

Construction Starts Forecast

For January 2020 Release

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As the numbers are laid out in the latest **U.S. Employment Situation report**, the shares of total nonfarm jobs in December were **14% for 'goods' production, 15% for 'government' occupations and 71% for private services-providing activities.**



Highlights

- US construction starts increased 4.8% year-on-year in Q4 2019, bringing the annual total for 2019 to 4%. Both civil engineering and residential construction increased from the same level a year earlier, but non-residential starts fell on the year despite ground-breaking on several mega projects.
- GDP growth held steady in Q3 at 2.1% annualized growth. Strong jobs market data, rising wages, and resilient business confidence mean that household spending will continue to be the main engine of growth. By contrast, trade uncertainty and reduced fiscal stimulus is weighing on investment and industry. GDP growth is expected to slow to 1.7% in 2020, from an estimated 2.3% growth in 2019.
- Total construction starts are forecast to fall by 0.4% this year. The decline stems from falling activity in the non-residential sector. Conversely, the residential sector is forecast to see a pickup in activity, following two years of declining starts. The civil engineering sector is set to see growth moderate to 2.8% this year after a year of double-digit growth. Headline activity is expected to recover in 2021, with growth forecast at 4.2%.
- Canadian construction starts declined 33.6% year-on-year in Q4 2019, taking the full-year decline to 22.1%. Residential and civil engineering construction posted small gains in Q4 but were more than offset by a 70.9% year-on-year decrease in non-residential construction. However, Q4's weakness was exacerbated by a number of large projects coming on stream in the same period a year earlier.
- Following a dismal 2019, total Canadian construction starts are expected to rebound to 13.8% growth in 2020 with increases forecast in all three headline segments. Non-residential building will be the main driver of growth, with factory and transportation construction both increasing at a triple-digit pace.

Sources: ConstructConnect®/Oxford Economics.
Forecast reflects actual starts through Q4 2019.

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Overview

Civil engineering starts lead construction in Q4

Total US construction starts grew 4.8% year-on-year in Q4 2019, bringing construction's overall annual growth in 2019 to 4%. Both the civil engineering and residential subsectors offered positive contributions to annual growth in Q4 2019, while the non-residential subsector contracted by 3.7% on the year, despite ground-breaking for mega projects across several areas. Office construction starts grew by 33.9% year-on-year, supported by a \$2 billion office redevelopment in New York in October, and two projects valued at \$1 billion apiece in November in each of Chicago and Austin, Texas. Additionally, starts in the transportation terminals area saw growth of 168.5% year-on-year with ground-breaking at airports in Tennessee and North Carolina classified in the transportation category, as well as new construction at Pennsylvania Station in New York. However, these areas were not enough to offset widespread contractions with starts in courthouses, prisons and manufacturing contracting by 53.8%, 43.1% and 39.2% respectively.

New residential construction expanded by 0.5% year-on-year in Q4 2019, with residential starts contracting by 3.8% for 2019 as a whole. Single-family starts expanded at the fastest pace since Q1 2018, at 8.4% year-on-year. Moreover, this is based on an estimate in December, but the single-family starts series recently released from the Census Bureau shows an expansion of 29.6% on the year in December which will likely boost the Q4 estimate. On the other hand, multi-family starts remain in contractionary territory, falling 13.3% on the year in Q4 2019.

New engineering starts remain robust, growing by 29.9% on the year in Q4 2019, taking annual growth to 15.9%. Miscellaneous civil engineering rose by 147.1% year-on-year, supported by rail projects in Arizona and Washington, as well as by pipeline projects in Wyoming and Texas. Starts in dams, sewage & treatment, roads and power infrastructure all saw an expansion, with power infrastructure expanding

	2018	2019	2020	2021	2022	2023	2024
US							
Macro variables							
GDP	2.9	2.3	1.7	1.8	1.8	1.8	1.8
Population growth	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Unemployment rate (%)	3.9	3.7	3.5	3.6	3.8	3.9	4.0
Real disposable income	4.0	3.0	1.7	1.8	1.8	1.7	1.7
Central bank rate (%)	1.8	2.2	1.5	1.4	1.6	1.9	2.1
10-year government yield (%)	2.9	2.1	2.0	2.1	2.2	2.3	2.6
Construction starts (y/y % change of \$ volumes)							
Total starts	-2.4	4.0	-0.4	4.2	3.9	3.9	3.6
Residential	-6.7	-3.8	2.3	4.7	4.7	4.7	4.2
Non-res bldg	-3.3	5.3	-4.8	3.8	3.1	3.3	3.0
Civil engineering	8.8	15.9	2.8	4.2	4.1	3.7	3.5
Canada							
Macro variables							
GDP	2.0	1.7	1.4	1.6	1.7	1.6	1.6
Population growth	1.4	1.3	1.0	1.1	1.1	1.1	1.0
Unemployment rate (%)	5.8	5.7	5.8	6.0	6.0	6.0	6.1
Real disposable income	1.8	2.7	2.8	2.3	2.0	1.9	1.9
Central bank rate (%)	1.4	1.8	1.4	1.3	1.5	1.7	2.0
10-year government yield (%)	2.3	1.6	1.3	1.4	1.6	1.9	2.1
Exchange rate C\$ per US\$	1.30	1.33	1.31	1.29	1.27	1.25	1.24
Construction starts (y/y % change of \$ volumes)							
Total starts	30.9	-22.1	13.8	9.8	5.8	4.5	4.0
Residential	-6.3	-6.0	5.1	6.0	6.3	5.1	4.6
Non-res bldg	94.5	-44.2	30.0	10.1	3.2	2.3	1.9
Civil engineering	20.4	-7.4	8.8	12.6	7.8	5.8	5.2

by 20% on the year with ground-breaking taking place on two wind power projects in Minnesota and Texas. Meanwhile, starts for airports and bridges contracted respectively by 10% and 5.5% year-on-year in Q4 2019.

Other construction indicators continue to point towards signs of improvement in Q4 2019. After contracting throughout the first nine months of 2019, the Census Bureau's measure of put-in-place construction spending expanded on the year in October and November across both residential and non-residential construction. Construction starts are a leading indicator for put-in-place construction, so we should see further growth in put-in-place construction spending in the coming quarters.

Following the addition of just 13,000 construction jobs in Q3, the labor market

provided 36,000 additional jobs in Q4 2019, albeit lower than the 57,000-quarterly average of the last two years. The JOLTS labor market survey shows that job vacancies plummeted in November, falling by 23.3% on the year. Additionally, with average hourly earnings growth in construction slowing to 2.4% year-on-year in Q4 2019, supply side constraints may be easing.

Gradually slowing economic momentum in 2020

GDP growth was steady in Q3 2019, recording an annualized rate of 2.1%, broadly similar to its pace in Q2. Indeed, recent economic data point toward steady momentum entering 2020 as trade, fiscal and monetary policy risks have been

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reduced. Consumer spending will be the main engine of growth while business investment and trade remain constrained. We foresee real GDP growth cooling from 2.3% in 2019 to 1.7% in 2020.

Outside of manufacturing, the economic data over the past month have generally been tilted to the upside. The November payroll report was robust, with job growth accelerating, wage growth firming, and the unemployment rate ticking down to a 50-year low. Moving into 2020, we expect the labor market to cool, adding around 125,000 jobs per month. The December ISM nonmanufacturing index showed purchasing managers adopting a cautious but positive view on 2020. And, while retail sales growth decelerated in November, consumer spending remains on a firm footing, supported by steady income growth and elevated savings. Consumer confidence readings confirm that households are generally upbeat. Private consumption is expected to grow by 2.6% in 2019, cooling to 2.3% in 2020.

Trade tensions between the US and China will continue to jeopardize global growth in 2020. Nonetheless, the truce brought by the Phase One deal should prevent a further escalation of the dispute, but any healing in these relations could quickly unwind and a full reversal of the tariffs already implemented remains a distant prospect. Meanwhile, business investment* is moderating as slower global growth, still-high trade tensions, weaker energy activity and a strong dollar limit capex plans. We expect investment growth to slow to 1% in 2020, from an estimated 1.9% in 2019.

The Federal Reserve is in a 'wait-and-see' stance after reducing the federal funds rate by a cumulative 75 basis points last year. Policy makers are cautiously confident that monetary policy and the economy are in a good place, also recognizing that downside risks persist, and that inflation and inflation expectations remain muted. We expect one additional rate cut in mid-2020 in response to the expected deceleration of GDP growth and inflation.

US construction starts set to fall in 2020

Headline US construction starts are forecast to decline by 0.4% in 2020. The non-

Sector	Short-term drivers	Long-term drivers
Residential	Unemployment rate; Household liabilities; Mortgage interest rates; House prices; Population trends	House prices; Incomes
Non-residential building	Output trends in relevant sector; Population trends; Capacity utilization; Borrowing costs; Employment in relevant sector; Disposable income	Output trends in relevant sector; Employment in relevant sector
Civil engineering	Federal/State/Provincial spending; Government borrowing costs; Employment in government sector; Output trends in relevant sector	Federal/State/Provincial spending; Output trends in relevant sector

residential sector is set to decline by 4.8% over the coming year after displaying a solid increase in 2019. The residential sector will see growth return after two years of declining activity, with growth forecast at 2.3%. The civil engineering sector is forecast to grow by 2.8% this year, a moderation from the previous year's double-digit growth.

The major drag on US construction derives from the non-residential sector. The main driver of decline within non-residential comes from the manufacturing sub-sector, where starts are forecast to fall 37% in 2020. In part, this year's decline is a natural pullback after growth of over 40% in 2019. However, it is also the case that the ongoing trade tensions facing the US are making themselves felt. US manufacturing has been hampered by uncertainty in the export market, which combined with cooler domestic momentum, weak energy activity and a strong dollar is impacting demand for new American manufacturing capacity. Nonetheless, there are some positive signs ahead. The introduction of the Phase One trade deal, though not a major breakthrough, is a step in the right direction. Furthermore, there are signs that the global slowdown in manufacturing may be starting to ease, thus helping to form a more beneficial export environment.

The retail sector will see ongoing declines in activity this year. Demand for bricks and mortar stores remains under pressure as more and more people shift toward buying

goods online. Hotel & motel starts are in a cyclical downturn following several years of strong growth, a process further exacerbated by a stronger dollar.

US residential starts are forecast to return to growth in 2020 following two years of declining construction. Headwinds facing US homebuilding over the past two years, most prominently labor supply shortages and higher material costs, will gradually give way to pent-up demand for new homes. The need for new homes remains a priority for the construction sector, especially within the single-family segment where the scale of new homebuilding continues to remain below its pre-crisis peak. Furthermore, low mortgage rates are driving an upturn in mortgage applications, which combined with limited housing inventory will support new construction. This is most evident within the single-family segment, where housing affordability has been a perennial issue for first-time buyers. The large millennial generation are at household-forming age, and with much of post-crisis construction geared towards upmarket and luxury homes, the need to meet first-time and lower income buyer requirements is becoming ever more pressing.

After very strong growth last year, the civil engineering sector is set to see growth moderate in 2020. Much of the previous strong growth was centred around the extraction sector in the US amid the shale boom. Productivity of hydraulic fracturing

*Business investment statistics differ somewhat from starts statistics both in coverage and timing.

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wells has increased dramatically, reducing demand for new oil rigs. Low natural gas prices are also a factor in the growth slowdown. Robust growth in the road and the water, sewage & treatment sectors will act to counteract shortfalls in the extraction sector, with growth forecast at just under 5% in both. The airports sector is forecast to grow by 28% this year amid re-development projects at major international airports. On the political front, the chance of a significant new infrastructure deal looks increasingly distant, despite the seemingly wide political consensus backing such a move. Cross-party division and a lack of legislative focus on infrastructure make the chance of a significant spending increase quite slim.

Canadian construction to bounce back in 2020

Total construction starts in Canada shrank 33.6% year-on-year in Q4 2019, taking the full-year decline in 2019 to 22.1%. Residential and civil engineering construction posted small gains in Q4 but were more than offset by a 70.9% year-on-year decrease in non-residential construction. However, Q4's weakness was exacerbated by strong starts in Q4 2018, boosted by three large projects: an LNG plant in British Columbia, a bridge connecting Windsor, Ontario to Detroit, and a large oil sands plant in Alberta. Excluding these three projects, starts rose by 36% year-on-year.

