

September 2023 (based on August 2023 Starts Stats)

Construction Industry Snapshot



August's Nonresidential Construction Starts -21% M/M, 0% Y/Y, and +6% Ytd

ConstructConnect announced today that August 2023's volume of construction starts, excluding residential work, was \$46.2 billion, a decrease of -21.2% versus July 2023's figure of \$58.7 billion.

August 2023 vs August 2022 was -0.2%. Year-to-date nonres starts have been +6.3% vs Jan-Aug 2022. Grand total starts (i.e., including residential) have been -18.9% m/m; -14.9% y/y; and -6.1% ytd.



| Comparison | Commercial | Retail | Private Office | Hotel & Motel | Industrial | Institutional | Schools | Hospitals & Clinics | Heavy Engineering | Total Non-Residential |
|------------------------------|------------|--------|----------------|---------------|------------|---------------|---------|---------------------|-------------------|-----------------------|
| August 2023 vs July 2023 | +6% | -37% | +63% | -22% | -62% | -5% | 0% | +30% | -21% | -21% |
| Jan-Aug 2023 vs Jan-Aug 2022 | -3% | -14% | -1% | +8% | -14% | +11% | +17% | -16% | +20% | +6% |
| Jan-Aug 2022 vs Jan-Aug 2021 | +20% | +23% | +15% | +60% | +347% | +22% | +17% | +43% | +22% | +40% |

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August's Nonresidential Construction Starts -21% M/M, 0% Y/Y, and +6% Ytd

A Different Complexion Without Mega Projects

ConstructConnect announced today that August 2023's dollar volume of construction starts, excluding residential work, was \$46.2 billion (green shaded box, bottom of page 12), a decrease of -21.2% versus July 2023's figure of \$58.7 billion (originally reported as \$58.5 billion).

The dollar volume of August 2023 total nonresidential starts was flat (-0.2%) next to August 2022. The latest month's year-to-date result for total nonresidential starts was +6.3% when compared with the same period from last year, January to August of 2022.

The mega project story plays an important role in explaining the above-reported percent changes. A mega project carries an estimated value of a billion dollars or more. In August 2023, there were two mega project initiations, totaling \$5.0 billion (a data center and a manufacturing plant - Table 7). In July 2023, there were seven mega projects summing to \$18.1 billion. Therefore, the latest total nonresidential starts number did not stand much of a chance in a month-to-month comparison. But August of last year featured only one mega project for \$2.0 billion. Hence, there wasn't the same degree of mega-project distortion in the year-over-year comparison.

Leaving aside mega projects in August 2023, July 2023, and August 2022, total nonresidential starts in the latest period were +1.6% month to month, -7.0% year over year, and +3.6% year to date. The +1.6% m/m change puts a different and rosier complexion on August 2023's result.

There are some surprises in 2023's total nonresidential dollar volume of starts year to date. Setting aside 'megas', and despite high interest rates that have slowed other aspects of economic activity, such as retail sales, total nonresidential starts are still ahead versus January-August of last year, +3.6%.

Also, while the mega share of total on a dollar volume basis through August of last year was substantial, at 14.8%, it's been even higher this year, 16.9%.

To complete the overview picture, the GRAND TOTAL dollar volume (i.e., adding residential to nonresidential activity; and including all projects, megas and non-megas) of starts in August 2023 was -18.9% m/m, -14.9% y/y, and -6.1% ytd. Weakness in residential starts (-24.5% ytd, or down by a quarter) has been holding back Grand Total starts ytd.

TTM Starts are Turning Unfavorable

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 9 on page 12 of this report.

Grand Total TTM starts in August, on a month-to-month basis, detoured further along a negative path, -1.3%, after being -0.4% in July and -0.1% in June.

On a year-over-year basis, Grand Total TTM starts in August stayed on the plus side of change, but only barely, +0.7%, and they extended a downside from July's +3.2%, and June's +5.4%.

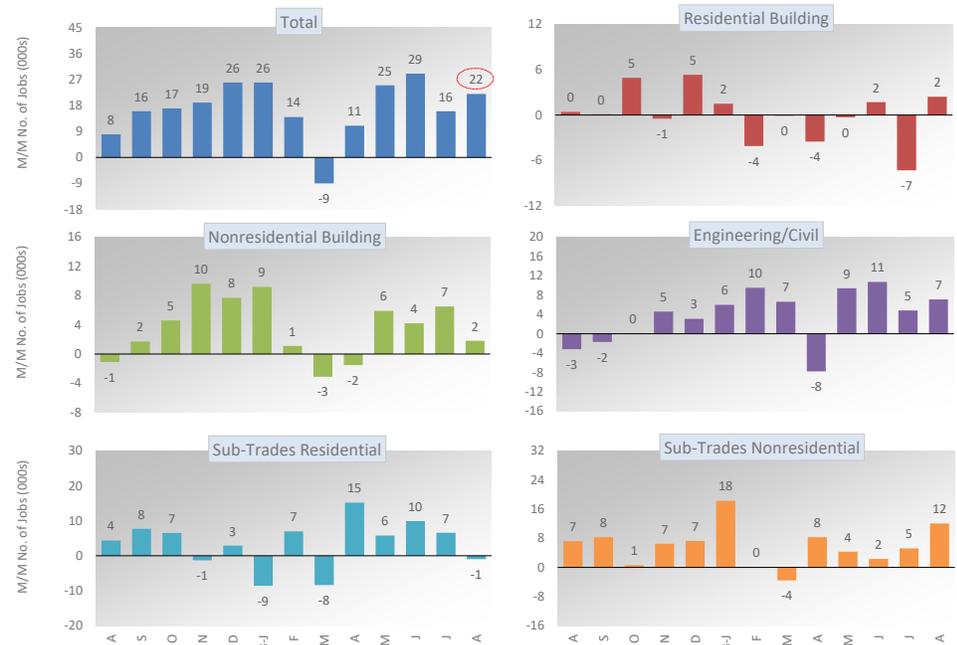
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TABLE 1: VALUE OF UNITED STATES NONRESIDENTIAL CONSTRUCTION STARTS — AUGUST 2023 (ConstructConnect®)

| | Jan-Aug 2023 (\$ billions) | % Change Jan-Aug 23 vs Jan-Aug 22 | % Change Aug 23 vs Aug 22 | % Change Aug 23 vs Jul 23 |
|--|-------------------------------|---|---------------------------------|---------------------------------|
| Hotel/Motel | 8.472 | 8.1% | 5.5% | -21.7% |
| Retail/Shopping | 10.088 | -13.5% | -16.0% | -37.4% |
| Parking Garage | 1.239 | -14.7% | -42.3% | -45.3% |
| Amusement | 6.536 | 27.1% | 10.5% | 36.7% |
| Private Office | 15.812 | -1.4% | 329.4% | 63.0% |
| Government Office | 11.299 | 31.5% | 33.9% | 24.5% |
| Laboratory | 1.769 | -49.1% | -90.3% | -43.8% |
| Warehouse | 13.704 | -33.1% | -18.9% | 1.1% |
| Miscellaneous Commercial * | 12.251 | 30.8% | -6.8% | -41.4% |
| COMMERCIAL (big subset) | 81.171 | -3.4% | 19.9% | 5.8% |
| INDUSTRIAL (Manufacturing) | 59.733 | -13.7% | -6.5% | -62.3% |
| Religious | 0.705 | 2.7% | -71.7% | -69.0% |
| Hospital/Clinic | 14.603 | -15.7% | -27.9% | 29.8% |
| Nursing/Assisted Living | 1.646 | -53.0% | -62.5% | 12.7% |
| Library/Museum | 3.031 | 30.7% | 133.8% | 82.4% |
| Fire/Police/Courthouse/Prison | 7.989 | 46.5% | -10.4% | -68.7% |
| Military | 12.649 | 125.1% | 123.6% | 31.1% |
| School/College | 61.262 | 17.0% | -7.0% | 0.2% |
| Miscellaneous Medical | 5.466 | -41.2% | 76.4% | 86.2% |
| INSTITUTIONAL | 107.351 | 11.2% | 1.4% | -4.8% |
| Miscellaneous Non-residential | 4.768 | -12.8% | -46.7% | -26.4% |
| NONRESIDENTIAL BUILDING | 253.022 | -0.9% | 5.0% | -21.4% |
| Airport | 6.897 | 37.2% | 30.1% | 13.1% |
| Road/Highway | 70.667 | 16.3% | -3.6% | -20.2% |
| Bridge | 17.302 | -11.5% | -40.7% | -10.3% |
| Dam/Marine | 8.186 | 40.7% | -17.0% | 73.2% |
| Water/Sewage | 32.920 | 13.3% | 11.4% | -2.0% |
| Miscellaneous Civil (power, pipelines, etc.) | 28.029 | 65.3% | -12.2% | -62.4% |
| HEAVY ENGINEERING (Civil) | 164.000 | 19.5% | -7.6% | -20.9% |
| TOTAL NONRESIDENTIAL | 417.023 | 6.3% | -0.2% | -21.2% |

* Includes transportation terminals and sports arenas.

GRAPH 1: CHANGE IN LEVEL OF U.S. CONSTRUCTION EMPLOYMENT, MONTH TO MONTH (M/M) — TOTAL & BY CATEGORIES — AUGUST 2023



Full year 2022's monthly average change in construction employment was +22,000 jobs. (Much of the lift came in February 2022, at +79,000 jobs m/m.) January-to-August 2023's average increase in construction employment has been +17,000 jobs.

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 from page 2

Nonres PIP Numbers in Overdrive; Res PIP Stalling

'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%).

In 2021 and 2022, there were dramatic changes in the proportional shares of the total put-in-place dollar volumes taken by residential versus nonresidential. In 2021's full year PIP results, the relationship was about half and half, with residential at 49.4% and nonresidential, 50.6%. In 2022, residential finally seized the larger share of total, 50.7% to 49.4% for nonresidential.

