

Winter 2020-2021 (For October 2020 Release)

Construction Starts Forecast

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Highlights

- US construction starts fell 28.2% year-on-year and 19.9% year-to-date in Q3 2020. Non-residential building experienced the steepest decline, as the pandemic has weighed on the prospects of sectors such as hospitality, retail, and office working. The decline in civil engineering construction was exacerbated by some mega projects in 2019 falling out of the calculation. The decline in residential homebuilding has been driven by construction of apartments, with the single-family segment holding steady.
- The pace of the recovery has slowed markedly, driven by the expiry of fiscal stimulus, rising infection rates, and election uncertainty. Our baseline forecast assumes that Congress will eventually pass a new fiscal aid package, but even if Biden wins the election and delivers fiscal aid in 2021, the economy would stall in Q4 2020. We see the economy contracting 3.5% in 2020 and expect a relatively soft rebound of 3.7% in 2021.
- US construction activity is forecast to decline more deeply in 2020 than during the global financial crisis of 2008-09. Non-residential construction will see the sharpest falls amid weak business investment. Residential activity will hold up relatively well, particularly within single-family construction. Looking ahead, we forecast a rebound in growth from 2021 but it will be slow and unevenly distributed.
- Total construction starts in Canada in Q3 declined 43.9% year-on-year and 28.6% year-to-date, with declines in all three headline segments. Restricted construction earlier in the year has largely resumed, but strong activity in Q3 2019 has fallen out of the annual calculation.
- Headline construction starts are forecast to decline by nearly 30% in 2020, following a contraction last year as well. In the recovery phase, new construction activity is expected to grow at a double-digit pace through 2023, but it is not expected to regain its pre-pandemic high (in 2018) until 2023.

Versus the huge number-of-jobs drop between February and April, the U.S. recovery ratio as of September's *Employment Situation Report* remains under half (47.7%). That's disappointing. Canada's jobs claw-back ratio is now over three-quarters (76.1%).



Sources: ConstructConnect*/Oxford Economics.
Forecast reflects actual starts through Q3 2020.

For more information or media inquiries please contact: Paul.Hart@ConstructConnect.com

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3825 Edwards Road, Ste. 800, Cincinnati, OH 45209 P. 1-800-364-2059 www.constructconnect.com/blog

Overview

Further declines in US construction in Q3

Total US construction starts fell steeply in Q3, shrinking 28.2% from a year earlier and 19.9% year-to-date (from January to September compared to the same period in the previous year). Non-residential building experienced the largest decline, down 46.3% year-on-year (y/y) and 33.7% year-to-date (ytd). Engineering construction declined 29.2% y/y and 15.9% ytd. New residential construction experienced the smallest decline, shrinking 5.9% y/y and 6% ytd.

One feature of construction in 2020 relative to that in 2019 has been fewer mega projects valued at over \$1 billion. 2019 was an exceptional year for mega projects with construction starting on 35 such projects worth a total of \$79.1 billion. August 2019 was the single biggest month for mega projects, with groundbreaking on five projects totalling \$18.7 billion. Mega projects falling out of the annual calculation is certainly exacerbating both the y/y and ytd declines in 2020, but underlying construction activity is also weak, with the whole-year value of construction expected to be at its lowest level since 2015.

Non-residential building has fallen from January to September relative to the same period in 2019 in almost all segments. Groundbreaking on hotels, sports facilities & convention centers, transportation infrastructure, and factories all posted ytd declines exceeding 50%. Factory construction saw some new mega projects started in Q3, including a \$2.3 billion GM battery plant in Ohio, linked to electric vehicle production, and a \$1.1 billion Tesla plant in Texas, but a new \$10 billion ethane cracker plant started last year in Texas fell out of the calculation. The weakness in hotel construction is hardly surprising, given the impact that the pandemic has had on hospitality. Private office building has also been notably weak so far in 2020, down 36.8% ytd, as the pandemic has accelerated a trend towards home working. Perhaps more surprisingly, new hospital construction has also been anemic so far in 2020, falling 45.7% ytd. Within non-residential building, positive ytd growth has only been seen in libraries & museums, courthouses, police & fire, prisons, and military (boosted by groundbreaking on a \$1.75 billion project earlier in the year).

In the engineering sector, only new water & sewage treatment facilities posted positive ytd growth in starts, although new construction of roads and dams, canals & marine projects were limited to single-digit ytd declines. The largest contraction has been in construction of new power infrastructure,

	2018	2019	2020	2021	2022	2023	2024
US							
Macro variables							
GDP	3.0	2.2	-3.5	3.7	2.8	2.3	2.1
Population growth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Unemployment rate (%)	3.9	3.7	8.3	6.7	5.5	4.6	4.2
Real disposable income*	3.6	2.2	5.8	-2.9	1.7	1.6	1.6
Central bank rate (%)	1.8	2.2	0.4	0.1	0.1	0.1	0.3
10-year government yield (%)	2.9	2.1	0.9	1.1	1.5	1.8	2.0
Construction starts (y/y % change of \$ volumes)							
Total starts	-2.4	8.3	-18.8	11.1	10.0	7.7	6.7
Residential	-6.7	0.3	-6.7	7.2	9.4	8.9	7.9
Non-res bldg	-3.3	11.9	-31.1	14.0	11.7	8.2	6.6
Civil engineering	8.8	16.1	-15.7	13.5	8.4	5.1	4.6
Canada							
Macro variables							
GDP	2.0	1.7	-5.3	5.9	3.5	2.0	1.5
Population growth	1.4	1.4	1.2	0.8	1.1	1.1	1.0
Unemployment rate (%)	5.8	5.7	9.8	8.9	7.4	6.6	6.3
Real disposable income*	1.8	2.7	9.8	-3.0	1.1	2.3	2.0
Central bank rate (%)	1.4	1.8	0.6	0.3	0.3	0.3	0.4
10-year government yield (%)	2.3	1.6	0.8	1.1	1.6	1.9	2.1
Exchange rate C\$ per US\$	1.30	1.33	1.35	1.39	1.38	1.36	1.34
Construction starts (y/y % change of \$ volumes)							
Total starts	31.8	-13.6	-28.3	27.1	16.6	10.2	8.1
Residential	-5.8	2.8	-31.3	18.3	12.7	9.4	6.2
Non-res bldg	97.8	-38.0	-33.1	38.7	22.6	11.2	7.3
Civil engineering	19.8	4.6	-22.0	25.8	14.9	9.8	10.0

* In 2020, boosted by stimulus checks and unemployment insurance top-ups.

down nearly 77% ytd (and nearly 90% y/y), but there were three mega projects in Q3 2019 which have dropped out of the calculation. The miscellaneous civil sector, which includes oil & gas, pipelines, rail, and tunnel construction projects, declined more than 25% ytd and more than 50% y/y, as a couple of rail projects in Q3 2019 fell out of the annual calculation. This was partially offset by a \$1.4 billion light rail expansion started in California in July.

Residential construction has been the most robust so far in 2020, driven entirely by growth in the single-family segment. Groundbreaking on new single-family homes rose 2.8% ytd and 11.4% y/y, as demand for additional space has grown as more people work from home. Low interest rates and steady wage growth among white collar workers have also helped underpin this trend. By contrast, new multi-family construction decreased 24.9% ytd and 41.7% y/y.

Other construction indicators have been slightly better than the starts data. Put-in-place construction from the Census Bureau, for example, was 2.5% higher than a year

earlier in August. However, this is a measure of continued construction activity, including the mega projects started last year, so it could be some time before the recent weakness in starts is fully realized in the put-in-place figure. After shedding over 1 million jobs in April and March, the initial employment recovery in the construction sector was rapid, with 456,000 jobs and 159,000 jobs added in May and June respectively. Job growth has since slowed, with monthly employment gains rising by an average of 25,000 in Q3. Total construction employment in September was 5.2% below its level in February, slightly ahead of the 7% decline for the economy as a whole.

An economy at a crossroads as we approach 2021

The pace of the US recovery has slowed markedly. The economy has regained more than two thirds of the output lost in Q2, but with fiscal stimulus expiring, flu season approaching and election uncertainty rising, the main question is how strong the economy will be going into Q4.

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Forward-looking indicators are increasingly suggestive of a recovery at risk of stalling. While retail sales had a strong September, rising 1.9% on the month, high-frequency data suggest the consumer recovery could struggle to maintain momentum in Q4, and sentiment data is still 20 points below pre-crisis levels.