The steep decline in non-residential construction was partially driven by the LNG plant in Q4 2018 dropping out of the annual calculation for manufacturing starts. However, other sectors, including parking garages, police & fire, religious, and transportation terminals also fell by more than 80% year-on-year without any large projects falling out of the annual calculation. Civil engineering construction starts increased 1.7% from a year earlier. Ground-breaking on the C\$7.4 billion TransMountain pipeline expansion running from Alberta to British Columbia underpinned annual growth of over 100% in the miscellaneous civil engineering category. Construction of new power plants grew nearly 500% year-on-year, although this was driven by weakness in the same period the year before

rather than any large projects. Bridge construction, by contrast, declined nearly 96% as the Windsor-Detroit bridge dropped out of the annual calculation, and construction of new dams, canals & marine work fell 68.8% year-on-year. New homebuilding increased 0.5% year-on-year, with a 10.7% increase in apartment building being partially offset by an 8.9% decline in the construction of new single-family homes.

As expected, economic growth slowed sharply in Q3, to just 1.3% annualized from 3.5% in Q2 2019. Still, historical revisions by Statistics Canada suggest the economy was a little stronger than previously thought in late-2018 and early-2019, which lifts our forecast for 2019 growth to 1.7%. We have also raised our real GDP growth forecast for 2020 to 1.4%. But we continue to expect the Canadian economy will underperform versus its potential in 2020. Slow and steady economic growth will be supported by federal fiscal stimulus and two 25bp Bank of Canada rate cuts expected in 2020. However, decelerating global and US growth and chronic domestic issues such as record high household debt burdens, weak business investment, capacity constraints in export-oriented sectors, and energy-sector bottlenecks, will test the economy's resilience. We believe the odds of a Canadian recession in 2020 are high at around 40%. But Canada's longer-term growth prospects are stronger than many other advanced economies thanks to expected strong growth in the working age population and vast energy reserves, which will increase in value as energy prices rise over the longer term.

Following a dismal 2019, total Canadian construction starts are expected to rebound to 13.8% growth in 2020 with increases forecast in all three segments of residential, non-residential, and civil engineering construction.

Strong growth in non-residential construction, forecast at 30%, is expected to lead Canadian construction starts this year. Total industrial starts, which fell 83% in 2019, are expected to almost triple in 2020 (up 182%), underpinned by a number of large LNG projects in the pipeline. Despite strong growth, however, manufacturing construction is expected to remain below its 2018 peak throughout the fore-

cast period. Construction of new transportation terminals is also expected to grow at a triple-digit pace this year with strong growth expected in 2021 as well. Ground-breaking on metro and light projects in several cities will underpin the strength in the sector. By contrast, after strong growth in 2019, total commercial sector construction is expected to fall back in 2020 with declines expected in government office building, shopping, and parking garages.

Following a modest decline in 2019, total engineering construction is expected to grow 8.8% in 2020, with growth expected in most sub-sectors. In most sectors, growth in 2020 is a normalisation after a particularly weak 2019. The exception is in the miscellaneous civil engineering sector, which includes oil & gas and pipeline projects, as well as railroad and tunnel infrastructure. The sector grew 79.1% in 2019, and further growth is expected in the coming years, even as two large pipeline projects in 2019 drop out of the annual calculation. Under investment in oil & gas infrastructure since the oil price collapse in 2014 has led to downstream transport bottlenecks in pipelines and railroad transport. Additional pipeline and rail construction should underpin growth in the sector through the forecast period, and new tunnel projects are also expected to come on stream.

Following two years of decline in 2018 and 2019, new residential construction is expected to return to growth in 2020, of 5.1%. Population growth in Canada is healthy, especially compared to other developed economies, and lower interest rates should also boost housing demand. Weakness in single-family homebuilding has been the principle driver of the decline over the last two years, but it is also expected to post stronger growth over the forecast period. Household formation by the millennial generation should favor single-family homebuilding. Although construction of multi-family units is expected to increase over the forecast period, growth will be less robust than in the single-family segment. Tighter macroprudential policies are aimed at cooling the housing markets in large cities such as Toronto and Vancouver, where apartment building is concentrated.

Table 3: U.S. Type-of-Structure Forecasts
(\$ Billions USD)

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Single-family	202.428	197.492	203.326	212.930	223.267	233.870	243.747
Multi-family	94.207	87.844	88.548	92.571	96.673	101.022	105.369
TOTAL RESIDENTIAL	296.635	285.336	291.874	305.501	319.940	334.892	349.116
<i>(Yr/yr % change)</i>	<i>-6.7%</i>	<i>-3.8%</i>	<i>2.3%</i>	<i>4.7%</i>	<i>4.7%</i>	<i>4.7%</i>	<i>4.2%</i>
Hotels/Motels	26.252	20.443	19.642	19.075	18.310	19.078	19.921
Shopping/Retail	18.307	15.817	14.791	15.597	16.894	18.365	19.515
Parking Garages	2.867	3.056	3.101	3.225	3.340	3.457	3.573
Amusement	8.552	7.196	7.080	7.490	8.017	8.499	8.946
Private Offices	29.887	33.548	34.279	35.190	36.149	37.056	37.939
Governmental Offices	11.016	11.274	11.678	11.997	12.234	12.469	12.667
Laboratories (Schools & Industrial)	2.908	2.117	2.748	2.896	3.050	3.171	3.287
Warehouses	21.746	19.585	17.863	18.945	20.002	21.096	22.105
Sports Stadium/Convention Center	7.028	9.403	8.940	9.939	10.641	11.010	11.247
Transportation Terminals	5.254	10.531	11.961	12.178	12.540	12.826	13.090
TOTAL COMMERCIAL	133.816	132.971	132.084	136.531	141.177	147.027	152.289
<i>(Yr/yr % change)</i>	<i>-6.7%</i>	<i>-0.6%</i>	<i>-0.7%</i>	<i>3.4%</i>	<i>3.4%</i>	<i>4.1%</i>	<i>3.6%</i>
TOTAL INDUSTRIAL (manufacturing)	35.799	51.294	32.092	34.247	35.785	37.378	38.929
<i>(Yr/yr % change)</i>	<i>-2.6%</i>	<i>43.3%</i>	<i>-37.4%</i>	<i>6.7%</i>	<i>4.5%</i>	<i>4.5%</i>	<i>4.1%</i>
Religious	2.191	1.748	1.854	1.878	1.899	1.920	1.932
Hospitals/Clinics	16.888	18.706	19.386	20.389	21.246	22.276	23.200
Nursing Homes/Assisted Living	10.614	9.329	9.983	10.416	10.788	11.100	11.385
Libraries/Museums	2.748	3.996	3.820	3.974	4.103	4.222	4.324
Courthouse	1.928	1.590	1.772	1.876	1.945	1.999	2.041
Police/Fire	3.038	3.275	3.397	3.583	3.763	3.907	4.038
Prisons	3.147	2.166	2.464	2.599	2.732	2.841	2.904
Military	5.231	5.492	6.340	6.867	7.187	7.408	7.627
Educational Facilities	71.499	74.550	75.595	77.233	78.246	79.177	80.404
MED misc	11.249	9.288	10.178	10.763	11.212	11.610	11.913
TOTAL INSTITUTIONAL	128.531	130.141	134.789	139.578	143.121	146.460	149.767
<i>(Yr/yr % change)</i>	<i>0.5%</i>	<i>1.3%</i>	<i>3.6%</i>	<i>3.6%</i>	<i>2.5%</i>	<i>2.3%</i>	<i>2.3%</i>
Miscellaneous Non-Res Building	7.207	7.130	7.117	7.251	7.377	7.494	7.562
TOTAL NON-RES BLDG	305.353	321.536	306.082	317.608	327.461	338.358	348.546
<i>(Yr/yr % change)</i>	<i>-3.3%</i>	<i>5.3%</i>	<i>-4.8%</i>	<i>3.8%</i>	<i>3.1%</i>	<i>3.3%</i>	<i>3.0%</i>
Airport	7.269	7.224	9.255	10.424	11.460	12.240	12.994
Roads	63.257	65.037	68.083	70.606	73.622	76.412	79.282
Bridges	24.029	29.963	30.208	30.854	31.590	32.325	33.116
Dams/Canal/Marine	6.645	8.503	8.221	8.528	8.850	9.125	9.349
Water & Sewage Treatment	29.644	31.858	33.364	35.122	36.499	37.916	39.195
Misc Civil (Power, etc.)	32.139	46.350	45.149	46.857	48.677	50.556	52.281
TOTAL ENGINEERING	162.984	188.934	194.279	202.391	210.698	218.574	226.216
<i>(Yr/yr % change)</i>	<i>8.8%</i>	<i>15.9%</i>	<i>2.8%</i>	<i>4.2%</i>	<i>4.1%</i>	<i>3.7%</i>	<i>3.5%</i>
TOTAL NON-RESIDENTIAL	468.337	510.470	500.361	519.999	538.159	556.932	574.762
<i>(Yr/yr % change)</i>	<i>0.6%</i>	<i>9.0%</i>	<i>-2.0%</i>	<i>3.9%</i>	<i>3.5%</i>	<i>3.5%</i>	<i>3.2%</i>
GRAND TOTAL	764.972	795.806	792.235	825.500	858.099	891.824	923.878
<i>(Yr/yr % change)</i>	<i>-2.4%</i>	<i>4.0%</i>	<i>-0.4%</i>	<i>4.2%</i>	<i>3.9%</i>	<i>3.9%</i>	<i>3.6%</i>

EXPLANATION: Table 3 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 4 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 of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

Table 4: U.S. Type-of-Structure Forecasts
 Arranged to match the alphabetical category drop-down menus in INSIGHT (\$ Billions USD)

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Summary							
CIVIL	162.984	188.934	194.279	202.391	210.698	218.574	226.216
NON-RESIDENTIAL BUILDING	305.353	321.536	306.082	317.608	327.461	338.358	348.546
RESIDENTIAL	296.635	285.336	291.874	305.501	319.940	334.892	349.116
GRAND TOTAL	764.972	795.806	792.235	825.500	858.099	891.824	923.878
Verticals							
Airport	7.269	7.224	9.255	10.424	11.460	12.240	12.994
All Other Civil	24.429	32.172	30.933	31.911	33.169	34.455	35.669
Bridges	24.029	29.963	30.208	30.854	31.590	32.325	33.116
Dams / Canals / Marine Work	6.645	8.503	8.221	8.528	8.850	9.125	9.349
Power Infrastructure	7.710	14.178	14.216	14.946	15.508	16.101	16.612
Roads	63.257	65.037	68.083	70.606	73.622	76.412	79.282
Water and Sewage Treatment	29.644	31.858	33.364	35.122	36.499	37.916	39.195
CIVIL	162.984	188.934	194.279	202.391	210.698	218.574	226.216
(Yr/Yr % change)	8.8%	15.9%	2.8%	4.2%	4.1%	3.7%	3.5%
Offices (private)	29.887	33.548	34.279	35.190	36.149	37.056	37.939
Parking Garages	2.867	3.056	3.101	3.225	3.340	3.457	3.573
Transportation Terminals	5.254	10.531	11.961	12.178	12.540	12.826	13.090
Commercial	38.008	47.136	49.340	50.593	52.028	53.339	54.602
(Yr/Yr % change)	4.6%	24.0%	4.7%	2.5%	2.8%	2.5%	2.4%
Amusement	8.552	7.196	7.080	7.490	8.017	8.499	8.946
Libraries / Museums	2.748	3.996	3.820	3.974	4.103	4.222	4.324
Religious	2.191	1.748	1.854	1.878	1.899	1.920	1.932
Sports Arenas / Convention Centers	7.028	9.403	8.940	9.939	10.641	11.010	11.247
Community	20.519	22.344	21.694	23.281	24.660	25.650	26.449
(Yr/Yr % change)	-29.7%	8.9%	-2.9%	7.3%	5.9%	4.0%	3.1%
College / University	20.006	19.254	18.621	18.504	18.517	18.537	18.766
Elementary / Pre School	19.349	21.071	21.558	22.248	22.750	23.248	23.887
Jr / Sr High School	30.419	32.347	33.535	34.540	34.961	35.302	35.600
Special / Vocational	1.726	1.878	1.882	1.942	2.018	2.090	2.149
Educational	71.499	74.550	75.595	77.233	78.246	79.177	80.404
(Yr/Yr % change)	2.9%	4.3%	1.4%	2.2%	1.3%	1.2%	1.5%
Courthouses	1.928	1.590	1.772	1.876	1.945	1.999	2.041
Fire and Police Stations	3.038	3.275	3.397	3.583	3.763	3.907	4.038
Government Offices	11.016	11.274	11.678	11.997	12.234	12.469	12.667
Prisons	3.147	2.166	2.464	2.599	2.732	2.841	2.904
Government	19.128	18.305	19.311	20.055	20.674	21.216	21.650
(Yr/Yr % change)	0.6%	-4.3%	5.5%	3.9%	3.1%	2.6%	2.0%
Industrial Labs / Labs / School Labs	2.908	2.117	2.748	2.896	3.050	3.171	3.287
Manufacturing	35.799	51.294	32.092	34.247	35.785	37.378	38.929
Warehouses	21.746	19.585	17.863	18.945	20.002	21.096	22.105
Industrial	60.453	72.996	52.703	56.088	58.837	61.645	64.321
(Yr/Yr % change)	-1.4%	20.7%	-27.8%	6.4%	4.9%	4.8%	4.3%
Hospitals / Clinics	16.888	18.706	19.386	20.389	21.246	22.276	23.200
Medical Misc.	11.249	9.288	10.178	10.763	11.212	11.610	11.913
Nursing Homes	10.614	9.329	9.983	10.416	10.788	11.100	11.385
Medical	38.750	37.324	39.548	41.567	43.246	44.986	46.497
(Yr/Yr % change)	-1.8%	-3.7%	6.0%	5.1%	4.0%	4.0%	3.4%
Military	5.231	5.492	6.340	6.867	7.187	7.408	7.627
(Yr/Yr % change)	9.5%	5.0%	15.4%	8.3%	4.7%	3.1%	2.9%
Hotels	26.252	20.443	19.642	19.075	18.310	19.078	19.921
Retail Misc.	7.207	7.130	7.117	7.251	7.377	7.494	7.562
Shopping	18.307	15.817	14.791	15.597	16.894	18.365	19.515
Retail	51.766	43.390	41.550	41.923	42.582	44.936	46.997
(Yr/Yr % change)	-8.1%	-16.2%	-4.2%	0.9%	1.6%	5.5%	4.6%
NON-RESIDENTIAL BUILDING	305.353	321.536	306.082	317.608	327.461	338.358	348.546
(Yr/Yr % change)	-3.3%	5.3%	-4.8%	3.8%	3.1%	3.3%	3.0%
Multi-Family	94.207	87.844	88.548	92.571	96.673	101.022	105.369
Single-Family	202.428	197.492	203.326	212.930	223.267	233.870	243.747
RESIDENTIAL	296.635	285.336	291.874	305.501	319.940	334.892	349.116
(Yr/Yr % change)	-6.7%	-3.8%	2.3%	4.7%	4.7%	4.7%	4.2%
GRAND TOTAL	764.972	795.806	792.235	825.500	858.099	891.824	923.878
(Yr/Yr % change)	-2.4%	4.0%	-0.4%	4.2%	3.9%	3.9%	3.6%

