

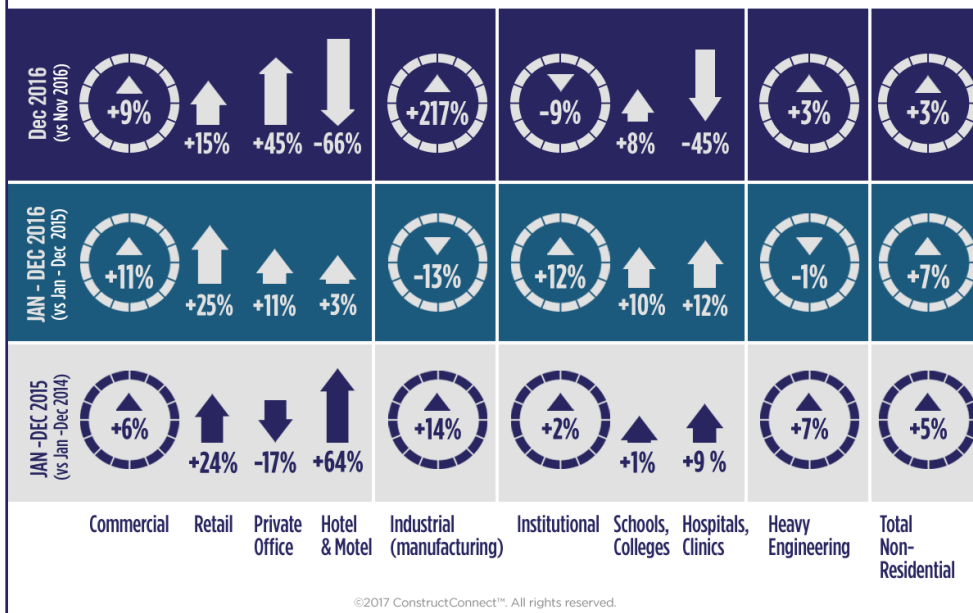
Construction Industry Snapshot

Issued: January 2017
(based on December Starts Stats)

ConstructConnect's December Starts Defied Seasonality with 3% Increase

ConstructConnect announced today that December's level of U.S. construction starts, excluding residential activity, was \$24.0 billion, an increase of 3.4% versus the dollar volume in the period before.

The gain, small though it may have been, was welcome nonetheless since November-to-December's long-term average change, on account of inhibiting winter weather, has been -5.0%.



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December's Notable Points

- December's month-to-month uptick in total starts (+3.4%) arose mainly in the commercial (+9.3%) type-of-structure category, with a helpful assist from heavy engineering/civil (+2.9%) as well. Institutional (-9.2%) held back the overall advance.
- As for the December-2016-on-December-2015 decline (-5.6%), the three major type-of-structure categories suffered losses, with heavy engineering (-12.0%) down the most, followed by institutional (-3.9%) and commercial (-1.7%). Industrial stayed about even (+0.3%).

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ConstructConnect™ announced today that December's level of U.S. construction starts, excluding residential activity, was \$24.0 billion, an increase of 3.4% versus the dollar volume in the period before. The gain, small though it may have been, was welcome nonetheless since November-to-December's long-term average change, on account of inhibiting winter weather, has been -5.0%.

December of 2016, however, compared with December of 2015 was -5.6%. But it's encouraging that total non-residential starts for full year 2016 stayed ahead of full-year 2015 by +6.8%.

The starts figures throughout this report are not seasonally adjusted (NSA). Nor are they altered for inflation. They are expressed in what are termed 'current' as opposed to 'constant' dollars.

'Non-residential building' plus 'engineering/civil' work accounts for a considerably larger share of total construction than residential activity. The former's combined proportion of total put-in-place construction in the Census Bureau's November report was 61%; the latter's was 39%.

ConstructConnect's construction starts are leading indicators for the Census Bureau's capital investment or put-in-place series. Also, the reporting period for starts (i.e., December 2016) is one month ahead of the reporting period for the investment series (i.e., November 2016.)

After hiring improvements in September (+26,000 jobs), October (+14,000) and November (+17,000) of last year, staffing in the construction sector flattened out in December (-3,000), according to the latest *Employment Situation Report* from the Bureau of Labor Statistics (BLS). December's year-over-year percentage change in construction jobs was +1.5%, exactly the same as for all jobs in the whole economy. Services-providing work was better at +2.0%. The jobless rate in construction in December was 7.4% (NSA), about the same as 12 months prior (7.5%).