In addition, the September jobs report showed nonfarm payrolls rising just 661,000, the smallest increase in five months. Employment remains a staggering 10.7mn below pre-Covid levels while the unemployment rate of 7.9% is still close to previous recession peaks.

Business activity has also shown the first real signs that the recovery is losing momentum. Industrial production was down 0.6% in September as manufacturing fell for the first time in five months. Durable goods orders also showed weakness, advancing a tepid 0.4%

We believe Congress will eventually pass a fiscal aid package worth around \$1tn, including transfers to households. However, given the heightened political volatility and the current administration's recent opposition to a comprehensive stimulus package, we fear a large downside risk to growth. Even if Biden wins the election and delivers fiscal aid in 2021, the economic recovery would stall in Q4 2020 with annualized q/q growth decelerating to about 1.0%.

Fed Chair Powell stressed the importance of conditional dovish forward guidance in the September FOMC statement. The Fed will keep interest rates at the effective lower bound until the economy is assessed to be at full employment, and inflation has risen to 2% and is likely to moderately exceed that level for some time. We expect the Fed will not raise interest rates until mid-2024 at the earliest. Lending from the Fed's emergency facilities has remained modest, totaling just under \$95 billion. We expect the Fed's balance sheet to be around \$8 trillion by year-end.

Even assuming fresh stimulus, we see the economy contracting 3.5% in 2020 and expect a relatively soft GDP rebound of around 3.7% in 2021.

Construction has reached its nadir, but record annual drop forecast in 2020

Total US construction starts are forecast to decline by 18.8% this year as the US economy is buffeted by the Covid-19 pandemic and associated voluntary and mandated restrictions on economic activity. The non-residential segment is set to be the worst hit as private business investment has been scaled back significantly in the wake of the crisis. Residential starts are forecast

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

to fall by 6.7% this year, the smallest decline of the headline subsectors. The residential sector, particularly single-family, has held up well during the lockdown and demand should ensure stable growth going forward. Civil engineering is forecast to decline by 15.7% this year, but with a robust rebound forecast for 2021.

The decline in the residential sector is entirely driven by the multi-family segment, which is forecast to decline by 26%. By contrast, the single-family segment is forecast to grow this year, expanding by 2.8% despite the extraordinary conditions facing the sector. This relatively good performance is due to a number of factors. The most important is that social distancing is less of an obstacle to single-family construction than for other settings. Much of the construction takes place outdoors, and workers can effectively maintain safe distance in line with government guidance. Furthermore, a significant portion of single-family construction takes place in suburban and rural settings, away from built-up cities where pandemic restrictions can often be more restrictive.

Secondly, the underlying fundamentals supporting robust single-family growth remain in place. Pent-up demand for single-family housing among millennials remains a strong driving factor for new homebuilding. One of the emerging trends to come out of the Covid-19 pandemic is the move towards remote working. This will tend to reduce the demand for central city living versus suburban living, which should support single-family construction at the expense of multi-family construction. It remains to be seen how persistent this trend will be, but we do see it adding further weight to our robust forecast for single-family construction.

The non-residential sector by contrast remains lackluster. A sharp drop in business investment has led to a collapse in demand across commercial and industrial construction. Office starts are forecast to decline by 43% this year with only a 14% rebound in 2021. The outlook for office construction going forward is one of the most uncertain parts of all non-residential. The move toward working from home will undoubtedly reduce demand from firms to maintain office space for their workers. The pandemic has demonstrated that many office workers can work just as efficiently from home as from a central location, a point that also reduces firm's fixed costs — thereby further incentivising work-from-home becoming a more long-term solution. Private office building is not forecast to regain its pre-pandemic level by the end of our forecast period in 2024.

The retail sector is also set to see sharp declines this year with only a slight rebound in 2021. Bricks-and-mortar retail stores have long been on a downward slide as more cost-efficient e-retail businesses take an ever-larger slice of consumer spending. The Covid-19 pandemic has exacerbated this trend as people have been forced to shop online — retail e-commerce sales rocketed 32% in Q2 2020, compared to a 4% drop in overall retail sales. This sudden shift has led to some longstanding bricks-and-mortar retailers going out of business permanently.

Starts in the manufacturing sector are set to pull back 65% this year, though it should be noted this is partly due to several mega projects from 2019 falling out of the calculation. Indeed, manufacturing starts can be quite volatile due to such large-scale projects. Nonetheless demand for manufactured products has also declined as

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a result of the pandemic and subsequent lockdown leading to reduced demand for construction services in the sector. Looking ahead, the picture is more positive as the re-shoring of factories to the US continues (likely boosted by the pandemic), low energy prices and a robust domestic market drive demand for construction of new manufacturing space.

Civil engineering is forecast to fall by 15.7% this year. The most significant decline stems from the miscellaneous category, including projects in the oil and gas sector, which is forecast to fall by 31%. Relatively weak oil and gas prices have led to many wells cutting operations and investment for new infrastructure in the sector is being pared back. We forecast a mediocre rebound next year, but a continued low oil price environment will keep a lid on potential investment into oil & gas projects.

Civil engineering has generally been less impacted by the pandemic than non-residential because of its heavy dependence on public funding. Whereas non-residential investment is typically determined by private investment levels, civil engineering projects are usually government funded and as such, less swayed by shocks to the economy — and to the extent that government infrastructure spending is called upon to counter economic weakness, can sometimes be countercyclical. This is certainly true of road construction and wastewater & sewage construction, both of which are forecast to outperform this year. Looking forward, there remains a significant divergence between infrastructure need and actual funding assigned to meet that need. Much of US infrastructure is in a poor state and has been for some time, but the political will needed to push through significant reforms remains elusive.

Steep declines in Canadian construction

Total construction starts in Canada declines 43.9% y/y in Q3 and 28.6% ytd with pullbacks in all three headline segments. Restricted construction activity in Quebec and Ontario earlier in the year has weighed on the ytd calculation, but construction had largely restarted by mid-May, so it does not explain the steep y/y fall, which was instead the result of strong activity in Q3 2019.

From a sectoral perspective, non-residential building suffered the steepest

decline, down 63.5% y/y and 31.6% ytd. All non-residential segments except for police & fire declined in y/y terms, and in ytd terms, only the industrial, warehousing, and transportation segments were up, thanks to large projects earlier in the year. Civil engineering construction fell 37.5% y/y and 24.7% ytd. All sectors except for dams, canals & marine work and power infrastructure experienced y/y declines. In ytd terms, all sectors contracted except for bridges, which was boosted by a project in British Columbia earlier in the year. In August, work began on the \$3.5 billion Keystone XL pipeline in Alberta, included in the miscellaneous civil sector, but a large project in British Columbia in Q3 of last year meant the sector starts contracted. Residential construction posted the smallest decrease, down 33.1% y/y and 30% ytd. Like in the US, construction of new single-family homes has been more resilient, as demand has grown for a larger living space, but multi-family home building has fallen off a cliff.

GDP plunged at an historic pace of 11.5% quarter-on-quarter in Q2, and monthly trends point to a strong 10.3% rebound in Q3 as lockdown restrictions eased, albeit only partially recouping the output lost in H1. With Covid-19 cases once again on the rise and a retightening of lockdown restrictions underway in parts of the country, all the signs point to a much weaker advance in Q4 2020. Canada's fiscal response to Covid-19 has now grown to C\$551bn (23.9% of GDP), and the federal government has recommitted to do "whatever it takes" to support the economy through the pandemic. The Bank of Canada has also reiterated its commitment to provide extraordinary monetary policy support. We expect the Bank will hold the overnight rate at the effective lower bound until early 2024 while continuing to grow its quantitative easing program. Overall, we project GDP will fall 5.3% in 2020, and rise 5.9% in 2021.

Headline construction starts are forecast to decline by 28.3% in 2020, following a 13.6% contraction in 2019. New construction activity is expected to rebound by 27.1% in 2021 and grow at a double-digit pace through 2023, but it is not expected to regain its pre-pandemic high (in 2018) until 2023.

