure) 7525 Sutton Rd Trans-Global Solutions, Inc.	507	\$1,420
Mont Belvieu	Industrial	Enterprise Products Partners LP Natural Gas Frac #12 Project / Mont Belvieu (1 structure) 10910 Evil Dr Enterprise Products Partners L.P.	*	\$469
Nevada Las Vegas	Commercial	Dream Hotel Las Vegas (7 structures; 20 stories; 526 units) 5051 S Las Vegas Blvd The Shopoff Group	2,000	\$545
Washington Snoqualmie	Commercial	Snoqualmie Casino Expansion (4 structures; 4 stories; 210 units) 37500 SE North Bend Way Snoqualmie Casino	1,200	\$400
California Paramount	Industrial	World Energy Paramount Sustainable Fuel Refinery Upgrades (1 structure) 14700 Downey Ave World Energy Headquarters	*	\$2,000
TOTALS:			11,748	\$15,359

*A square footage measure does not apply for alteration, some forms of industrial (e.g., petrochemical) and most engineering/civil work.

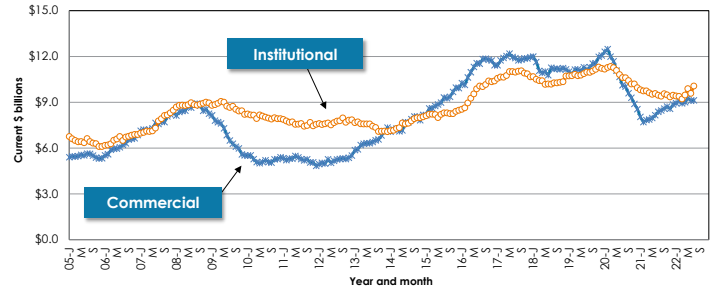
Source: ConstructConnect/Table: ConstructConnect.

Trend graphs for 12 key categories

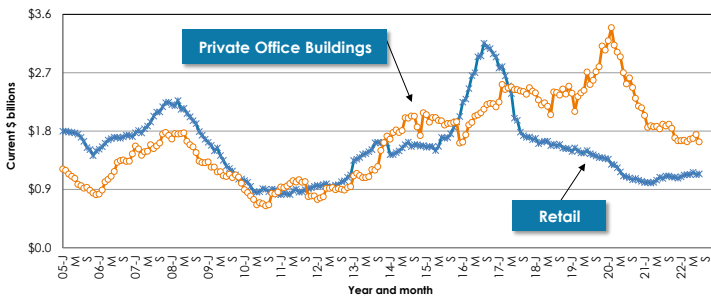
GRAPH 9: U.S. NONRESIDENTIAL CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



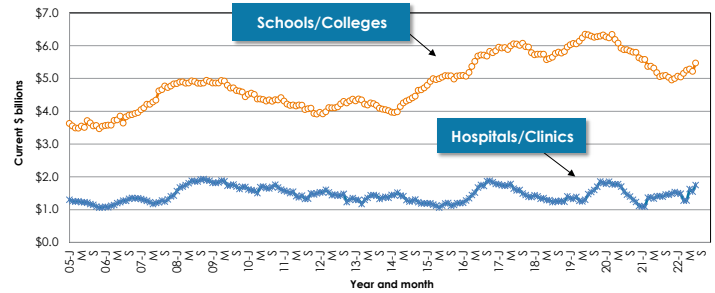
GRAPH 10: U.S. COMMERCIAL AND INSTITUTIONAL CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



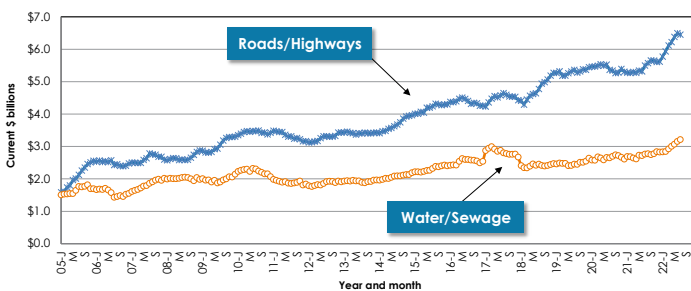
GRAPH 11: U.S. RETAIL AND PRIVATE OFFICE BUILDING CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



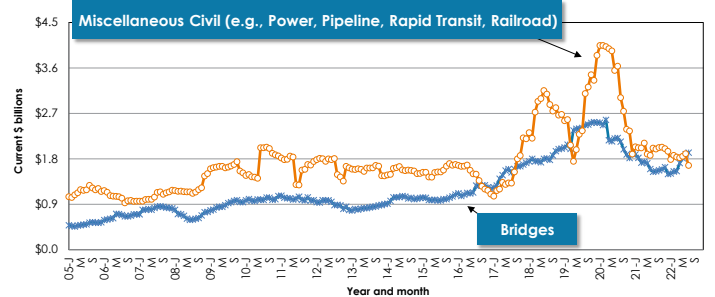
GRAPH 12: U.S. HOSPITAL/CLINIC AND SCHOOL/COLLEGE CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



GRAPH 13: U.S. ROAD/HIGHWAY AND WATER/SEWAGE CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



GRAPH 14: U.S. BRIDGES AND MISCELLANEOUS CIVIL CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



The last data points in all the graphs on this page are for July, 2022.

Source: ConstructConnect/Charts: ConstructConnect.