There are two other data series with close ties to construction appearing in Table B-1 of the monthly *Employment Situation Report*. As a 'leading' indicator, — i.e., before there can be field activity, projects must be rendered into working drawings by design professionals — the total number of jobs in architectural and engineering services in December was +2.0% year over year. In nominal terms, design services jobs (1.454 million) have finally reached and surpassed, although by the slimmest of margins, their previous peak achieved in February 2008 (1.453 million). As a 'coincident' indicator, the total number of positions at retail outlets specializing in selling building materials and supplies was +3.0% year over year in 2016's final month.

December's month-to-month uptick in total starts (+3.4%) arose mainly in the commercial (+9.3%) type-of-structure category, with a helpful assist from heavy engineering/civil (+2.9%) as well. Institutional (-9.2%) held back the overall advance. Industrial starts (+217.2%) were up in a big way, but that was relative to a small base number, plus this is a category that displays wide swings in any given month depending on the presence or absence of a mega project or two.

As for the December-2016-on-December-2015 decline (-5.6%), the three major type-of-structure categories suffered losses, with heavy engineering (-12.0%) down the most, followed by institutional (-3.9%) and commercial (-1.7%). Industrial stayed about even (+0.3%).

The increase in 2016's total full-year volume of starts (+6.8%) compared with its counterpart level in 2015 was by led institutional (+11.5%), with commercial (+10.6%) almost in a tie. Heavy engineering (-0.5%) was on an unruffled plane. Industrial (-13.2%) was notably down.

With a 58% share, 'schools/colleges' was the dominant sub-category in institutional starts in 2016 and it was +7.9% month to month (m/m); -5.0% year over year (y/y; i.e., December 2016 versus December 2015); and +9.7% year to date (ytd). (As a point of clarification, when December has been reached, the year-to-date number is the same as the full-year figure).

The second biggest slice (16%) of the full-year 2016 institutional pie belonged to 'hospitals/clinics'. In December, the medical facility sub-category of starts did not fare well. It was -45.2% m/m and -30.1% y/y, but it did manage to hang onto a positive performance of +12.3% ytd. 'Nursing/assisted living' starts in December were -32.8% m/m; -1.5% y/y; but +38.0% ytd.

'Retail/shopping' accounted for 26.0% (one-quarter) of full-year commercial starts in 2016. In the ending period of last year, shopkeeper groundbreakings were +15.0% m/m; and +24.9% ytd; but -10.5% y/y. 'Private office buildings' (with a 16% share of commercial) in December was +45.4% m/m; and +10.5% ytd; but -39.5% y/y. 'Government office buildings' (an 11% share of commercial) recorded stellar statistics in December: +53.9% m/m; +98.8% y/y; and +20.4% ytd.

The 'laboratory' sub-category within commercial should also be mentioned, due to its outsized percentage increases of +1804% m/m and +1466% y/y. Novo Nordisk has initiated new pharmaceutical capital spending in North Carolina. The ytd figure for laboratories was +84.7%.

'Road/highway' starts is the biggest sub-component (a 43% share) of the heavy engineering type-of-structure category and in the latest month, it was -1.7% m/m; -8.7% y/y; but +1.6%

TABLE 1: VALUE OF UNITED STATES CONSTRUCTION STARTS — DECEMBER 2016 YEAR TO DATE (ConstructConnect™)