This altered relationship, given the boosts to interest rates, could not be expected to last. Higher interest rates, which harm affordability, have an almost immediate detrimental impact on housing demand. True to historical form, residential's year-to-date share of total PIP dollars through July of this year has retreated to 45.4%. The other 54.6% belongs to nonresidential. (Through the first two-thirds of last year, the weighting of shares was 51.9% residential and 48.1% nonresidential.)

The reported PIP numbers from the Census Bureau are always a month behind the 'starts' data. The total dollar volume of construction put-in-place through July 2023 has been +3.7%, due to a +17.8% performance from nonresidential, with residential backsliding to the tune of -9.3%.

Nonresidential construction's leading PIP sub-category for year-to-date percentage change has been 'manufacturing', climbing +74.4% versus January-July 2022. By dollar volume year to date, 'manufacturing' has become largest among the PIP nonresidential sub-categories.

Other PIP nonresidential sub-categories that have recorded significant gains year to date in 2023 have been 'lodging', +24.4%; 'conservation and development', +27.4%; 'waste disposal and water delivery', +19.6%; 'highways and streets', +16.1%; and 'health care', +13.4%.

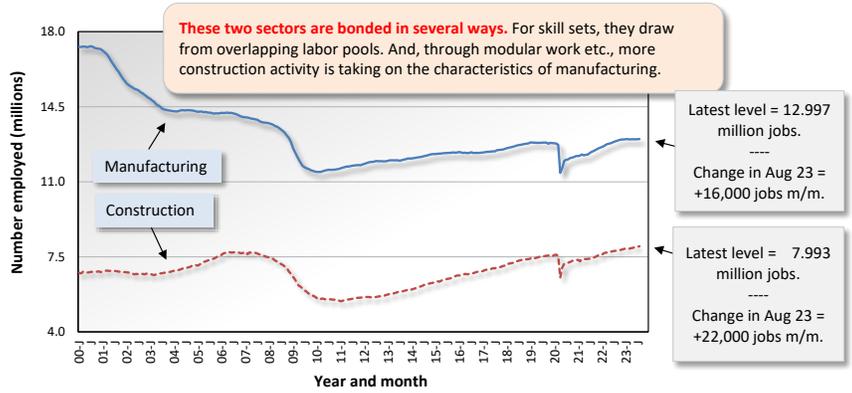
PIP numbers, being more spread out, have smaller peak-over-trough percent-change amplitudes than the 'starts' series. As an additional valuable service for clients and powered by its extensive 'starts' database, ConstructConnect, in partnership with Oxford Economics, a world-leader in econometric modeling, 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's Jobs Count +22,000 in August

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%. Accordingly, to claim its rightful portion of August's +187,000 economy-wide number-of-jobs advance, the figure for construction would have needed to be +10,000. At an actual figure of +22,000, the target was exceeded by more than double. Nevertheless, the eight-month average figure for construction hiring this year, at +17,000, has fallen short of the comparable figure for last year, +23,000. Graph 1 shows that month-to-month construction sector hiring in August

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GRAPH 2: U.S. MANUFACTURING VS CONSTRUCTION EMPLOYMENT AUGUST, 2023 — SEASONALLY ADJUSTED (SA) PAYROLL DATA

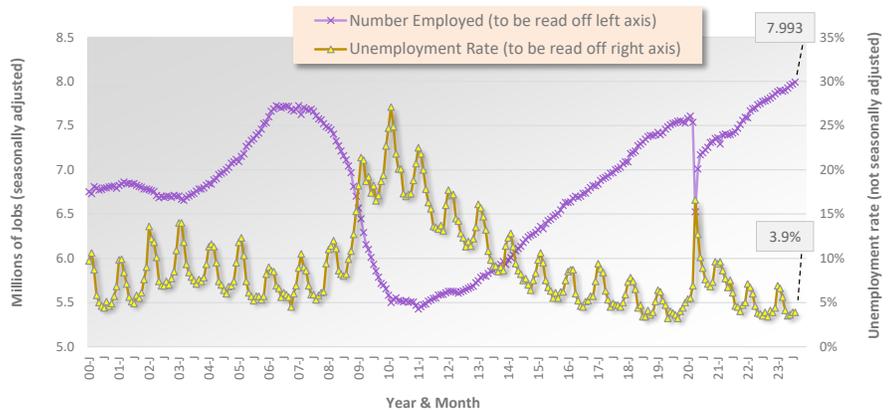


The not seasonally adjusted (NSA) unemployment rate for construction is presently 3.9%. In April 2020, at its worst, it was 16.6%. Manufacturing's current NSA jobless rate is a mere 2.7%. April 2020's extreme was 13.2%. In early 2000, the ratio of construction to manufacturing jobs was 0.4 to 1.0. Now, it's 0.6 to 1.0.

Latest data points are for August, 2023.

Source: Payroll Survey, U.S. Bureau of Labor Statistics (BLS) / Chart: ConstructConnect-CanaData.

GRAPH 3: U.S. CONSTRUCTION EMPLOYMENT (SA) & UNEMPLOYMENT RATE (NSA)



Current through August, 2023.

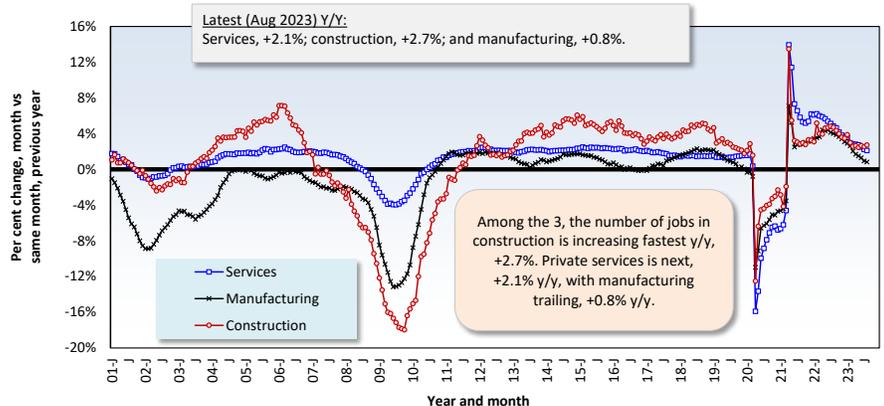
SA is seasonally adjusted / NSA is not seasonally adjusted.

Construction employment (SA) in August was up (+22,000 jobs) from July, plus it was at an all-time high. Construction's U rate (NSA) in August (3.9%) remained the same as in the previous month.

Current through August, 2023.

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

GRAPH 4: U.S. EMPLOYMENT AUGUST 2023 — % CHANGE Y/Y BASED ON SEASONALLY ADJUSTED (SA) DATA



The latest data points are for August, 2023.

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

Continued from page 3

was most active among engineering contractors (+7,000) and nonresidential sub-trade contractors (+12,000).

Construction's not seasonally adjusted (NSA) unemployment rate (U) in August of this year, at 3.9%, was the same as in both the previous month (July 2023) and in August of last year. Furthermore, the 3.9% for construction was identical to the latest all-jobs NSA U rate. Graph 3 makes the seasonality of construction's unemployment rate readily apparent.

Manufacturing's NSA U rate in August, at 2.7%, was tighter than for construction. Both the manufacturing and construction sectors are in the goods-producing segment of the economy (i.e., as opposed to private services-providing) and there is considerable overlap between their labor pools. Staffing by manufacturers in August, advanced by +16,000 jobs (Graph 2). The current surge in capital spending being undertaken by manufacturers will eventually lead to much more hiring, although ever greater adoption of automation and robotics will act as restraints.

In August, U.S. total employment was +2.0% year over year. The number of 'private services-providing' jobs was up a tiny bit more, +2.1% y/y. The increase in construction's worker count was another step upwards, +2.7% y/y. Leading all sectors was 'leisure and hospitality' with hiring of +4.5% y/y, but it was only a smidge ahead of 'health care and social assistance', +4.4% y/y. The expansion of manufacturers' payrolls continued to be modest, +0.8% y/y (Graph 5).

In other segments of the economy with close ties to construction, the latest y/y changes in employment were as follows: cement and concrete product manufacturing, +5.8%; machinery and equipment rental and leasing, +4.2%; architectural and engineering design services, +4.1%; oil and gas exploration and development, +2.7%; real estate, +1.7%; and building materials and supplies dealers, -4.1% (high borrowing costs cut into new and renovation residential work).

Design services work at architectural and engineering firms is an early-stage step in the entire building process that culminates in job site field activity. The +4.1% y/y advance in the number of jobs in the sector is encouraging news. The July Architecture Billings Index (ABI) from the American Institute of Architects (AIA) and Deltek was 50.0. Below 50.0, revenues for design firms are shrinking; at 50.0, they're flat; and above that yardstick, they're expanding. Another index from AIA/Deltek measures inquiries into new projects. In July, that index stood at 54.4.

Pluses and Minuses among Type-of-structure Sub-categories

The -21.2% drop in the value of total nonresidential starts in August versus July (m/m) originated in the industrial (-62.3%) and engineering (-20.9%) sub-categories, with less blame assigned to institutional (-4.8%). Commercial (+5.8%), though, provided some uplift.

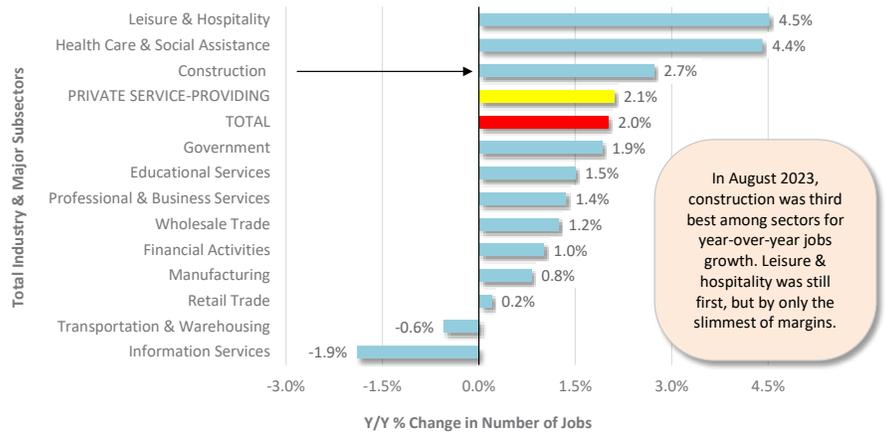
The 'no movement' (-0.2%) result for total nonresidential starts in August 2023 versus August 2022 (y/y) was the net result of setbacks in engineering (-7.6%) and industrial (-6.5%) that were offset by commercial (+19.9%), and to a lesser extent, institutional (+1.4%).