Regional starts table

TABLE 9: U.S. YEAR-TO-DATE REGIONAL STARTS, NONRESIDENTIAL CONSTRUCTION* — ConstructConnect®

	Jan-Jul 2021	Jan-Jul 2022	% Change
Connecticut	\$1,653,272,968	\$1,969,571,100	19.1%
Maine	\$2,432,972,732	\$2,846,595,681	17.0%
Massachusetts	\$8,360,961,475	\$5,658,883,355	-32.3%
New Hampshire	\$1,090,050,180	\$548,350,759	-49.7%
Rhode Island	\$654,140,231	\$706,028,635	7.9%
Vermont	\$297,285,256	\$383,107,655	28.9%
Total New England	\$14,488,682,842	\$12,112,537,185	-16.4%
New Jersey	\$4,411,503,902	\$5,602,727,076	27.0%
New York	\$12,525,493,635	\$16,832,866,256	34.4%
Pennsylvania	\$8,735,122,489	\$11,022,100,032	26.2%
Total Middle Atlantic	\$25,672,120,026	\$33,457,693,364	30.3%
TOTAL NORTHEAST	\$40,160,802,868	\$45,570,230,549	13.5%
Illinois	\$8,027,497,605	\$9,962,076,145	24.1%
Indiana	\$5,035,365,171	\$8,413,591,635	67.1%
Michigan	\$6,186,034,398	\$14,327,141,059	131.6%
Ohio	\$9,753,067,816	\$7,762,885,884	-20.4%
Wisconsin	\$5,108,266,002	\$5,719,509,445	12.0%
Total East North Central	\$34,110,230,992	\$46,185,204,168	35.4%
Iowa	\$3,776,295,863	\$3,419,600,510	-9.4%
Kansas	\$2,048,141,244	\$2,617,493,407	27.8%
Minnesota	\$7,105,030,925	\$5,533,867,604	-22.1%
Missouri	\$5,608,050,653	\$5,010,287,974	-10.7%
Nebraska	\$2,475,422,771	\$3,248,061,097	31.2%
North Dakota	\$1,381,958,017	\$2,736,535,792	98.0%
South Dakota	\$1,055,485,683	\$2,379,492,353	125.4%
Total West North Central	\$23,450,385,156	\$24,945,338,737	6.4%
TOTAL MIDWEST	\$57,560,616,148	\$71,130,542,905	23.6%
Delaware	\$718,344,940	\$698,408,132	-2.8%
District of Columbia	\$769,714,738	\$1,281,918,517	66.5%
Florida	\$13,981,499,752	\$14,919,696,941	6.7%
Georgia	\$7,628,724,844	\$8,057,779,625	5.6%
Maryland	\$3,189,498,642	\$4,651,353,675	45.8%
North Carolina	\$8,771,682,883	\$11,861,261,982	35.2%
South Carolina	\$3,370,411,656	\$4,105,387,466	21.8%
Virginia	\$5,421,162,416	\$6,029,919,959	11.2%
West Virginia	\$694,478,649	\$1,243,959,931	79.1%
Total South Atlantic	\$44,545,518,520	\$52,849,686,228	18.6%
Alabama	\$4,527,511,592	\$4,093,203,425	-9.6%
Kentucky	\$2,388,196,725	\$10,419,380,300	336.3%
Mississippi	\$1,460,027,285	\$1,723,655,053	18.1%
Tennessee	\$6,556,087,006	\$4,687,352,901	-28.5%
Total East South Central	\$14,931,822,608	\$20,923,591,679	40.1%
Arkansas	\$1,707,082,052	\$1,830,429,023	7.2%
Louisiana	\$3,323,398,613	\$15,254,594,163	359.0%
Oklahoma	\$2,551,775,778	\$2,925,420,043	14.6%
Texas	\$29,330,186,768	\$50,748,622,036	73.0%
Total West South Central	\$36,912,443,211	\$70,759,065,265	91.7%
TOTAL SOUTH	\$96,389,784,339	\$144,532,343,172	49.9%
Arizona	\$4,681,899,501	\$3,491,741,583	-25.4%
Colorado	\$4,767,153,749	\$4,096,917,692	-14.1%
Idaho	\$824,683,419	\$1,440,673,385	74.7%
Montana	\$668,422,967	\$1,205,351,616	80.3%
Nevada	\$2,729,279,300	\$3,031,361,702	11.1%
New Mexico	\$1,158,661,358	\$1,436,519,815	24.0%
Utah	\$3,419,117,367	\$3,530,666,288	3.3%
Wyoming	\$699,528,667	\$922,987,427	31.9%
Total Mountain	\$18,948,746,328	\$19,156,219,508	1.1%
Alaska	\$732,752,068	\$989,887,078	35.1%
California	\$21,102,983,977	\$23,828,739,086	12.9%
Hawaii	\$1,051,752,581	\$738,846,383	-29.8%
Oregon	\$3,123,274,248	\$3,603,424,446	15.4%
Washington	\$5,166,598,552	\$6,512,248,625	26.0%
Total Pacific	\$31,177,361,426	\$35,673,145,618	14.4%
TOTAL WEST	\$50,126,107,754	\$54,829,365,126	9.4%
TOTAL U.S.	\$244,237,311,109	\$316,062,481,752	29.4%

*Figures above are comprised of non-res building and engineering (i.e., residential is omitted).

Source: ConstructConnect/Table: ConstructConnect.