	Jan-Dec 16 (\$ billions)	% Change Jan-Dec 16 vs Jan-Dec 15	% Change Dec 16 vs Dec 15	% Change Dec 16 vs Nov 16
Hotel/Motel	15.493	3.0%	-60.1%	-66.1%
Retail/Shopping	29.176	24.9%	-10.5%	15.0%
Parking Garage	4.322	37.0%	3.9%	-65.8%
Amusement	5.951	-4.8%	-35.7%	-29.5%
Private Office	18.469	10.5%	-39.5%	45.4%
Government Office	12.503	20.4%	98.8%	53.9%
Laboratory	4.073	84.7%	1466.4%	1803.7%
Warehouse	11.494	-5.1%	26.1%	63.9%
Miscellaneous Commercial *	11.718	-11.1%	-78.1%	-80.7%
COMMERCIAL (big subset)	113.199	10.6%	-1.7%	9.3%
INDUSTRIAL (Manufacturing)	10.534	-13.2%	0.3%	217.2%
Religious	1.534	-4.5%	5.8%	-3.8%
Hospital/Clinic	17.403	12.3%	-30.1%	-45.2%
Nursing/Assisted Living	7.415	38.0%	-1.5%	-32.8%
Library/Museum	2.749	-5.4%	167.1%	304.6%
Fire/Police/Courthouse/Prison	6.037	-1.4%	49.9%	57.8%
Military	5.949	1.9%	-84.6%	-92.2%
School/College	64.697	9.7%	-5.0%	7.9%
Miscellaneous Medical	5.450	59.0%	36.2%	16.1%
INSTITUTIONAL	111.233	11.0%	-3.9%	-9.2%
Miscellaneous Non-residential	8.055	67.5%	6.4%	-13.9%
NON-RESIDENTIAL BUILDING	243.021	10.9%	-2.3%	3.7%
Airport	6.889	54.6%	648.2%	-14.5%
Road/Highway	52.150	1.6%	-8.7%	-1.7%
Bridge	14.381	12.9%	-15.2%	20.1%
Dam/Marine	3.943	-33.3%	9.6%	24.9%
Water/Sewage	30.604	6.8%	4.0%	22.0%
Miscellaneous Civil (power, etc.)	14.704	-27.0%	-60.6%	-34.6%
HEAVY ENGINEERING (Civil)	122.671	-0.5%	-12.0%	2.9%
TOTAL NON-RESIDENTIAL	365.692	6.8%	-5.6%	3.4%

* Includes transportation terminals and sports arenas.

Source: ConstructConnect Research Group/Table: ConstructConnect.

ytd. 'Water/sewage' work is next most prominent in the engineering category, with a 25% or one-quarter slice, and its most recent numbers were +22.0% m/m; +4.0% y/y; and +6.8% ytd.

Table 2 on page three of this report re-orders and provides more detail on some of the type-of-structure categories in Table 1. The reasons for this 'second view' are set out in the footnote.

All of the 12-month moving average trend graphs on page 5 have either stalled, losing upward momentum, or have fallen into mild, sometimes verging on severe, decline. Twelve-month smoothed 'retail' and 'private office building' starts have pulled back a little. 'Miscellaneous civil' starts, which includes electric power and oil and natural gas work, have retreated a lot.

With respect to year-over-year compensation increases in December, as reported by the BLS in its latest *Employment Situation Report*, construction workers had a mixed basket of rewards. Whereas all workers throughout the economy received average hourly earnings increases of +2.9% when supervisory personnel were included in the mix and +2.5% when overseeing staff were left out, the construction sector's corresponding compensation rises were slightly better at +3.0% and +3.3% respectively. Average weekly earnings, however, were a different story. The all-jobs average weekly earnings gains were +2.3% including bosses and +1.9% omitting bosses. The comparable changes for on-site hard-hat workers were considerably slower at +0.6% and +0.7%. The onset of harsher winter weather undoubtedly restricted time spent in the field.

The value of construction starts each month is summarized from ConstructConnect's database of all active construction projects in the U.S. Missing project values are estimated with the help of RSMMeans' 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 ultra-large, has a history of being more volatile than many other leading indicators for the economy. ♦

Alex Carrick

A "start" is determined by taking the announced bid date and adding a short time lag (30 to 60 days). ConstructConnect continues to follow the project via its network of researchers. If it is abandoned or re-bid, the start date is updated to reflect the new information.

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 44,000 followers.

**TABLE 2: VALUE OF UNITED STATES CONSTRUCTION STARTS —
ConstructConnect™ INSIGHT VERSION — DECEMBER 2016
ARRANGED TO MATCH THE ALPHABETICAL CATEGORY DROP-DOWN MENUS IN INSIGHT**