EXPLANATION: Table 3 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 4 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 of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

Table 5: U.S. States, Total Construction Starts — ConstructConnect

States (alphabetical by 2-letter code)	Actuals	Forecasts (Year versus previous year % change)				
	(Level in \$ Millions USD)	2020	2021	2022	2023	2024
	2019					
Alaska - AK	\$1,583	15.7%	6.6%	3.5%	3.2%	3.3%
Alabama - AL	\$11,627	10.9%	4.7%	2.1%	3.4%	3.3%
Arkansas - AR	\$6,263	0.2%	3.9%	4.0%	3.7%	3.5%
Arizona - AZ	\$19,904	-14.1%	1.1%	3.3%	3.6%	3.2%
California - CA*	\$64,800	11.8%	3.0%	4.6%	4.7%	4.2%
Colorado - CO	\$19,606	2.4%	5.3%	4.3%	4.4%	4.2%
Connecticut - CT	\$7,009	7.1%	3.6%	3.1%	2.8%	2.7%
District Of Columbia - DC	\$3,472	17.6%	15.6%	2.4%	3.2%	3.7%
Delaware - DE	\$2,547	-7.5%	7.0%	3.0%	3.2%	3.1%
Florida - FL*	\$59,981	3.3%	3.3%	4.3%	4.5%	4.1%
Georgia - GA	\$30,074	-5.6%	2.3%	3.9%	4.0%	3.7%
Hawaii - HI	\$2,807	19.1%	9.0%	4.2%	3.7%	3.8%
Iowa - IA	\$7,543	-14.5%	4.3%	2.4%	3.6%	3.5%
Idaho - ID	\$5,413	-10.5%	-0.5%	3.6%	3.9%	3.7%
Illinois - IL	\$21,235	-1.6%	5.5%	2.4%	3.2%	3.1%
Indiana - IN	\$12,690	18.0%	4.3%	3.9%	3.2%	3.2%
Kansas - KS	\$5,863	20.7%	5.5%	3.7%	3.4%	3.2%
Kentucky - KY	\$8,708	-1.1%	3.6%	3.7%	3.2%	3.1%
Louisiana - LA	\$11,931	5.8%	8.3%	3.9%	3.5%	3.4%
Massachusetts - MA	\$16,517	-5.0%	9.1%	3.1%	2.9%	2.9%
Maryland - MD	\$10,751	14.6%	3.8%	2.8%	2.5%	2.6%
Maine - ME	\$2,379	10.0%	5.2%	2.3%	3.4%	3.1%
Michigan - MI	\$16,945	8.8%	7.8%	4.1%	2.9%	2.8%
Minnesota - MN	\$17,593	-4.0%	3.7%	3.7%	3.5%	3.3%
Missouri - MO	\$11,353	-5.7%	3.2%	3.2%	3.0%	2.9%
Mississippi - MS	\$4,716	-4.7%	3.7%	2.1%	3.3%	3.3%
Montana - MT	\$2,037	4.7%	7.5%	3.7%	3.7%	3.5%
North Carolina - NC	\$31,280	2.0%	2.7%	4.0%	3.8%	3.6%
North Dakota - ND	\$2,941	-13.2%	9.6%	3.2%	4.2%	4.0%
Nebraska - NE	\$4,702	5.4%	9.3%	2.4%	3.8%	3.7%
New Hampshire - NH	\$2,562	3.4%	7.8%	3.7%	3.5%	3.3%
New Jersey - NJ	\$12,997	6.7%	2.1%	3.4%	3.1%	3.0%
New Mexico - NM	\$3,660	-4.2%	0.6%	2.1%	3.5%	3.5%
Nevada - NV	\$9,789	-0.2%	10.2%	4.1%	4.0%	3.9%
New York - NY*	\$36,118	34.9%	2.6%	4.0%	4.5%	3.3%
Ohio - OH	\$19,241	6.3%	3.2%	3.5%	3.0%	2.9%
Oklahoma - OK	\$8,702	12.4%	3.7%	4.0%	3.7%	3.5%
Oregon - OR	\$10,042	-1.5%	6.0%	4.4%	4.3%	4.3%
Pennsylvania - PA	\$20,274	16.8%	3.9%	3.1%	3.0%	2.9%
Rhode Island - RI	\$1,141	24.5%	9.1%	2.3%	3.6%	3.6%
South Carolina - SC	\$14,521	-1.7%	3.6%	3.5%	3.5%	3.4%
South Dakota - SD	\$3,417	-26.1%	7.5%	2.9%	3.9%	3.5%
Tennessee - TN	\$17,915	5.1%	2.8%	3.6%	3.6%	3.3%
Texas - TX*	\$126,764	-18.1%	4.1%	5.3%	5.0%	4.2%
Utah - UT	\$10,856	-4.1%	2.9%	4.9%	4.0%	3.9%
Virginia - VA	\$22,392	-3.0%	6.3%	3.5%	3.2%	3.1%
Vermont - VT	\$761	5.3%	5.2%	2.9%	3.9%	3.9%
Washington - WA	\$28,326	-22.7%	6.8%	4.3%	4.1%	4.0%
Wisconsin - WI	\$14,170	-6.8%	3.2%	3.5%	3.5%	3.3%
West Virginia - WV	\$2,329	23.8%	6.2%	3.0%	3.1%	3.0%
Wyoming - WY	\$5,562	-69.0%	0.1%	3.2%	3.2%	3.4%
United States	\$795,806	-0.4%	4.2%	3.9%	3.9%	3.6%

*One in three Americans lives in one of the four shaded states, New York, Florida, Texas or California. Sum of first column may not exactly equal total due to rounding.

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

Table 6: U.S. Four Largest States: Type-of-Structure Forecasts
(\$ Billions USD)

		Actuals		Forecasts				
		2018	2019	2020	2021	2022	2023	2024
New York	Residential	9.845	9.434	12.270	12.610	13.152	13.742	14.284
	Non-res Building	17.575	18.842	20.102	20.383	21.023	21.678	22.327
	Engineering/Civil	10.720	7.842	16.347	16.982	17.818	18.892	19.497
	Total	38.140	36.118	48.719	49.974	51.994	54.313	56.108
	(Yr vs previous yr % Change)	-23.9%	-5.3%	34.9%	2.6%	4.0%	4.5%	3.3%
Florida	Residential	26.700	28.167	29.821	30.997	32.553	34.237	35.906
	Non-res Building	18.729	17.703	20.330	20.627	21.172	21.896	22.611
	Engineering/Civil	10.126	14.111	11.806	12.385	13.018	13.614	14.109
	Total	55.556	59.981	61.957	64.009	66.742	69.747	72.626
	(Yr vs previous yr % Change)	-5.0%	8.0%	3.3%	3.3%	4.3%	4.5%	4.1%
Texas	Residential	41.978	43.077	44.796	47.652	50.479	53.267	55.998
	Non-res Building	34.028	59.679	35.335	36.311	38.477	40.771	42.099
	Engineering/Civil	20.142	24.009	23.670	24.077	24.773	25.350	26.256
	Total	96.148	126.764	103.802	108.039	113.728	119.387	124.354
	(Yr vs previous yr % Change)	-5.7%	31.8%	-18.1%	4.1%	5.3%	5.0%	4.2%
California	Residential	27.330	23.590	22.864	23.392	24.803	26.455	27.960
	Non-res Building	26.682	24.975	31.612	32.543	33.540	34.506	35.621
	Engineering/Civil	17.007	16.234	17.993	18.689	19.726	20.789	21.599
	Total	71.018	64.800	72.469	74.624	78.069	81.750	85.180
	(Yr vs previous yr % Change)	-9.5%	-8.8%	11.8%	3.0%	4.6%	4.7%	4.2%

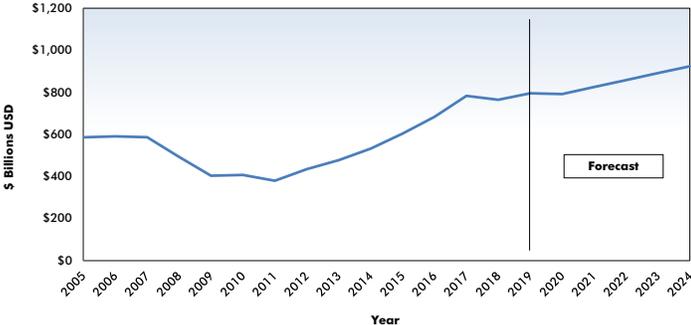
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Table: ConstructConnect.

Tweeted by ConstructConnect:

@ConstructConnx

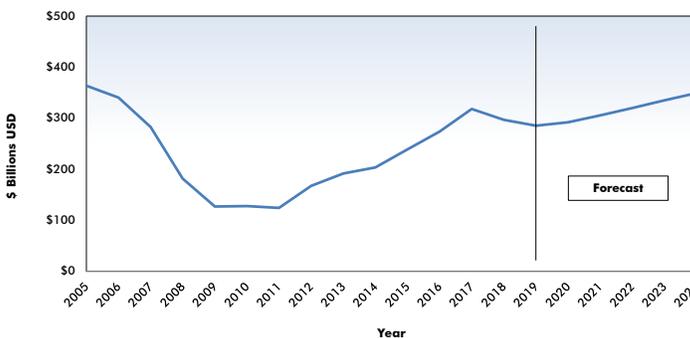
The monthly average climb in U.S. employment in full-year 2019 was off by one-fifth compared with full-year 2018, +176,000 as opposed to +223,000. Canada's monthly average gain in total jobs in 2019 was +27,000, an uptick of +63.4% vs 2018.