The year-to-date climb (+6.3%) of total nonresidential starts in the latest month was thanks to improvements by engineering (+19.5%) and institutional (+11.2%) that more than overcame contractions by industrial (-13.7%) and commercial (-3.4%).

Usually, about a third of all nonresidential starts derive from just two sub-category type-of-structure designations, 'roads/highways' and 'schools/colleges'. Through the first eight months of 2023, their shares of total were 16.9% and

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GRAPH 5: Y/Y JOBS CHANGE, U.S. TOTAL INDUSTRY & MAJOR SUBSECTORS — AUGUST 2023 (BASED ON SEASONALLY ADJUSTED PAYROLL DATA)

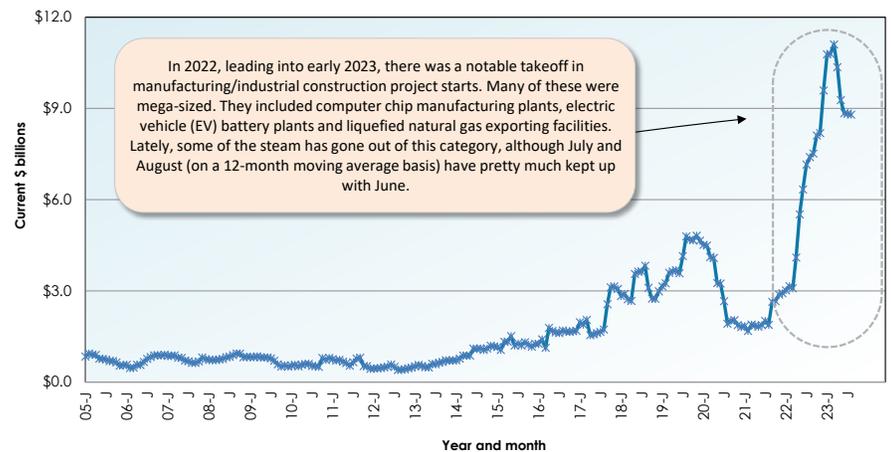


In August 2023, construction was third best among sectors for year-over-year jobs growth. Leisure & hospitality was still first, but by only the slimmest of margins.

August 2023's y/y changes in employment within the pandemic's initially hardest-hit sector, 'leisure & hospitality', were: 'amusements/gambling', +7.3%; 'hotels/motels', +4.6%; and 'restaurants/bars', +4.0%.

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

GRAPH 6: U.S. MANUFACTURING/INDUSTRIAL CONSTRUCTION STARTS — CONSTRUCTCONNECT



The last data point is for August 2023.

Data source: ConstructConnect. Graph: ConstructConnect.

TABLE 2: CONSTRUCTION STARTS IN SOME ADDITIONAL TYPE OF STRUCTURE SUB-CATEGORIES — ConstructConnect®

| | Jan-Aug 2023 (\$ billions) | % Change vs Jan-Aug 2022 |
|---|-------------------------------|-----------------------------|
| Sports Stadiums/Convention Centers | \$6.700 | 27.8% |
| Transportation Terminals | \$5.551 | 34.7% |
| Courthouses | \$1.516 | 51.7% |
| Police Stations & Fire Halls | \$3.107 | 18.4% |
| Prisons | \$3.366 | 83.9% |
| Pre-School/Elementary | \$17.938 | 9.5% |
| Junior & Senior High Schools | \$24.888 | 17.7% |
| K-12 (sum of above two categories) | \$42.826 | 14.1% |
| Special & Vocational Schools | \$1.284 | -12.9% |
| Colleges & Universities | \$17.152 | 28.4% |
| Electric Power Infrastructure | \$10.162 | 28.3% |

Source: ConstructConnect/Table: ConstructConnect.

Continued from page 4

14.7% respectively, adding to 31.6%.

The three percentage-change metrics for street starts in August were -20.2% m/m, and -3.6% y/y, but +16.3% ytd. For school starts, the results were unchanged (+0.2%) m/m, and -7.0% y/y, but +17.0% ytd. Among levels of educational facilities, 'colleges and universities' (+28.4% ytd) and 'junior and senior' high schools (+17.7% ytd) have been the 'starts' front-runners (Table 2).

Important beyond roads within the engineering sub-category are 'water/sewage' and 'bridge' starts. The results for the former in August were -2.0% m/m, but +11.4% y/y, and +13.3% ytd. For the latter, they were -10.3% m/m, -40.7% y/y, and -11.5% ytd (i.e., all in retreat).

July's three metrics for 'miscellaneous civil' starts, a designation which includes pipeline, electric power, and railroad projects, were -62.4% m/m, and -12.2% y/y, but +65.3% ytd.

Important beyond schools within institutional work are three medical sub-categories - i.e., 'hospitals/clinics', 'nursing/assisted living' and 'miscellaneous medical'. Their combined starts in August were +46.5% m/m, but -14.5% y/y, and -27.9% ytd. 'Hospital' starts on their own in the latest month were +29.8% m/m, but -27.9% y/y, and -15.7% ytd.

Among commercial sub-categories in August, 'government offices' (+31.5%), 'amusement' (+27.1%), and 'miscellaneous' (+30.8%) were each up between a quarter and a third ytd. Within 'miscellaneous', 'transportation terminals' were +34.7% ytd and 'sports stadiums', +27.8% ytd.

But several of commercial's sub-categories continued to be down in a significant way ytd in the latest month: 'laboratories', -49.1%; 'warehouses', -33.1%; 'parking garages', -14.7%; and 'retail', -13.5%. Starts on private office buildings, however, received a boost from a giant data center project (in Fayetteville, Georgia / see Top 10 projects list, Table 7, page 9), which contributed to percentage changes that were +63.0% m/m, and +329.4% y/y, although -1.4% ytd.

Also in August, the dollar volume of 'hotel/motel' construction starts, coming off extremely low numbers during the pandemic, were -21.7% m/m, but a nice-to-see +5.5% y/y and +8.1% ytd.

Variability in the Trend Lines

Page 10 of this Industry Snapshot sets out the history, January 2005 to the present, of 12-month 'starts' moving averages (in dollar volumes), from ConstructConnect's database, for a dozen construction types-of-structure. The moving-average approach is designed to capture trends. As a technical note, the calculated number is graphed (i.e., placed) in the ending month.

The main takeaways are that heavy engineering is continuing to show strength, while nonresidential building (NRB) has been flattening out. Within NRB, 'private office buildings' and 'retail' are moving sideways. 'School' and 'hospital' starts that were doing so well, are presently taking a breather. 'Roads/highways', 'water/sewage' and 'miscellaneous' are all giving support to the trend line for engineering starts. The 'bridges' curve is no longer near its peak.

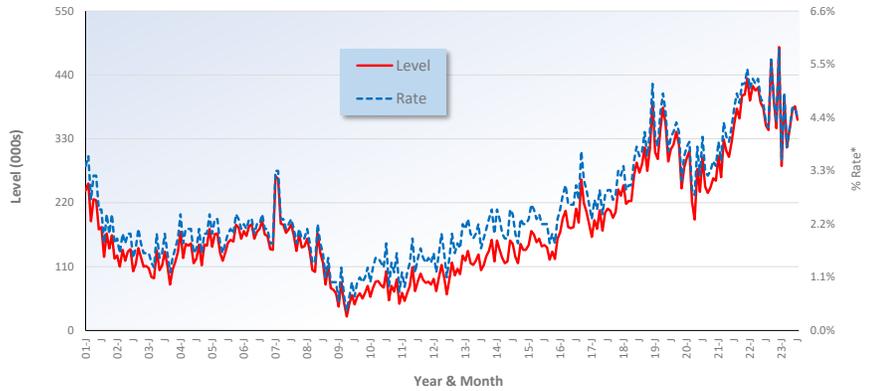
Torrid Pace for Construction Y/Y Wages

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 follow.

From August 2023's Table B-3 (including bosses), y/y all-jobs earnings were +4.3% hourly and +4.0% weekly. Com-

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**GRAPH 7: U.S. CONSTRUCTION JOB OPENINGS (FROM JOLTS REPORT)
SEASONALLY ADJUSTED & ACTUALS (I.E., NOT SMOOTHED WITH MOVING AVERAGES)**

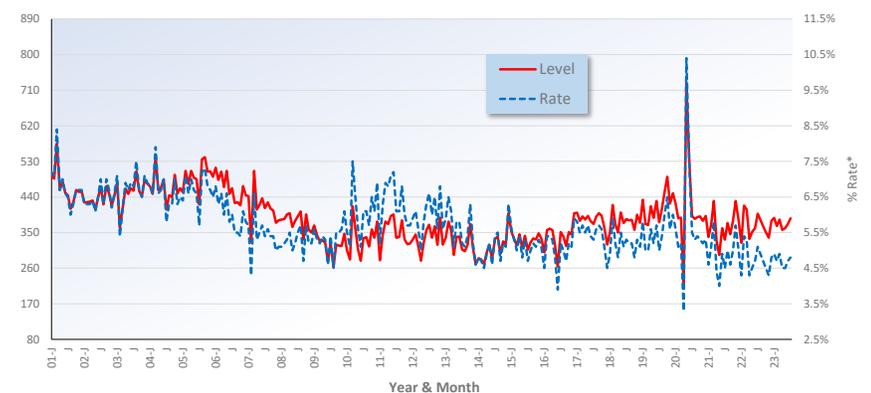


There's been volatility in the 'openings' figures for construction lately. Remarkably, though, while July's level of openings for 'all job' y/y was down markedly, -22.4%, the level for construction was +2.8% (despite a decline m/m).