	Jan-Dec 16 (\$ billions)	% Change Jan-Dec 16 vs Jan-Dec 15	% Change Dec 16 vs Dec 15	% Change Dec 16 vs Nov 16
Summary				
CIVIL	122.671	-0.5%	-12.0%	2.9%
NON-RESIDENTIAL BUILDING	243.021	10.9%	-2.3%	3.7%
RESIDENTIAL	243.628	5.6%	-6.3%	-5.2%
GRAND TOTAL	609.319	6.4%	-5.9%	-0.5%
Verticals				
Airport	6.889	54.6%	648.2%	-14.5%
All Other Civil	13.757	-26.2%	-68.2%	-46.4%
Bridges	14.381	12.9%	-15.2%	20.1%
Dams / Canals / Marine Work	3.943	-33.3%	9.6%	24.9%
Power Infrastructure	0.947	-36.0%	185.7%	218.0%
Roads	52.150	1.6%	-8.7%	-1.7%
Water and Sewage Treatment	30.604	6.8%	4.0%	22.0%
CIVIL	122.671	-0.5%	-12.0%	2.9%
Offices (private)	18.469	10.5%	-39.5%	45.4%
Parking Garages	4.322	37.0%	3.9%	-65.8%
Transportation Terminals	3.500	-49.8%	-91.6%	-14.9%
Commercial (small subset)	26.291	-2.1%	-53.3%	6.6%
Amusement	5.951	-4.8%	-35.7%	-29.5%
Libraries / Museums	2.749	-5.4%	167.1%	304.6%
Religious	1.534	-4.5%	5.8%	-3.8%
Sports Arenas / Convention Centers	8.218	32.6%	17.6%	-86.1%
Community	18.453	8.8%	10.5%	-43.8%
College / University	21.710	9.5%	-2.5%	-3.0%
Elementary / Pre School	19.771	4.9%	-14.3%	7.0%
Jr / Sr High School	21.727	15.0%	-4.1%	9.3%
Special / Vocational	1.488	4.8%	42.0%	289.9%
Educational	64.697	9.7%	-5.0%	7.9%
Courthouses	1.314	12.0%	81.3%	99.3%
Fire and Police Stations	2.832	37.6%	78.1%	84.2%
Government Offices	12.503	20.4%	98.8%	53.9%
Prisons	1.891	-34.6%	-0.5%	5.1%
Government	18.540	12.3%	80.0%	55.2%
Industrial Labs / Labs / School Labs	4.073	84.7%	1466.4%	1803.7%
Manufacturing	10.534	-13.2%	0.3%	217.2%
Warehouses	11.494	-5.1%	26.1%	63.9%
Industrial	26.101	-1.3%	108.2%	274.6%
Hospitals / Clinics	17.403	12.3%	-30.1%	-45.2%
Medical Misc.	5.450	59.0%	36.2%	16.1%
Nursing Homes	7.415	38.0%	-1.5%	-32.8%
Medical	30.267	24.6%	-9.4%	-30.4%
Military	5.949	1.9%	-84.6%	-92.2%
Hotels	15.493	3.0%	-60.1%	-66.1%
Retail Misc.	8.055	67.5%	6.4%	-13.9%
Shopping	29.176	24.9%	-10.5%	15.0%
Retail	52.724	22.0%	-31.4%	-32.6%
NON-RESIDENTIAL BUILDING	243.021	10.9%	-2.3%	3.7%
Multi-Family	56.599	-1.5%	-34.1%	1.7%
Single-Family	187.029	8.0%	9.1%	-7.4%
RESIDENTIAL	243.628	5.6%	-6.3%	-5.2%
NON-RESIDENTIAL	365.692	6.8%	-5.6%	3.4%
GRAND TOTAL	609.319	6.4%	-5.9%	-0.5%

Table 1 conforms to the type-of-structure ordering adopted by many firms and organizations in the industry. Specifically, it breaks non-residential building into ICI work (i.e., industrial, commercial and institutional), since each has its own set of economic and demographic drivers. Table 2 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.

TABLE 3: ConstructConnect's TOP 10 FEATURED PROJECTS FOR DECEMBER 2016[†]

