

# Construction Starts Forecast

For April 2019 Release

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## Highlights

- US construction starts declined by 12.7% year-on-year in Q1 2019 with declines in each of the three headline sectors of residential building, non-residential building and civil engineering.
- Economic momentum is expected to slow gradually in 2019 due to reduced fiscal stimulus, subdued global economic activity and lingering trade tensions. Nonetheless, US GDP is forecast to post reasonable growth of 2.3% in 2019, down from 2.9% last year. Strong private sector confidence, a solid labor market and a more accommodative monetary policy stance should prop up economic growth this year.
- Total US construction starts are expected to fall 1.5% in 2019 before improving in 2020. Residential starts are expected to decline, driven by affordability issues and rising labor and material costs. Non-residential building starts are also expected to fall with a weaker investment outlook weighing on the prospects of several sectors. Growth is only expected in the engineering sector, underpinned by a number of upcoming projects in the miscellaneous civil engineering sector (including oil & gas projects).
- Canadian construction starts declined by 45.4% year-on-year in Q1 2019 with steep declines in all three headline sectors. However, the start of a large metro project in Montreal in the same period a year earlier exacerbated the annual decline in the non-residential sector.
- Total Canadian construction starts are forecast to decline by 9.8% this year, before returning to growth of 7.4% in 2020. Both the residential and non-residential building segments are expected to contract, by 14.1% and 17.3% respectively, although the latter decline follows annual growth of nearly 90% in 2018. Civil engineering construction is expected to post modest growth of 3.5%, driven by construction of new oil & gas pipeline projects.

Sources: ConstructConnect\*/Oxford Economics.  
Forecast reflects actual starts through Q1 2019.

The remarkable strength and longevity of the current U.S. economic expansion is demonstrated by the fact that initial jobless claims have now been below 300,000 for 214 weeks in a row, or a little more than four years.



## Overview

### US construction starts contracted in Q1

Total US construction starts contracted by 12.7% year-on-year in Q1 2019, the third consecutive quarter of annual declines. All three headline segments of residential, non-residential and civil engineering fell from their level a year earlier. The decline in new residential construction was driven by a 28.2% fall in groundbreaking on apartment complexes and a shallower 2.5% decrease in single-family construction.

In the non-residential building segment, the picture across the subsectors was mixed. Several subsectors experienced double-digit annual declines, including private office building, amusement, religious facilities, prisons, warehousing, medical facilities and retail. However, these declines were partially offset by strong growth in a number of other sectors. Factory construction rose 135% from the same period a year earlier, boosted by several large projects. Groundbreaking began on two large projects in manufacturing in Texas: a \$1.5 billion ethane exporting facility in January and a \$1.5 billion expansion of an ExxonMobil refining facility in February. In addition, construction started on two large automotive plants in Alabama in March, also classified in the industrial sector. Outside of manufacturing, other sectors with annual increases of over 30% included transportation terminals, parking garages, libraries & museums, courthouses and industrial laboratories.

The fall in civil engineering projects was driven by a 65% year-on-year decline in the miscellaneous civil engineering sector, which includes oil & gas projects. However, this decline may be overstated, as a \$5.5 billion pipeline project started in West Virginia in March 2018, bumping up last year's Q1 figure. Nonetheless, other engineering sub-sectors, including airports and power infrastructure, fell sharply (by 47% and 88% respectively) in absence of any mega projects boosting growth in Q1 2019.

Other indicators of sector health have improved somewhat over the last quarter. Following declines in the final two quarters

	2017	2018	2019	2020	2021	2022	2023
<b>US</b>							
<b>Macro variables</b>							
GDP	2.2	2.9	2.3	1.8	1.8	1.9	1.9
Population growth	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Unemployment rate (%)	4.4	3.9	3.7	3.5	3.7	3.8	3.9
Real disposable income	2.6	2.9	2.3	2.0	1.7	1.8	1.9
Central bank rate (%)	1.0	1.8	2.4	2.4	2.4	2.4	2.4
10-year government yield (%)	2.3	2.9	2.6	2.7	2.9	3.0	3.1
<b>Construction starts (y/y % change of \$ volumes)</b>							
Total starts	14.5	-3.5	-1.5	5.4	3.7	4.1	4.2
Residential	16.2	-7.6	-3.3	5.4	4.2	6.0	7.0
Non-res bldg	8.7	-5.0	-2.1	3.0	1.9	2.2	1.7
Civil engineering	25.1	8.6	3.0	9.6	6.1	3.9	3.5
<b>Canada</b>							
<b>Macro variables</b>							
GDP	3.0	1.8	1.1	1.2	1.6	1.7	1.6
Population growth	1.2	1.4	1.2	0.9	0.9	0.9	0.9
Unemployment rate (%)	6.3	5.8	5.8	6.0	6.0	6.0	6.0
Real disposable income	3.9	1.8	1.8	1.9	1.9	1.7	1.8
Central bank rate (%)	0.7	1.4	1.8	2.0	2.2	2.5	2.5
10-year government yield (%)	1.8	2.3	1.8	2.1	2.5	2.8	2.9
Exchange rate C\$ per US\$	1.30	1.30	1.32	1.30	1.28	1.27	1.26
<b>Construction starts (y/y % change of \$ volumes)</b>							
Total starts	17.7	27.1	-9.8	7.4	5.0	5.0	3.6
Residential	7.9	-7.8	-14.1	4.1	4.5	4.8	4.7
Non-res bldg	61.1	89.1	-17.3	0.7	-0.6	-1.1	-3.1
Civil engineering	5.7	16.0	3.5	16.5	10.3	10.0	7.7

of 2018, the Census Bureau's put-in-place measure of construction spending grew by 2.5% and 1% on the month in January and February respectively. Establishment-based employment data show solid job growth in the construction sector in Q1, with 47,000 jobs added over the quarter. However, labor shortages, especially for skilled workers, are of growing concern. The JOLTS labor market survey shows job vacancy rates in the construction sector close to historic highs, although the monthly readings are volatile. Meanwhile, hourly earnings in the construction sector were up 3.1% year-on-year in Q1 and the unemployment rate fell to an historic Q1 low of 6.6% (the data are not seasonally adjusted). Some of the recent weakness in groundbreaking may be a sign that labor shortages are limiting the extent

to which construction activity can keep pace with demand.

### Moderate economic slowdown in 2019

Economic momentum is expected to slow gradually in 2019 due to reduced fiscal stimulus, subdued global economic activity and lingering trade tensions. Nonetheless, US GDP is forecast to post reasonable growth of 2.3% in 2019, down from 2.9% growth last year. Strong private sector confidence, a solid labor market and a more accommodative monetary policy stance should prop up economic growth this year.

The labor market continues to be a bright spot — the economy added 196,000 jobs in March and average hourly earnings

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grew by 3.2% year-on-year. This late in the economic cycle, job growth is expected to slow through the course of the year, but we expect solid growth of around 150,000 jobs per month. In addition, rising incomes and strong household wealth should continue to support consumer confidence and solid growth in household spending.

Business activity, by contrast, is expected to moderate in 2019. The boost from energy investment is expected to ease, and the benefits from the Tax Cuts and Jobs Act are expected to gradually fade. Business investment growth is expected to slow to 4% in 2019, from 6.9% in 2018. Housing activity is also forecast to struggle due to declining affordability and cost pressures faced by builders. Net trade is expected to be a drag on growth this year due to a weak external backdrop and continued trade tensions.

The Federal Reserve delivered a dovish outlook at the conclusion of its March policy meeting. The Fed now forecasts no more interest rate hikes in 2019, which will keep the fed funds target range at 2.25-2.5%. In addition, the Fed will also taper its balance sheet normalization process.

Modest contraction in new US construction this year

After a weak first quarter, we now expect US construction starts to fall for the second consecutive year in 2019, down 1.5%, before recovering in 2020. Residential starts are expected to shrink 3.3% and non-residential building is expected to fall 2.1%, with growth only expected in the engineering sector.

Despite weakness in Q1, civil engineering construction starts are expected to grow 3% in 2019, with large pipeline and airport projects expected to come on stream by the end of the year. In particular, construction of the Keystone XL pipeline across several states is expected to begin by year-end. In addition, new projects such as the Driftwood pipeline in Louisiana should see construction begin over the next few months. The West Texas Intermediate oil price has been trending up in recent months, towards about \$62 per barrel at the time of writing (from a recent low of \$42 in late-December), which should encourage investment in the energy sector.

Table 2: Drivers of headline sectors		
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

Outside of energy, construction of roads and bridges is also expected to pick up. Certainly, the need for such traditional infrastructure projects is there — the American Society of Civil Engineers gave US infrastructure a D+ in its most recent report card (from 2017), but the biggest challenge is in state & local politics and funding.

In the non-residential segment, factory construction is a key driver of growth over the next two years. Groundbreaking on several new LNG projects is expected to start over the next two years (at least three of which are in Louisiana) and construction is also expected on a steel plant and plastics plant. The competitiveness of US manufacturing has improved in recent years, due to cheap energy prices, a skilled workforce, advanced technology supply chains and a huge internal market, and factory construction has benefitted as a result. Transportation terminals is another segment with several large upcoming bus and railway projects over the next two years. Strong growth in these two segments, however, is more than offset by double-digit declines in several sectors, such as hotels & motels, retail, amusement, private office building, warehouses and hospitals.

The contraction in residential construction starts is driven by a 17.1% decline in the construction of new multi-family units. The outlook for the single-family segment is slightly more positive, driven by rising incomes, affordability issues in cities (with

a greater share of apartment living), family formation by the millennial generation and some remaining scope for catch-up growth following a steep decline during the financial crisis. Despite this, construction of new single-family units is seen growing just 2.9% in 2019, and supply-side constraints mean there are reasons to remain cautious. Labor shortages are putting upward pressure on wages, and with the tighter immigration stance of the Trump administration, there is limited scope to bring in labor from overseas. Furthermore, higher material costs are also weighing on homebuilding. Tariffs on Canadian timber imports, for example, are pushing up timber prices. Roughly one-third of softwood lumber used in US homebuilding is imported from Canada, and the National Association of Home Builders estimates the tariffs increase the cost of building a home by \$1,350.

Construction weak in 2019 in Canada

Total Canadian construction starts declined by 45.4% year-on-year in Q1 2019 with declines in each of the three headline segments of non-residential, residential and civil engineering. However, groundbreaking began in 2018 Q1 on a \$6.3 billion metro line extension in Montreal which distorts the year-on-year growth calculations — excluding this project, construction starts fell by a more mild 21% from the same

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period a year earlier. Non-residential construction fell 60.5% year-on-year, but this was affected by the metro project dropping out of the annual calculation (transportation terminals declined by 99.9%). However, several other sectors also experienced significant annual declines of more than 50%, including hotels & motels, miscellaneous retail, and miscellaneous medical. Strong gains of more than 100% year-on-year growth were posted in government offices, private office building, and warehouse construction, although the latter was due to a particularly weak Q1 last year rather than any major projects. New civil engineering construction contracted 42% from a year earlier with double-digit declines in all sub-sectors except for power infrastructure and roads. New residential construction fell 21.5% from the same period a year earlier, the steepest decline since the global financial crisis. Single-family housing starts experienced a particularly sharp drop, down 30.8% from a year earlier and multi-family starts were down 13.3%.

Canadian economic activity is expected to cool in 2019 and 2020, with GDP forecast to expand by 1.1% and 1.2% respectively, down from 1.8% in 2018, and below its underlying potential of around 1.5%. The softer outlook reflects slower growth in both consumer spending and fixed investment. High house prices and household indebtedness have left Canadian households vulnerable, and we forecast spending on interest-sensitive housing and consumer durables to cool further this year. Moreover, higher oil prices and a new federal carbon tax, which came into effect on April 1st, will combine to reduce disposable income, although the return of the carbon tax proceeds to the economy should mitigate its

impact. Business activity is also weakening driven by production cuts and transport bottlenecks in the energy sector. We expect the Bank of Canada to hold rates steady for the rest of 2019 given weak growth, low inflationary pressures and a more accommodative monetary policy stance in the US.