Graph 1: U.S. Grand Total Construction Starts — ConstructConnect



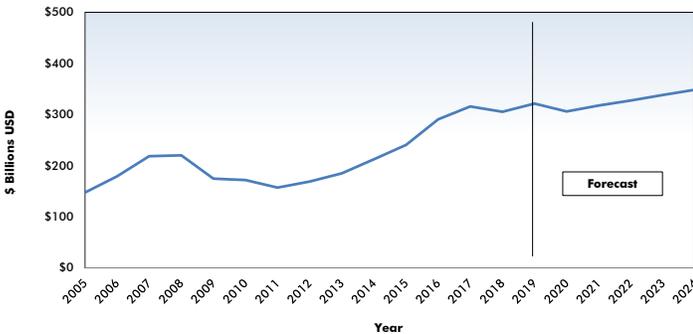
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 2: U.S. Total Residential Construction Starts — ConstructConnect



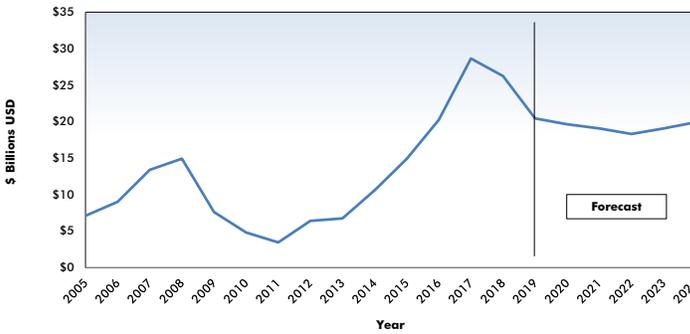
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 3: U.S. Total Non-Residential Building Starts — ConstructConnect



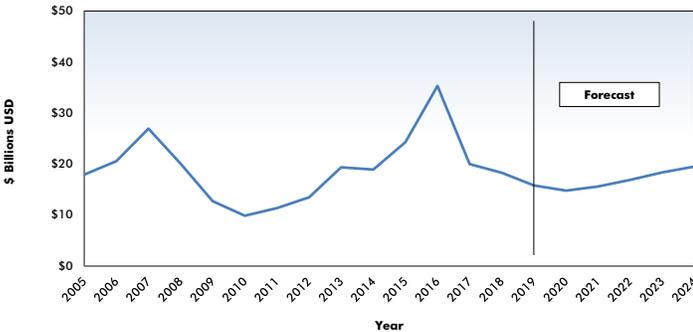
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 4: U.S. Hotel/Motel Construction Starts — ConstructConnect



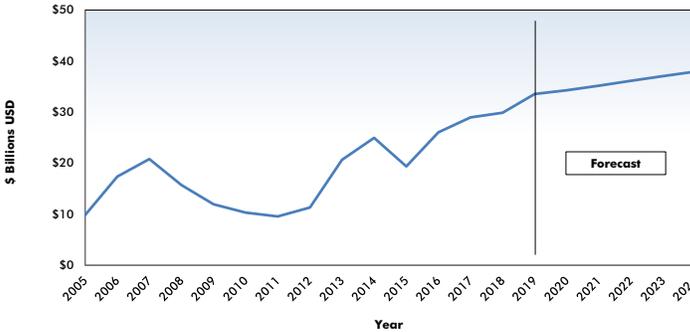
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 5: U.S. Shopping/Retail Construction Starts — ConstructConnect



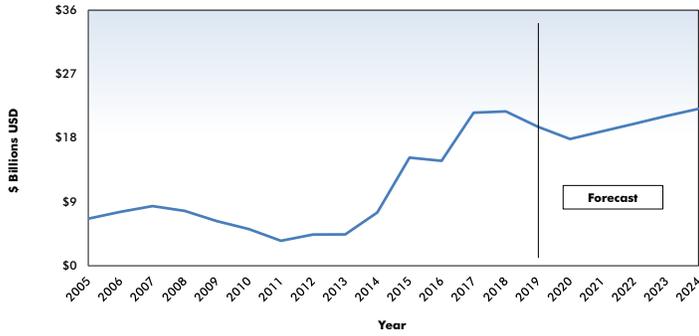
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 6: U.S. Private Office Building Construction Starts — ConstructConnect



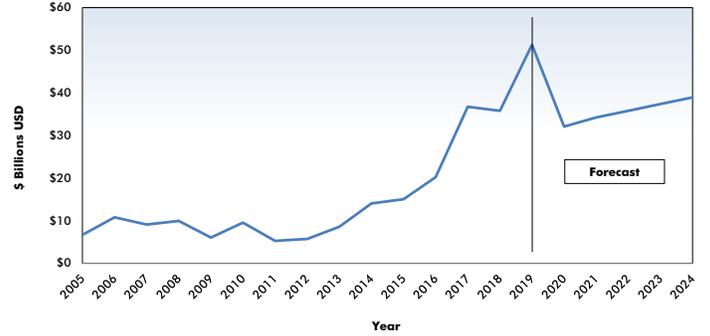
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 7: U.S. Warehouse Construction Starts — ConstructConnect



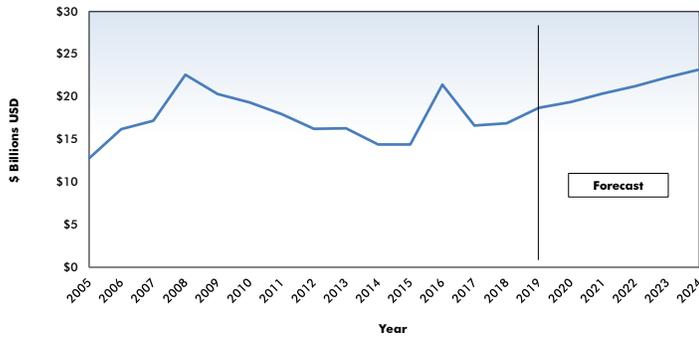
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 8: U.S. Industrial/Manufacturing Construction Starts — ConstructConnect



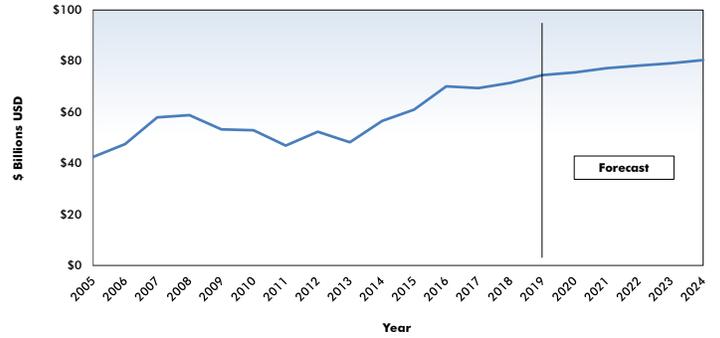
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 9: U.S. Hospital and Clinic Construction Starts — ConstructConnect



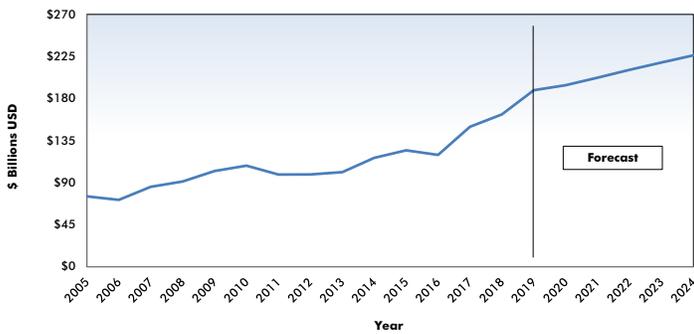
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 10: U.S. Total Educational Construction Starts — ConstructConnect



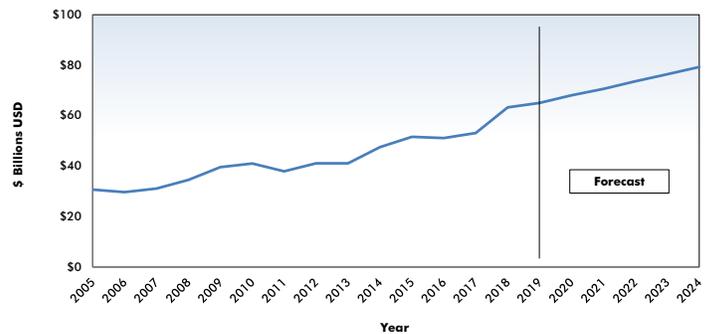
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 11: U.S. Total Heavy Engineering/Civil Construction Starts — ConstructConnect



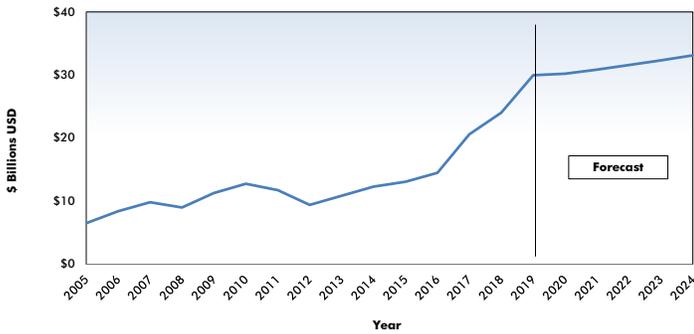
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 12: U.S. Roadwork Construction Starts — ConstructConnect



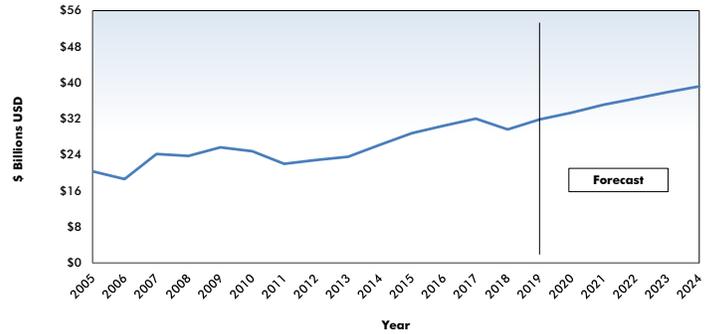
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 13: U.S. Bridge Construction Starts — ConstructConnect



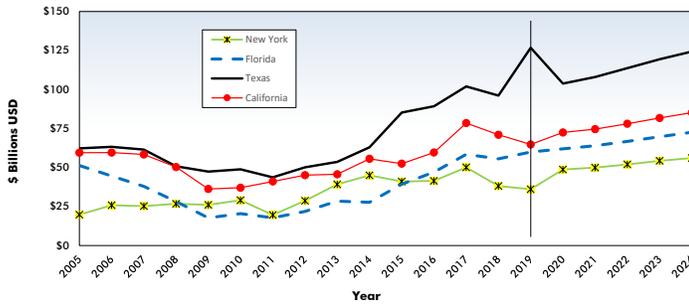
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 14: U.S. Water and Sewage Treatment Construction Starts — ConstructConnect



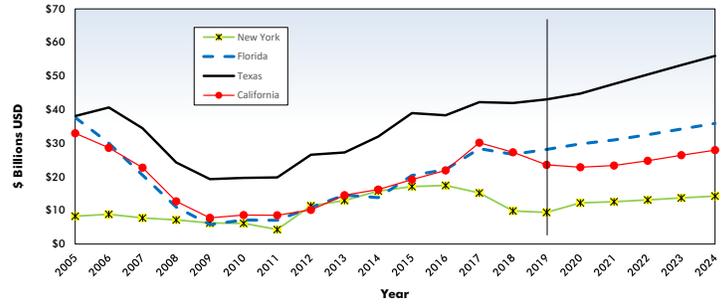
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 15: U.S. Four Largest States (by Population): Total Construction Starts — ConstructConnect



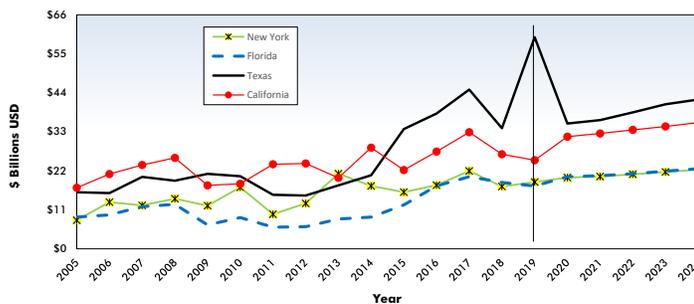
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 16: U.S. Four Largest States: Total Residential Construction Starts — ConstructConnect



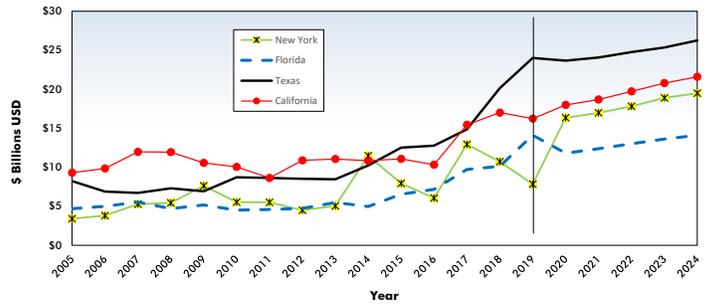
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 17: U.S. Four Largest States: Total Non-residential Building Starts — ConstructConnect



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 18: U.S. Four Largest States: Total Engineering/Civil Construction Starts — ConstructConnect



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Table 7: Canada Type-of-Structure Forecasts
(\$ Billions CAD)