Residential starts are expected to decline 31.3% this year, before rebounding to 18.3% growth in 2021. New single-family construction is expected to be little

changed this year (shrinking just 0.3%), with construction of new apartments subsidizing by more than 50%. Growth during the recovery period is expected to be stronger in the multi-family segment than in the single-family segment. However, this is largely due to base effects given the extent of the decline in 2020 — multi-family home construction is still expected to be lower than its pre-pandemic level at the end of our forecast period in 2024. As in the US, demographic factors tend to favor single-family construction, due to increasing household formation within the millennial generation, and the pandemic has only accelerated the trend away from city living. Indeed, single-family home construction is expected to regain its 2019 level next year, although after declines since 2018, it does not return to its 2017 peak until the end of the forecast period in 2024.

New non-residential building is expected to decline 33.1% in 2020. All sub-sectors are expected to decline this year, except for transportation terminals, boosted by a large project in Ottawa earlier in the year, and warehouses, boosted by strong investment in logistics capabilities. Both of these sectors are also likely to grow in the recovery phase. Several new projects are planned in the transportation sector, while structural shifts towards online retail should see continued demand for new warehousing space. However, some vacant retail space may be able to be repurposed to use as warehousing, so growth in the latter category is expected to slow from its pace this year. By contrast, the pandemic has led to structural shifts in a number of sectors due to social distancing, travel restrictions, and increased home working. Sectors which are not expected to regain their pre-pandemic highs include amusement, shopping & retail, hotels, private offices, and parking garages.

Engineering construction is forecast to shrink 22% in 2020 with declines in all sectors except bridges. However, during the recovery period, the sector should be the fastest to return to its pre-pandemic high, with activity expected to exceed its 2019 level by 2022. Public funding for infrastructure projects such as roads, railways, bridges and other crossings should be forthcoming. Large projects are also planned in the power sector and in the oil & gas supply chain which, if they go ahead, will give a large boost to engineering construction.

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

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Single-family	202.426	198.781	204.382	218.498	234.841	255.291	276.382
Multi-family	94.207	98.858	73.172	78.943	90.448	98.953	105.849
TOTAL RESIDENTIAL	296.633	297.639	277.554	297.441	325.289	354.244	382.231
(Yr/yr % change)	-6.7%	0.3%	-6.7%	7.2%	9.4%	8.9%	7.9%
Hotels/Motels	26.252	23.472	10.157	12.301	17.318	20.435	21.907
Shopping/Retail	18.307	16.528	12.398	14.611	16.185	17.589	19.065
Parking Garages	2.867	3.158	2.103	2.563	2.865	3.118	3.369
Amusement	8.552	7.584	5.880	6.383	6.976	7.546	7.924
Private Offices	29.887	36.448	20.758	23.587	26.126	28.111	29.750
Governmental Offices	11.016	11.727	11.147	11.791	12.296	12.991	13.488
Laboratories (Schools & Industrial)	2.908	2.417	2.123	2.832	3.107	3.280	3.413
Warehouses	21.746	22.570	21.917	23.253	24.518	25.753	26.985
Sports Stadium/Convention Center	7.028	9.835	5.240	6.184	7.571	8.763	9.764
Transportation Terminals	5.254	10.746	3.885	6.282	6.990	7.768	8.547
TOTAL COMMERCIAL	133.816	144.485	95.608	109.787	123.952	135.353	144.212
(Yr/yr % change)	-6.7%	8.0%	-33.8%	14.8%	12.9%	9.2%	6.5%
TOTAL INDUSTRIAL (manufacturing)	35.799	55.573	19.727	22.642	28.005	31.117	33.940
(Yr/yr % change)	-2.6%	55.2%	-64.5%	14.8%	23.7%	11.1%	9.1%
Religious	2.191	1.887	1.416	1.578	1.760	1.802	1.838
Hospitals/Clinics	16.888	21.034	12.775	17.287	19.173	20.995	22.884
Nursing Homes/Assisted Living	10.614	9.599	6.926	9.546	11.470	12.181	12.760
Libraries/Museums	2.748	4.072	4.073	4.419	4.709	4.960	5.196
Courthouse	1.928	1.568	1.727	1.974	2.076	2.230	2.296
Police/Fire	3.038	3.260	3.252	3.490	3.627	3.770	3.890
Prisons	3.147	2.111	2.283	2.536	2.732	2.877	2.992
Military	5.231	5.149	7.960	7.193	7.729	8.303	8.815
Educational Facilities	71.499	75.804	66.409	72.215	77.166	81.566	85.230
MED misc	11.249	9.340	7.621	8.872	10.026	11.286	12.191
TOTAL INSTITUTIONAL	128.531	133.823	114.442	129.109	140.467	149.970	158.092
(Yr/yr % change)	0.5%	4.1%	-14.5%	12.8%	8.8%	6.8%	5.4%
Miscellaneous Non-Res Building	7.207	7.660	5.578	6.859	7.452	7.940	9.496
TOTAL NON-RES BLDG	305.353	341.541	235.355	268.398	299.876	324.380	345.739
(Yr/yr % change)	-3.3%	11.9%	-31.1%	14.0%	11.7%	8.2%	6.6%
Airport	7.269	7.393	6.403	6.184	7.090	7.669	8.157
Roads	63.257	65.316	63.395	69.935	75.766	79.158	82.490
Bridges	24.029	30.183	23.419	27.113	28.570	29.729	30.758
Dams/Canal/Marine	6.645	8.547	7.246	8.265	8.796	9.238	9.473
Water & Sewage Treatment	29.644	31.625	33.683	35.324	37.006	38.714	40.410
Misc Civil (Power, etc.)	32.139	46.189	25.483	34.420	39.299	42.085	44.904
TOTAL ENGINEERING	162.984	189.253	159.629	181.240	196.527	206.592	216.192
(Yr/yr % change)	8.8%	16.1%	-15.7%	13.5%	8.4%	5.1%	4.6%
TOTAL NON-RESIDENTIAL	468.337	530.795	394.984	449.638	496.403	530.972	561.931
(Yr/yr % change)	0.6%	13.3%	-25.6%	13.8%	10.4%	7.0%	5.8%
GRAND TOTAL	764.970	828.433	672.538	747.080	821.692	885.216	944.162
(Yr/yr % change)	-2.4%	8.3%	-18.8%	11.1%	10.0%	7.7%	6.7%