Total Canadian starts are expected to decline by 9.8% this year amid declines in both non-residential and residential building construction, but partially offset by a small increase in civil engineering construction. Non-residential building construction is forecast to shrink 17.3%, but this should be seen in the context of nearly 90% growth in 2018. This is especially the case in the transportation terminal sector, where the Montreal metro extension, begun in 2018, has fallen out of the annual calculation. Despite this, several new transport projects are in the pipeline, in Calgary, Edmonton and Montreal for example, so sector construction should remain high in a historic context. Manufacturing construction is also expected to decline this year as large projects in 2018 fall out of the annual calculation. Anecdotally, Canadian manufacturing has been struggling, most notably with the announced closure of GM's Oshawa plant. Nonetheless, construction on a number of LNG plants is expected over the next few years, which should keep factory construction at a high, albeit declining, level.

After a weak start to the year, civil engineering construction is expected to strengthen later in 2019, growing by 3.5% for the year as a whole. Strong construction in the miscellaneous civil engineering sector will be a key driver. Oil & gas investment fell sharply during the oil price collapse of 2014-16 — construction in the

miscellaneous civil sector fell nearly 80% from 2014-18. However, the oil price has been trending up in recent months, and downstream transport bottlenecks have created the need for new pipeline and railroad transport. Indeed, construction of a number of new pipeline projects are expected over the forecast horizon, including two pipeline projects expected to begin construction before the end of this year. Despite a weak first quarter, construction in the miscellaneous civil sector is expected to pick up strongly over the course of 2019.

Residential construction starts are expected to shrink for the second consecutive year in 2019, by 14.1%, with declines expected in both the single-family and multi-family segments. High levels of household indebtedness, ongoing affordability issues and stagnant house prices have left the Canadian housing market vulnerable to an economic slowdown. Moreover, the government has tightened macroprudential regulation in an effort to cool overheating housing markets, particularly in Vancouver and Toronto, including implementing higher down-payment requirements, tougher loan-to-value ratios, and increases in mortgage insurance premiums. Such measures will weigh on homebuilding in the multi-family segment in particular. Although the single-family segment is expected to be especially weak this year, shrinking by 20%, demographic trends favor single-family homebuilding, so growth is more robust over the forecast period. Population growth in Canada is healthy, especially compared to other developed economies, and like in the US, a sizable millennial generation is forming families and moving into larger housing.



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

	Actuals		Forecasts				
	2017	2018	2019	2020	2021	2022	2023
Single-family	199.937	202.131	208.004	216.752	226.705	242.531	262.723
Multi-family	117.978	91.467	75.829	82.478	85.006	88.036	91.056
<b>TOTAL RESIDENTIAL</b>	<b>317.915</b>	<b>293.598</b>	<b>283.833</b>	<b>299.230</b>	<b>311.711</b>	<b>330.567</b>	<b>353.779</b>
(Yr/yr % change)	16.2%	-7.6%	-3.3%	5.4%	4.2%	6.0%	7.0%
Hotels/Motels	28.645	26.084	20.987	16.773	15.463	15.305	15.588
Shopping/Retail	19.999	17.709	14.748	14.827	15.381	16.276	16.947
Parking Garages	3.514	2.784	3.469	3.492	3.560	3.674	3.814
Amusement	7.854	8.508	7.212	7.711	8.099	8.434	8.692
Private Offices	28.974	28.945	25.328	26.750	26.375	25.991	25.838
Governmental Offices	10.572	10.731	11.110	11.447	11.688	11.907	12.087
Laboratories (Schools & Industrial)	2.994	2.958	3.719	3.979	4.186	4.369	4.541
Warehouses	21.567	20.913	18.716	19.061	19.618	20.376	20.853
Sports Stadium/Convention Center	15.493	7.265	8.904	9.969	10.125	9.817	9.126
Transportation Terminals	3.839	5.187	7.450	9.312	9.999	10.582	11.021
<b>TOTAL COMMERCIAL</b>	<b>143.452</b>	<b>131.085</b>	<b>121.645</b>	<b>123.320</b>	<b>124.493</b>	<b>126.731</b>	<b>128.506</b>
(Yr/yr % change)	4.7%	-8.6%	-7.2%	1.4%	1.0%	1.8%	1.4%
<b>TOTAL INDUSTRIAL (manufacturing)</b>	<b>36.748</b>	<b>35.305</b>	<b>40.157</b>	<b>41.458</b>	<b>42.538</b>	<b>44.351</b>	<b>45.761</b>
(Yr/yr % change)	81.9%	-3.9%	13.7%	3.2%	2.6%	4.3%	3.2%
Religious	2.246	2.134	2.045	2.119	2.130	2.141	2.152
Hospitals/Clinics	16.628	16.324	14.261	14.973	15.659	16.329	16.980
Nursing Homes/Assisted Living	11.906	10.523	10.697	11.139	11.563	11.923	12.252
Libraries/Museums	3.582	2.776	2.924	3.005	3.109	3.217	3.293
Courthouse	2.698	1.928	2.357	2.444	2.522	2.610	2.674
Police/Fire	2.858	3.026	3.140	3.276	3.435	3.602	3.712
Prisons	2.886	3.226	3.223	3.412	3.563	3.698	3.779
Military	4.776	5.301	5.717	6.661	7.021	7.294	7.513
Educational Facilities	69.453	70.319	70.208	72.649	73.476	73.946	74.180
MED misc	10.909	11.062	10.292	10.933	11.433	11.724	11.953
<b>TOTAL INSTITUTIONAL</b>	<b>127.941</b>	<b>126.617</b>	<b>124.863</b>	<b>130.610</b>	<b>133.910</b>	<b>136.484</b>	<b>138.487</b>
(Yr/yr % change)	2.6%	-1.0%	-1.4%	4.6%	2.5%	1.9%	1.5%
Miscellaneous Non-Res Building	7.661	7.071	7.036	7.111	7.182	7.269	7.340
<b>TOTAL NON-RES BLDG</b>	<b>315.802</b>	<b>300.079</b>	<b>293.700</b>	<b>302.499</b>	<b>308.123</b>	<b>314.835</b>	<b>320.094</b>
(Yr/yr % change)	8.7%	-5.0%	-2.1%	3.0%	1.9%	2.2%	1.7%
Airport	12.541	7.179	7.209	9.190	10.053	10.716	11.320
Roads	53.103	63.339	65.622	71.424	74.629	77.272	80.188
Bridges	20.610	24.030	25.999	27.332	28.020	28.712	29.386
Dams/Canal/Marine	5.089	6.655	6.473	6.592	6.834	7.089	7.334
Water & Sewage Treatment	32.041	29.578	30.091	32.719	34.720	36.241	37.777
Misc Civil (Power, etc.)	26.358	31.784	32.021	36.307	40.510	42.264	43.371
<b>TOTAL ENGINEERING</b>	<b>149.741</b>	<b>162.564</b>	<b>167.416</b>	<b>183.564</b>	<b>194.766</b>	<b>202.294</b>	<b>209.376</b>
(Yr/yr % change)	25.1%	8.6%	3.0%	9.6%	6.1%	3.9%	3.5%
<b>TOTAL NON-RESIDENTIAL</b>	<b>465.544</b>	<b>462.643</b>	<b>461.116</b>	<b>486.063</b>	<b>502.889</b>	<b>517.129</b>	<b>529.470</b>
(Yr/yr % change)	13.5%	-0.6%	-0.3%	5.4%	3.5%	2.8%	2.4%
<b>GRAND TOTAL</b>	<b>783.459</b>	<b>756.241</b>	<b>744.949</b>	<b>785.293</b>	<b>814.600</b>	<b>847.696</b>	<b>883.250</b>
(Yr/yr % change)	14.5%	-3.5%	-1.5%	5.4%	3.7%	4.1%	4.2%

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				
	2017	2018	2019	2020	2021	2022	2023
<b>Summary</b>							
CIVIL	149.741	162.564	167.416	183.564	194.766	202.294	209.376
NON-RESIDENTIAL BUILDING	315.802	300.079	293.700	302.499	308.123	314.835	320.094
RESIDENTIAL	317.915	293.598	283.833	299.230	311.711	330.567	353.779
GRAND TOTAL	783.459	756.241	744.949	785.293	814.600	847.696	883.250
<b>Verticals</b>							
Airport	12.541	7.179	7.209	9.190	10.053	10.716	11.320
All Other Civil	15.627	24.174	24.961	28.128	31.740	33.075	33.988
Bridges	20.610	24.030	25.999	27.332	28.020	28.712	29.386
Dams / Canals / Marine Work	5.089	6.655	6.473	6.592	6.834	7.089	7.334
Power Infrastructure	10.731	7.609	7.059	8.180	8.770	9.189	9.383
Roads	53.103	63.339	65.622	71.424	74.629	77.272	80.188
Water and Sewage Treatment	32.041	29.578	30.091	32.719	34.720	36.241	37.777
CIVIL	149.741	162.564	167.416	183.564	194.766	202.294	209.376
(Yr/Yr % change)	25.1%	8.6%	3.0%	9.6%	6.1%	3.9%	3.5%
Offices (private)	28.974	28.945	25.328	26.750	26.375	25.991	25.838
Parking Garages	3.514	2.784	3.469	3.492	3.560	3.674	3.814
Transportation Terminals	3.839	5.187	7.450	9.312	9.999	10.582	11.021
Commercial	36.326	36.917	36.248	39.554	39.934	40.247	40.672
(Yr/Yr % change)	3.2%	1.6%	-1.8%	9.1%	1.0%	0.8%	1.1%
Amusement	7.854	8.508	7.212	7.711	8.099	8.434	8.692
Libraries / Museums	3.582	2.776	2.924	3.005	3.109	3.217	3.293
Religious	2.246	2.134	2.045	2.130	2.130	2.141	2.152
Sports Arenas / Convention Centers	15.493	7.265	8.904	9.969	10.125	9.817	9.126
Community	29.175	20.683	21.084	22.804	23.463	23.610	23.263
(Yr/Yr % change)	50.1%	-29.1%	1.9%	8.2%	2.9%	0.6%	-1.5%
College / University	22.270	19.080	17.701	17.881	18.100	18.255	18.452
Elementary / Pre School	18.885	19.271	19.892	21.601	22.181	22.685	23.071
Jr / Sr High School	26.549	30.233	30.707	31.224	31.176	30.926	30.520
Special / Vocational	1.749	1.734	1.909	1.942	2.019	2.081	2.137
Educational	69.453	70.319	70.208	72.649	73.476	73.946	74.180
(Yr/Yr % change)	-0.9%	1.2%	-0.2%	3.5%	1.1%	0.6%	0.3%
Courthouses	2.698	1.928	2.357	2.444	2.522	2.610	2.674
Fire and Police Stations	2.858	3.026	3.140	3.276	3.435	3.602	3.712
Government Offices	10.572	10.731	11.110	11.447	11.688	11.907	12.087
Prisons	2.886	3.226	3.223	3.412	3.563	3.698	3.779
Government	19.013	18.911	19.830	20.579	21.208	21.817	22.252
(Yr/Yr % change)	-0.4%	-0.5%	4.9%	3.8%	3.1%	2.9%	2.0%
Industrial Labs / Labs / School Labs	2.994	2.958	3.719	3.979	4.186	4.369	4.541
Manufacturing	36.748	35.305	40.157	41.458	42.538	44.351	45.761
Warehouses	21.567	20.913	18.716	19.061	19.618	20.376	20.853
Industrial	61.309	59.176	62.592	64.497	66.342	69.095	71.155
(Yr/Yr % change)	57.6%	-3.5%	5.8%	3.0%	2.9%	4.2%	3.0%
Hospitals / Clinics	16.628	16.324	14.261	14.973	15.659	16.329	16.980
Medical Misc.	10.909	11.062	10.292	10.933	11.433	11.724	11.953
Nursing Homes	11.906	10.523	10.697	11.139	11.563	11.923	12.252
Medical	39.443	37.909	35.249	37.045	38.655	39.976	41.185
(Yr/Yr % change)	1.2%	-3.9%	-7.0%	5.1%	4.3%	3.4%	3.0%
Military	4.776	5.301	5.717	6.661	7.021	7.294	7.513
(Yr/Yr % change)	2.1%	11.0%	7.9%	16.5%	5.4%	3.9%	3.0%
Hotels	28.645	26.084	20.987	16.773	15.463	15.305	15.588
Retail Misc.	7.661	7.071	7.036	7.111	7.182	7.269	7.340
Shopping	19.999	17.709	14.748	14.827	15.381	16.276	16.947
Retail	56.306	50.864	42.772	38.710	38.025	38.850	39.875
(Yr/Yr % change)	-12.3%	-9.7%	-15.9%	-9.5%	-1.8%	2.2%	2.6%
NON-RESIDENTIAL BUILDING	315.802	300.079	293.700	302.499	308.123	314.835	320.094
(Yr/Yr % change)	8.7%	-5.0%	-2.1%	3.0%	1.9%	2.2%	1.7%
Multi-Family	117.978	91.467	75.829	82.478	85.006	88.036	91.056
Single-Family	199.937	202.131	208.004	216.752	226.705	242.531	262.723
RESIDENTIAL	317.915	293.598	283.833	299.230	311.711	330.567	353.779
(Yr/Yr % change)	16.2%	-7.6%	-3.3%	5.4%	4.2%	6.0%	7.0%
GRAND TOTAL	783.459	756.241	744.949	785.293	814.600	847.696	883.250
(Yr/Yr % change)	14.5%	-3.5%	-1.5%	5.4%	3.7%	4.1%	4.2%