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Single-family	14.487	12.331	13.435	14.564	15.734	16.726	17.616
Multi-family	15.179	15.545	15.861	16.497	17.285	17.983	18.687
TOTAL RESIDENTIAL	29.666	27.875	29.296	31.061	33.019	34.709	36.302
(Yr/yr % change)	-6.3%	-6.0%	5.1%	6.0%	6.3%	5.1%	4.6%
Hotels/Motels	0.406	0.508	0.600	0.707	0.789	0.837	0.870
Private Offices	1.940	3.511	3.507	3.390	3.202	3.003	2.750
Governmental Offices	1.539	2.899	1.488	1.596	1.708	1.759	1.812
Shopping/Retail	0.861	2.246	1.067	1.048	1.075	1.135	1.220
Retail Miscellaneous	0.183	0.223	0.219	0.233	0.244	0.258	0.271
Parking Garages	0.192	0.377	0.209	0.219	0.228	0.237	0.245
Amusement	2.386	1.626	1.823	1.937	2.028	2.117	2.192
Warehouses	1.865	1.034	1.188	1.376	1.561	1.687	1.807
TOTAL COMMERCIAL	9.371	12.424	10.101	10.506	10.835	11.033	11.168
(Yr/yr % change)	3.7%	32.6%	-18.7%	4.0%	3.1%	1.8%	1.2%
TOTAL INDUSTRIAL (manufacturing)	18.872	3.176	8.950	10.557	10.770	10.977	11.168
(Yr/yr % change)	427.1%	-83.2%	181.8%	17.9%	2.0%	1.9%	1.7%
Religious	0.153	0.047	0.073	0.077	0.081	0.084	0.086
Hospitals/Clinics	3.375	2.975	3.517	3.814	4.026	4.229	4.409
MED misc	0.233	0.232	0.381	0.526	0.595	0.667	0.719
Transportation Terminals*	6.990	1.096	4.098	4.732	4.903	4.947	5.002
Police/Fire	2.033	0.791	0.946	1.003	1.033	1.060	1.086
Educational Facilities	4.204	4.511	4.775	4.929	5.055	5.161	5.248
TOTAL INSTITUTIONAL	16.988	9.652	13.790	15.081	15.692	16.147	16.549
(Yr/yr % change)	59.7%	-43.2%	42.9%	9.4%	4.0%	2.9%	2.5%
TOTAL NON-RES BUILDING	45.231	25.253	32.841	36.143	37.297	38.158	38.886
(Yr/yr % change)	94.5%	-44.2%	30.0%	10.1%	3.2%	2.3%	1.9%
Bridges	6.703	2.024	2.013	3.481	3.911	3.953	4.003
Dams/Canal/Marine	0.918	0.604	0.749	0.858	0.914	0.969	1.025
Water & Sewage Treatment	5.980	3.365	3.804	4.133	4.358	4.558	4.747
Roads	10.007	8.501	9.424	10.042	10.361	10.660	10.958
Power Infrastructure	3.098	3.032	3.742	4.462	5.330	6.018	6.572
All Other Civil (Oil & Gas etc.)	8.344	14.940	15.580	16.779	17.963	19.176	20.408
TOTAL ENGINEERING	35.050	32.467	35.312	39.755	42.838	45.334	47.713
(Yr/yr % change)	20.4%	-7.4%	8.8%	12.6%	7.8%	5.8%	5.2%
TOTAL NON-RESIDENTIAL	80.281	57.720	68.152	75.898	80.134	83.492	86.598
(Yr/yr % change)	53.3%	-28.1%	18.1%	11.4%	5.6%	4.2%	3.7%
GRAND TOTAL	109.947	85.595	97.448	106.959	113.154	118.200	122.901
(Yr/yr % change)	30.9%	-22.1%	13.8%	9.8%	5.8%	4.5%	4.0%

* With respect to Tables 3 and 7, 'transportation terminals' is the one type-of-structure that is categorized differently in Canada (institutional) than in the U.S. (commercial), for reasons having to do with government statistics.

EXPLANATION: Table 7 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 8 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'.

The outsized percentage-changes in the Grand Total are due to a couple of mega projects (\$4 billion for the Gordie Howe bridge and \$10 billion for LNG work in NW B.C.) breaking ground in 2018.

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Table: ConstructConnect.

Table 8: Canada Type-of-Structure Forecasts

Arranged to match the alphabetical category drop-down menus in INSIGHT (\$ Billions CAD)

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Summary							
CIVIL	35.050	32.467	35.312	39.755	42.838	45.334	47.713
NON-RESIDENTIAL BUILDING	45.231	25.253	32.841	36.143	37.297	38.158	38.886
RESIDENTIAL	29.666	27.875	29.296	31.061	33.019	34.709	36.302
GRAND TOTAL	109.947	85.595	97.448	106.959	113.154	118.200	122.901
Verticals							
All Other Civil	8.344	14.940	15.580	16.779	17.963	19.176	20.408
Bridges	6.703	2.024	2.013	3.481	3.911	3.953	4.003
Dams / Canals / Marine Work	0.918	0.604	0.749	0.858	0.914	0.969	1.025
Power Infrastructure	3.098	3.032	3.742	4.462	5.330	6.018	6.572
Roads	10.007	8.501	9.424	10.042	10.361	10.660	10.958
Water and Sewage Treatment	5.980	3.365	3.804	4.133	4.358	4.558	4.747
CIVIL	35.050	32.467	35.312	39.755	42.838	45.334	47.713
(Yr/yr % change)	20.4%	-7.4%	8.8%	12.6%	7.8%	5.8%	5.2%
Offices (private)	1.940	3.511	3.507	3.390	3.202	3.003	2.750
Parking Garages	0.192	0.377	0.209	0.219	0.228	0.237	0.245
Transportation Terminals	6.990	1.096	4.098	4.732	4.903	4.947	5.002
Commercial	9.122	4.983	7.814	8.341	8.333	8.188	7.997
(Yr/yr % change)	337.3%	-45.4%	56.8%	6.7%	-0.1%	-1.7%	-2.3%
Amusement	2.386	1.626	1.823	1.937	2.028	2.117	2.192
Religious	0.153	0.047	0.073	0.077	0.081	0.084	0.086
Community	2.539	1.673	1.896	2.014	2.109	2.201	2.277
(Yr/yr % change)	6.0%	-34.1%	13.3%	6.2%	4.7%	4.4%	3.5%
Educational	4.204	4.511	4.775	4.929	5.055	5.161	5.248
(Yr/yr % change)	1.0%	7.3%	5.8%	3.2%	2.5%	2.1%	1.7%
Fire and Police Stations	2.033	0.791	0.946	1.003	1.033	1.060	1.086
Government Offices	1.539	2.899	1.488	1.596	1.708	1.759	1.812
Government	3.572	3.691	2.434	2.599	2.741	2.818	2.897
(Yr/yr % change)	49.4%	3.3%	-34.1%	6.8%	5.5%	2.8%	2.8%
Manufacturing	18.872	3.176	8.950	10.557	10.770	10.977	11.168
Warehouses	1.865	1.034	1.188	1.376	1.561	1.687	1.807
Industrial	20.737	4.210	10.138	11.933	12.331	12.664	12.975
(Yr/yr % change)	314.4%	-79.7%	140.8%	17.7%	3.3%	2.7%	2.5%
Hospitals / Clinics	3.375	2.975	3.517	3.814	4.026	4.229	4.409
Medical Misc.	0.233	0.232	0.381	0.526	0.595	0.667	0.719
Medical	3.609	3.207	3.898	4.340	4.620	4.896	5.128
(Yr/yr % change)	-25.3%	-11.1%	21.5%	11.3%	6.5%	6.0%	4.7%
Hotels	0.406	0.508	0.600	0.707	0.789	0.837	0.870
Retail Misc.	0.183	0.223	0.219	0.233	0.244	0.258	0.271
Shopping	0.861	2.246	1.067	1.048	1.075	1.135	1.220
Retail	1.449	2.977	1.885	1.988	2.108	2.229	2.362
(Yr/yr % change)	-39.3%	105.4%	-36.7%	5.4%	6.1%	5.7%	6.0%
NON-RESIDENTIAL BUILDING	45.231	25.253	32.841	36.143	37.297	38.158	38.886
(Yr/yr % change)	94.5%	-44.2%	30.0%	10.1%	3.2%	2.3%	1.9%
Multi-Family	15.179	15.545	15.861	16.497	17.285	17.983	18.687
Single-Family	14.487	12.331	13.435	14.564	15.734	16.726	17.616
RESIDENTIAL	29.666	27.875	29.296	31.061	33.019	34.709	36.302
(Yr/yr % change)	-6.3%	-6.0%	5.1%	6.0%	6.3%	5.1%	4.6%
TOTAL NON-RESIDENTIAL	80.281	57.720	68.152	75.898	80.134	83.492	86.598
(Yr/yr % change)	53.3%	-28.1%	18.1%	11.4%	5.6%	4.2%	3.7%
GRAND TOTAL	109.947	85.595	97.448	106.959	113.154	118.200	122.901
(Yr/yr % change)	30.9%	-22.1%	13.8%	9.8%	5.8%	4.5%	4.0%

EXPLANATION: Table 7 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 8 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 of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

Table 9: Canadian Provinces, Total Construction Starts — ConstructConnect

Regions/Provinces (East to West)	Actuals (Level in \$ Millions CAD)	Forecasts (Year versus previous year % change)					
	2019	2020	2021	2022	2023	2024	
Atlantic region	\$3,502	27.7%	15.6%	7.9%	3.1%	2.8%	
Quebec	\$16,092	7.3%	13.7%	6.0%	3.5%	3.4%	
Ontario	\$25,716	15.1%	7.2%	5.9%	3.4%	3.7%	
Manitoba	\$2,615	-30.5%	16.8%	7.0%	3.9%	3.6%	
Saskatchewan	\$1,614	22.9%	3.2%	2.6%	14.7%	4.6%	
Alberta	\$18,153	7.4%	14.7%	6.8%	6.3%	4.3%	
British Columbia	\$17,902	27.4%	4.8%	4.3%	4.5%	4.8%	
Canada	\$85,595	13.8%	9.8%	5.8%	4.5%	4.0%	

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Table: ConstructConnect.

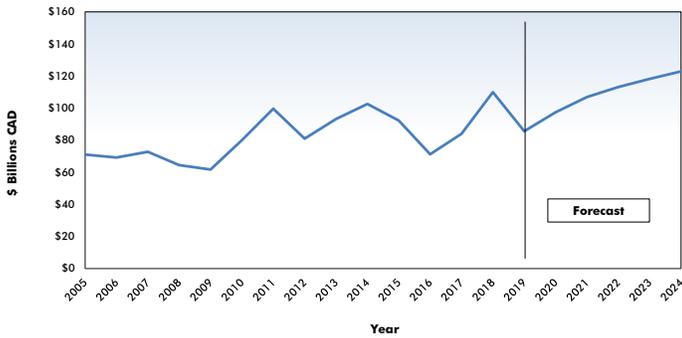
Table 10: Canada Four Largest Provinces: Type-of-Structure Forecasts

(\$ Billions CAD)

		Actuals		Forecasts				
		2018	2019	2020	2021	2022	2023	2024
Quebec	Residential	4.129	4.659	5.637	6.166	6.561	6.801	7.065
	Non-res Building	12.743	6.694	6.686	7.597	7.715	7.851	7.960
	Engineering/Civil	5.065	4.739	4.945	5.871	6.527	6.884	7.253
	Total	21.936	16.092	17.268	19.634	20.803	21.535	22.277
	(Yr vs previous yr % Change)	58.2%	-26.6%	7.3%	13.7%	6.0%	3.5%	3.4%
Ontario	Residential	13.666	11.367	12.882	13.301	14.083	14.578	15.233
	Non-res Building	9.113	7.939	9.223	10.163	10.549	10.819	11.013
	Engineering/Civil	12.392	6.410	7.495	8.256	8.962	9.323	9.748
	Total	35.172	25.716	29.601	31.721	33.594	34.720	35.994
	(Yr vs previous yr % Change)	34.3%	-26.9%	15.1%	7.2%	5.9%	3.4%	3.7%
Alberta	Residential	3.504	3.835	3.233	3.982	4.443	4.908	5.202
	Non-res Building	7.601	4.442	5.571	6.482	6.831	6.965	7.015
	Engineering/Civil	6.098	9.876	10.693	11.892	12.599	13.503	14.247
	Total	17.203	18.153	19.497	22.355	23.872	25.376	26.463
	(Yr vs previous yr % Change)	-20.1%	5.5%	7.4%	14.7%	6.8%	6.3%	4.3%
British Columbia	Residential	6.321	6.178	5.655	5.568	5.742	6.058	6.318
	Non-res Building	12.564	3.415	7.884	8.000	8.120	8.249	8.545
	Engineering/Civil	7.171	8.308	9.270	10.340	11.075	11.748	12.430
	Total	26.056	17.902	22.809	23.909	24.937	26.055	27.293
	(Yr vs previous yr % Change)	125.5%	-31.3%	27.4%	4.8%	4.3%	4.5%	4.8%

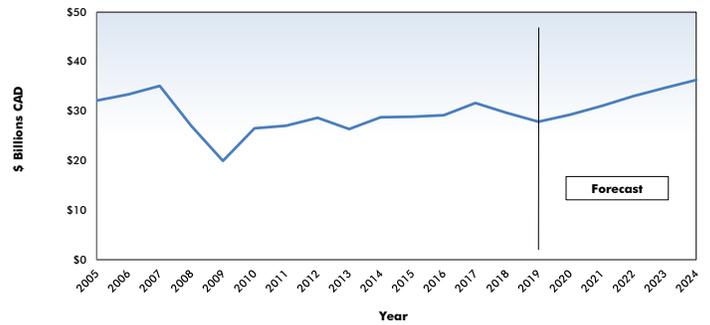
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Table: ConstructConnect.