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	189.253	159.629	181.240	196.527	206.592	216.192
NON-RESIDENTIAL BUILDING	305.353	341.541	235.355	268.398	299.876	324.380	345.739
RESIDENTIAL	296.633	297.639	277.554	297.441	325.289	354.244	382.231
GRAND TOTAL	764.970	828.433	672.538	747.080	821.692	885.216	944.162
Verticals							
Airport	7.269	7.393	6.403	6.184	7.090	7.669	8.157
All Other Civil	24.429	31.492	21.700	24.388	26.682	29.001	30.576
Bridges	24.029	30.183	23.419	27.113	28.570	29.729	30.758
Dams / Canals / Marine Work	6.645	8.547	7.246	8.265	8.796	9.238	9.473
Power Infrastructure	7.710	14.697	3.784	10.032	12.616	13.084	14.328
Roads	63.257	65.316	63.395	69.935	75.766	79.158	82.490
Water and Sewage Treatment	29.644	31.625	33.683	35.324	37.006	38.714	40.410
CIVIL	162.984	189.253	159.629	181.240	196.527	206.592	216.192
(Yr/yr % change)	8.8%	16.1%	-15.7%	13.5%	8.4%	5.1%	4.6%
Offices (private)	29.887	36.448	20.758	23.587	26.126	28.111	29.750
Parking Garages	2.867	3.158	2.103	2.563	2.865	3.118	3.369
Transportation Terminals	5.254	10.746	3.885	6.282	6.990	7.768	8.547
Commercial	38.008	50.352	26.746	32.432	35.981	38.997	41.666
(Yr/yr % change)	4.6%	32.5%	-46.9%	21.3%	10.9%	8.4%	6.8%
Amusement	8.552	7.584	5.880	6.383	6.976	7.546	7.924
Libraries / Museums	2.748	4.072	4.073	4.419	4.709	4.960	5.196
Religious	2.191	1.887	1.416	1.578	1.760	1.802	1.838
Sports Arenas / Convention Centers	7.028	9.835	5.240	6.184	7.571	8.763	9.764
Community	20.519	23.378	16.609	18.563	21.016	23.070	24.722
(Yr/yr % change)	-29.7%	13.9%	-29.0%	11.8%	13.2%	9.8%	7.2%
College / University	20.006	19.643	16.466	18.471	19.371	20.420	21.228
Elementary / Pre School	19.349	21.435	20.056	21.672	23.518	25.142	26.540
Jr / Sr High School	30.419	32.819	27.993	30.104	32.256	33.939	35.334
Special / Vocational	1.726	1.908	1.894	1.968	2.021	2.065	2.127
Educational	71.499	75.804	66.409	72.215	77.166	81.566	85.230
(Yr/yr % change)	2.9%	6.0%	-12.4%	8.7%	6.9%	5.7%	4.5%
Courthouses	1.928	1.568	1.727	1.974	2.076	2.230	2.296
Fire and Police Stations	3.038	3.260	3.252	3.490	3.627	3.770	3.890
Government Offices	11.016	11.727	11.147	11.791	12.296	12.991	13.488
Prisons	3.147	2.111	2.283	2.536	2.732	2.877	2.992
Government	19.128	18.665	18.408	19.790	20.731	21.868	22.666
(Yr/yr % change)	0.6%	-2.4%	-1.4%	7.5%	4.8%	5.5%	3.6%
Industrial Labs / Labs / School Labs	2.908	2.417	2.123	2.832	3.107	3.280	3.413
Manufacturing	35.799	55.573	19.727	22.642	28.005	31.117	33.940
Warehouses	21.746	22.570	21.917	23.253	24.518	25.753	26.985
Industrial	60.453	80.560	43.767	48.728	55.630	60.150	64.338
(Yr/yr % change)	-1.4%	33.3%	-45.7%	11.3%	14.2%	8.1%	7.0%
Hospitals / Clinics	16.888	21.034	12.775	17.287	19.173	20.995	22.884
Medical Misc.	11.249	9.340	7.621	8.872	10.026	11.286	12.191
Nursing Homes	10.614	9.599	6.926	9.546	11.470	12.181	12.760
Medical	38.750	39.973	27.322	35.705	40.669	44.463	47.835
(Yr/yr % change)	-1.8%	3.2%	-31.6%	30.7%	13.9%	9.3%	7.6%
Military	5.231	5.149	7.960	7.193	7.729	8.303	8.815
(Yr/yr % change)	9.5%	-1.6%	54.6%	-9.6%	7.5%	7.4%	6.2%
Hotels	26.252	23.472	10.157	12.301	17.318	20.435	21.907
Retail Misc.	7.207	7.660	5.578	6.859	7.452	7.940	9.496
Shopping	18.307	16.528	12.398	14.611	16.185	17.589	19.065
Retail	51.766	47.660	28.133	33.771	40.954	45.964	50.468
(Yr/yr % change)	-8.1%	-7.9%	-41.0%	20.0%	21.3%	12.2%	9.8%
NON-RESIDENTIAL BUILDING	305.353	341.541	235.355	268.398	299.876	324.380	345.739
(Yr/yr % change)	-3.3%	11.9%	-31.1%	14.0%	11.7%	8.2%	6.6%
Multi-Family	94.207	98.858	73.172	78.943	90.448	98.953	105.849
Single-Family	202.426	198.781	204.382	218.498	234.841	255.291	276.382
RESIDENTIAL	296.633	297.639	277.554	297.441	325.289	354.244	382.231
(Yr/yr % change)	-6.7%	0.3%	-6.7%	7.2%	9.4%	8.9%	7.9%
GRAND TOTAL	764.970	828.433	672.538	747.080	821.692	885.216	944.162
(Yr/yr % change)	-2.4%	8.3%	-18.8%	11.1%	10.0%	7.7%	6.7%

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)	2019	2020	2021	2022	2023	2024
Alaska - AK	\$1,594	12.4%	-4.6%	12.7%	4.2%	5.5%
Alabama - AL	\$12,775	-18.9%	20.3%	6.0%	7.6%	7.1%
Arkansas - AR	\$6,440	8.3%	5.1%	9.2%	8.0%	7.2%
Arizona - AZ	\$20,883	-6.4%	10.1%	5.3%	7.9%	6.6%
California - CA*	\$65,753	-7.3%	3.2%	15.1%	7.7%	6.7%
Colorado - CO	\$20,591	-16.2%	11.5%	11.1%	8.5%	7.7%
Connecticut - CT	\$7,057	-26.4%	29.4%	11.6%	4.7%	4.6%
District Of Columbia - DC	\$4,153	-44.5%	47.4%	11.6%	3.1%	5.2%
Delaware - DE	\$2,675	-5.4%	-8.8%	8.8%	5.6%	5.8%
Florida - FL*	\$62,007	-16.4%	14.4%	10.1%	8.5%	7.8%
Georgia - GA	\$31,106	-27.1%	16.7%	8.7%	8.6%	7.5%
Hawaii - HI	\$3,003	-21.9%	30.0%	31.8%	-2.8%	3.4%
Iowa - IA	\$7,896	-9.8%	14.0%	5.4%	7.6%	6.9%
Idaho - ID	\$5,381	-14.4%	9.1%	2.6%	7.9%	7.8%
Illinois - IL	\$22,018	-22.5%	24.1%	8.7%	6.8%	5.8%
Indiana - IN	\$14,013	-0.6%	-0.3%	8.2%	8.3%	7.1%
Kansas - KS	\$6,481	-8.0%	15.0%	6.5%	7.9%	6.9%
Kentucky - KY	\$9,584	-35.3%	30.8%	9.9%	6.5%	6.2%
Louisiana - LA	\$12,071	-33.0%	29.4%	8.3%	7.5%	6.8%
Massachusetts - MA	\$17,452	-32.2%	19.3%	16.3%	4.5%	5.6%
Maryland - MD	\$10,965	-4.8%	2.1%	9.8%	5.5%	5.5%
Maine - ME	\$2,585	-18.9%	23.2%	3.0%	6.4%	5.6%
Michigan - MI	\$17,756	-42.4%	6.1%	14.1%	4.9%	5.2%
Minnesota - MN	\$18,117	-22.7%	9.7%	10.1%	6.4%	6.4%
Missouri - MO	\$12,090	13.4%	1.6%	6.7%	6.7%	6.1%
Mississippi - MS	\$4,747	5.6%	0.0%	1.9%	6.9%	7.5%
Montana - MT	\$2,640	-7.9%	15.9%	12.7%	7.7%	6.7%
North Carolina - NC	\$33,147	-21.9%	14.6%	11.3%	7.5%	7.2%
North Dakota - ND	\$3,089	-5.3%	-2.5%	13.6%	7.5%	7.1%
Nebraska - NE	\$4,962	13.9%	7.2%	5.4%	7.3%	7.5%
New Hampshire - NH	\$2,669	-41.6%	57.4%	16.5%	4.5%	5.5%
New Jersey - NJ	\$13,316	-14.2%	14.0%	11.3%	5.5%	5.2%
New Mexico - NM	\$4,051	-12.7%	-9.3%	8.0%	6.5%	6.5%
Nevada - NV	\$10,050	-24.4%	24.7%	15.7%	8.3%	6.7%
New York - NY*	\$38,742	-31.7%	14.2%	15.8%	15.9%	5.5%
Ohio - OH	\$20,547	-7.4%	-2.9%	10.9%	5.6%	6.0%
Oklahoma - OK	\$8,744	-9.3%	19.1%	5.3%	7.0%	7.4%
Oregon - OR	\$10,086	-24.2%	21.4%	12.5%	7.9%	7.5%
Pennsylvania - PA	\$21,456	-22.3%	27.6%	13.0%	5.2%	5.0%
Rhode Island - RI	\$1,141	-7.1%	24.7%	12.7%	6.5%	6.1%
South Carolina - SC	\$14,541	-13.7%	11.3%	8.2%	7.3%	7.1%
South Dakota - SD	\$3,412	-31.7%	27.5%	7.3%	7.5%	6.9%
Tennessee - TN	\$19,103	0.6%	4.7%	7.3%	7.9%	7.1%
Texas - TX*	\$131,416	-28.9%	9.7%	7.5%	8.8%	6.9%
Utah - UT	\$10,663	10.2%	14.2%	6.1%	8.3%	7.4%
Virginia - VA	\$23,115	-20.6%	13.4%	7.5%	7.1%	6.6%
Vermont - VT	\$772	12.8%	9.7%	17.4%	2.2%	6.3%
Washington - WA	\$28,575	-20.5%	-2.6%	9.3%	7.4%	7.1%
Wisconsin - WI	\$15,006	-14.1%	-6.2%	10.2%	5.9%	6.3%
West Virginia - WV	\$2,315	26.5%	6.0%	8.0%	6.2%	5.6%
Wyoming - WY	\$5,681	-71.2%	78.5%	12.7%	6.4%	6.5%
United States	\$828,434	-18.8%	11.1%	10.0%	7.7%	6.7%