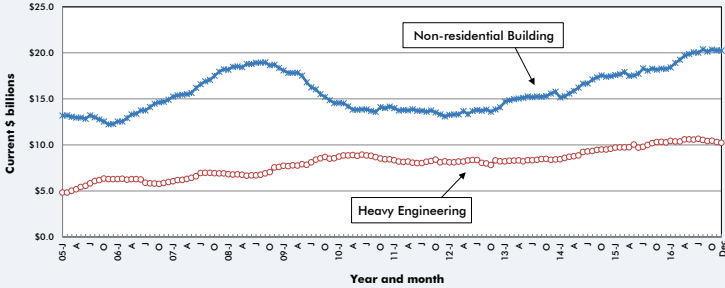
REGION (EAST TO WEST)	TYPE OF CONSTRUCTION	DESCRIPTION	SQUARE FEET 000S	DOLLARS 000,000S
Massachusetts Salem	Institutional	Peabody Essex Museum Expansion (2 structures; 3 stories) 161 Essex St Peabody Essex Museum	120	\$200
New York Jamaica	Commercial	JFK Flight Center Hotel Development (5 structures; 6 stories) John F Kennedy International Airport MCR Development, LLC	2,236	\$265
Monticello	Institutional	Sullivan County Jail (2 structures; 256 units; 2 stories) 58 Old Route 17 Sullivan County	134	\$70
Long Island City	Institutional	PS 101K New Building Work (1 structure; 4 stories) 2350 Benson Ave New York City School Construction Authority (NYCSCA)	419	\$66
New Jersey Camden	Commercial	Camden Waterfront Mixed-Use Development (5 structures) 1 Water St Liberty Property Trust - Philadelphia	1,700	\$1,000
Georgia Atlanta	Institutional	Northside Midtown Office Tower (2 structures; 12 stories) W Peachtree at 13th St Brand Properties	170	\$60
Florida Palm Beach Gardens	Residential	Atlantico at Palm Beach Gardens (5 structures; 353 units; 4 stories) Donald Ross Rd, Hood Rd and I95 Florida Crystals	847	\$106
Wisconsin Madison	Residential	The Starliner Condominiums and Lofts (2 structures; 43 units; 4 stories) 802 and 854 E Washington Ave Gebhardt Development	655	\$90
Texas Allen	Institutional	New Lowery Freshman Center (1 structure; 2 stories) Greenville Ave and Pebblebrook Dr Allen Independent School District	326	\$97
North Dakota Grand Forks	Engineering/Civil	Grand Forks Regional Water Treatment Plant (1 structure) Demer Ave and North 55th City of Grand Forks Office of Finance & Admin Services	*	\$130
TOTALS:			6,607	\$2,084

*A square footage measure does not apply for alteration and engineering/civil work.

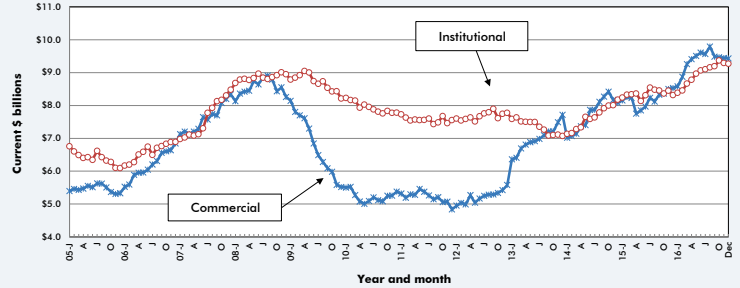
[†]ConstructConnect™ merges four legacy companies. As part of the data integration process, ConstructConnect™ is moving from an estimated start date (i.e., 30-60 days after bid date) for each project to an assigned start date. The transition will be complete by the end of 2016. Until then, Table 3 will highlight featured projects rather than Top 10 starts.

Source: ConstructConnect/Table: ConstructConnect.

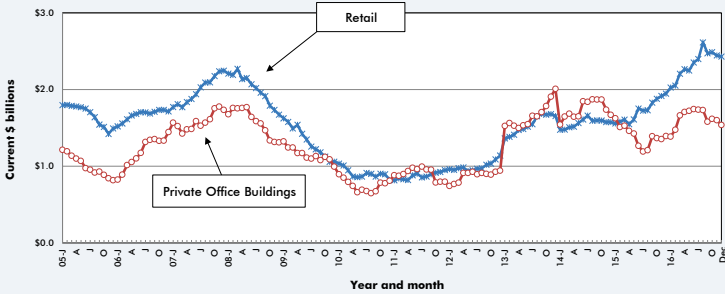
GRAPH 1: U.S. NON-RESIDENTIAL CONSTRUCTION STARTS — ConstructConnect™ (12-MONTH MOVING AVERAGES)