*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 July 2023. ... JOLTS = Job Openings and Labor Turnover Survey.

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

**GRAPH 8: U.S. CONSTRUCTION JOB HIRES (FROM JOLTS REPORT)
SEASONALLY ADJUSTED & ACTUALS (I.E., NOT SMOOTHED WITH MOVING AVERAGES)**



Construction job hires as both a level and a rate have been moving mainly sideways for quite a while now. The rate, more than the level, has been fluctuating within a range lower than its historical norm.

*Rate is number of hires during month as % of construction employment. Latest seasonally adjusted data points are for July 2023. ... JOLTS = Job Openings and Labor Turnover Survey.

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

Continued from page 5

pensation hikes for construction workers, as a subset of 'all jobs', were perkier at +5.2% y/y hourly and +6.2% y/y weekly. From Table B-8 for production and non-supervisory workers (i.e., excluding bosses), the y/y 'all-jobs' paycheck advances were +4.5% hourly and +3.9% weekly. Construction workers, though, once again found themselves basking in a sunnier place, with stipend hikes of +5.7% hourly and +6.2% weekly.

August 2023's CPI-U 'all items' inflation rate was +3.7% y/y. (The 'core' rate, which omits volatile food and energy items, was +4.3% y/y). Improvements in purchasing power, a key ingredient in the consumer spending that drives gross domestic product (GDP), are realized when wage gains exceed inflation. While pay hikes are barely signaling purchasing power upticks for 'all jobs', they are saying good things about the progress being made by construction workers.

Construction Costing and Pricing Both Easing

August 2023's y/y results for three building related BLS Producer Price Index (PPI) series were: (A) 'construction materials special index', -2.3% (not quite as negative as July's -3.3%); (B) 'inputs to new construction index, excluding capital investment, labor, and imports', -0.1% (returning close to neutrality after the previous month's decline of -2.8%); and (C) 'final demand construction', designed to capture bid prices, +3.9% (staying the same as in the previous period).

(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.

There are also PPI indices for specific construction inputs. For August, there were only a few materials showing y/y price increases: cement, +11.0%; ready-mix concrete, +9.6%; and copper wire and cable, +3.2%. There were far more items with negative y/y price performances: asphalt, -34.6%; softwood lumber, -18.0%; number 2 diesel fuel, -14.4%; hot rolled steel bars, plates, and structural shapes, -9.7%; aluminum mill shapes, -5.6%; and gypsum, -0.8%. Also, there's an 'inputs to highways and streets' index, +0.9% y/y. Unleaded regular gasoline in the PPI data series is +2.0% y/y; as a subset in the Consumer Price Index (CPI), it's -3.3% y/y.

The value of construction starts each month is derived from ConstructConnect's database of all active construction projects in the U.S. The 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.

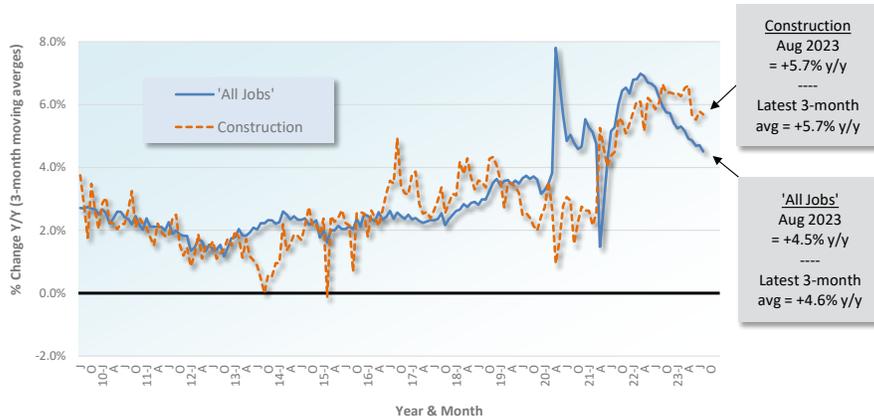
August 2023's 'Grand Total' Starts -6.1% Ytd

From Table 6 on page 8 (and also from Table 9 on page 12) of this report, ConstructConnect's total residential starts in August 2023 were -13.9% m/m, -34.7% y/y, and -24.5% ytd. Multi-family starts were -20.7% m/m, -66.1% y/y, and -32.4% ytd. Completing the picture, single-family starts were -11.5% m/m, -7.4% y/y, and -19.8% ytd.

Including home building with all nonresidential categories, Grand Total starts in August 2023 were -18.9% m/m, -14.9% y/y, and -6.1% 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.

GRAPH 9: AVERAGE HOURLY EARNINGS Y/Y — 'ALL JOBS' & CONSTRUCTION

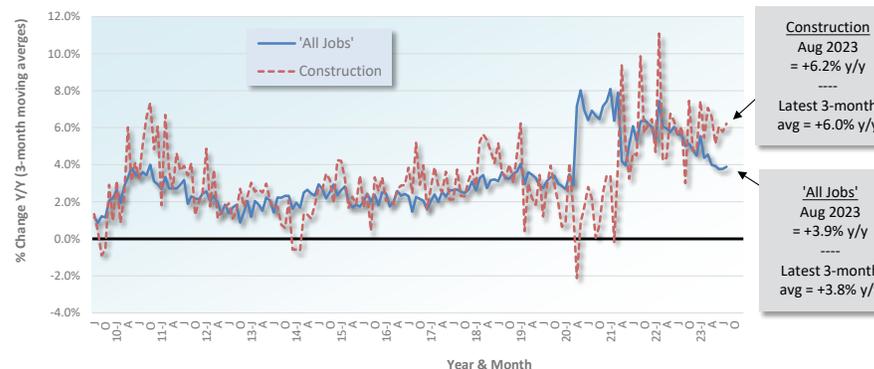


Y/y hourly wage gains for 'all jobs' are slipping, but remain above inflation (+3.2% y/y for all items CPI in July '23). Construction is still beating 'all jobs'. Average y/y hourly wage gains for construction workers, 2010-2019, were +2.3%; for 'all jobs', +2.4%.

From 'Production Workers and Non-supervisory Personnel' Table (B8). The latest data points are for August, 2023.

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

GRAPH 10: AVERAGE WEEKLY EARNINGS Y/Y — 'ALL JOBS' & CONSTRUCTION



Year-over-year weekly earnings for 'all jobs' have been gradually returning closer to their historical performance. Y/y construction weekly earnings are still abnormally high. The NSA U rates for construction and 'all jobs' are the same, 3.9%.

From 'Production Workers and Non-supervisory Personnel' Table (B8). The latest data points are for August, 2023.

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

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.

The 'rule' doesn't always hold true, however. For example, under present circumstances, weakness in some (mainly cyclical) areas of construction investment may well be offset by rich veins of large industrial and engineering projects.

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.

Dynamics of the Housing Market Turn Away from Multifamily Segment

The dynamics of the multifamily housing market have favored contractors for years, thanks to steadily falling rental vacancy rates and rising rental prices. For many developers, this has made multifamily investments a relatively safe bet with a solid ROI. The aftermath of the Great Recession set in motion a long-run decline in rental vacancy rates. This decline prompted a rebound in the number of multifamily starts built for rental purposes to a sustained seasonally adjusted level of around 80,000 to 90,000 units per quarter between 2015 and the end of 2019.

In the immediate quarters following COVID, vacancy rates fell a full percentage point, returning to lows last witnessed in the early 1980s. Combined with other COVID market shocks, this helped to trigger a 60% increase in multifamily rental starts. As recently as the third quarter of 2022, multifamily rental starts topped 140,000 units quarterly.

In traditional industries such as construction, where investment outlays must be made months and years in advance of the payoff date, this can lead to what is known as “herding” on Wall Street, in which every stock trader makes the same play. Such herd behavior often establishes the basis for a classic boom and bust. Anecdotal evidence in today’s multifamily market suggests that many investors are targeting the premium-end of the market where profits are higher, but where fewer renters can afford leases and lower-cost options can pull away renters at any time.

Such changes beg several questions. If every contractor is making the same play and adding supply during a time of turbulent housing dynamics, how will supply and demand equalize when it comes time to fill all these new structures with tenants? Will every developer profit from their investment? Will there be enough renters to achieve the occupancy rates necessary to realize the expected ROI for these projects?

The issue is yet further complicated by the unprecedented condition of the single-family market. Today’s single-family homes are historically unaffordable while simultaneously many owners who normally would sell are loath to do so and surrender their 3% mortgage. Supply remains further restricted by the government’s COVID mortgage forbearance programs. The linger effects of such programs will continue to suppress the natural level of foreclosures easily into 2024, according to the U.S. government’s Department of Housing and Urban Development.

In short, the entire housing market in the coming years is going to be significantly impacted by a slew of powerful market forces, many of which will increase the supply of single-family homes, sending home prices lower and potentially stealing away a considerable portion of those in the higher-end apartment and condo market.

Historically, the amplitudes of previous market booms and busts have correlated with the strength of the “herding” behavior among market participants. The more participants that take the same action the more severe any future market correction is likely to be. In the construction industry this may mean that the most desirable geographies which are today attracting multiple developers may experience the greater supply hangovers in the future and greatest profitability pressures. In contrast, those “second tier” geographies that have and continue to draw less attention by a multitude of developers may actually become the better bets.