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**

Actuals (Level in \$ Millions USD)		Forecasts (Year versus previous year % change)				
States (alphabetical by 2-letter code)	2018	2019	2020	2021	2022	2023
Alaska - AK	\$2,076	-17.3%	16.6%	3.4%	3.6%	3.2%
Alabama - AL	\$9,984	35.1%	-2.6%	3.7%	3.4%	4.7%
Arkansas - AR	\$5,804	2.3%	8.4%	4.0%	4.7%	4.5%
Arizona - AZ	\$18,458	-10.0%	0.8%	2.7%	4.4%	4.8%
California - CA*	\$69,710	-0.5%	0.9%	3.7%	3.7%	4.1%
Colorado - CO	\$19,043	8.6%	-2.2%	3.8%	4.9%	5.3%
Connecticut - CT	\$5,375	34.1%	4.8%	2.7%	2.6%	2.2%
District Of Columbia - DC	\$4,886	-8.2%	13.7%	6.0%	1.5%	2.3%
Delaware - DE	\$2,509	-1.2%	1.4%	3.3%	4.0%	4.1%
Florida - FL*	\$55,269	3.9%	6.2%	2.9%	4.4%	4.8%
Georgia - GA	\$24,431	9.1%	1.1%	3.2%	4.2%	4.2%
Hawaii - HI	\$2,903	6.7%	9.3%	4.6%	3.8%	2.9%
Iowa - IA	\$6,900	-12.2%	8.2%	3.4%	2.5%	3.6%
Idaho - ID	\$5,071	-9.8%	1.1%	2.9%	4.4%	4.8%
Illinois - IL	\$18,028	13.1%	5.6%	6.5%	2.3%	2.9%
Indiana - IN	\$13,321	13.7%	6.2%	2.8%	3.8%	3.2%
Kansas - KS	\$7,328	-11.2%	12.0%	3.3%	3.6%	3.3%
Kentucky - KY	\$9,197	-15.2%	12.2%	3.2%	3.9%	3.6%
Louisiana - LA	\$8,560	42.5%	5.1%	-1.3%	4.2%	4.2%
Massachusetts - MA	\$15,106	2.9%	1.3%	4.3%	2.5%	2.3%
Maryland - MD	\$11,324	12.9%	-5.5%	3.2%	2.6%	2.5%
Maine - ME	\$2,948	9.0%	-6.0%	2.2%	2.3%	3.5%
Michigan - MI	\$15,875	-12.1%	14.7%	5.2%	4.0%	3.0%
Minnesota - MN	\$14,711	-4.7%	11.1%	3.6%	3.5%	3.2%
Missouri - MO	\$11,538	-7.4%	-1.3%	3.0%	3.3%	3.0%
Mississippi - MS	\$4,208	9.6%	-0.3%	3.1%	3.0%	4.1%
Montana - MT	\$2,089	-1.5%	7.3%	3.2%	3.7%	3.5%
North Carolina - NC	\$29,111	-2.1%	3.3%	3.8%	4.9%	5.0%
North Dakota - ND	\$3,744	-41.3%	10.1%	4.4%	3.2%	4.6%
Nebraska - NE	\$3,750	26.8%	6.7%	4.3%	2.6%	4.0%
New Hampshire - NH	\$2,644	8.0%	8.6%	2.5%	3.5%	3.3%
New Jersey - NJ	\$12,402	-10.5%	13.5%	3.3%	3.4%	2.9%
New Mexico - NM	\$3,201	-8.7%	14.0%	3.4%	2.6%	3.8%
Nevada - NV	\$9,836	6.5%	0.7%	4.9%	4.2%	4.6%
New York - NY*	\$37,760	6.8%	17.8%	3.3%	3.3%	3.5%
Ohio - OH	\$22,298	-19.0%	15.1%	3.2%	3.3%	2.9%
Oklahoma - OK	\$8,621	13.3%	2.7%	4.0%	4.5%	4.5%
Oregon - OR	\$10,123	-4.8%	3.7%	4.0%	4.4%	4.4%
Pennsylvania - PA	\$21,669	8.4%	1.7%	2.6%	3.1%	2.8%
Rhode Island - RI	\$3,116	-46.4%	14.3%	3.2%	1.7%	2.7%
South Carolina - SC	\$13,047	5.6%	3.7%	2.9%	4.2%	4.5%
South Dakota - SD	\$2,388	7.4%	-9.4%	3.6%	3.0%	4.2%
Tennessee - TN	\$17,935	-0.3%	4.9%	3.1%	4.4%	4.4%
Texas - TX*	\$95,172	5.1%	8.3%	5.4%	6.0%	6.0%
Utah - UT	\$11,370	-18.9%	6.1%	3.1%	4.4%	4.5%
Virginia - VA	\$25,161	-19.5%	5.5%	3.5%	3.7%	3.7%
Vermont - VT	\$857	-7.8%	24.4%	4.0%	3.2%	4.0%
Washington - WA	\$22,507	-3.8%	0.6%	4.2%	4.3%	4.4%
Wisconsin - WI	\$23,666	-56.8%	-3.1%	3.5%	3.4%	3.2%
West Virginia - WV	\$7,781	-65.5%	10.2%	3.9%	3.3%	3.2%
Wyoming - WY	\$1,429	-2.1%	22.0%	3.7%	3.6%	3.4%
United States	\$756,240	-1.5%	5.4%	3.7%	4.1%	4.2%

\*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				
		2017	2018	2019	2020	2021	2022	2023
New York	Residential	15.218	9.635	10.496	12.858	13.182	13.735	14.359
	Non-res Building	21.955	17.325	18.571	20.328	20.661	21.109	21.432
	Engineering/Civil	12.929	10.799	11.260	14.316	15.230	15.849	16.676
	Total	50.101	37.760	40.327	47.502	49.072	50.694	52.467
	(Yr vs previous yr % Change)	20.8%	-24.6%	6.8%	17.8%	3.3%	3.3%	3.5%
Florida	Residential	28.404	26.507	27.661	30.187	31.392	33.346	35.869
	Non-res Building	20.326	18.701	19.233	19.348	19.246	19.596	19.828
	Engineering/Civil	9.727	10.061	10.529	11.430	12.079	12.544	12.957
	Total	58.458	55.269	57.423	60.965	62.716	65.486	68.654
	(Yr vs previous yr % Change)	24.2%	-5.5%	3.9%	6.2%	2.9%	4.4%	4.8%
Texas	Residential	42.241	41.556	43.413	49.819	52.655	56.544	61.190
	Non-res Building	44.902	33.488	35.589	35.813	37.156	38.903	40.461
	Engineering/Civil	14.867	20.128	21.013	22.689	24.378	25.583	26.654
	Total	102.009	95.172	100.015	108.321	114.189	121.030	128.305
	(Yr vs previous yr % Change)	14.3%	-6.7%	5.1%	8.3%	5.4%	6.0%	6.0%
California	Residential	30.170	26.791	23.380	23.191	23.993	25.329	27.206
	Non-res Building	32.879	25.901	28.855	29.697	30.417	31.065	31.457
	Engineering/Civil	15.443	17.018	17.145	17.095	18.147	18.826	19.645
	Total	78.492	69.710	69.380	69.983	72.557	75.220	78.307
	(Yr vs previous yr % Change)	31.5%	-11.2%	-0.5%	0.9%	3.7%	3.7%	4.1%

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

## Tweeted by ConstructConnect:

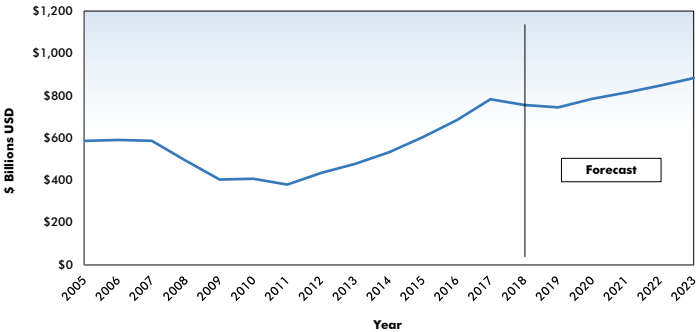
@ConstructConnx

There are currently five major cities in the U.S. that are standouts for having both low unemployment rates and rapid year-over-year jobs growth: Nashville, Orlando, San Francisco, San Jose and Austin.