Graph 19: Canadian Grand Total Construction Starts — ConstructConnect



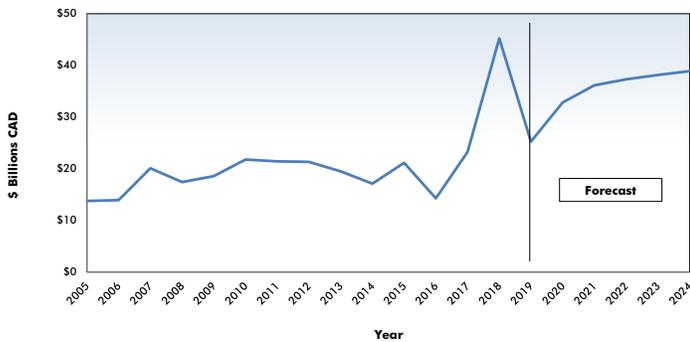
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 20: Canadian Residential Construction Starts — ConstructConnect



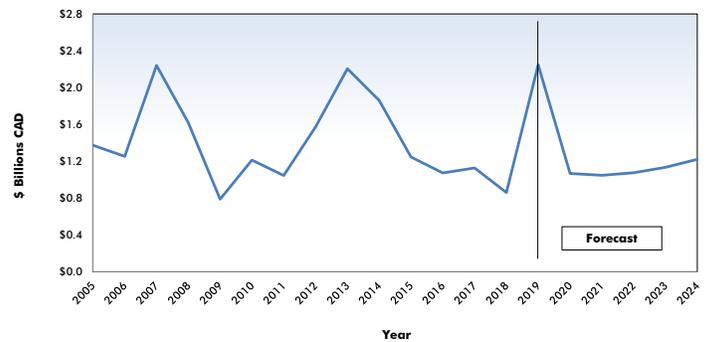
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 21: Canadian Non-Residential Building Starts — ConstructConnect



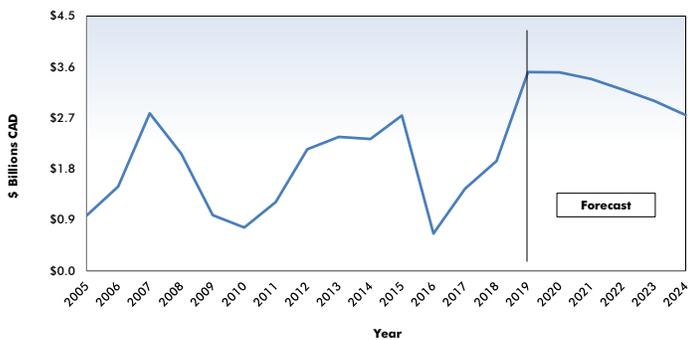
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 22: Canadian Shopping/Retail Construction Starts — ConstructConnect



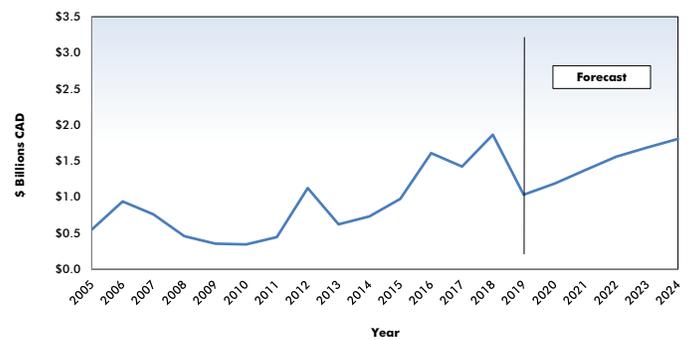
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 23: Canadian Private Offices Construction Starts — ConstructConnect



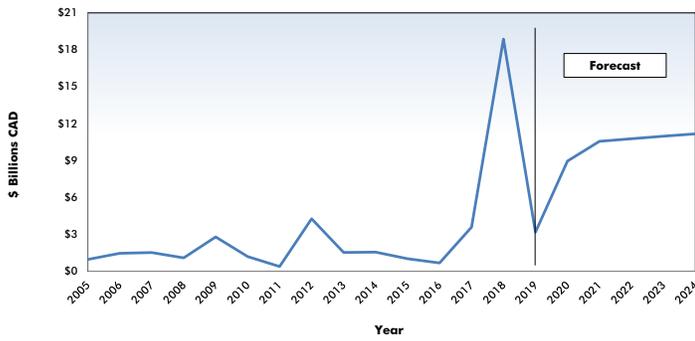
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 24: Canadian Warehouse Construction Starts — ConstructConnect



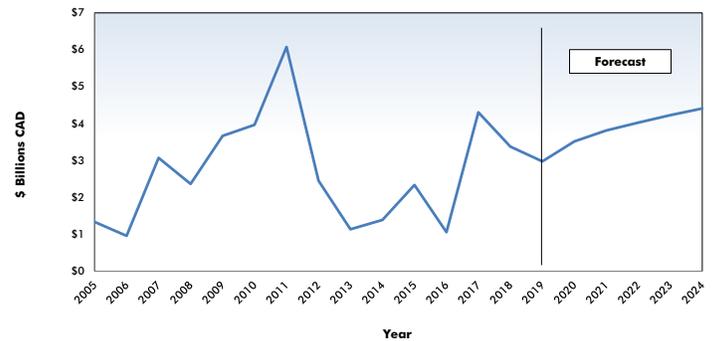
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 25: Canadian Industrial/Manufacturing Construction Starts — ConstructConnect



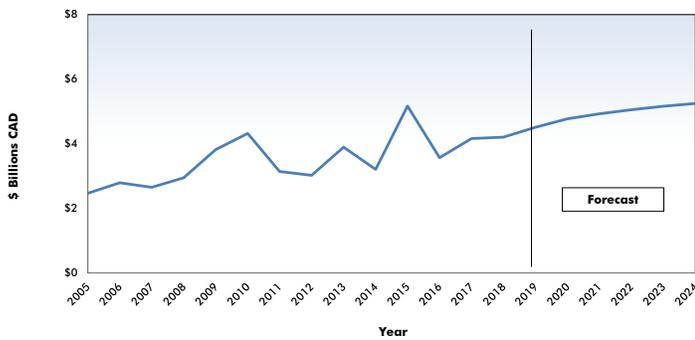
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 26: Canadian Hospital/Clinic Construction Starts — ConstructConnect



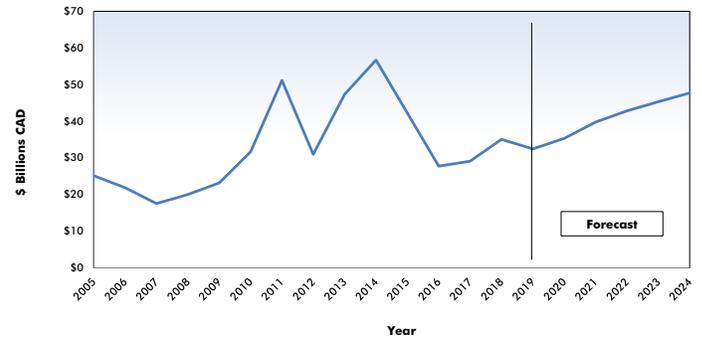
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 27: Canadian Education Construction Starts — ConstructConnect



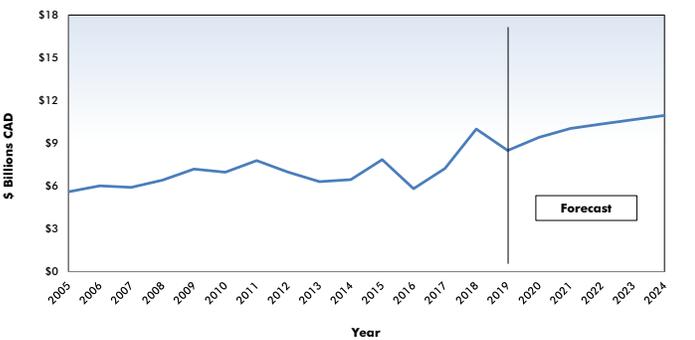
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 28: Canadian Engineering Construction Starts — ConstructConnect



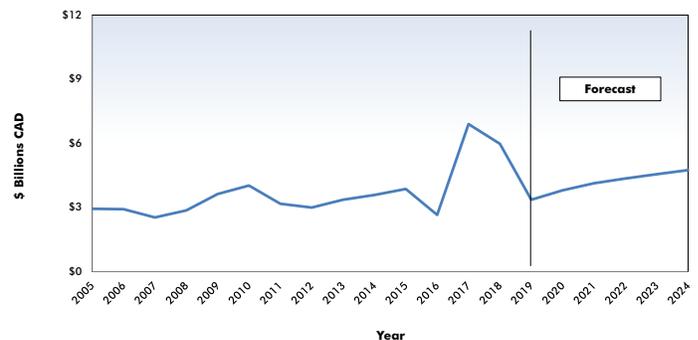
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 29: Canadian Roadwork Construction Starts — ConstructConnect



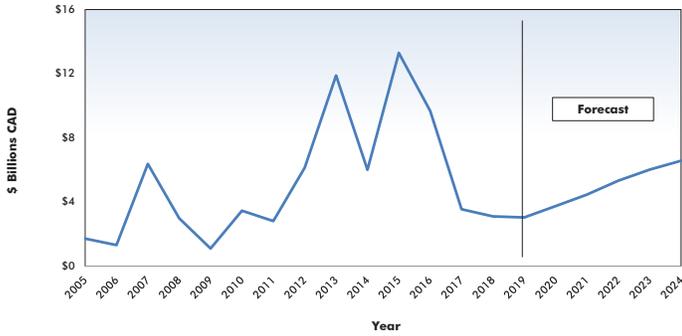
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 30: Canadian Water and Sewage Construction Starts — ConstructConnect



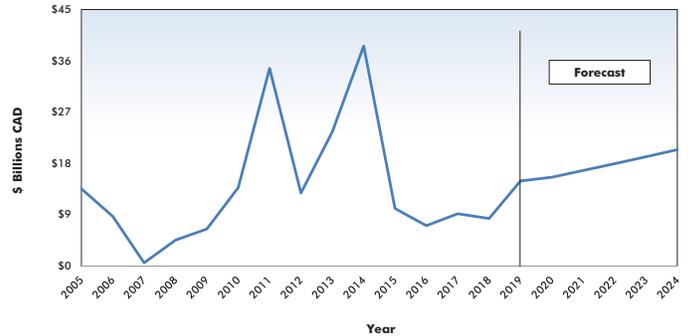
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 31: Canadian Power Infrastructure Construction Starts — ConstructConnect



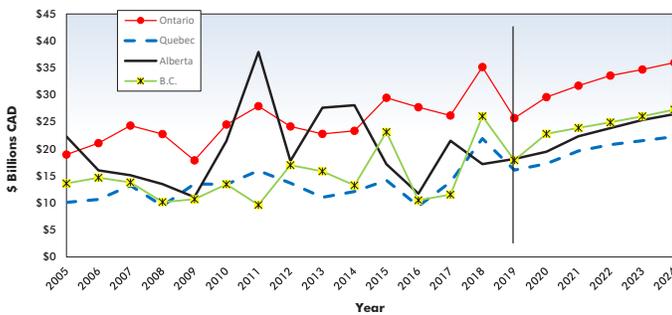
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 32: Canadian Oil Sands, Pipelines, Rapid Transit Construction Starts — ConstructConnect