— Michael Guckes, ConstructConnect Senior Economist

TABLE 3: 2023 YTD RANKING OF TOP 20 STATES BY \$ VOLUME OF NONRESIDENTIAL CONSTRUCTION STARTS — ConstructConnect®

| | Jan-Aug 2023 | % Change vs Jan-Aug 2022 |
|------------------|------------------|--------------------------|
| 1 Texas | \$70,761,060,141 | 15.1% |
| 2 California | \$33,007,599,861 | 3.5% |
| 3 New York | \$23,631,556,055 | 5.6% |
| 4 Florida | \$20,183,838,176 | -0.9% |
| 5 Ohio | \$15,528,325,963 | 61.2% |
| 6 North Carolina | \$14,447,530,914 | -2.1% |
| 7 Georgia | \$13,211,991,735 | 40.2% |
| 8 Indiana | \$12,925,648,156 | 28.6% |
| 9 Pennsylvania | \$11,878,059,784 | -4.6% |
| 10 Illinois | \$11,813,331,482 | 0.4% |
| 11 Michigan | \$11,167,126,160 | -30.1% |
| 12 Virginia | \$10,620,828,766 | 31.9% |
| 13 Arizona | \$8,315,455,933 | 49.3% |
| 14 Massachusetts | \$8,272,324,202 | 12.7% |
| 15 Alabama | \$8,157,090,326 | 28.3% |
| 16 Kansas | \$7,562,679,330 | 112.3% |
| 17 Tennessee | \$7,161,578,986 | 18.1% |
| 18 Washington | \$6,993,544,296 | -15.8% |
| 19 Colorado | \$6,754,780,836 | 36.5% |
| 20 Maryland | \$6,626,741,239 | 21.9% |

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

TABLE 4: 2023 YTD RANKING OF TOP 20 STATES BY \$ VOLUME OF NONRESIDENTIAL BUILDING CONSTRUCTION STARTS — ConstructConnect®

| | Jan-Aug 2023 | % Change vs Jan-Aug 2022 |
|------------------|------------------|--------------------------|
| 1 Texas | \$47,037,582,929 | 4.8% |
| 2 California | \$18,303,889,519 | -11.6% |
| 3 New York | \$16,087,426,258 | 12.2% |
| 4 Florida | \$11,282,330,157 | -20.2% |
| 5 North Carolina | \$10,880,936,290 | 1.5% |
| 6 Ohio | \$10,549,988,535 | 98.9% |
| 7 Indiana | \$9,754,370,284 | 58.3% |
| 8 Georgia | \$8,889,424,320 | 31.8% |
| 9 Virginia | \$7,470,798,751 | 51.3% |
| 10 Arizona | \$6,516,653,887 | 57.1% |
| 11 Alabama | \$6,301,602,090 | 35.9% |
| 12 Pennsylvania | \$6,262,330,389 | -20.2% |
| 13 Illinois | \$5,682,013,341 | -2.4% |
| 14 Kansas | \$5,592,287,622 | 180.3% |
| 15 Tennessee | \$5,429,469,642 | 32.3% |
| 16 Michigan | \$5,398,400,285 | -53.9% |
| 17 Massachusetts | \$5,288,391,044 | -1.2% |
| 18 Maryland | \$4,548,910,281 | 15.5% |
| 19 Washington | \$3,875,126,237 | -16.0% |
| 20 Hawaii | \$3,561,470,315 | 581.7% |

TABLE 5: 2023 YTD RANKING OF TOP 20 STATES BY \$ VOLUME OF HEAVY ENGINEERING/CIVIL CONSTRUCTION STARTS — ConstructConnect®

| | Jan-Aug 2023 | % Change vs Jan-Aug 2022 |
|-------------------|------------------|--------------------------|
| 1 Texas | \$23,723,477,212 | 43.1% |
| 2 California | \$14,703,710,342 | 31.4% |
| 3 Florida | \$8,901,508,019 | 42.9% |
| 4 New York | \$7,544,129,797 | -6.1% |
| 5 Illinois | \$6,131,318,141 | 3.1% |
| 6 Michigan | \$5,768,725,875 | 35.7% |
| 7 Pennsylvania | \$5,615,729,395 | 22.0% |
| 8 Ohio | \$4,978,337,428 | 15.1% |
| 9 Georgia | \$4,322,567,415 | 61.6% |
| 10 Alaska | \$3,908,385,090 | 445.4% |
| 11 North Carolina | \$3,566,594,624 | -11.8% |
| 12 Wyoming | \$3,500,528,868 | 108.9% |
| 13 Minnesota | \$3,311,152,705 | -21.5% |
| 14 Colorado | \$3,236,023,100 | 33.2% |
| 15 Louisiana | \$3,222,611,651 | 17.7% |
| 16 Indiana | \$3,171,277,872 | -18.5% |
| 17 Virginia | \$3,150,030,015 | 1.1% |
| 18 Washington | \$3,118,418,059 | -15.5% |
| 19 Massachusetts | \$2,983,933,158 | 50.0% |
| 20 Wisconsin | \$2,969,285,848 | -6.0% |

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 X/Twitter @ConstructConnx, which has 50,000+ followers.

INSIGHT view of starts statistics

TABLE 6: VALUE OF UNITED STATES CONSTRUCTION STARTS
ConstructConnect® INSIGHT VERSION — AUGUST 2023
ARRANGED TO MATCH THE ALPHABETICAL CATEGORY DROP-DOWN MENUS IN INSIGHT

| | Jan-Aug 2023 (\$ billions) | % Change Jan-Aug 23 vs Jan-Aug 22 | % Change Aug 23 vs Aug 22 | % Change Aug 23 vs Jul 23 |
|--------------------------------------|-------------------------------|---|---------------------------------|---------------------------------|
| Summary | | | | |
| CIVIL | 164.000 | 19.5% | -7.6% | -20.9% |
| NONRESIDENTIAL BUILDING | 253.022 | -0.9% | 5.0% | -21.4% |
| RESIDENTIAL | 199.099 | -24.5% | -34.7% | -13.9% |
| GRAND TOTAL | 616.122 | -6.1% | -14.9% | -18.9% |
| Verticals | | | | |
| Airport | 6.897 | 37.2% | 30.1% | 13.1% |
| All Other Civil | 17.867 | 97.7% | 62.9% | -64.0% |
| Bridges | 17.302 | -11.5% | -40.7% | -10.3% |
| Dams / Canals / Marine Work | 8.186 | 40.7% | -17.0% | 73.2% |
| Power Infrastructure | 10.162 | 28.3% | -91.3% | 183.6% |
| Roads | 70.667 | 16.3% | -3.6% | -20.2% |
| Water and Sewage Treatment | 32.920 | 13.3% | 11.4% | -2.0% |
| CIVIL | 164.000 | 19.5% | -7.6% | -20.9% |
| Offices (private) | 15.812 | -1.4% | 329.4% | 63.0% |
| Parking Garages | 1.239 | -14.7% | -42.3% | -45.3% |
| Transportation Terminals | 5.551 | 34.7% | 83.9% | -14.5% |
| Commercial (small subset) | 22.602 | 4.6% | 248.5% | 49.2% |
| Amusement | 6.536 | 27.1% | 10.5% | 36.7% |
| Libraries / Museums | 3.031 | 30.7% | 133.8% | 82.4% |
| Religious | 0.705 | 2.7% | -71.7% | -69.0% |
| Sports Arenas / Convention Centers | 6.700 | 27.8% | -26.7% | -50.0% |
| Community | 16.972 | 26.8% | 16.9% | 8.4% |
| College / University | 17.152 | 28.4% | 4.4% | 19.7% |
| Elementary / Pre School | 17.938 | 9.5% | -15.2% | 20.8% |
| Jr / Sr High School | 24.888 | 17.7% | -6.1% | -21.8% |
| Special / Vocational | 1.284 | -12.9% | -26.3% | -4.1% |
| Educational | 61.262 | 17.0% | -7.0% | 0.2% |
| Courthouses | 1.516 | 51.7% | 215.1% | 41.4% |
| Fire and Police Stations | 3.107 | 18.4% | -3.9% | -15.3% |
| Government Offices | 11.299 | 31.5% | 33.9% | 24.5% |
| Prisons | 3.366 | 83.9% | -72.5% | -94.3% |
| Government | 19.288 | 37.3% | 15.2% | -37.1% |
| Industrial Labs / Labs / School Labs | 1.769 | -49.1% | -90.3% | -43.8% |
| Manufacturing | 59.733 | -13.7% | -6.5% | -62.3% |
| Warehouses | 13.704 | -33.1% | -18.9% | 1.1% |
| Industrial | 75.206 | -19.3% | -20.4% | -53.8% |
| Hospitals / Clinics | 14.603 | -15.7% | -27.9% | 29.8% |
| Medical Misc. | 5.466 | -41.2% | 76.4% | 86.2% |
| Nursing Homes | 1.646 | -53.0% | -62.5% | 12.7% |
| Medical | 21.715 | -27.9% | -14.5% | 46.5% |
| Military | 12.649 | 125.1% | 123.6% | 31.1% |
| Hotels | 8.472 | 8.1% | 5.5% | -21.7% |
| Retail Misc. | 4.768 | -12.8% | -46.7% | -26.4% |
| Shopping | 10.088 | -13.5% | -16.0% | -37.4% |
| Retail | 23.328 | -6.5% | -15.0% | -28.1% |
| NONRESIDENTIAL BUILDING | 253.022 | -0.9% | 5.0% | -21.4% |
| Multi-Family | 66.232 | -32.4% | -66.1% | -20.7% |
| Single-Family | 132.867 | -19.8% | -7.4% | -11.5% |
| RESIDENTIAL | 199.099 | -24.5% | -34.7% | -13.9% |
| NONRESIDENTIAL | 417.023 | 6.3% | -0.2% | -21.2% |
| GRAND TOTAL | 616.122 | -6.1% | -14.9% | -18.9% |

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 6 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 7: ConstructConnect's TOP 10 PROJECT STARTS IN AUGUST 2023