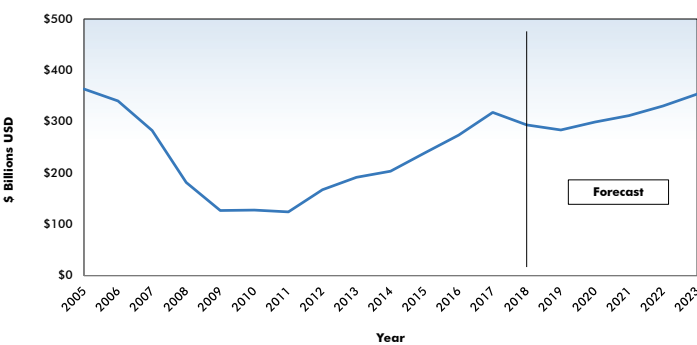


**Graph 1: U.S. Grand Total Construction Starts — ConstructConnect**



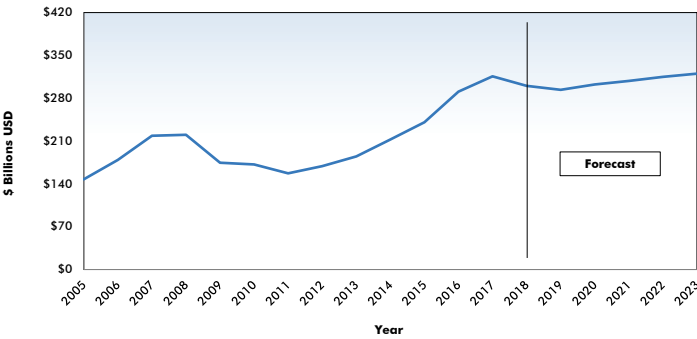
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



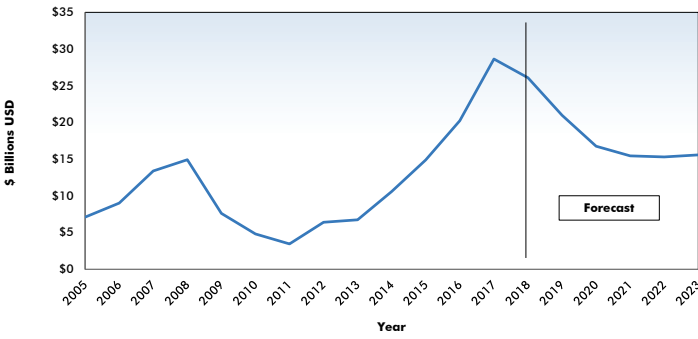
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



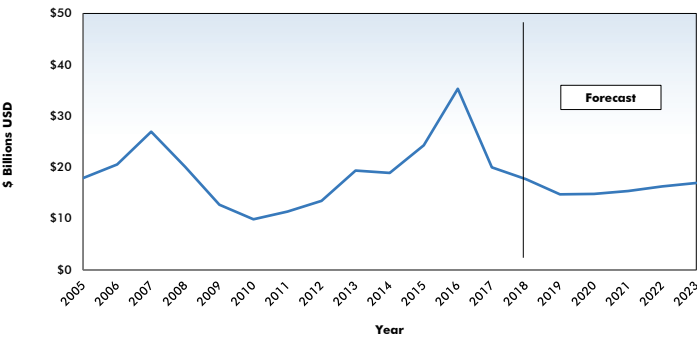
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



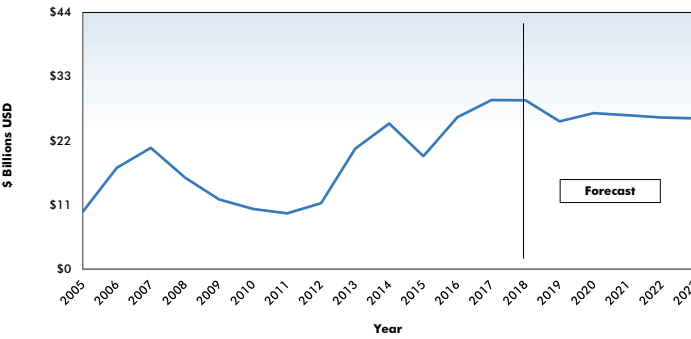
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



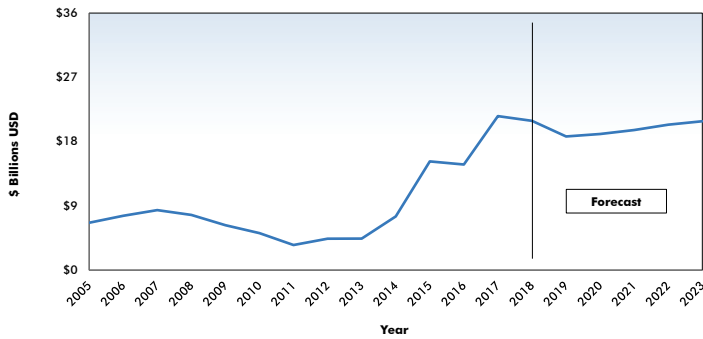
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



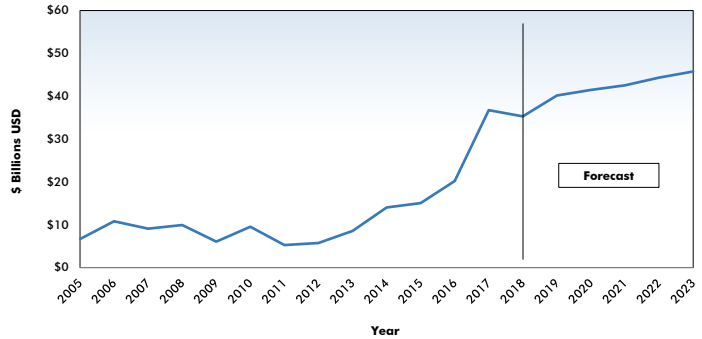
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**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**



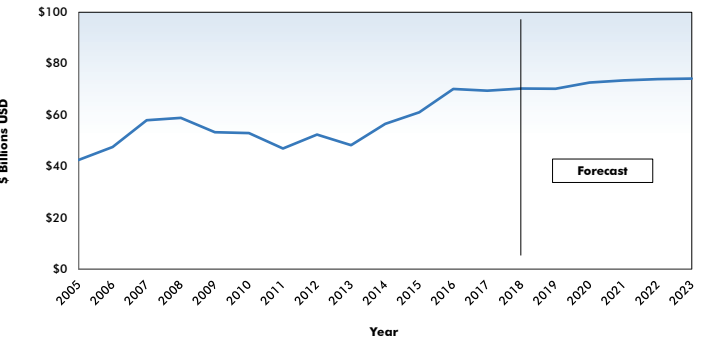
Source of actuals: ConstructConnect “Insight” / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



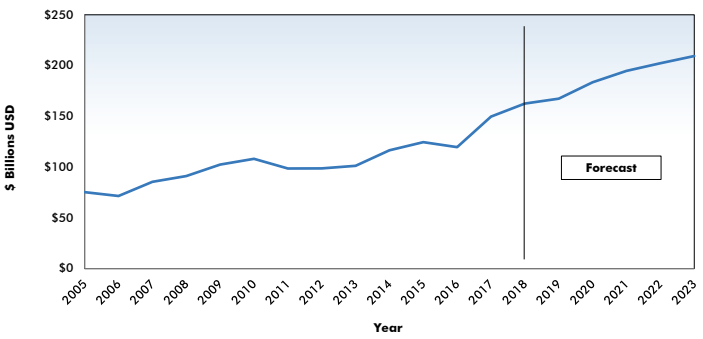
Source of actuals: ConstructConnect “Insight” / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



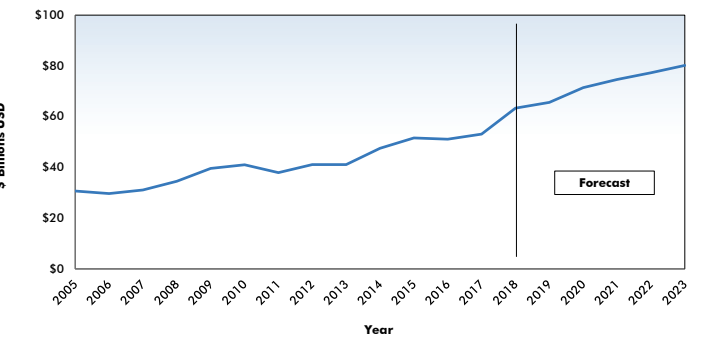
Source of actuals: ConstructConnect “Insight” / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



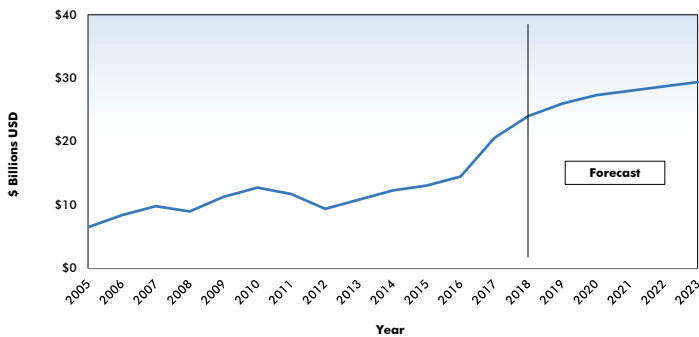
Source of actuals: ConstructConnect “Insight” / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



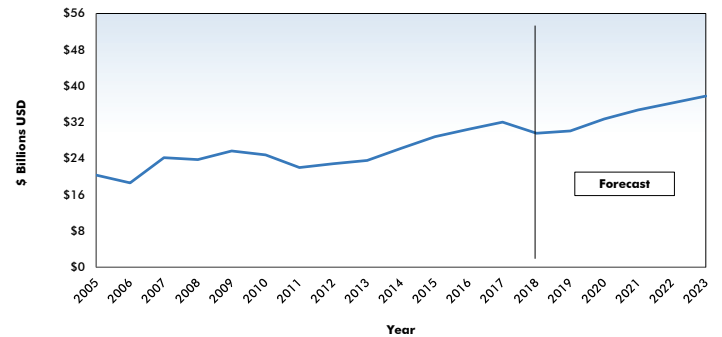
Source of actuals: ConstructConnect “Insight” / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



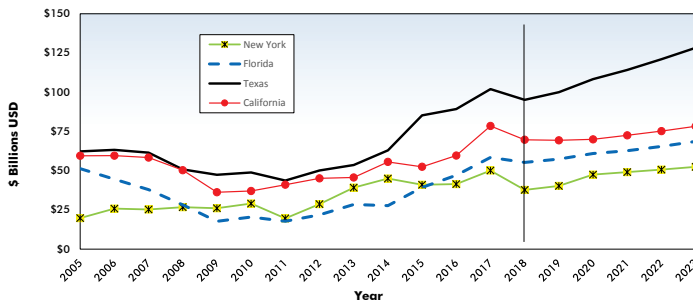
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



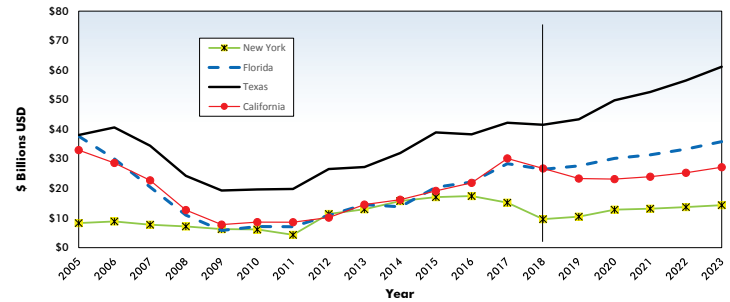
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



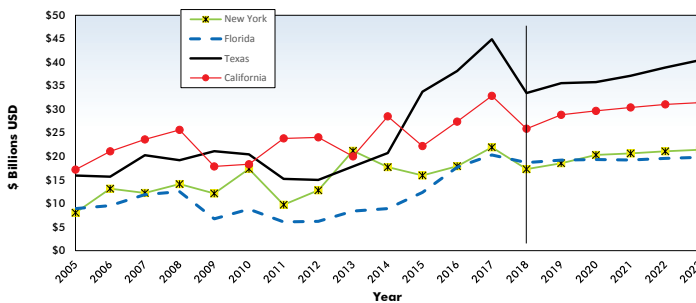
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