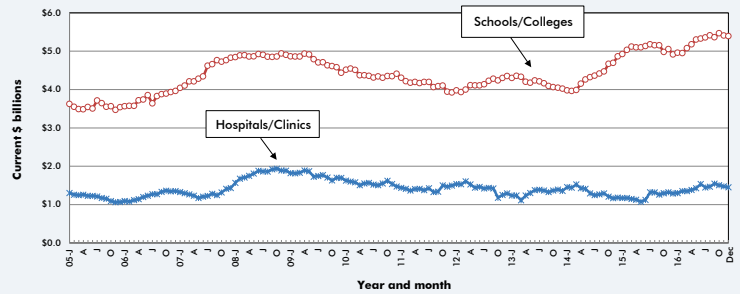
GRAPH 2: U.S. COMMERCIAL AND INSTITUTIONAL CONSTRUCTION STARTS — ConstructConnect™ (12-MONTH MOVING AVERAGES)



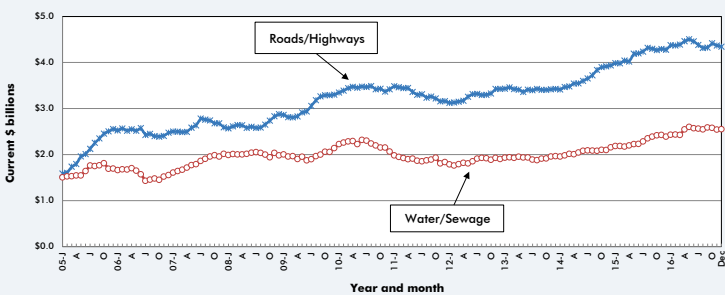
GRAPH 3: U.S. RETAIL AND PRIVATE OFFICE BUILDING CONSTRUCTION STARTS — ConstructConnect™ (12-MONTH MOVING AVERAGES)



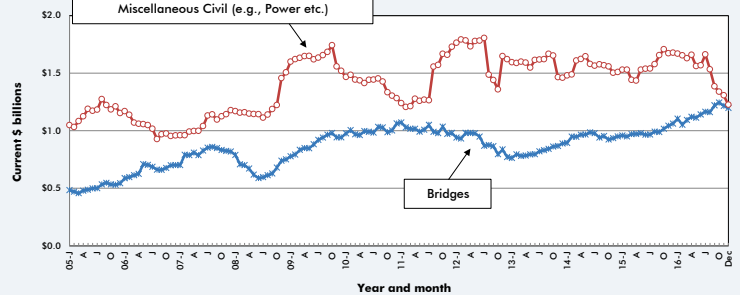
GRAPH 4: U.S. HOSPITAL/CLINIC AND SCHOOL/COLLEGE CONSTRUCTION STARTS — ConstructConnect™ (12-MONTH MOVING AVERAGES)



GRAPH 5: U.S. ROAD/HIGHWAY AND WATER/SEWAGE CONSTRUCTION STARTS — ConstructConnect™ (12-MONTH MOVING AVERAGES)



GRAPH 6: U.S. BRIDGES AND MISCELLANEOUS CIVIL CONSTRUCTION STARTS — ConstructConnect™ (12-MONTH MOVING AVERAGES)



Source: ConstructConnect/Charts: ConstructConnect.