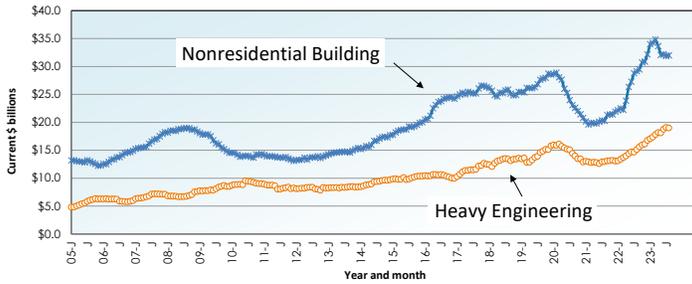
| LOCATION (EAST TO WEST) | TYPE OF CONSTRUCTION | DESCRIPTION | SQUARE FEET 000S* | DOLLARS 000,000S |
|-------------------------------------|-------------------------|--|----------------------|---------------------|
| New York New York | Residential | Bond and Sackett Mixed-use Development (2 structures; 21 stories; 517 units) Bond St & Sackett St Property Markets Group Inc. (PMG) - New York | 600 | \$520 |
| North Carolina Siler City | Industrial | John Palmour Manufacturing Center for Silicon Carbide (1 structure; 1 story) Hwy 61 & Old US Hwy 421 N Wolfspeed | 2,000 | \$2,500 |
| Ohio Lancaster | Commercial | Google Data Center / Lancaster (1 structure) 104 Whiley Rd Google Inc. - Mountain View | 2,034 | \$600 |
| Georgia Fayetteville | Commercial | Project Excalibur Data Center Campus (2 structures) 1435 Hwy 54 W QTS Atlanta-Suwanee Operations Headquarters | 6,000 | \$2,500 |
| Indiana Indianapolis | Commercial | Pan Am Plaza Redevelopment Signia Hilton Hotel (1 structure; 42 stories; 800 units) 201 S Capitol Ave Kite Realty Group | 1,400 | \$800 |
| Kentucky London | Industrial | Sazerac Beverage Manufacturing Facility at Rowland Acres Industrial Park (2 structures) 1727 W Laurel Rd Sazerac Company, Inc. | 500 | \$600 |
| Illinois Chicago | Institutional | Shedd Aquarium Renovation (1 structure) 1200 S Lake Shore Dr The Shedd Aquarium Society | * | \$500 |
| Arkansas Osceola | Industrial | Hybar Manufacturing (Steel Rebar) (1 structure) State Hwy 239 & E Co Rd 732 Hybar, LLC | 400 | \$700 |
| Colorado Denver | Civil/Engineering | I-70 Floyd Hill to Veterans Memorial Tunnels East Section (2 structures) I-70 Colorado Department of Transportation (CDOT) | * | \$700 |
| California San Diego | Institutional | Ridge Walk North Living and Learning Neighborhood (1 structure; 18 stories; 2400 units) 9500 Gilman Dr UC-San Diego - Facilities Design and Construction | 500 | \$572 |
| TOTALS: | | | 13,434 | \$9,992 |

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

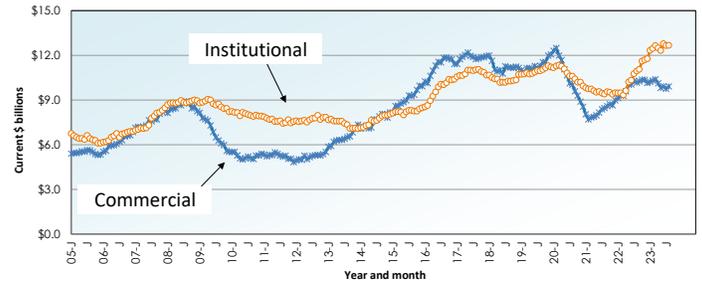
Source: ConstructConnect/Table: ConstructConnect.

Trend graphs for 12 key categories

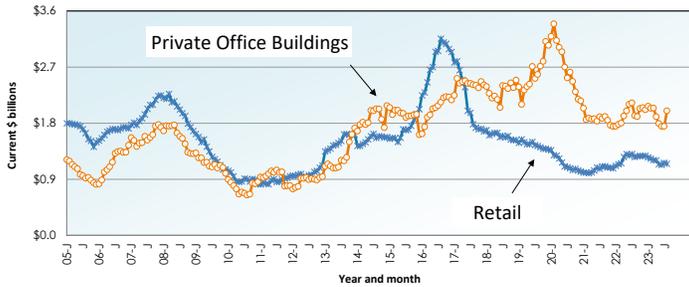
GRAPH 11: U.S. NONRESIDENTIAL CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



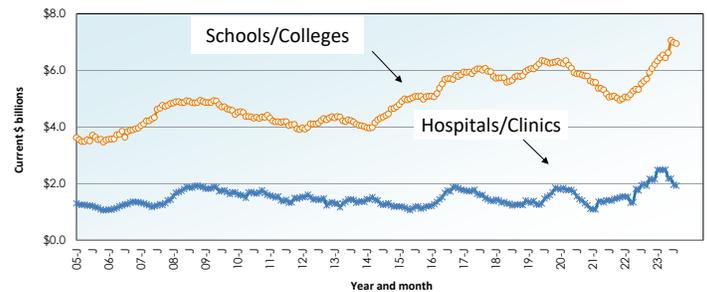
GRAPH 12: U.S. COMMERCIAL AND INSTITUTIONAL CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



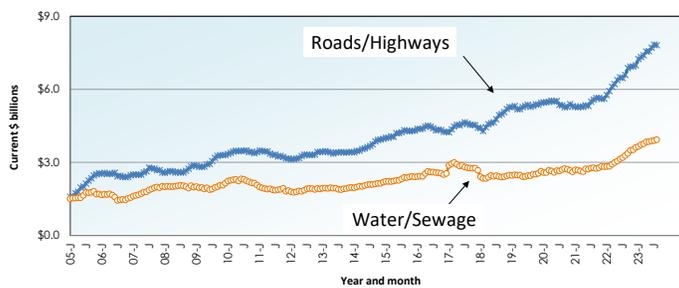
GRAPH 13: U.S. RETAIL AND PRIVATE OFFICE BUILDING CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



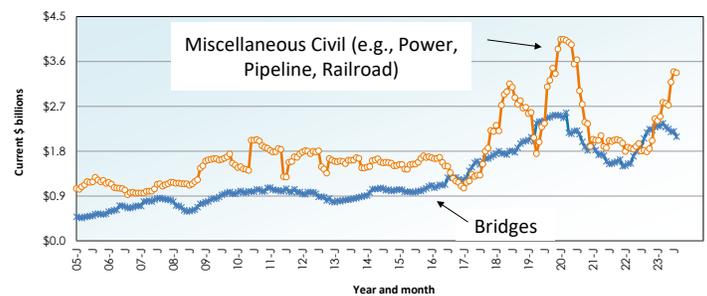
GRAPH 14: U.S. HOSPITAL/CLINIC AND SCHOOL/COLLEGE CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



GRAPH 15: U.S. ROAD/HIGHWAY AND WATER/SEWAGE CONSTRUCTION STARTS — ConstructConnect® (12-MONTH MOVING AVERAGES)



GRAPH 16: 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 August, 2023.

Source: ConstructConnect/Charts: ConstructConnect.

Regional starts table

TABLE 8: U.S. YEAR-TO-DATE REGIONAL STARTS, NONRESIDENTIAL CONSTRUCTION* — ConstructConnect®

| | Jan-Aug 2022 | Jan-Aug 2023 | % Change |
|---------------------------------|--------------------------|--------------------------|---------------|
| Connecticut | \$2,042,461,359 | \$3,458,952,970 | 69.4% |
| Maine | \$3,193,508,987 | \$1,156,721,672 | -63.8% |
| Massachusetts | \$7,340,880,026 | \$8,272,324,202 | 12.7% |
| New Hampshire | \$671,209,994 | \$853,910,899 | 27.2% |
| Rhode Island | \$1,009,353,162 | \$525,063,123 | -48.0% |
| Vermont | \$441,109,182 | \$633,498,086 | 43.6% |
| Total New England | \$14,698,522,710 | \$14,900,470,952 | 1.4% |
| New Jersey | \$6,573,326,410 | \$4,628,953,665 | -29.6% |
| New York | \$22,375,255,658 | \$23,631,556,055 | 5.6% |
| Pennsylvania | \$12,446,482,228 | \$11,878,059,784 | -4.6% |
| Total Middle Atlantic | \$41,395,064,296 | \$40,138,569,504 | -3.0% |
| TOTAL NORTHEAST | \$56,093,587,006 | \$55,039,040,456 | -1.9% |
| Illinois | \$11,770,784,551 | \$11,813,331,482 | 0.4% |
| Indiana | \$10,052,660,936 | \$12,925,648,156 | 28.6% |
| Michigan | \$15,965,601,986 | \$11,167,126,160 | -30.1% |
| Ohio | \$9,630,451,365 | \$15,528,325,963 | 61.2% |
| Wisconsin | \$8,464,785,222 | \$6,079,231,161 | -28.2% |
| Total East North Central | \$55,884,284,060 | \$57,513,662,922 | 2.9% |
| Iowa | \$3,812,826,110 | \$4,750,548,891 | 24.6% |
| Kansas | \$3,562,471,282 | \$7,562,679,330 | 112.3% |
| Minnesota | \$6,805,980,815 | \$5,791,280,105 | -14.9% |
| Missouri | \$6,238,741,174 | \$5,122,931,161 | -17.9% |
| Nebraska | \$4,253,876,580 | \$3,999,590,804 | -6.0% |
| North Dakota | \$3,371,159,229 | \$2,592,446,627 | -23.1% |
| South Dakota | \$3,433,139,813 | \$3,151,143,795 | -8.2% |
| Total West North Central | \$31,478,195,003 | \$32,970,620,713 | 4.7% |
| TOTAL MIDWEST | \$87,362,479,063 | \$90,484,283,635 | 3.6% |
| Delaware | \$773,232,932 | \$930,970,673 | 20.4% |
| District of Columbia | \$1,684,685,950 | \$1,218,169,167 | -27.7% |
| Florida | \$20,361,373,469 | \$20,183,838,176 | -0.9% |
| Georgia | \$9,421,482,118 | \$13,211,991,735 | 40.2% |
| Maryland | \$5,436,756,189 | \$6,626,741,239 | 21.9% |
| North Carolina | \$14,759,814,933 | \$14,447,530,914 | -2.1% |
| South Carolina | \$5,728,364,560 | \$5,685,181,419 | -0.8% |
| Virginia | \$8,052,180,369 | \$10,620,828,766 | 31.9% |
| West Virginia | \$1,282,619,165 | \$2,688,133,423 | 109.6% |
| Total South Atlantic | \$67,500,509,685 | \$75,613,385,512 | 12.0% |
| Alabama | \$6,359,847,505 | \$8,157,090,326 | 28.3% |
| Kentucky | \$12,068,671,920 | \$5,008,486,011 | -58.5% |
| Mississippi | \$2,016,968,542 | \$2,655,230,182 | 31.6% |
| Tennessee | \$6,063,190,773 | \$7,161,578,986 | 18.1% |
| Total East South Central | \$26,508,678,740 | \$22,982,385,505 | -13.3% |
| Arkansas | \$2,582,965,136 | \$3,917,082,167 | 51.7% |
| Louisiana | \$15,878,281,864 | \$5,518,803,395 | -65.2% |
| Oklahoma | \$3,543,112,474 | \$5,361,393,142 | 51.3% |
| Texas | \$61,475,686,803 | \$70,761,060,141 | 15.1% |
| Total West South Central | \$83,480,046,277 | \$85,558,338,845 | 2.5% |
| TOTAL SOUTH | \$177,489,234,702 | \$184,154,109,862 | 3.8% |
| Arizona | \$5,569,958,072 | \$8,315,455,933 | 49.3% |
| Colorado | \$4,946,919,841 | \$6,754,780,836 | 36.5% |
| Idaho | \$1,726,744,339 | \$1,770,745,219 | 2.5% |
| Montana | \$1,321,074,136 | \$1,478,817,112 | 11.9% |
| Nevada | \$3,616,743,158 | \$4,058,287,667 | 12.2% |
| New Mexico | \$2,052,129,544 | \$2,328,984,807 | 13.5% |
| Utah | \$3,681,142,736 | \$4,682,016,325 | 27.2% |
| Wyoming | \$2,034,871,883 | \$4,027,733,434 | 97.9% |
| Total Mountain | \$24,949,583,709 | \$33,416,821,333 | 33.9% |
| Alaska | \$1,166,683,057 | \$4,339,216,787 | 271.9% |
| California | \$31,896,385,502 | \$33,007,599,861 | 3.5% |
| Hawaii | \$1,130,648,674 | \$4,876,828,710 | 331.3% |
| Oregon | \$4,088,286,608 | \$4,711,368,050 | 15.2% |
| Washington | \$8,305,390,705 | \$6,993,544,296 | -15.8% |
| Total Pacific | \$46,587,394,546 | \$53,928,557,704 | 15.8% |
| TOTAL WEST | \$71,536,978,255 | \$87,345,379,037 | 22.1% |
| TOTAL U.S. | \$392,482,279,026 | \$417,022,812,990 | 6.3% |