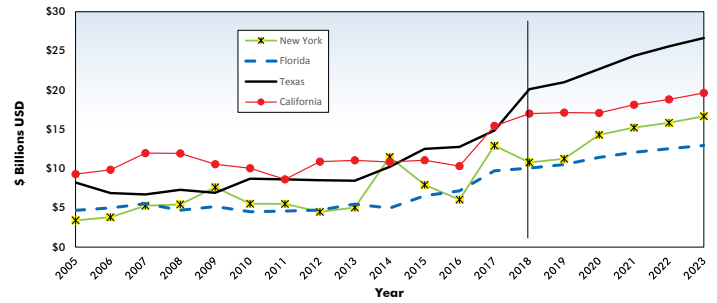
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**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				
	2017	2018	2019	2020	2021	2022	2023
Single-family	16.838	14.487	11.592	12.535	13.305	14.069	14.846
Multi-family	14.657	14.558	13.353	13.444	13.835	14.379	14.950
<b>TOTAL RESIDENTIAL</b>	<b>31.495</b>	<b>29.045</b>	<b>24.944</b>	<b>25.979</b>	<b>27.140</b>	<b>28.448</b>	<b>29.797</b>
(Yr/yr % change)	7.9%	-7.8%	-14.1%	4.1%	4.5%	4.8%	4.7%
Hotels/Motels	1.068	0.337	0.280	0.412	0.474	0.455	0.426
Private Offices	1.451	1.812	2.576	2.178	1.991	1.795	1.545
Governmental Offices	1.356	1.499	1.801	1.697	1.734	1.774	1.813
Shopping/Retail	1.019	0.778	0.657	0.659	0.686	0.715	0.744
Retail Miscellaneous	0.191	0.205	0.160	0.170	0.176	0.181	0.185
Parking Garages	0.166	0.191	0.201	0.206	0.216	0.228	0.237
Amusement	2.253	2.535	2.138	2.335	2.464	2.580	2.691
Warehouses	1.424	1.618	1.791	1.960	2.097	2.222	2.329
<b>TOTAL COMMERCIAL</b>	<b>8.927</b>	<b>8.974</b>	<b>9.603</b>	<b>9.617</b>	<b>9.837</b>	<b>9.950</b>	<b>9.970</b>
(Yr/yr % change)	15.0%	0.5%	7.0%	0.1%	2.3%	1.1%	0.2%
<b>TOTAL INDUSTRIAL (manufacturing)</b>	<b>3.578</b>	<b>18.165</b>	<b>14.445</b>	<b>13.829</b>	<b>12.823</b>	<b>11.726</b>	<b>10.040</b>
(Yr/yr % change)	435.3%	407.7%	-20.5%	-4.3%	-7.3%	-8.6%	-14.4%
Religious	0.132	0.144	0.133	0.137	0.141	0.145	0.148
Hospitals/Clinics	4.206	3.100	3.817	4.065	4.254	4.457	4.633
MED misc	0.520	0.220	0.214	0.272	0.333	0.403	0.485
Transportation Terminals*	0.467	6.981	2.877	2.995	3.125	3.279	3.443
Police/Fire	1.035	2.010	1.012	1.155	1.195	1.232	1.273
Educational Facilities	4.138	3.917	3.872	4.148	4.301	4.429	4.523
<b>TOTAL INSTITUTIONAL</b>	<b>10.498</b>	<b>16.371</b>	<b>11.925</b>	<b>12.772</b>	<b>13.349</b>	<b>13.946</b>	<b>14.505</b>
(Yr/yr % change)	79.4%	55.9%	-27.2%	7.1%	4.5%	4.5%	4.0%
<b>TOTAL NON-RES BUILDING</b>	<b>23.003</b>	<b>43.510</b>	<b>35.973</b>	<b>36.218</b>	<b>36.009</b>	<b>35.622</b>	<b>34.515</b>
(Yr/yr % change)	61.1%	89.1%	-17.3%	0.7%	-0.6%	-1.1%	-3.1%
Bridges	1.608	6.684	2.819	2.954	3.035	3.103	3.154
Dams/Canal/Marine	0.620	0.909	0.822	0.908	0.976	1.049	1.129
Water & Sewage Treatment	6.970	5.602	4.047	4.526	4.807	5.108	5.413
Roads	7.238	9.946	10.227	10.782	11.216	11.647	12.054
Power Infrastructure	3.699	2.481	3.782	4.461	4.978	5.546	6.081
All Other Civil (Oil & Gas etc.)	9.190	8.386	13.516	17.375	20.236	23.334	25.778
<b>TOTAL ENGINEERING</b>	<b>29.326</b>	<b>34.008</b>	<b>35.213</b>	<b>41.007</b>	<b>45.248</b>	<b>49.787</b>	<b>53.609</b>
(Yr/yr % change)	5.7%	16.0%	3.5%	16.5%	10.3%	10.0%	7.7%
<b>TOTAL NON-RESIDENTIAL</b>	<b>52.329</b>	<b>77.518</b>	<b>71.186</b>	<b>77.225</b>	<b>81.257</b>	<b>85.410</b>	<b>88.124</b>
(Yr/yr % change)	24.5%	48.1%	-8.2%	8.5%	5.2%	5.1%	3.2%
<b>GRAND TOTAL</b>	<b>83.824</b>	<b>106.563</b>	<b>96.130</b>	<b>103.204</b>	<b>108.398</b>	<b>113.858</b>	<b>117.921</b>
(Yr/yr % change)	17.7%	27.1%	-9.8%	7.4%	5.0%	5.0%	3.6%

\* 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'.

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				
	2017	2018	2019	2020	2021	2022	2023
<b>Summary</b>							
CIVIL	29.326	34.008	35.213	41.007	45.248	49.787	53.609
NON-RESIDENTIAL BUILDING	23.003	43.510	35.973	36.218	36.009	35.622	34.515
RESIDENTIAL	31.495	29.045	24.944	25.979	27.140	28.448	29.797
GRAND TOTAL	83.824	106.563	96.130	103.204	108.398	113.858	117.921
<b>Verticals</b>							
All Other Civil	9.190	8.386	13.516	17.375	20.236	23.334	25.778
Bridges	1.608	6.684	2.819	2.954	3.035	3.103	3.154
Dams / Canals / Marine Work	0.620	0.909	0.822	0.908	0.976	1.049	1.129
Power Infrastructure	3.699	2.481	3.782	4.461	4.978	5.546	6.081
Roads	7.238	9.946	10.227	10.782	11.216	11.647	12.054
Water and Sewage Treatment	6.970	5.602	4.047	4.526	4.807	5.108	5.413
CIVIL	29.326	34.008	35.213	41.007	45.248	49.787	53.609
(Yr/yr % change)	5.7%	16.0%	3.5%	16.5%	10.3%	10.0%	7.7%
Offices (private)	1.451	1.812	2.576	2.178	1.991	1.795	1.545
Parking Garages	0.166	0.191	0.201	0.206	0.216	0.228	0.237
Transportation Terminals	0.467	6.981	2.877	2.995	3.125	3.279	3.443
Commercial	2.084	8.983	5.653	5.379	5.331	5.302	5.225
(Yr/yr % change)	117.9%	331.0%	-37.1%	-4.8%	-0.9%	-0.6%	-1.4%
Amusement	2.253	2.535	2.138	2.335	2.464	2.580	2.691
Religious	0.132	0.144	0.133	0.137	0.141	0.145	0.148
Community	2.385	2.679	2.271	2.472	2.604	2.725	2.839
(Yr/yr % change)	22.3%	12.3%	-15.2%	8.8%	5.4%	4.6%	4.2%
Educational	4.138	3.917	3.872	4.148	4.301	4.429	4.523
(Yr/yr % change)	15.9%	-5.4%	-1.1%	7.1%	3.7%	3.0%	2.1%
Fire and Police Stations	1.035	2.010	1.012	1.155	1.195	1.232	1.273
Government Offices	1.356	1.499	1.801	1.697	1.734	1.774	1.813
Government	2.390	3.508	2.813	2.852	2.928	3.006	3.086
(Yr/yr % change)	31.6%	46.8%	-19.8%	1.4%	2.7%	2.7%	2.7%
Manufacturing	3.578	18.165	14.445	13.829	12.823	11.726	10.040
Warehouses	1.424	1.618	1.791	1.960	2.097	2.222	2.329
Industrial	5.002	19.783	16.236	15.789	14.921	13.948	12.369
(Yr/yr % change)	119.6%	295.5%	-17.9%	-2.8%	-5.5%	-6.5%	-11.3%
Hospitals / Clinics	4.206	3.100	3.817	4.065	4.254	4.457	4.633
Medical Misc.	0.520	0.220	0.214	0.272	0.333	0.403	0.485
Medical	4.725	3.320	4.031	4.337	4.588	4.861	5.118
(Yr/yr % change)	196.4%	-29.7%	21.4%	7.6%	5.8%	6.0%	5.3%
Hotels	1.068	0.337	0.280	0.412	0.474	0.455	0.426
Retail Misc.	0.191	0.205	0.160	0.170	0.176	0.181	0.185
Shopping	1.019	0.778	0.657	0.659	0.686	0.715	0.744
Retail	2.278	1.320	1.096	1.241	1.336	1.351	1.355
(Yr/yr % change)	7.7%	-42.1%	-16.9%	13.2%	7.6%	1.1%	0.3%
NON-RESIDENTIAL BUILDING	23.003	43.510	35.973	36.218	36.009	35.622	34.515
(Yr/yr % change)	61.1%	89.1%	-17.3%	0.7%	-0.6%	-1.1%	-3.1%
Multi-Family	14.657	14.558	13.353	13.444	13.835	14.379	14.950
Single-Family	16.838	14.487	11.592	12.535	13.305	14.069	14.846
RESIDENTIAL	31.495	29.045	24.944	25.979	27.140	28.448	29.797
(Yr/yr % change)	7.9%	-7.8%	-14.1%	4.1%	4.5%	4.8%	4.7%
TOTAL NON-RESIDENTIAL	52.329	77.518	71.186	77.225	81.257	85.410	88.124
(Yr/yr % change)	24.5%	48.1%	-8.2%	8.5%	5.2%	5.1%	3.2%
GRAND TOTAL	83.824	106.563	96.130	103.204	108.398	113.858	117.921
(Yr/yr % change)	17.7%	27.1%	-9.8%	7.4%	5.0%	5.0%	3.6%

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)				
	2018	2019	2020	2021	2022	2023
Atlantic region	\$5,099	22.6%	6.2%	14.0%	6.0%	3.5%
Quebec	\$20,918	-29.7%	1.6%	0.8%	3.8%	2.9%
Ontario	\$34,304	-18.2%	6.0%	0.0%	3.8%	1.7%
Manitoba	\$2,177	22.5%	0.8%	4.9%	3.4%	1.8%
Saskatchewan	\$2,276	15.0%	35.4%	2.3%	4.6%	2.5%
Alberta	\$16,218	15.4%	12.4%	9.5%	6.4%	8.9%
British Columbia	\$25,571	-9.6%	6.4%	7.9%	5.9%	1.7%
Canada	\$106,563	-9.8%	7.4%	5.0%	5.0%	3.6%

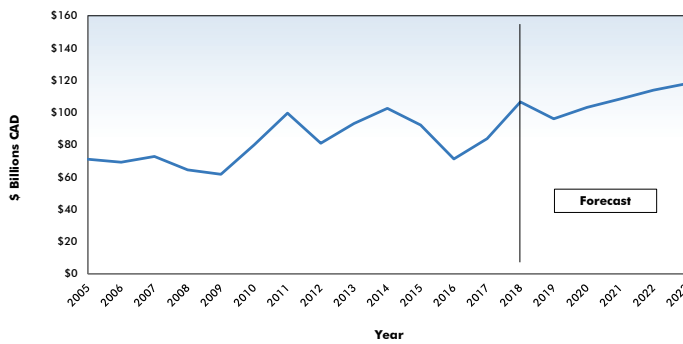
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Table: ConstructConnect.