*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	9.855	10.760	6.984	8.287	9.084	11.216	12.205
	Non-res Building	17.575	20.180	12.898	11.057	14.360	15.675	16.251
	Engineering/Civil	10.720	7.802	6.569	10.851	11.519	13.631	14.283
	Total	38.151	38.742	26.451	30.195	34.964	40.523	42.739
	(Yr vs previous yr % Change)	-23.9%	1.6%	-31.7%	14.2%	15.8%	15.9%	5.5%
Florida	Residential	26.700	28.887	28.205	30.509	33.800	36.940	40.153
	Non-res Building	18.729	18.756	15.413	17.534	19.147	20.911	22.637
	Engineering/Civil	10.126	14.364	8.197	11.247	12.326	12.950	13.536
	Total	55.555	62.007	51.815	59.289	65.273	70.800	76.326
	(Yr vs previous yr % Change)	-5.0%	11.6%	-16.4%	14.4%	10.1%	8.5%	7.8%
Texas	Residential	41.983	44.134	43.498	42.719	45.320	48.755	52.274
	Non-res Building	34.028	63.275	30.587	36.908	40.235	45.641	49.147
	Engineering/Civil	20.142	24.006	19.356	22.880	24.616	25.490	26.714
	Total	96.153	131.416	93.441	102.508	110.171	119.886	128.134
	(Yr vs previous yr % Change)	-5.7%	36.7%	-28.9%	9.7%	7.5%	8.8%	6.9%
California	Residential	27.328	24.316	21.032	21.502	23.980	26.859	29.383
	Non-res Building	26.682	25.870	20.890	25.192	30.509	32.111	33.813
	Engineering/Civil	17.007	15.566	19.040	16.223	17.908	19.006	19.980
	Total	71.016	65.753	60.962	62.918	72.397	77.976	83.176
	(Yr vs previous yr % Change)	-9.5%	-7.4%	-7.3%	3.2%	15.1%	7.7%	6.7%

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

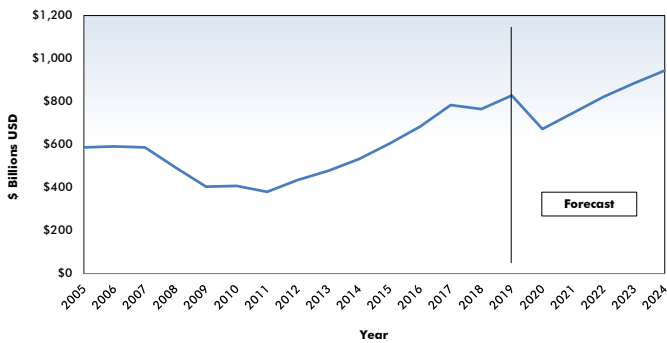
Tweeted by ConstructConnect:

@ConstructConnx

In the U.S., in Q3, a Q/Q increase of +7.0% to +8.0% will yield an outsized number for GDP growth approaching +30.0% annualized. This will inspire a lot of celebratory backslapping, but it will be deceptive and way too early to uncork the champagne.

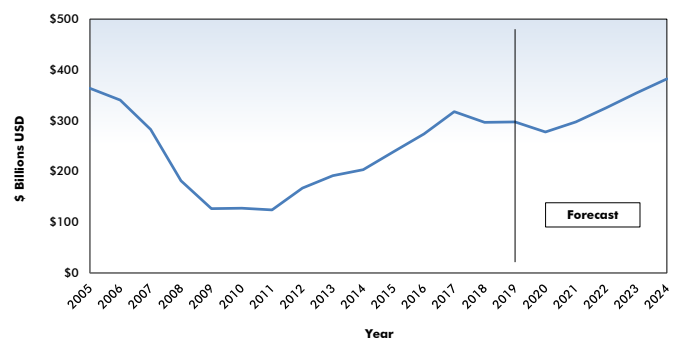


Graph 1: U.S. Grand Total Construction Starts — ConstructConnect



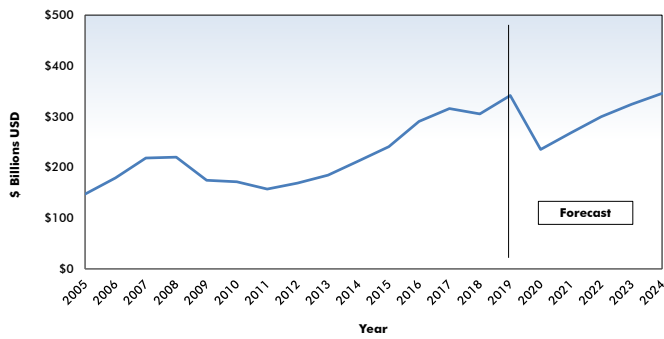
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



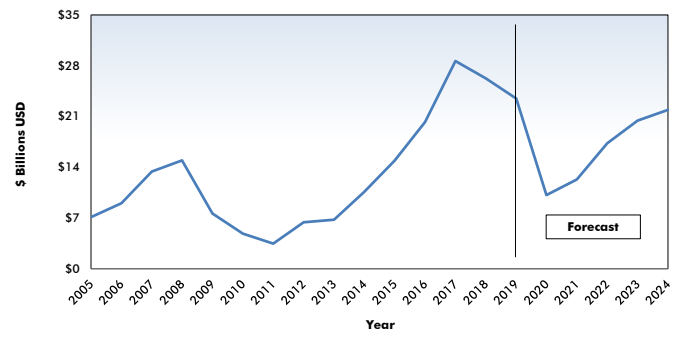
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



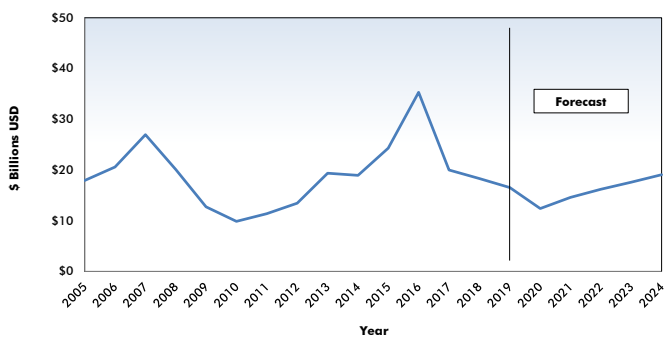
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



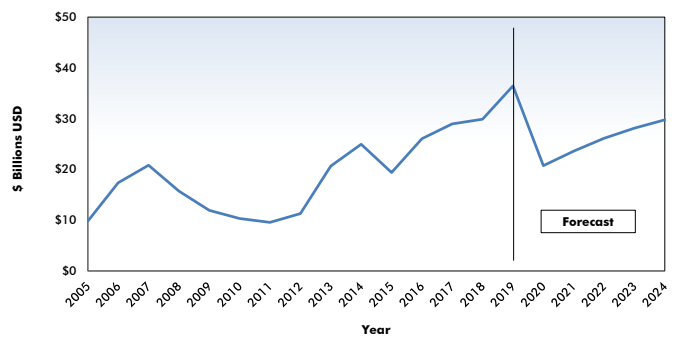
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



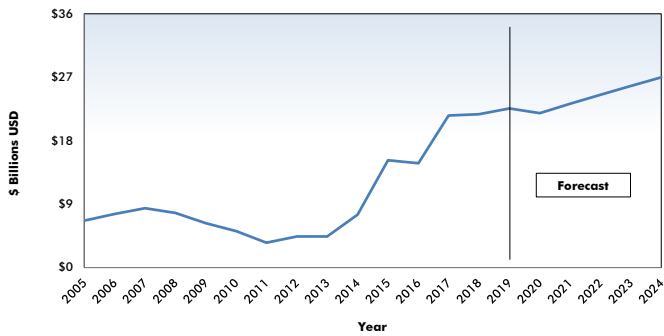
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