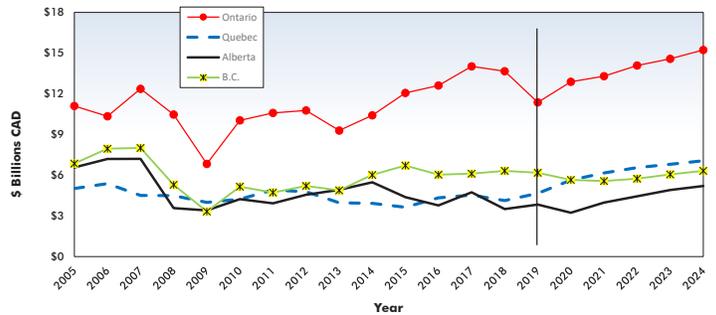
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 33: Canada Four Largest Provinces (by Population): Total Construction Starts — ConstructConnect



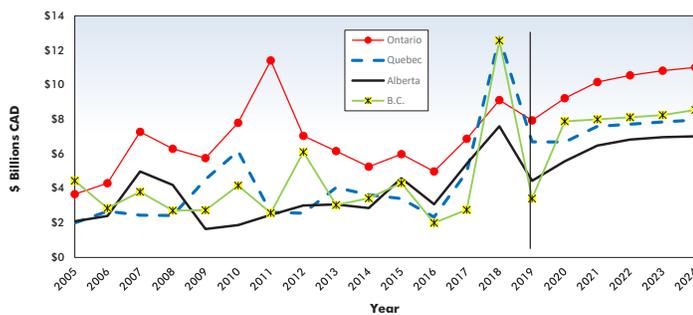
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 34: Canada Four Largest Provinces: Total Residential Construction Starts — ConstructConnect



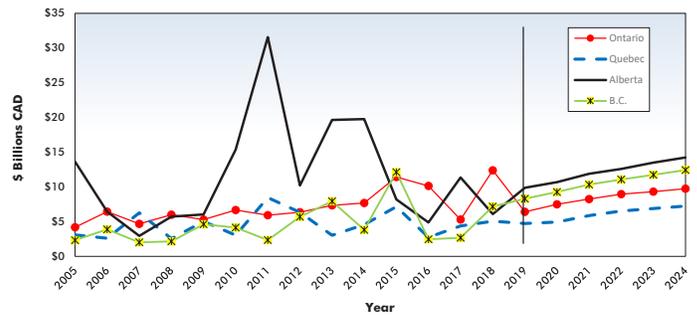
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 35: Canada Four Largest Provinces: Total Non-residential Building Starts — ConstructConnect



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 36: Canada Four Largest Provinces: Total Engineering/Civil Construction Starts — ConstructConnect



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Appendix A: Square Footage Forecasts

Table 11: U.S. Type-of-Structure Forecasts

(Square Feet Millions)

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Single-family	1,673.8	1,632.9	1,681.2	1,760.6	1,846.1	1,933.7	2,015.4
Multi-family	526.7	491.5	498.7	518.6	540.9	565.1	589.3
TOTAL RESIDENTIAL	2,200.5	2,124.4	2,179.9	2,279.2	2,387.0	2,498.8	2,604.7
<i>(Yr/yr % change)</i>	<i>-4.5%</i>	<i>-3.5%</i>	<i>2.6%</i>	<i>4.6%</i>	<i>4.7%</i>	<i>4.7%</i>	<i>4.2%</i>
Hotels/Motels	109.9	92.2	85.1	84.5	81.6	85.1	88.9
Shopping/Retail	76.2	64.8	59.7	63.3	68.6	74.6	79.3
Parking Garages	28.3	31.7	33.1	33.6	34.6	35.7	36.9
Amusement	28.0	22.3	20.9	22.6	24.3	25.8	27.1
Private Offices	92.7	96.0	90.1	95.9	99.5	102.2	104.7
Governmental Offices	15.6	15.7	16.2	16.7	17.0	17.3	17.6
Laboratories (Schools & Industrial)	4.9	2.9	3.1	3.3	3.5	3.6	3.7
Warehouses	203.9	173.9	153.2	165.1	175.0	184.7	193.6
Sports Stadium/Convention Center	13.1	19.2	13.5	16.6	18.2	18.9	19.4
Transportation Terminals	6.2	8.9	10.0	11.2	12.3	13.6	14.9
TOTAL COMMERCIAL	578.8	527.4	484.8	512.7	534.5	561.6	586.1
<i>(Yr/yr % change)</i>	<i>-15.1%</i>	<i>-8.9%</i>	<i>-8.1%</i>	<i>5.7%</i>	<i>4.3%</i>	<i>5.1%</i>	<i>4.4%</i>
TOTAL INDUSTRIAL (manufacturing)	99.2	85.1	49.6	47.8	48.9	50.8	52.8
<i>(Yr/yr % change)</i>	<i>7.5%</i>	<i>-14.2%</i>	<i>-41.7%</i>	<i>-3.6%</i>	<i>2.1%</i>	<i>3.9%</i>	<i>4.0%</i>
Religious	6.2	4.8	5.1	5.1	5.2	5.3	5.3
Hospitals/Clinics	25.4	26.3	28.7	34.0	40.5	48.2	57.5
Nursing Homes/Assisted Living	45.5	39.4	42.6	44.1	45.7	47.0	48.2
Libraries/Museums	3.9	3.1	2.9	3.1	3.2	3.3	3.4
Courthouse	2.8	1.9	1.8	2.0	2.1	2.2	2.2
Police/Fire	7.7	7.7	7.9	8.5	8.9	9.3	9.6
Prisons	4.5	2.2	2.5	2.6	2.7	2.8	2.9
Military	10.8	13.6	15.7	17.4	18.3	18.9	19.4
Educational Facilities	156.3	164.2	170.4	172.8	174.9	177.0	179.7
MED misc	22.7	18.8	19.7	21.4	22.5	23.3	23.9
TOTAL INSTITUTIONAL	285.8	282.0	297.2	311.1	323.9	337.1	352.0
<i>(Yr/yr % change)</i>	<i>-6.8%</i>	<i>-1.3%</i>	<i>5.4%</i>	<i>4.7%</i>	<i>4.1%</i>	<i>4.1%</i>	<i>4.4%</i>
Miscellaneous Non-Res Building	25.9	24.9	25.0	24.9	25.2	25.6	25.8
TOTAL NON-RES BLDG	989.7	919.5	856.6	896.5	932.5	975.0	1,016.7
<i>(Yr/yr % change)</i>	<i>-10.8%</i>	<i>-7.1%</i>	<i>-6.8%</i>	<i>4.7%</i>	<i>4.0%</i>	<i>4.6%</i>	<i>4.3%</i>
RESIDENTIAL + NON-RES BLDG	3,190.1	3,043.9	3,036.5	3,175.7	3,319.4	3,473.8	3,621.5
<i>(Yr/yr % change)</i>	<i>-6.6%</i>	<i>-4.6%</i>	<i>-0.2%</i>	<i>4.6%</i>	<i>4.5%</i>	<i>4.7%</i>	<i>4.3%</i>

EXPLANATION: Table 11 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 12 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'.

The square footage forecasts are largely determined by dividing the dollar value forecasts by an average dollar-per-square-foot value. The underlying dollar-per-square-foot calculation is based on the most relevant of current data. While the projected dollar values are generated through econometric modeling driven by key economic and demographic variables, both the dollar value and square footage forecasts also allow for discretionary overrides when warranted by extraordinary circumstances, such as unique mega project start-ups.

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

Appendix A: Square Footage Forecasts

Table 12: U.S. Type-of-Structure Forecasts

Arranged to match the alphabetical category drop-down menus in INSIGHT (Square Feet Millions)

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Summary							
NON-RESIDENTIAL BUILDING	989.7	919.5	856.6	896.5	932.5	975.0	1,016.7
RESIDENTIAL	2,200.5	2,124.4	2,179.9	2,279.2	2,387.0	2,498.8	2,604.7
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,190.1	3,043.9	3,036.5	3,175.7	3,319.4	3,473.8	3,621.5
Verticals							
Offices (private)	92.7	96.0	90.1	95.9	99.5	102.2	104.7
Parking Garages	28.3	31.7	33.1	33.6	34.6	35.7	36.9
Transportation Terminals	6.2	8.9	10.0	11.2	12.3	13.6	14.9
Commercial	127.2	136.5	133.1	140.7	146.4	151.5	156.5
(Yr/Yr % change)	-12.4%	7.3%	-2.5%	5.7%	4.0%	3.5%	3.3%
Amusement	28.0	22.3	20.9	22.6	24.3	25.8	27.1
Libraries / Museums	3.9	3.1	2.9	3.1	3.2	3.3	3.4
Religious	6.2	4.8	5.1	5.1	4.8	5.3	5.3
Sports Arenas / Convention Centers	13.1	19.2	13.5	16.6	18.2	18.9	19.4
Community	51.3	49.5	42.5	47.4	50.8	53.2	55.1
(Yr/Yr % change)	-20.1%	-3.5%	-14.1%	11.5%	7.4%	4.7%	3.6%
College / University	40.0	37.3	36.1	35.6	35.5	35.5	36.0
Elementary / Pre School	43.2	47.1	48.6	50.3	51.4	52.6	54.0
Jr / Sr High School	69.0	74.1	80.0	81.1	81.8	82.5	83.2
Special / Vocational	4.1	5.7	5.7	5.9	6.1	6.3	6.5
Educational	156.3	164.2	170.4	172.8	174.9	177.0	179.7
(Yr/Yr % change)	-3.3%	5.1%	3.8%	1.4%	1.2%	1.2%	1.6%
Courthouses	2.8	1.9	1.8	2.0	2.1	2.2	2.2
Fire and Police Stations	7.7	7.7	7.9	8.5	8.9	9.3	9.6
Government Offices	15.6	15.7	16.2	16.7	17.0	17.3	17.6
Prisons	4.5	2.2	2.5	2.6	2.7	2.8	2.9
Government	30.5	27.4	28.3	29.7	30.8	31.6	32.3
(Yr/Yr % change)	-1.5%	-10.0%	3.3%	4.9%	3.5%	2.8%	2.2%
Industrial Labs / Labs / School Labs	4.9	2.9	3.1	3.3	3.5	3.6	3.7
Manufacturing	99.2	85.1	49.6	47.8	48.9	50.8	52.8
Warehouses	203.9	173.9	153.2	165.1	175.0	184.7	193.6
Industrial	308.0	261.9	205.9	216.2	227.3	239.1	250.2
(Yr/Yr % change)	-1.5%	-15.0%	-21.4%	5.0%	5.1%	5.2%	4.6%
Hospitals / Clinics	25.4	26.3	28.7	34.0	40.5	48.2	57.5
Medical Misc.	22.7	18.8	19.7	21.4	22.5	23.3	23.9
Nursing Homes	45.5	39.4	42.6	44.1	45.7	47.0	48.2
Medical	93.6	84.5	91.0	99.6	108.6	118.5	129.5
(Yr/Yr % change)	-11.2%	-9.7%	7.6%	9.5%	9.1%	9.1%	9.3%
Military	10.8	13.6	15.7	17.4	18.3	18.9	19.4
(Yr/Yr % change)	-15.1%	25.3%	15.5%	10.8%	5.2%	3.2%	3.0%
Hotels	109.9	92.2	85.1	84.5	81.6	85.1	88.9
Retail Misc.	25.9	24.9	25.0	24.9	25.2	25.6	25.8
Shopping	76.2	64.8	59.7	63.3	68.6	74.6	79.3
Retail	212.0	181.9	169.7	172.7	175.4	185.3	194.0
(Yr/Yr % change)	-23.3%	-14.2%	-6.7%	1.7%	1.6%	5.6%	4.7%
NON-RESIDENTIAL BUILDING	989.7	919.5	856.6	896.5	932.5	975.0	1,016.7
(Yr/Yr % change)	-10.8%	-7.1%	-6.8%	4.7%	4.0%	4.6%	4.3%
Multi-Family	526.7	491.5	498.7	518.6	540.9	565.1	589.3
Single-Family	1,673.8	1,632.9	1,681.2	1,760.6	1,846.1	1,933.7	2,015.4
RESIDENTIAL	2,200.5	2,124.4	2,179.9	2,279.2	2,387.0	2,498.8	2,604.7
(Yr/Yr % change)	-4.5%	-3.5%	2.6%	4.6%	4.7%	4.7%	4.2%
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,190.1	3,043.9	3,036.5	3,175.7	3,319.4	3,473.8	3,621.5
(Yr/Yr % change)	-6.6%	-4.6%	-0.2%	4.6%	4.5%	4.7%	4.3%

EXPLANATION: Table 11 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 12 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 of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

Appendix A: Square Footage Forecasts

Table 13: Canada Type-of-Structure Forecasts

(Square Feet Millions)