**Table 10: Canada Four Largest Provinces: Type-of-Structure Forecasts**  
(\$ Billions CAD)

		Actuals		Forecasts				
		2017	2018	2019	2020	2021	2022	2023
Quebec	Residential	4.573	4.072	2.843	3.344	3.424	3.560	3.692
	Non-res Building	4.950	11.883	6.811	6.397	6.229	6.220	6.233
	Engineering/Civil	4.451	4.963	5.042	5.196	5.402	5.848	6.161
	Total	13.974	20.918	14.697	14.938	15.055	15.628	16.086
	(Yr vs previous yr % Change)	48.4%	49.7%	-29.7%	1.6%	0.8%	3.8%	2.9%
Ontario	Residential	13.967	13.172	11.837	11.401	11.578	12.054	12.507
	Non-res Building	6.826	8.828	8.796	9.502	8.992	8.918	8.537
	Engineering/Civil	5.300	12.304	7.432	8.848	9.165	9.890	10.337
	Total	26.093	34.304	28.064	29.750	29.736	30.862	31.381
	(Yr vs previous yr % Change)	-5.9%	31.5%	-18.2%	6.0%	0.0%	3.8%	1.7%
Alberta	Residential	4.737	3.499	3.789	3.769	4.238	4.573	4.951
	Non-res Building	5.426	7.174	5.095	5.898	6.099	6.233	6.189
	Engineering/Civil	11.510	5.546	9.840	11.385	12.719	13.722	15.572
	Total	21.673	16.218	18.724	21.052	23.056	24.528	26.712
	(Yr vs previous yr % Change)	84.7%	-25.2%	15.4%	12.4%	9.5%	6.4%	8.9%
British Columbia	Residential	5.998	6.272	4.719	5.269	5.557	5.799	6.075
	Non-res Building	2.555	12.400	10.617	9.741	9.708	9.296	8.658
	Engineering/Civil	2.681	6.898	7.772	9.577	11.263	13.003	13.845
	Total	11.234	25.571	23.108	24.587	26.528	28.097	28.578
	(Yr vs previous yr % Change)	7.0%	127.6%	-9.6%	6.4%	7.9%	5.9%	1.7%

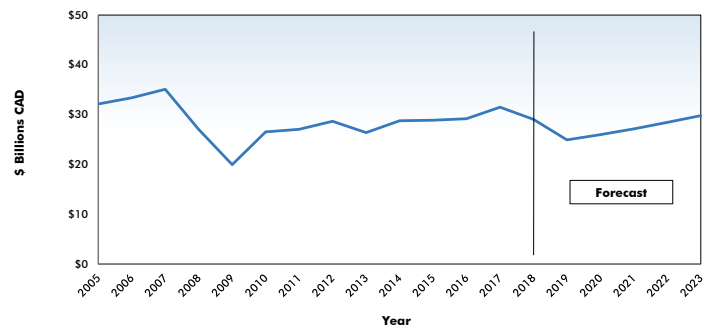
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Table: ConstructConnect.

**Graph 19: Canadian Grand Total Construction Starts — ConstructConnect**



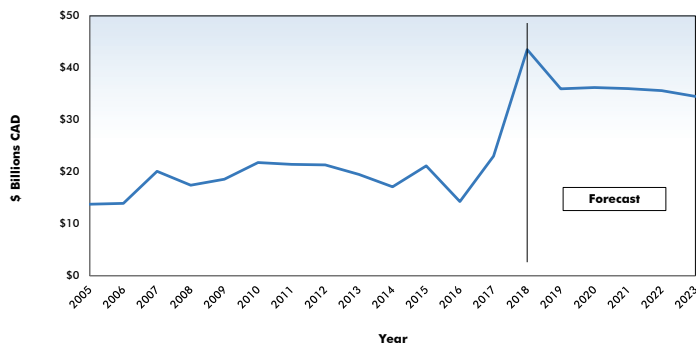
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**Graph 20: Canadian Residential Construction Starts — ConstructConnect**



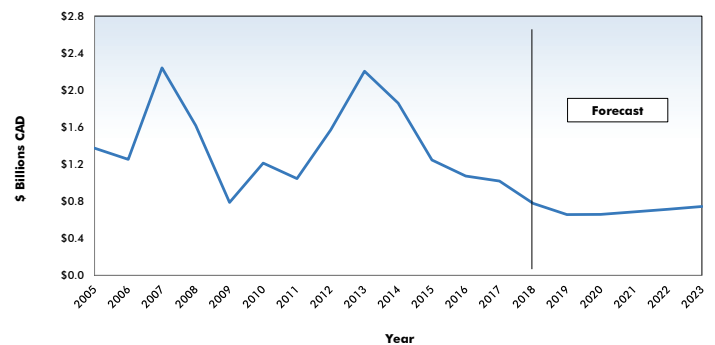
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**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**



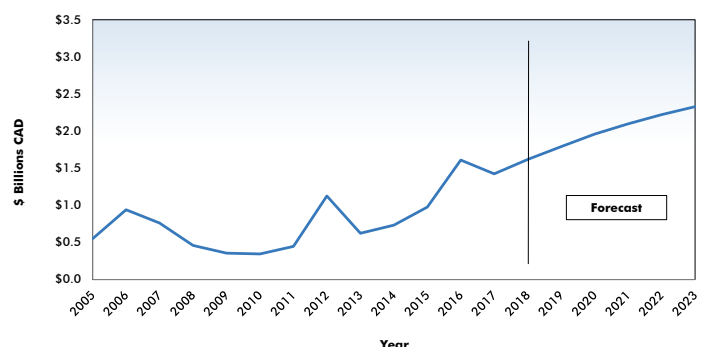
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**Graph 23: Canadian Private Offices Construction Starts — ConstructConnect**



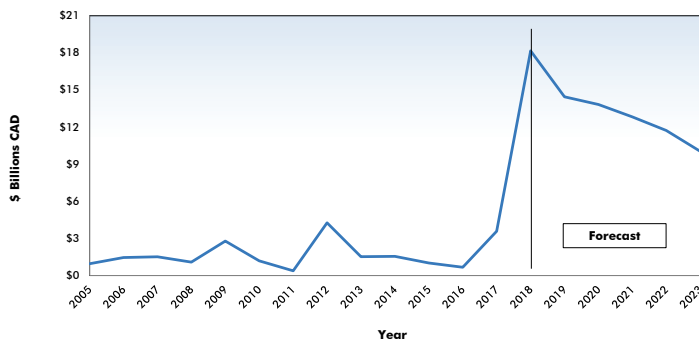
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**Graph 24: Canadian Warehouse Construction Starts — ConstructConnect**



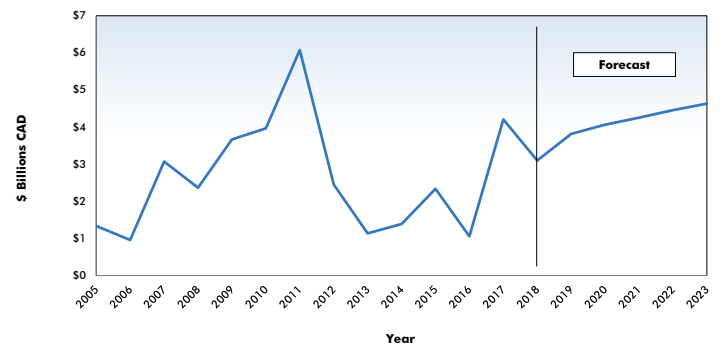
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**Graph 25: Canadian Industrial/Manufacturing Construction Starts — ConstructConnect**



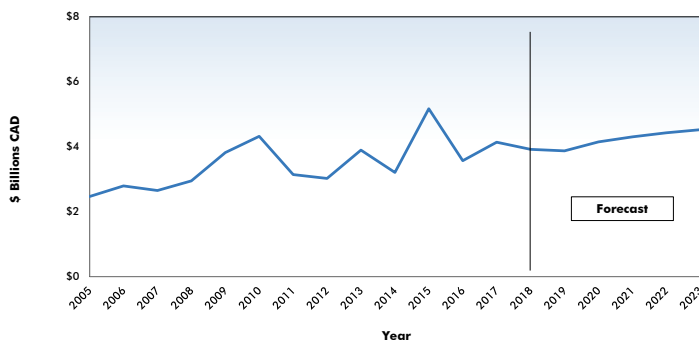
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**Graph 26: Canadian Hospital/Clinic Construction Starts — ConstructConnect**



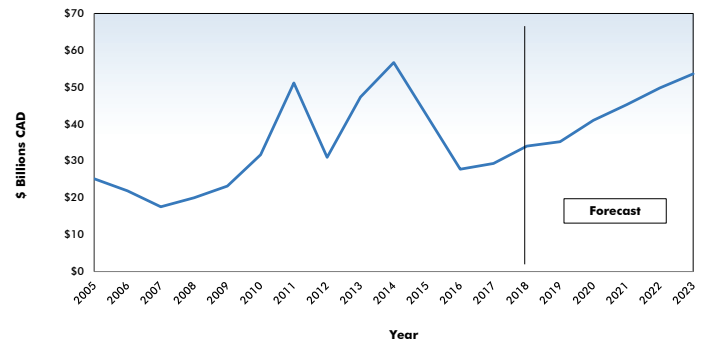
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**Graph 27: Canadian Education Construction Starts — ConstructConnect**



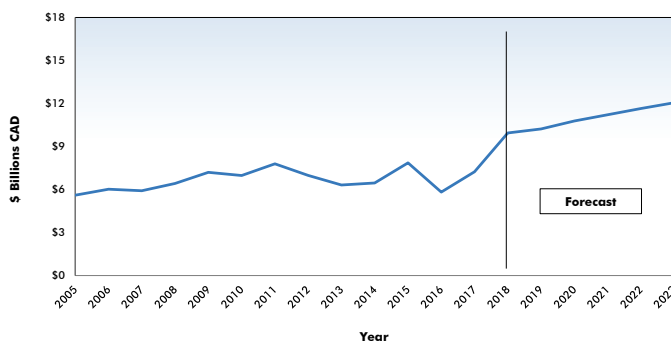
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**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**



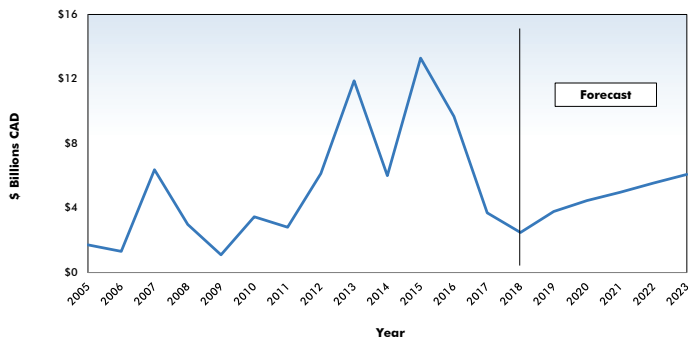
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**Graph 30: Canadian Water and Sewage Construction Starts — ConstructConnect**



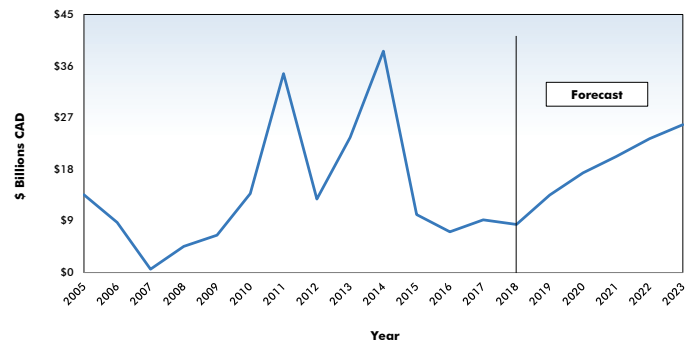
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**Graph 31: Canadian Power Infrastructure Construction Starts — ConstructConnect**



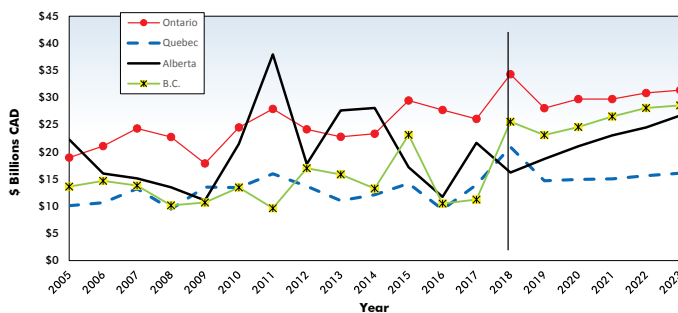
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