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

Source: ConstructConnect/Table: ConstructConnect.

Detailed national table

TABLE 9: VALUE OF U.S. NATIONAL CONSTRUCTION STARTS — AUGUST 2023 — ConstructConnect®
BILLIONS OF CURRENT \$\$, NOT SEASONALLY ADJUSTED (NSA)

| | Latest month actuals | | | Moving averages (placed in end month) | | | | | Year to Date | | |
|---|----------------------|---------------|---------------|---------------------------------------|--------------------|---------------|---------------|---------------------|---------------|------------------|------------------|
| | Jun 23 | Jul 23 | Aug 23 | Jun 23 | 3-months Jul 23 | Aug 23 | Jun 23 | 12-months Jul 23 | Aug 23 | Jan-Aug, 2022 | Jan-Aug, 2023 |
| Single Family | 18,683 | 19,371 | 17,145 | 18,453 | 19,253 | 18,400 | 16,079 | 16,129 | 16,015 | 165,646 | 132,867 |
| month-over-month % change | -5.2% | 3.7% | -11.5% | 6.0% | 4.3% | -4.4% | -1.5% | 0.3% | -0.7% | | |
| year-over-year % change | -13.7% | 3.2% | -7.4% | -18.5% | -6.9% | -6.4% | -25.0% | -23.3% | -22.7% | -5.2% | -19.8% |
| Apartment | 8,015 | 6,848 | 5,429 | 7,776 | 7,876 | 6,764 | 10,917 | 10,548 | 9,664 | 97,987 | 66,232 |
| month-over-month % change | -8.6% | -14.6% | -20.7% | -9.6% | 1.3% | -14.1% | -5.2% | -3.4% | -8.4% | | |
| year-over-year % change | -47.5% | -39.3% | -66.1% | -43.0% | -38.2% | -52.3% | 4.1% | -1.9% | -13.1% | 41.2% | -32.4% |
| TOTAL RESIDENTIAL | 26,698 | 26,219 | 22,574 | 26,230 | 27,129 | 25,164 | 26,997 | 26,677 | 25,679 | 263,633 | 199,099 |
| month-over-month % change | -6.2% | -1.8% | -13.9% | 0.9% | 3.4% | -7.2% | -3.1% | -1.2% | -3.7% | | |
| year-over-year % change | -27.7% | -12.8% | -34.7% | -27.7% | -18.8% | -25.6% | -15.5% | -16.1% | -19.3% | 8.0% | -24.5% |
| Hotel/Motel | 1,171 | 1,894 | 1,484 | 0,898 | 1,273 | 1,516 | 0,957 | 0,967 | 0,974 | 7,837 | 8,472 |
| month-over-month % change | 55.4% | 61.7% | -21.7% | 2.2% | 41.8% | 19.1% | 2.3% | 1.1% | 0.7% | | |
| year-over-year % change | 28.8% | 6.8% | 5.5% | 23.4% | 11.8% | 11.3% | 39.5% | 25.2% | 15.3% | 59.8% | 8.1% |
| Retail/Shopping | 1,136 | 1,425 | 0,891 | 1,528 | 1,238 | 1,151 | 1,131 | 1,162 | 1,148 | 11,656 | 10,088 |
| month-over-month % change | -1.4% | 25.4% | -37.4% | 1.0% | -19.0% | -7.0% | -1.1% | 2.7% | -1.2% | | |
| year-over-year % change | -11.3% | 34.5% | -16.0% | -16.4% | -11.7% | 1.5% | -11.6% | -10.9% | -8.6% | 23.2% | -13.5% |
| Parking Garages | 0,102 | 0,206 | 0,113 | 0,186 | 0,202 | 0,140 | 0,182 | 0,181 | 0,175 | 1,452 | 1,239 |
| month-over-month % change | -65.8% | 102.3% | -45.3% | -2.7% | 8.5% | -30.5% | -0.3% | -0.3% | -3.8% | | |
| year-over-year % change | -5.9% | -2.8% | -42.3% | -7.5% | 36.7% | -18.4% | 19.2% | 16.6% | 10.2% | 10.0% | -14.7% |
| Amusement | 0,772 | 0,654 | 0,894 | 0,856 | 0,650 | 0,774 | 0,791 | 0,766 | 0,773 | 5,142 | 6,536 |
| month-over-month % change | 47.4% | -15.2% | 36.7% | -11.0% | -24.1% | 19.0% | 2.5% | -3.2% | 0.9% | | |
| year-over-year % change | 42.9% | -31.6% | 10.5% | 64.8% | -1.6% | 0.6% | 38.8% | 39.0% | 36.1% | 5.2% | 27.1% |
| Office | 2,030 | 2,381 | 3,881 | 1,453 | 1,748 | 2,764 | 1,750 | 1,749 | 1,997 | 16,032 | 15,812 |
| month-over-month % change | 143.9% | 17.3% | 63.0% | 4.8% | 20.3% | 58.2% | -2.4% | -0.1% | 14.2% | | |
| year-over-year % change | -20.4% | -0.8% | 329.4% | -44.5% | -26.0% | 41.7% | -16.9% | -17.7% | 4.0% | 14.9% | -1.4% |
| Governmental Offices | 1,998 | 1,454 | 1,810 | 1,582 | 1,690 | 1,754 | 1,277 | 1,292 | 1,330 | 8,590 | 11,299 |
| month-over-month % change | 23.5% | -27.3% | 24.5% | 21.6% | 6.8% | 3.8% | 4.5% | 1.1% | 3.0% | | |
| year-over-year % change | 49.9% | 13.4% | 33.9% | 28.7% | 32.2% | 32.7% | 22.1% | 30.7% | 34.8% | 1.6% | 31.5% |
| Laboratories | 0,098 | 0,180 | 0,101 | 0,223 | 0,199 | 0,127 | 0,374 | 0,359 | 0,281 | 3,475 | 1,769 |
| month-over-month % change | -69.0% | 82.9% | -43.8% | -34.1% | -11.0% | -36.3% | -9.3% | -3.9% | -21.9% | | |
| year-over-year % change | -82.3% | -49.6% | -90.3% | -55.9% | -48.1% | -80.6% | 29.1% | 25.0% | -21.0% | 108.8% | -49.1% |
| Warehouse | 1,405 | 1,872 | 1,893 | 1,972 | 2,193 | 1,723 | 2,110 | 1,955 | 1,919 | 20,471 | 13,704 |
| month-over-month % change | -57.4% | 33.2% | 1.1% | 4.9% | 11.2% | -21.4% | -4.1% | -7.3% | -1.9% | | |
| year-over-year % change | -43.8% | -49.8% | -18.9% | -32.1% | -29.7% | -39.6% | -11.4% | -21.9% | -22.8% | 8.5% | -33.1% |
| Misc Commercial | 3,401 | 0,877 | 0,514 | 1,719 | 1,626 | 1,597 | 1,349 | 1,321 | 1,318 | 9,364 | 12,251 |
| month-over-month % change | 467.5% | -74.2% | -41.4% | 51.1% | -5.4% | -1.7% | 16.9% | -2.0% | -0.2% | | |
| year-over-year % change | 221.6% | -27.4% | -6.8% | -2.3% | -10.2% | 70.1% | -12.3% | -17.5% | -17.4% | 50.5% | 30.8% |
| TOTAL COMMERCIAL | 12,114 | 10,943 | 11,582 | 10,418 | 10,817 | 11,546 | 9,922 | 9,753 | 9,913 | 84,018 | 81,771 |
| month-over-month % change | 28.9% | -9.7% | 5.8% | 8.6% | 3.8% | 6.7% | 1.1% | -1.7% | 1.6% | | |
| year-over-year % change | 11.8% | -15.7% | 19.9% | -15.3% | -12.1% | 3.5% | -1.3% | -5.2% | -2.5% | 20.5% | -3.4% |
| TOTAL INDUSTRIAL (Manufacturing) | 6,111 | 12,341 | 4,655 | 5,621 | 8,240 | 7,703 | 8,840 | 8,825 | 8,798 | 69,231 | 59,733 |
| month-over-month % change | -2.5% | 101.9% | -62.3% | -0.7% | 46.6% | -6.5% | -4.7% | -0.2% | -0.3% | | |
| year-over-year % change | -45.9% | -1.5% | -6.5% | -61.7% | -42.6% | -19.8% | 39.5% | 23.4% | 18.9% | 346.9% | -13.7% |