**TABLE 4: U.S. YEAR-TO-DATE REGIONAL STARTS
NON-RESIDENTIAL CONSTRUCTION* — ConstructConnect™**

	Jan-Dec 2015	Jan-Dec 2016	% Change
Connecticut	\$3,408,277,874	\$3,159,738,924	-7.3%
Maine	\$930,150,393	\$989,614,451	6.4%
Massachusetts	\$8,136,135,408	\$9,477,490,182	16.5%
New Hampshire	\$968,527,964	\$1,476,922,036	52.5%
Rhode Island	\$1,010,303,925	\$687,922,671	-31.9%
Vermont	\$818,867,604	\$696,555,091	-14.9%
Total New England	\$15,272,263,168	\$16,488,243,355	8.0%
New Jersey	\$6,691,359,662	\$6,345,310,481	-5.2%
New York	\$25,755,021,924	\$21,797,690,311	-15.4%
Pennsylvania	\$11,814,823,847	\$12,323,815,067	4.3%
Total Middle Atlantic	\$44,261,205,433	\$40,466,815,859	-8.6%
TOTAL NORTHEAST	\$59,533,468,601	\$56,955,059,214	-4.3%
Illinois	\$12,929,167,309	\$11,061,046,797	-14.4%
Indiana	\$4,249,739,543	\$6,379,386,687	50.1%
Michigan	\$8,167,951,508	\$9,555,536,875	17.0%
Ohio	\$11,018,364,335	\$12,548,271,260	13.9%
Wisconsin	\$5,761,237,359	\$6,921,043,962	20.1%
Total East North Central	\$42,126,460,054	\$46,465,285,581	10.3%
Iowa	\$4,794,566,283	\$4,443,320,886	-7.3%
Kansas	\$4,169,204,349	\$3,572,060,381	-14.3%
Minnesota	\$5,897,168,158	\$6,930,785,184	17.5%
Missouri	\$5,360,899,293	\$6,239,510,509	16.4%
Nebraska	\$2,478,135,803	\$2,871,440,970	15.9%
North Dakota	\$3,707,928,796	\$2,250,089,918	-39.3%
South Dakota	\$1,915,155,858	\$1,271,512,897	-33.6%
Total West North Central	\$28,323,058,540	\$27,578,720,745	-2.6%
TOTAL MIDWEST	\$70,449,518,594	\$74,044,006,326	5.1%
Delaware	\$781,956,226	\$800,966,317	2.4%
District of Columbia	\$1,644,680,823	\$3,256,924,336	98.0%
Florida	\$17,499,471,175	\$23,495,434,263	34.3%
Georgia	\$7,995,658,841	\$12,069,069,170	50.9%
Maryland	\$5,662,445,482	\$9,575,386,148	69.1%
North Carolina	\$9,586,362,207	\$12,336,879,716	28.7%
South Carolina	\$4,769,307,126	\$6,280,204,480	31.7%
Virginia	\$7,676,931,781	\$10,189,142,645	32.7%
West Virginia	\$1,992,031,977	\$1,944,256,033	-2.4%
Total South Atlantic	\$57,608,845,638	\$79,948,263,108	38.8%
Alabama	\$3,747,783,254	\$5,508,073,737	47.0%
Kentucky	\$4,456,257,333	\$5,245,259,699	17.7%
Mississippi	\$3,037,204,028	\$2,546,608,795	-16.2%
Tennessee	\$6,579,502,050	\$6,004,088,842	-8.7%
Total East South Central	\$17,820,746,665	\$19,304,031,073	8.3%
Arkansas	\$2,862,772,556	\$2,964,239,436	3.5%
Louisiana	\$9,938,405,306	\$3,656,007,576	-63.2%
Oklahoma	\$4,692,509,931	\$6,194,790,205	32.0%
Texas	\$40,873,844,608	\$45,863,783,590	12.2%
Total West South Central	\$58,367,532,401	\$58,678,820,807	0.5%
TOTAL SOUTH	\$133,797,124,704	\$157,931,114,988	18.0%
Arizona	\$3,257,839,932	\$5,673,469,072	74.1%
Colorado	\$7,692,055,068	\$5,447,940,797	-29.2%
Idaho	\$1,503,707,449	\$1,351,541,607	-10.1%
Montana	\$1,328,947,159	\$1,229,227,304	-7.5%
Nevada	\$7,001,905,106	\$3,348,199,875	-52.2%
New Mexico	\$1,906,042,868	\$1,646,507,866	-13.6%
Utah	\$3,923,527,273	\$4,494,227,673	14.5%
Wyoming	\$2,156,268,289	\$1,235,596,799	-42.7%
Total Mountain	\$28,770,293,144	\$24,426,710,993	-15.1%
Alaska	\$1,800,331,602	\$1,463,077,047	-18.7%
California	\$33,127,288,697	\$33,923,244,617	2.4%
Hawaii	\$2,940,620,268	\$2,707,215,905	-7.9%
Oregon	\$3,920,551,147	\$5,179,062,163	32.1%
Washington	\$7,978,810,119	\$9,062,211,570	13.6%
Total Pacific	\$49,767,601,833	\$52,334,811,302	5.2%
TOTAL WEST	\$78,537,894,977	\$76,761,522,295	-2.3%
TOTAL U.S.	\$342,318,006,876	\$365,691,702,823	6.8%

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

Source: ConstructConnect/Table: ConstructConnect.