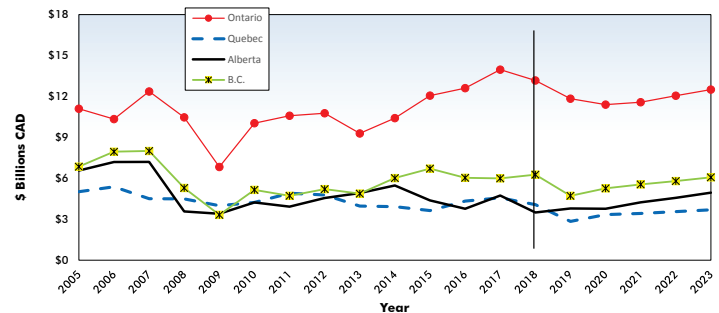
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



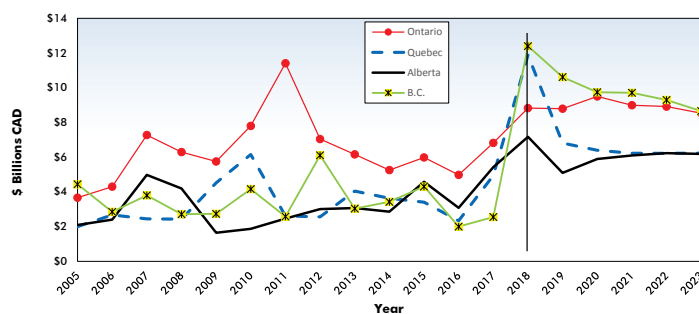
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



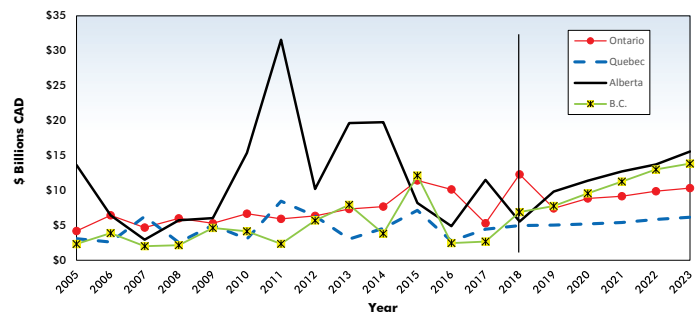
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**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				
	2017	2018	2019	2020	2021	2022	2023
Single-family	1,653.2	1,671.3	1,712.3	1,788.4	1,873.5	2,005.1	2,172.2
Multi-family	651.8	510.1	397.9	440.5	457.4	474.5	491.0
<b>TOTAL RESIDENTIAL</b>	<b>2,304.9</b>	<b>2,181.4</b>	<b>2,110.2</b>	<b>2,228.9</b>	<b>2,330.9</b>	<b>2,479.6</b>	<b>2,663.2</b>
(Yr/yr % change)	12.3%	-5.4%	-3.3%	5.6%	4.6%	6.4%	7.4%
Hotels/Motels	158.5	108.5	90.5	70.9	64.6	63.8	64.9
Shopping/Retail	89.7	74.2	57.6	59.8	62.7	66.5	69.3
Parking Garages	30.8	27.4	36.1	34.4	33.8	34.6	35.9
Amusement	24.2	27.8	24.7	25.7	26.1	27.0	27.8
Private Offices	107.1	88.1	67.9	74.0	74.0	73.1	72.7
Governmental Offices	15.4	15.1	15.4	16.0	16.4	16.7	16.9
Laboratories (Schools & Industrial)	6.5	4.9	6.0	7.0	8.0	9.0	10.0
Warehouses	214.0	195.3	185.5	185.6	190.5	197.7	202.3
Sports Stadium/Convention Center	28.5	13.3	15.9	17.1	17.4	16.9	15.7
Transportation Terminals	7.3	5.6	9.5	11.1	12.3	13.6	15.0
<b>TOTAL COMMERCIAL</b>	<b>682.1</b>	<b>560.1</b>	<b>509.1</b>	<b>501.5</b>	<b>505.7</b>	<b>518.9</b>	<b>530.5</b>
(Yr/yr % change)	0.4%	-17.9%	-9.1%	-1.5%	0.8%	2.6%	2.2%
<b>TOTAL INDUSTRIAL (manufacturing)</b>	<b>92.3</b>	<b>96.4</b>	<b>108.4</b>	<b>105.6</b>	<b>109.0</b>	<b>113.8</b>	<b>117.4</b>
(Yr/yr % change)	-11.4%	4.5%	12.4%	-2.6%	3.2%	4.4%	3.2%
Religious	7.6	6.0	5.6	5.9	5.9	6.0	6.0
Hospitals/Clinics	26.5	24.3	19.6	23.1	27.0	31.1	35.0
Nursing Homes/Assisted Living	54.3	44.6	44.9	47.6	49.4	51.0	52.4
Libraries/Museums	3.8	3.9	4.0	4.0	4.3	4.5	4.6
Courthouse	2.5	2.8	3.8	3.8	3.8	3.9	4.0
Police/Fire	8.1	7.7	7.9	8.2	8.6	9.1	9.3
Prisons	4.9	4.6	4.5	4.3	4.4	4.5	4.6
Military	12.8	11.1	14.6	15.9	16.3	16.8	17.3
Educational Facilities	161.6	153.5	151.4	157.5	161.0	162.4	163.0
MED misc	24.5	22.0	19.5	21.2	22.6	23.3	23.7
<b>TOTAL INSTITUTIONAL</b>	<b>306.6</b>	<b>280.4</b>	<b>275.7</b>	<b>291.5</b>	<b>303.3</b>	<b>312.5</b>	<b>319.9</b>
(Yr/yr % change)	0.8%	-8.5%	-1.7%	5.8%	4.0%	3.0%	2.4%
Miscellaneous Non-Res Building	28.4	25.3	23.8	24.6	25.1	25.5	25.8
<b>TOTAL NON-RES BLDG</b>	<b>1,109.3</b>	<b>962.2</b>	<b>917.0</b>	<b>923.3</b>	<b>943.1</b>	<b>970.7</b>	<b>993.7</b>
(Yr/yr % change)	-1.0%	-13.3%	-4.7%	0.7%	2.2%	2.9%	2.4%
<b>RESIDENTIAL + NON-RES BLDG</b>	<b>3,414.2</b>	<b>3,143.6</b>	<b>3,027.2</b>	<b>3,152.2</b>	<b>3,274.0</b>	<b>3,450.3</b>	<b>3,656.8</b>
(Yr/yr % change)	7.6%	-7.9%	-3.7%	4.1%	3.9%	5.4%	6.0%

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				
	2017	2018	2019	2020	2021	2022	2023
<b>Summary</b>							
NON-RESIDENTIAL BUILDING	1,109.3	962.2	917.0	923.3	943.1	970.7	993.7
RESIDENTIAL	2,304.9	2,181.4	2,110.2	2,228.9	2,330.9	2,479.6	2,663.2
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,414.2	3,143.6	3,027.2	3,152.2	3,274.0	3,450.3	3,656.8
<b>Verticals</b>							
Offices (private)	107.1	88.1	67.9	74.0	74.0	73.1	72.7
Parking Garages	30.8	27.4	36.1	34.4	33.8	34.6	35.9
Transportation Terminals	7.3	5.6	9.5	11.1	12.3	13.6	15.0
Commercial	145.2	121.1	113.4	119.5	120.0	121.3	123.6
(Yr/yr % change)	-1.4%	-16.6%	-6.3%	5.3%	0.5%	1.1%	1.9%
Amusement	24.2	27.8	24.7	25.7	26.1	27.0	27.8
Libraries / Museums	3.8	3.9	4.0	4.0	4.3	4.5	4.6
Religious	7.6	6.0	5.6	5.9	5.9	6.0	6.0
Sports Arenas / Convention Centers	28.5	13.3	15.9	17.1	17.4	16.9	15.7
Community	64.2	51.0	50.2	52.7	53.8	54.4	54.1
(Yr/yr % change)	9.2%	-20.5%	-1.6%	5.0%	2.0%	1.1%	-0.5%
College / University	46.2	38.0	31.9	33.0	33.9	34.2	34.6
Elementary / Pre School	47.6	43.0	44.1	47.7	49.9	51.3	52.2
Jr / Sr High School	61.9	68.3	69.8	71.3	71.6	71.1	70.2
Special / Vocational	5.9	4.2	5.6	5.5	5.6	5.8	5.9
Educational	161.6	153.5	151.4	157.5	161.0	162.4	163.0
(Yr/yr % change)	-5.2%	-5.0%	-1.4%	4.0%	2.2%	0.9%	0.4%
Courthouses	2.5	2.8	3.8	3.8	3.8	3.9	4.0
Fire and Police Stations	8.1	7.7	7.9	8.2	8.6	9.1	9.3
Government Offices	15.4	15.1	15.4	16.0	16.4	16.7	16.9
Prisons	4.9	4.6	4.5	4.3	4.4	4.5	4.6
Government	30.9	30.1	31.6	32.3	33.2	34.2	34.9
(Yr/yr % change)	-1.4%	-2.6%	4.9%	2.4%	2.7%	3.0%	2.1%
Industrial Labs / Labs / School Labs	6.5	4.9	6.0	7.0	8.0	9.0	10.0
Manufacturing	92.3	96.4	108.4	105.6	109.0	113.8	117.4
Warehouses	214.0	195.3	185.5	185.6	190.5	197.7	202.3
Industrial	312.8	296.6	300.0	298.2	307.4	320.5	329.7
(Yr/yr % change)	17.5%	-5.2%	1.1%	-0.6%	3.1%	4.2%	2.9%
Hospitals / Clinics	26.5	24.3	19.6	23.1	27.0	31.1	35.0
Medical Misc.	24.5	22.0	19.5	21.2	22.6	23.3	23.7
Nursing Homes	54.3	44.6	44.9	47.6	49.4	51.0	52.4
Medical	105.3	90.9	84.0	91.9	99.0	105.3	111.1
(Yr/yr % change)	2.2%	-13.7%	-7.6%	9.4%	7.7%	6.4%	5.5%
Military	12.8	11.1	14.6	15.9	16.3	16.8	17.3
(Yr/yr % change)	43.4%	-13.0%	31.3%	9.2%	2.4%	3.2%	2.8%
Hotels	158.5	108.5	90.5	70.9	64.6	63.8	64.9
Retail Misc.	28.4	25.3	23.8	24.6	25.1	25.5	25.8
Shopping	89.7	74.2	57.6	59.8	62.7	66.5	69.3
Retail	276.6	208.0	171.9	155.3	152.4	155.8	160.0
(Yr/yr % change)	-17.4%	-24.8%	-17.4%	-9.6%	-1.8%	2.2%	2.7%
NON-RESIDENTIAL BUILDING	1,109.3	962.2	917.0	923.3	943.1	970.7	993.7
(Yr/yr % change)	-1.0%	-13.3%	-4.7%	0.7%	2.2%	2.9%	2.4%
Multi-Family	651.8	510.1	397.9	440.5	457.4	474.5	491.0
Single-Family	1,653.2	1,671.3	1,712.3	1,788.4	1,873.5	2,005.1	2,172.2
RESIDENTIAL	2,304.9	2,181.4	2,110.2	2,228.9	2,330.9	2,479.6	2,663.2
(Yr/yr % change)	12.3%	-5.4%	-3.3%	5.6%	4.6%	6.4%	7.4%
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,414.2	3,143.6	3,027.2	3,152.2	3,274.0	3,450.3	3,656.8
(Yr/yr % change)	7.6%	-7.9%	-3.7%	4.1%	3.9%	5.4%	6.0%