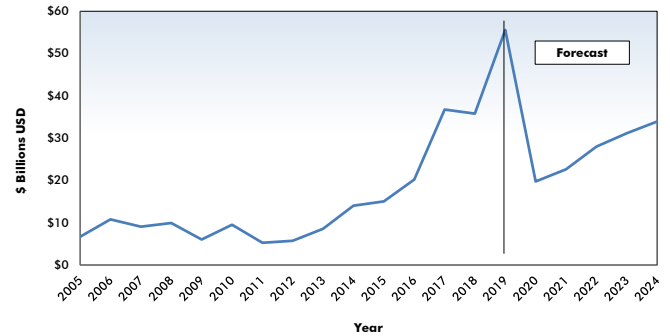
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



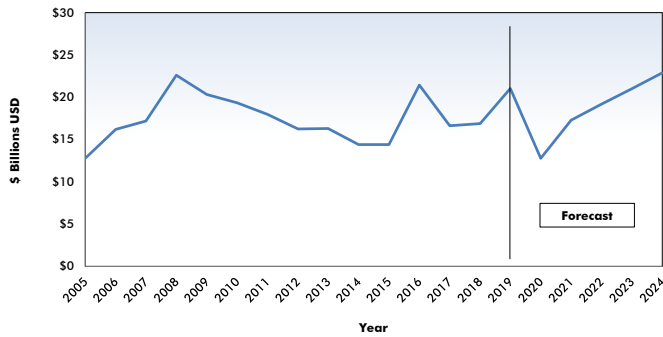
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



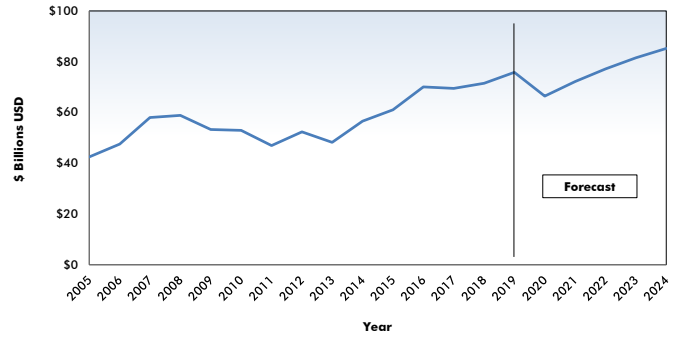
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



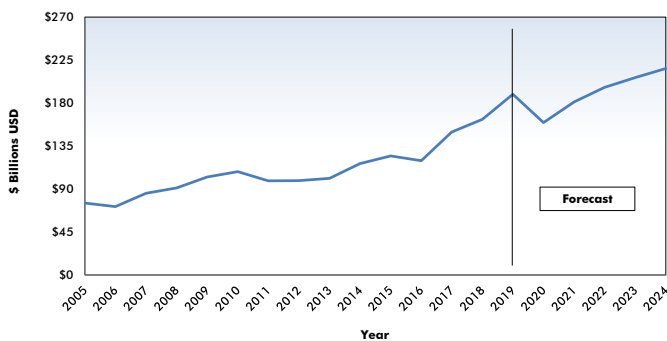
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



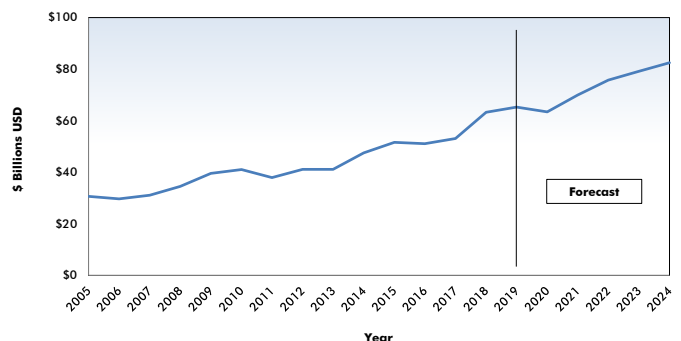
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



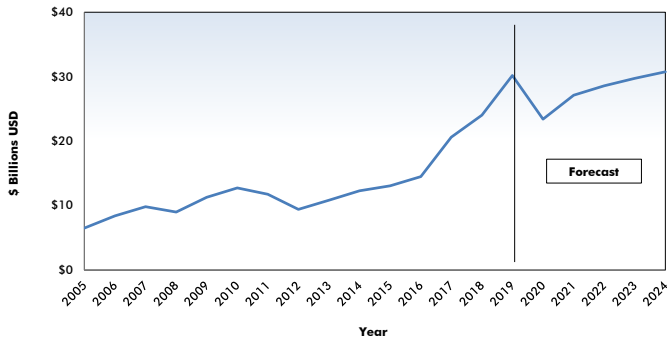
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



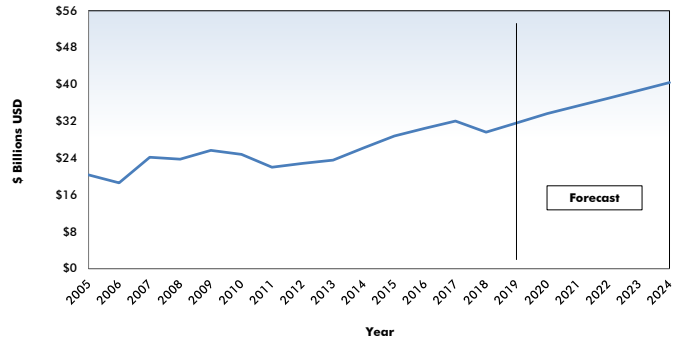
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



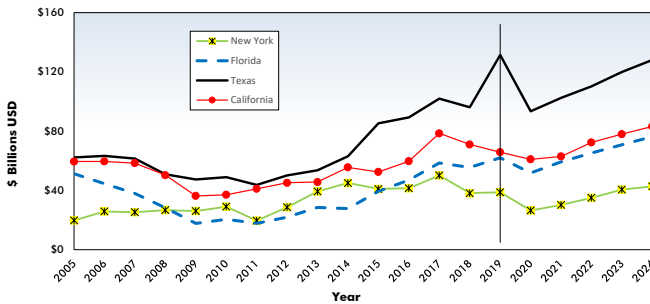
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



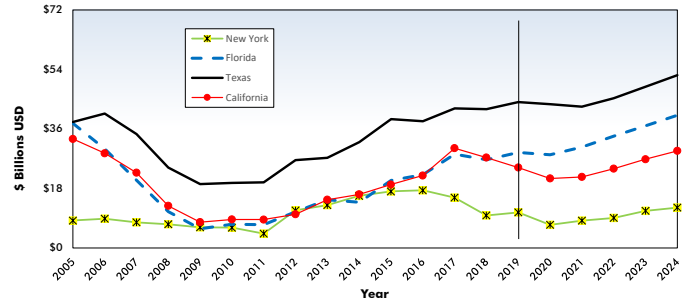
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



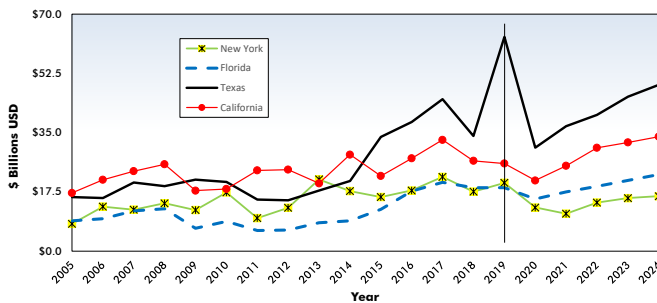
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