| Religious | 0,111 | 0,119 | 0,037 | 0,097 | 0,111 | 0,089 | 0,091 | 0,096 | 0,088 | 0,686 | 0,705 |
| month-over-month % change | 9.8% | 7.1% | -69.0% | 0.7% | 13.5% | -19.4% | 0.4% | 6.0% | -8.1% | | |
| year-over-year % change | 3.9% | 118.9% | -71.7% | 0.2% | 34.7% | -8.4% | -6.3% | -1.6% | -5.4% | -12.7% | 2.7% |
| Hospitals/Clinics | 1,233 | 0,831 | 1,079 | 1,724 | 1,533 | 1,048 | 2,181 | 1,962 | 1,927 | 17,323 | 14,603 |
| month-over-month % change | -51.4% | -32.6% | 29.8% | -0.2% | -11.0% | -31.7% | 0.0% | -10.1% | -1.8% | | |
| year-over-year % change | -40.7% | -78.0% | -27.9% | -41.2% | -58.1% | -49.3% | 24.0% | 0.7% | -3.4% | 43.1% | -15.7% |
| Nursing/Assisted Living | 0,093 | 0,212 | 0,239 | 0,152 | 0,159 | 0,181 | 0,282 | 0,260 | 0,227 | 3,504 | 1,646 |
| month-over-month % change | -45.7% | 126.6% | 12.7% | -32.3% | 4.3% | 14.0% | -6.8% | -7.5% | -12.7% | | |
| year-over-year % change | -72.8% | -54.7% | -62.5% | -61.5% | -57.2% | -62.5% | -35.7% | -39.8% | -48.0% | -17.1% | -53.0% |
| Libraries/Museums | 0,562 | 0,399 | 0,727 | 0,381 | 0,396 | 0,660 | 0,320 | 0,323 | 0,358 | 2,319 | 3,031 |
| month-over-month % change | 132.7% | -27.8% | 82.4% | 35.3% | 4.1% | 41.2% | 8.8% | 1.0% | 10.7% | | |
| year-over-year % change | 127.4% | 10.6% | 133.8% | 69.4% | 39.9% | 83.6% | -1.8% | -1.2% | 6.2% | 24.6% | 30.7% |
| Fire/Police/Courthouse/Prison | 0,827 | 2,832 | 0,885 | 0,771 | 1,451 | 1,515 | 0,788 | 0,958 | 0,849 | 5,454 | 7,989 |
| month-over-month % change | 19.5% | 242.3% | -68.7% | 0.7% | 88.2% | 4.4% | 0.0% | 21.5% | 4.4% | | |
| year-over-year % change | 0.4% | 255.7% | -10.4% | 9.2% | 90.4% | 74.3% | 25.6% | 51.3% | 42.6% | 4.7% | 46.5% |
| Military | 4,175 | 1,147 | 1,504 | 9,261 | 2,127 | 2,275 | 1,287 | 1,327 | 1,397 | 5,620 | 12,649 |
| month-over-month % change | 294.7% | -72.5% | 31.1% | 67.7% | 8.5% | 7.0% | 32.7% | 3.2% | 5.2% | | |
| year-over-year % change | 1019.1% | 74.0% | 123.6% | 61.0% | 205.6% | 300.3% | 67.3% | 70.8% | 78.0% | 3.8% | 125.1% |
| Schools/Colleges | 13,060 | 6,523 | 6,535 | 9,722 | 9,757 | 8,708 | 7,063 | 6,989 | 6,948 | 52,364 | 61,262 |
| month-over-month % change | 34.8% | -50.1% | 0.2% | 25.6% | 0.4% | -10.8% | 6.6% | -1.0% | -0.6% | | |
| year-over-year % change | 67.9% | -12.0% | -7.0% | 27.0% | 29.1% | 17.6% | 32.7% | 26.3% | 23.7% | 16.7% | 17.0% |
| Misc Medical | 0,680 | 0,528 | 0,983 | 0,864 | 0,601 | 0,730 | 0,764 | 0,740 | 0,776 | 9,301 | 5,466 |
| month-over-month % change | 14.6% | -22.4% | 86.2% | 11.8% | -30.5% | 21.6% | -29.1% | -3.2% | 4.8% | | |
| year-over-year % change | -84.7% | -35.4% | 76.4% | -56.1% | -71.2% | -62.4% | -22.5% | -26.8% | -23.3% | 100.5% | -41.2% |
| TOTAL INSTITUTIONAL | 20,733 | 12,590 | 11,988 | 15,671 | 16,134 | 15,104 | 12,775 | 12,655 | 12,669 | 96,571 | 107,351 |
| month-over-month % change | 37.5% | -39.3% | -4.8% | 22.6% | 3.0% | -6.4% | 3.6% | -0.9% | 0.1% | | |
| year-over-year % change | 35.0% | -10.2% | 1.4% | 3.1% | 4.1% | 10.0% | 23.7% | 17.6% | 15.8% | 22.1% | 11.2% |
| Misc Non Residential | 0,592 | 0,634 | 0,467 | 0,644 | 0,648 | 0,564 | 0,661 | 0,641 | 0,607 | 5,467 | 4,768 |
| month-over-month % change | -17.7% | 7.1% | -26.4% | 4.0% | 0.6% | -13.0% | -0.6% | -3.0% | -5.3% | | |
| year-over-year % change | -8.0% | -27.3% | -46.7% | 0.9% | -9.6% | -29.2% | 15.7% | 7.3% | -4.2% | 30.5% | -12.8% |
| TOTAL NON-RES BUILDING | 39,551 | 36,508 | 28,691 | 32,354 | 35,840 | 34,917 | 32,199 | 31,875 | 31,988 | 255,287 | 253,022 |
| month-over-month % change | 25.7% | -7.7% | -21.4% | 12.9% | 10.8% | -2.6% | 0.4% | -1.0% | 0.4% | | |
| year-over-year % change | 3.7% | -9.6% | 5.0% | -24.4% | -16.4% | -1.1% | 18.0% | 10.7% | 9.7% | 51.5% | -0.9% |
| Airports | 1,571 | 0,699 | 0,791 | 1,151 | 1,139 | 1,020 | 0,792 | 0,776 | 0,792 | 5,027 | 6,897 |
| month-over-month % change | 36.8% | -55.5% | 13.1% | 36.1% | -1.0% | -10.4% | 6.3% | -1.9% | 2.0% | | |
| year-over-year % change | 55.6% | -20.8% | 30.1% | 35.2% | 14.5% | 22.4% | 55.4% | 44.2% | 47.5% | 32.6% | 37.2% |
| Roads/Highways | 9,869 | 9,223 | 7,359 | 10,047 | 9,598 | 8,817 | 7,709 | 7,831 | 7,808 | 60,772 | 70,667 |
| month-over-month % change | 1.7% | -6.6% | -20.2% | 2.8% | -4.5% | -8.1% | 1.9% | 1.6% | -0.3% | | |
| year-over-year % change | 20.7% | 18.9% | -3.6% | 14.2% | 13.0% | 12.3% | 18.8% | 21.1% | 18.5% | 23.9% | 16.3% |
| Bridges | 1,685 | 2,042 | 1,832 | 2,277 | 2,032 | 1,853 | 2,182 | 2,197 | 2,093 | 19,558 | 17,302 |
| month-over-month % change | -28.9% | 21.2% | -10.3% | -11.1% | -10.7% | -8.8% | -2.9% | 0.7% | -4.8% | | |
| year-over-year % change | -31.7% | 9.7% | -40.7% | -24.1% | -14.4% | -25.0% | 16.7% | 15.6% | 1.9% | 51.6% | -11.5% |
| Dams/Marine | 0,594 | 0,795 | 1,377 | 1,264 | 0,655 | 0,922 | 0,998 | 1,006 | 0,982 | 5,819 | 8,186 |
| month-over-month % change | 3.1% | 33.9% | 73.2% | -3.8% | -48.2% | 40.8% | 1.5% | 0.7% | -2.3% | | |
| year-over-year % change | 42.7% | 12.2% | -17.0% | 166.7% | 8.1% | -0.6% | 34.6% | 33.3% | 17.2% | 35.2% | 40.7% |
| Water/Sewage | 4,622 | 4,371 | 4,283 | 4,532 | 4,501 | 4,425 | 3,877 | 3,892 | 3,828 | 29,060 | 32,920 |
| month-over-month % change | 2.5% | -5.4% | -2.0% | 3.8% | -0.7% | -1.7% | 0.7% | 0.4% | 0.9% | | |
| year-over-year % change | 7.7% | 4.2% | 11.4% | 12.0% | 4.9% | 7.7% | 23.7% | 21.9% | 19.8% | 23.3% | 13.3% |
| Misc Civil (Power, etc.) | 7,922 | 5,014 | 1,888 | 3,767 | 4,769 | 4,940 | 3,182 | 3,394 | 3,372 | 16,958 | 28,029 |
| month-over-month % change | 478.1% | -36.7% | -62.4% | 38.8% | 26.6% | 3.6% | 16. | | | | |