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				
	2017	2018	2019	2020	2021	2022	2023
Single-family	144.9	124.8	98.3	107.6	114.5	121.2	127.9
Multi-family	79.7	77.3	70.0	70.5	72.7	75.6	78.6
<b>TOTAL RESIDENTIAL</b>	<b>224.6</b>	<b>202.1</b>	<b>168.3</b>	<b>178.2</b>	<b>187.3</b>	<b>196.8</b>	<b>206.5</b>
(Yr/yr % change)	5.8%	-10.0%	-16.7%	5.9%	5.1%	5.1%	4.9%
Hotels/Motels	4.2	1.7	1.8	2.4	2.7	2.7	2.5
Private Offices	5.9	8.6	12.7	10.4	9.5	8.6	7.4
Governmental Offices	1.8	1.8	2.0	1.9	2.0	2.0	2.1
Shopping/Retail	7.3	6.3	4.2	4.4	4.9	5.1	5.4
Retail Miscellaneous	1.2	1.2	0.9	1.0	1.0	1.1	1.1
Parking Garages	1.1	0.2	0.5	0.7	0.8	0.8	0.9
Amusement	5.5	4.4	4.1	4.3	4.5	4.6	4.8
Warehouses	11.4	12.5	13.8	14.3	15.3	16.3	17.0
<b>TOTAL COMMERCIAL</b>	<b>38.5</b>	<b>36.9</b>	<b>40.0</b>	<b>39.4</b>	<b>40.7</b>	<b>41.2</b>	<b>41.2</b>
(Yr/yr % change)	5.0%	-4.1%	8.4%	-1.3%	3.2%	1.3%	-0.1%
<b>TOTAL INDUSTRIAL (manufacturing)</b>	<b>5.2</b>	<b>6.1</b>	<b>6.9</b>	<b>5.9</b>	<b>5.2</b>	<b>4.7</b>	<b>4.0</b>
(Yr/yr % change)	90.1%	17.2%	13.7%	-14.7%	-12.7%	-9.8%	-14.7%
Religious	0.6	0.3	0.2	0.2	0.3	0.3	0.3
Hospitals/Clinics	10.9	8.5	9.0	9.5	10.4	11.0	11.4
MED misc	1.3	0.5	0.4	0.5	0.7	0.8	1.0
Transportation Terminals*	0.7	4.0	1.5	1.6	1.8	2.0	2.0
Police/Fire	2.1	1.6	1.0	1.0	1.1	1.1	1.1
Educational Facilities	9.7	11.3	12.1	12.9	13.3	13.7	13.9
<b>TOTAL INSTITUTIONAL</b>	<b>25.2</b>	<b>26.3</b>	<b>24.2</b>	<b>25.8</b>	<b>27.4</b>	<b>28.8</b>	<b>29.7</b>
(Yr/yr % change)	59.0%	4.1%	-7.6%	6.3%	6.5%	4.9%	3.2%
<b>TOTAL NON-RES BLDG</b>	<b>68.9</b>	<b>69.2</b>	<b>71.2</b>	<b>71.1</b>	<b>73.3</b>	<b>74.7</b>	<b>74.9</b>
(Yr/yr % change)	24.8%	0.5%	2.8%	0.0%	3.1%	1.9%	0.2%
<b>RESIDENTIAL + NON-RES BLDG</b>	<b>293.5</b>	<b>271.3</b>	<b>239.4</b>	<b>249.3</b>	<b>260.6</b>	<b>271.5</b>	<b>281.4</b>
(Yr/yr % change)	9.7%	-7.6%	-11.7%	4.1%	4.5%	4.2%	3.6%

\* 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)

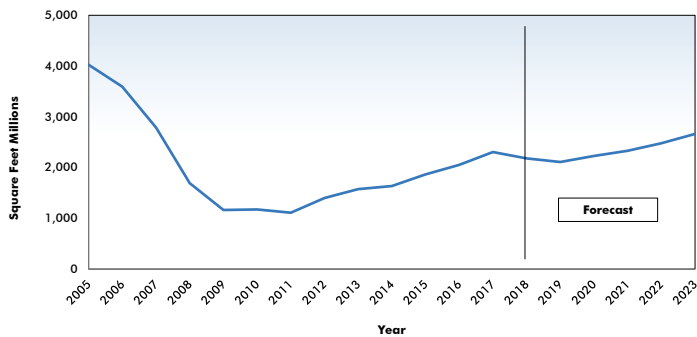
	Actuals		Forecasts				
	2017	2018	2019	2020	2021	2022	2023
<b>Summary</b>							
NON-RESIDENTIAL BUILDING	68.9	69.2	71.2	71.1	73.3	74.7	74.9
RESIDENTIAL	224.6	202.1	168.3	178.2	187.3	196.8	206.5
RESIDENTIAL + NON-RESIDENTIAL BUILDING	293.5	271.3	239.4	249.3	260.6	271.5	281.4
<b>Verticals</b>							
Offices (private)	5.9	8.6	12.7	10.4	9.5	8.6	7.4
Parking Garages	1.1	0.2	0.5	0.7	0.8	0.8	0.9
Transportation Terminals	0.7	4.0	1.5	1.6	1.8	2.0	2.0
Commercial	7.7	12.9	14.7	12.7	12.2	11.5	10.3
(Yr/Yr % change)	117.9%	66.3%	14.6%	-14.0%	-4.0%	-5.9%	-10.2%
Amusement	5.5	4.4	4.1	4.3	4.5	4.6	4.8
Religious	0.6	0.3	0.2	0.2	0.3	0.3	0.3
Community	6.1	4.7	4.3	4.6	4.7	4.9	5.1
(Yr/Yr % change)	3.2%	-21.7%	-9.6%	6.4%	3.4%	4.2%	4.1%
Educational	9.7	11.3	12.1	12.9	13.3	13.7	13.9
(Yr/Yr % change)	-10.1%	16.3%	7.0%	6.4%	3.1%	2.8%	2.1%
Fire and Police Stations	2.1	1.6	1.0	1.0	1.1	1.1	1.1
Government Offices	1.8	1.8	2.0	1.9	2.0	2.0	2.1
Government	3.9	3.5	3.0	2.9	3.0	3.1	3.2
(Yr/Yr % change)	8.0%	-11.1%	-13.0%	-3.7%	4.6%	2.2%	2.3%
Manufacturing	5.2	6.1	6.9	5.9	5.2	4.7	4.0
Warehouses	11.4	12.5	13.8	14.3	15.3	16.3	17.0
Industrial	16.6	18.6	20.7	20.3	20.5	20.9	21.0
(Yr/Yr % change)	29.5%	12.3%	11.2%	-2.4%	1.3%	2.0%	0.5%
Hospitals / Clinics	10.9	8.5	9.0	9.5	10.4	11.0	11.4
Medical Misc.	1.3	0.5	0.4	0.5	0.7	0.8	1.0
Medical	12.2	9.0	9.4	10.1	11.0	11.8	12.4
(Yr/Yr % change)	215.3%	-26.3%	5.1%	6.9%	9.4%	7.0%	5.0%
Hotels	4.2	1.7	1.8	2.4	2.7	2.7	2.5
Retail Misc.	1.2	1.2	0.9	1.0	1.0	1.1	1.1
Shopping	7.3	6.3	4.2	4.4	4.9	5.1	5.4
Retail	12.7	9.3	6.9	7.8	8.6	8.9	9.0
(Yr/Yr % change)	-13.4%	-27.2%	-25.9%	13.8%	10.0%	3.4%	1.0%
NON-RESIDENTIAL BUILDING	68.9	69.2	71.2	71.1	73.3	74.7	74.9
(Yr/Yr % change)	24.8%	0.5%	2.8%	0.0%	3.1%	1.9%	0.2%
Multi-Family	79.7	77.3	70.0	70.5	72.7	75.6	78.6
Single-Family	144.9	124.8	98.3	107.6	114.5	121.2	127.9
RESIDENTIAL	224.6	202.1	168.3	178.2	187.3	196.8	206.5
(Yr/Yr % change)	5.8%	-10.0%	-16.7%	5.9%	5.1%	5.1%	4.9%
RESIDENTIAL + NON-RESIDENTIAL BUILDING	293.5	271.3	239.4	249.3	260.6	271.5	281.4
(Yr/Yr % change)	9.7%	-7.6%	-11.7%	4.1%	4.5%	4.2%	3.6%

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'.

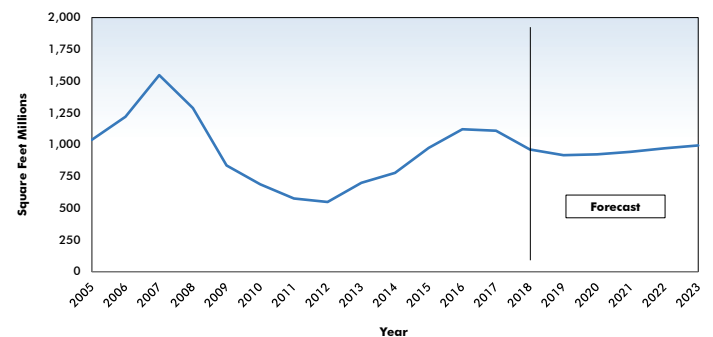
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

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



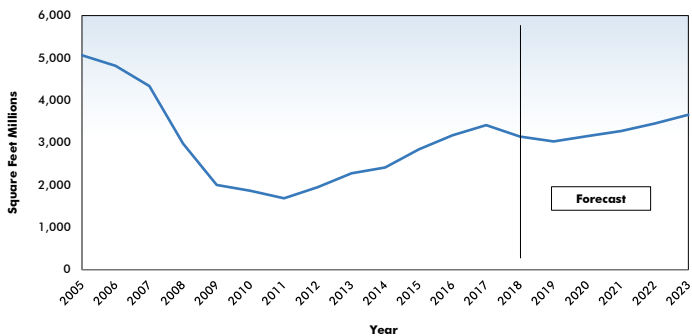
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

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



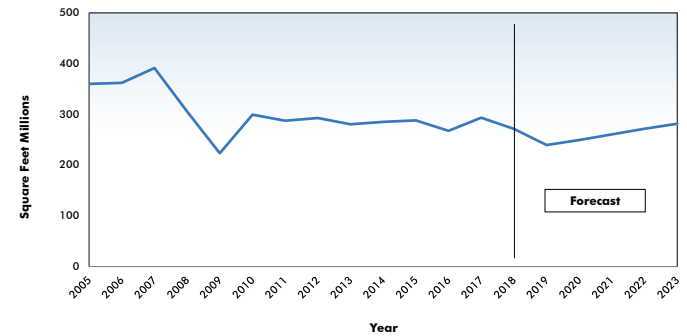
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**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**



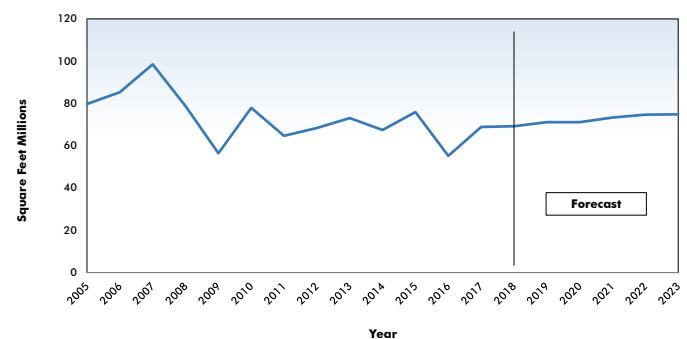
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.  
Chart: ConstructConnect.

**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.

### Contributors:

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