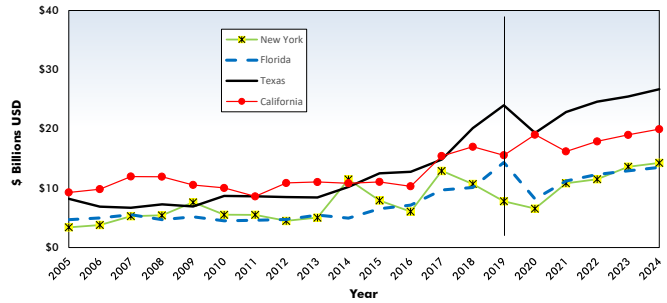
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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	12.296	13.267	14.664	16.099	17.096
Multi-family	15.255	18.257	8.713	11.584	13.332	14.536	15.452
TOTAL RESIDENTIAL	29.742	30.587	21.009	24.851	27.996	30.635	32.549
(Yr/yr % change)	-5.8%	2.8%	-31.3%	18.3%	12.7%	9.4%	6.2%
Hotels/Motels	0.408	0.659	0.411	0.495	0.549	0.584	0.608
Private Offices	1.970	3.792	1.975	1.920	2.224	2.478	2.694
Governmental Offices	1.530	3.152	1.473	1.485	1.722	1.941	2.088
Shopping/Retail	0.870	2.283	0.330	0.701	0.870	1.032	1.122
Retail Miscellaneous	0.184	0.239	0.084	0.166	0.224	0.265	0.295
Parking Garages	0.192	0.383	0.121	0.140	0.210	0.245	0.273
Amusement	2.502	1.996	0.986	1.252	1.515	1.671	1.764
Warehouses	1.865	1.414	1.740	1.922	2.053	2.169	2.283
TOTAL COMMERCIAL	9.522	13.917	7.120	8.083	9.367	10.385	11.127
(Yr/yr % change)	5.1%	46.2%	-48.8%	13.5%	15.9%	10.9%	7.1%
TOTAL INDUSTRIAL (manufacturing)	19.373	3.347	2.638	6.946	9.344	10.528	11.408
(Yr/yr % change)	441.1%	-82.7%	-21.2%	163.3%	34.5%	12.7%	8.4%
Religious	0.153	0.050	0.031	0.053	0.067	0.085	0.101
Hospitals/Clinics	3.391	3.648	1.607	2.382	3.384	4.039	4.415
MED misc	0.282	0.289	0.122	0.229	0.293	0.366	0.428
Transportation Terminals*	7.064	1.242	3.027	3.622	4.194	4.613	4.892
Police/Fire	2.083	1.005	0.643	0.791	0.927	1.009	1.074
Educational Facilities	4.210	5.062	3.906	4.381	4.884	5.088	5.288
TOTAL INSTITUTIONAL	17.182	11.296	9.337	11.458	13.750	15.200	16.197
(Yr/yr % change)	61.4%	-34.3%	-17.3%	22.7%	20.0%	10.5%	6.6%
TOTAL NON-RES BUILDING	46.077	28.561	19.095	26.486	32.462	36.113	38.732
(Yr/yr % change)	97.8%	-38.0%	-33.1%	38.7%	22.6%	11.2%	7.3%
Bridges	6.704	2.177	3.272	4.394	4.393	3.670	3.921
Dams/Canal/Marine	0.928	0.661	0.493	0.612	0.693	0.758	0.805
Water & Sewage Treatment	6.144	3.747	2.430	3.698	4.119	4.585	4.901
Roads	10.005	9.574	8.134	9.658	10.636	11.437	12.070
Power Infrastructure	3.092	3.161	2.661	3.579	5.471	6.543	7.504
All Other Civil (Oil & Gas etc.)	8.298	17.458	11.686	14.145	16.136	18.521	20.858
TOTAL ENGINEERING	35.172	36.779	28.675	36.086	41.448	45.514	50.059
(Yr/yr % change)	19.8%	4.6%	-22.0%	25.8%	14.9%	9.8%	10.0%
TOTAL NON-RESIDENTIAL	81.249	65.339	47.771	62.572	73.909	81.627	88.791
(Yr/yr % change)	54.3%	-19.6%	-26.9%	31.0%	18.1%	10.4%	8.8%
GRAND TOTAL	110.991	95.926	68.780	87.422	101.906	112.262	121.339
(Yr/yr % change)	31.8%	-13.6%	-28.3%	27.1%	16.6%	10.2%	8.1%

* 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				
	2018	2019	2020	2021	2022	2023	2024
Summary							
CIVIL	35.172	36.779	28.675	36.086	41.448	45.514	50.059
NON-RESIDENTIAL BUILDING	46.077	28.561	19.095	26.486	32.462	36.113	38.732
RESIDENTIAL	29.742	30.587	21.009	24.851	27.996	30.635	32.549
GRAND TOTAL	110.991	95.926	68.780	87.422	101.906	112.262	121.339
Verticals							
All Other Civil	8.298	17.458	11.686	14.145	16.136	18.521	20.858
Bridges	6.704	2.177	3.272	4.394	4.393	3.670	3.921
Dams / Canals / Marine Work	0.928	0.661	0.493	0.612	0.693	0.758	0.805
Power Infrastructure	3.092	3.161	2.661	3.579	5.471	6.543	7.504
Roads	10.005	9.574	8.134	9.658	10.636	11.437	12.070
Water and Sewage Treatment	6.144	3.747	2.430	3.698	4.119	4.585	4.901
CIVIL	35.172	36.779	28.675	36.086	41.448	45.514	50.059
(Yr/yr % change)	19.8%	4.6%	-22.0%	25.8%	14.9%	9.8%	10.0%
Offices (private)	1.970	3.792	1.975	1.920	2.224	2.478	2.694
Parking Garages	0.192	0.383	0.121	0.140	0.210	0.245	0.273
Transportation Terminals	7.064	1.242	3.027	3.622	4.194	4.613	4.892
Commercial	9.226	5.418	5.123	5.683	6.627	7.336	7.858
(Yr/yr % change)	342.3%	-41.3%	-5.4%	10.9%	16.6%	10.7%	7.1%
Amusement	2.502	1.996	0.986	1.252	1.515	1.671	1.764
Religious	0.153	0.050	0.031	0.053	0.067	0.085	0.101
Community	2.655	2.046	1.017	1.304	1.582	1.756	1.865
(Yr/yr % change)	10.8%	-22.9%	-50.3%	28.3%	21.3%	10.9%	6.2%
Educational	4.210	5.062	3.906	4.381	4.884	5.088	5.288
(Yr/yr % change)	0.7%	20.2%	-22.8%	12.2%	11.5%	4.2%	3.9%
Fire and Police Stations	2.083	1.005	0.643	0.791	0.927	1.009	1.074
Government Offices	1.530	3.152	1.473	1.485	1.722	1.941	2.088
Government	3.613	4.157	2.117	2.276	2.650	2.950	3.162
(Yr/yr % change)	49.7%	15.1%	-49.1%	7.5%	16.4%	11.3%	7.2%
Manufacturing	19.373	3.347	2.638	6.946	9.344	10.528	11.408
Warehouses	1.865	1.414	1.740	1.922	2.053	2.169	2.283
Industrial	21.238	4.761	4.379	8.869	11.398	12.697	13.691
(Yr/yr % change)	324.4%	-77.6%	-8.0%	102.5%	28.5%	11.4%	7.8%
Hospitals / Clinics	3.391	3.648	1.607	2.382	3.384	4.039	4.415
Medical Misc.	0.282	0.289	0.122	0.229	0.293	0.366	0.428
Medical	3.673	3.937	1.730	2.611	3.678	4.404	4.843
(Yr/yr % change)	-23.8%	7.2%	-56.1%	50.9%	40.9%	19.8%	10.0%
Hotels	0.408	0.659	0.411	0.495	0.549	0.584	0.608
Retail Misc.	0.184	0.239	0.084	0.166	0.224	0.265	0.295
Shopping	0.870	2.283	0.330	0.701	0.870	1.032	1.122
Retail	1.462	3.180	0.824	1.363	1.642	1.882	2.026
(Yr/yr % change)	-38.8%	117.5%	-74.1%	65.4%	20.5%	14.6%	7.6%
NON-RESIDENTIAL BUILDING	46.077	28.561	19.095	26.486	32.462	36.113	38.732
(Yr/yr % change)	97.8%	-38.0%	-33.1%	38.7%	22.6%	11.2%	7.3%
Multi-Family	15.255	18.257	8.713	11.584	13.332	14.536	15.452
Single-Family	14.487	12.331	12.296	13.267	14.664	16.099	17.096
RESIDENTIAL	29.742	30.587	21.009	24.851	27.996	30.635	32.549
(Yr/yr % change)	-5.8%	2.8%	-31.3%	18.3%	12.7%	9.4%	6.2%
TOTAL NON-RESIDENTIAL	81.249	65.339	47.771	62.572	73.909	81.627	88.791
(Yr/yr % change)	54.3%	-19.6%	-26.9%	31.0%	18.1%	10.4%	8.8%
GRAND TOTAL	110.991	95.926	68.780	87.422	101.906	112.262	121.339
(Yr/yr % change)	31.8%	-13.6%	-28.3%	27.1%	16.6%	10.2%	8.1%