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Single-family	124.8	106.4	115.9	125.6	135.7	144.2	151.9
Multi-family	80.5	77.5	78.5	81.9	85.9	89.3	92.8
TOTAL RESIDENTIAL	205.3	183.9	194.4	207.5	221.5	233.6	244.7
<i>(Yr/yr % change)</i>	<i>-8.9%</i>	<i>-10.4%</i>	<i>5.7%</i>	<i>6.7%</i>	<i>6.8%</i>	<i>5.4%</i>	<i>4.8%</i>
Hotels/Motels	1.9	1.9	2.5	3.1	3.5	3.8	3.9
Private Offices	9.1	9.9	10.2	9.6	9.0	8.5	7.7
Governmental Offices	1.9	1.8	1.9	2.1	2.2	2.3	2.4
Shopping/Retail	6.5	9.3	6.2	5.9	6.0	6.3	6.8
Retail Miscellaneous	1.1	1.2	1.1	1.2	1.2	1.3	1.4
Parking Garages	0.2	1.4	0.6	0.7	0.8	0.8	0.8
Amusement	4.8	3.0	3.2	3.5	3.8	3.9	4.1
Warehouses	13.0	7.2	8.0	9.0	10.1	10.9	11.6
TOTAL COMMERCIAL	38.6	35.7	33.8	35.1	36.6	37.8	38.8
<i>(Yr/yr % change)</i>	<i>-0.1%</i>	<i>-7.6%</i>	<i>-5.2%</i>	<i>3.8%</i>	<i>4.4%</i>	<i>3.1%</i>	<i>2.6%</i>
TOTAL INDUSTRIAL (manufacturing)	7.7	6.1	6.6	7.0	7.4	7.6	7.8
<i>(Yr/yr % change)</i>	<i>47.1%</i>	<i>-20.3%</i>	<i>8.6%</i>	<i>5.3%</i>	<i>5.0%</i>	<i>4.1%</i>	<i>2.5%</i>
Religious	0.3	0.1	0.2	0.2	0.2	0.2	0.2
Hospitals/Clinics	9.7	7.5	7.9	8.4	8.9	9.3	9.7
MED misc	0.6	0.9	1.3	1.7	1.9	2.1	2.3
Transportation Terminals*	4.0	0.2	0.9	1.1	1.1	1.1	1.1
Police/Fire	1.7	0.9	1.2	1.3	1.3	1.3	1.4
Educational Facilities	11.9	10.1	11.0	11.1	11.3	11.5	11.7
TOTAL INSTITUTIONAL	28.2	19.8	22.5	23.7	24.7	25.6	26.4
<i>(Yr/yr % change)</i>	<i>10.2%</i>	<i>-30.0%</i>	<i>14.1%</i>	<i>5.4%</i>	<i>3.8%</i>	<i>3.7%</i>	<i>3.1%</i>
TOTAL NON-RES BLDG	74.5	61.5	63.0	65.8	68.7	71.0	73.0
<i>(Yr/yr % change)</i>	<i>7.2%</i>	<i>-17.4%</i>	<i>2.4%</i>	<i>4.5%</i>	<i>4.3%</i>	<i>3.4%</i>	<i>2.8%</i>
RESIDENTIAL + NON-RES BLDG	279.8	245.5	257.4	273.3	290.2	304.6	317.7
<i>(Yr/yr % change)</i>	<i>-5.1%</i>	<i>-12.3%</i>	<i>4.9%</i>	<i>6.2%</i>	<i>6.2%</i>	<i>5.0%</i>	<i>4.3%</i>

* With respect to Tables 11 and 13, 'transportation terminals' is the one type-of-structure that is categorized differently in Canada (institutional) than in the U.S. (commercial), for reasons having to do with government statistics.

EXPLANATION: Table 13 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 14 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 of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

Appendix A: Square Footage Forecasts

Table 14: Canada Type-of-Structure Forecasts

Arranged to match the alphabetical category drop-down menus in INSIGHT (Square Feet Millions)

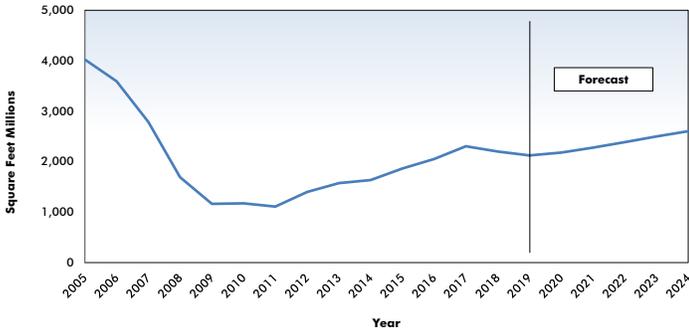
	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Summary							
NON-RESIDENTIAL BUILDING	74.5	61.5	63.0	65.8	68.7	71.0	73.0
RESIDENTIAL	205.3	183.9	194.4	207.5	221.5	233.6	244.7
RESIDENTIAL + NON-RESIDENTIAL BUILDING	279.8	245.5	257.4	273.3	290.2	304.6	317.7
Verticals							
Offices (private)	9.1	9.9	10.2	9.6	9.0	8.5	7.7
Parking Garages	0.2	1.4	0.6	0.7	0.8	0.8	0.8
Transportation Terminals	4.0	0.2	0.9	1.1	1.1	1.1	1.1
Commercial	13.4	11.5	11.8	11.4	10.9	10.3	9.7
(Yr/yr % change)	73.4%	-14.2%	2.4%	-3.2%	-4.6%	-5.0%	-6.6%
Amusement	4.8	3.0	3.2	3.5	3.8	3.9	4.1
Religious	0.3	0.1	0.2	0.2	0.2	0.2	0.2
Community	5.2	3.1	3.4	3.7	4.0	4.2	4.3
(Yr/yr % change)	-15.2%	-40.5%	11.1%	8.3%	7.0%	4.8%	3.6%
Educational	11.9	10.1	11.0	11.1	11.3	11.5	11.7
(Yr/yr % change)	21.0%	-15.2%	9.1%	0.9%	2.0%	2.0%	1.7%
Fire and Police Stations	1.7	0.9	1.2	1.3	1.3	1.3	1.4
Government Offices	1.9	1.8	1.9	2.1	2.2	2.3	2.4
Government	3.6	2.8	3.1	3.3	3.5	3.6	3.7
(Yr/yr % change)	-7.6%	-22.6%	12.3%	7.1%	5.6%	2.9%	2.8%
Manufacturing	7.7	6.1	6.6	7.0	7.4	7.6	7.8
Warehouses	13.0	7.2	8.0	9.0	10.1	10.9	11.6
Industrial	20.7	13.3	14.7	16.0	17.4	18.5	19.5
(Yr/yr % change)	24.7%	-35.9%	10.3%	8.8%	9.2%	6.3%	5.2%
Hospitals / Clinics	9.7	7.5	7.9	8.4	8.9	9.3	9.7
Medical Misc.	0.6	0.9	1.3	1.7	1.9	2.1	2.3
Medical	10.2	8.4	9.2	10.1	10.7	11.4	12.0
(Yr/yr % change)	-17.3%	-18.0%	9.2%	10.2%	6.3%	6.2%	4.9%
Hotels	1.9	1.9	2.5	3.1	3.5	3.8	3.9
Retail Misc.	1.1	1.2	1.1	1.2	1.2	1.3	1.4
Shopping	6.5	9.3	6.2	5.9	6.0	6.3	6.8
Retail	9.5	12.4	9.8	10.2	10.8	11.4	12.1
(Yr/yr % change)	-26.7%	31.1%	-20.7%	3.9%	5.6%	5.7%	6.1%
NON-RESIDENTIAL BUILDING	74.5	61.5	63.0	65.8	68.7	71.0	73.0
(Yr/yr % change)	7.2%	-17.4%	2.4%	4.5%	4.3%	3.4%	2.8%
Multi-Family	80.5	77.5	78.5	81.9	85.9	89.3	92.8
Single-Family	124.8	106.4	115.9	125.6	135.7	144.2	151.9
RESIDENTIAL	205.3	183.9	194.4	207.5	221.5	233.6	244.7
(Yr/yr % change)	-8.9%	-10.4%	5.7%	6.7%	6.8%	5.4%	4.8%
RESIDENTIAL + NON-RESIDENTIAL BUILDING	279.8	245.5	257.4	273.3	290.2	304.6	317.7
(Yr/yr % change)	-5.1%	-12.3%	4.9%	6.2%	6.2%	5.0%	4.3%

EXPLANATION: Table 13 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 14 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'.

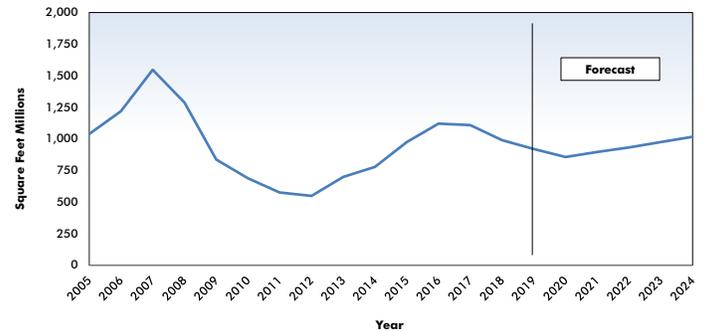
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

Graph 37: U.S. Residential Construction Starts — ConstructConnect



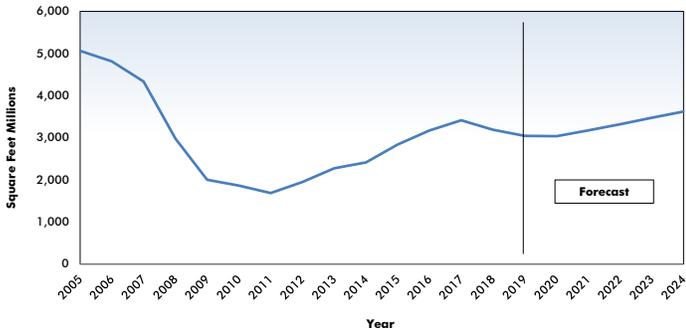
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 38: U.S. Non-Residential Building Construction Starts — ConstructConnect



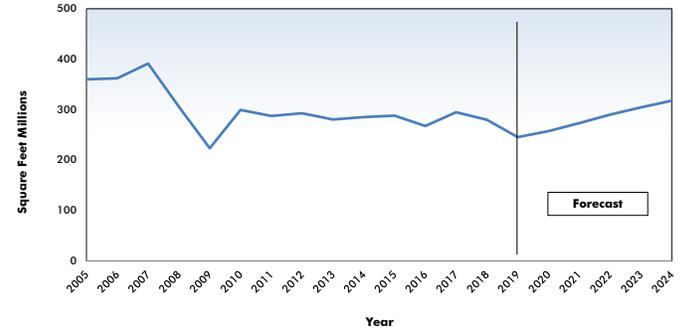
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 39: U.S. Residential + Non-Residential Building Construction Starts — ConstructConnect



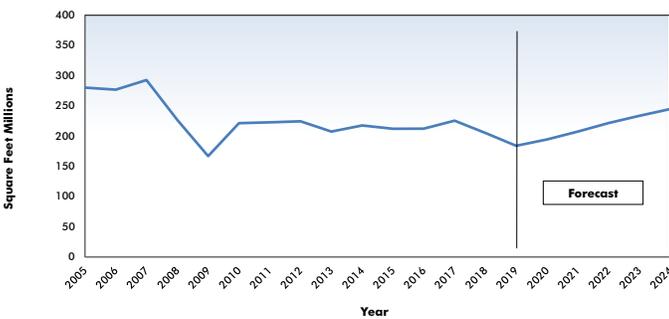
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 40: Canada Residential + Non-Residential Building Construction Starts — ConstructConnect



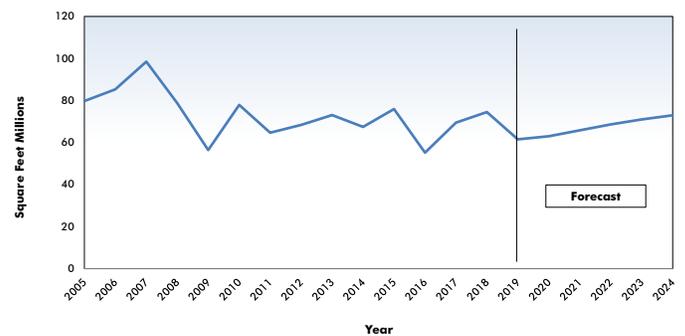
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 41: Canada Residential Construction Starts — ConstructConnect



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 42: Canada Non-Residential Building Construction Starts — ConstructConnect



Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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