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	\$4,033	-11.4%	16.3%	18.2%	6.9%	6.4%
Quebec	\$20,457	-45.1%	34.3%	19.9%	11.3%	8.3%
Ontario	\$30,159	-15.2%	5.1%	7.9%	6.8%	7.9%
Manitoba	\$2,712	-43.7%	29.5%	36.0%	3.4%	10.4%
Saskatchewan	\$1,676	-24.5%	59.2%	34.9%	4.1%	11.5%
Alberta	\$18,042	-17.7%	27.7%	18.1%	12.2%	7.7%
British Columbia	\$18,849	-42.9%	70.6%	20.5%	13.9%	8.2%
Canada	\$95,926	-28.3%	27.1%	16.6%	10.2%	8.1%

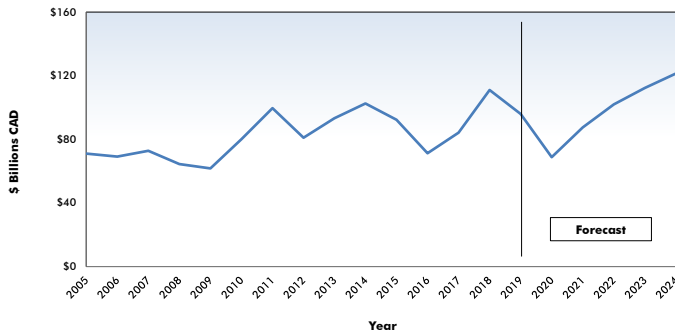
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Table: ConstructConnect.

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

		Actuals		Forecasts				
		2018	2019	2020	2021	2022	2023	2024
Quebec	Residential	4.133	4.934	3.566	5.130	5.694	6.335	6.723
	Non-res Building	12.854	7.929	3.454	4.681	6.112	6.987	7.598
	Engineering/Civil	5.006	7.594	4.217	5.279	6.288	6.816	7.490
	Total	21.993	20.457	11.237	15.091	18.093	20.138	21.811
	(Yr vs previous yr % Change)	59.4%	-7.0%	-45.1%	34.3%	19.9%	11.3%	8.3%
Ontario	Residential	13.738	13.198	9.755	9.501	10.394	10.887	11.587
	Non-res Building	9.369	9.519	9.366	9.693	9.967	10.695	11.625
	Engineering/Civil	12.388	7.441	6.460	7.691	8.641	9.406	10.227
	Total	35.494	30.159	25.581	26.885	29.002	30.988	33.438
	(Yr vs previous yr % Change)	34.1%	-15.0%	-15.2%	5.1%	7.9%	6.8%	7.9%
Alberta	Residential	3.504	3.922	2.841	4.026	4.489	5.206	5.532
	Non-res Building	7.595	4.125	2.176	4.029	5.772	6.444	6.775
	Engineering/Civil	6.102	9.994	9.825	10.894	12.127	13.458	14.741
	Total	17.200	18.042	14.842	18.949	22.388	25.108	27.049
	(Yr vs previous yr % Change)	-20.2%	4.9%	-17.7%	27.7%	18.1%	12.2%	7.7%
British Columbia	Residential	6.321	6.636	3.188	4.311	5.329	5.946	6.234
	Non-res Building	12.955	3.700	2.452	5.194	6.458	7.613	8.037
	Engineering/Civil	7.331	8.513	5.115	8.847	10.319	11.609	12.961
	Total	26.607	18.849	10.755	18.353	22.106	25.168	27.233
	(Yr vs previous yr % Change)	129.8%	-29.2%	-42.9%	70.6%	20.5%	13.9%	8.2%

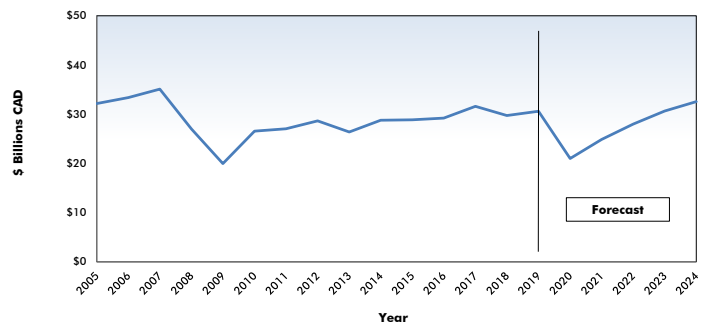
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Table: ConstructConnect.

Graph 19: Canadian Grand Total Construction Starts — ConstructConnect



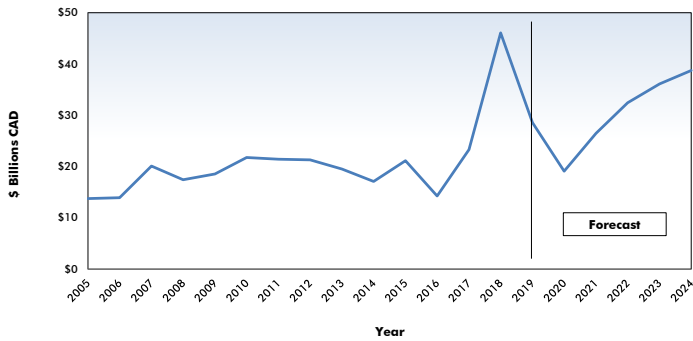
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 20: Canadian Residential Construction Starts — ConstructConnect



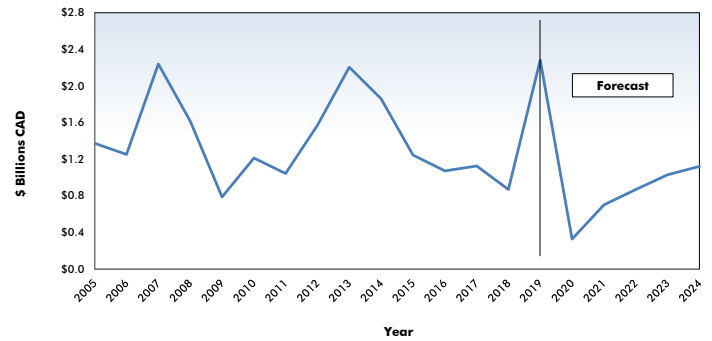
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 21: Canadian Non-Residential Building Starts — ConstructConnect



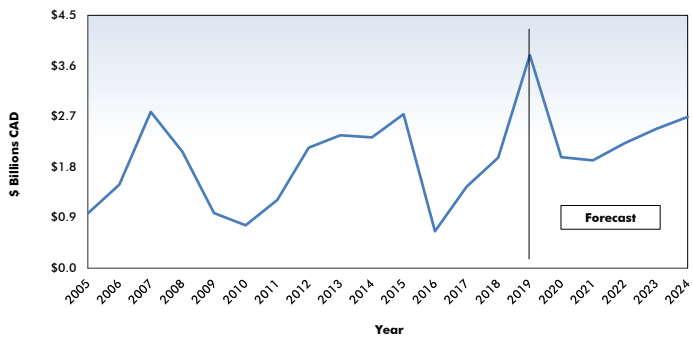
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 22: Canadian Shopping/Retail Construction Starts — ConstructConnect



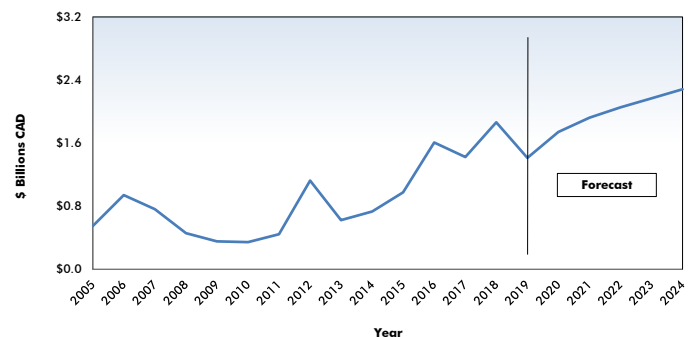
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 23: Canadian Private Offices Construction Starts — ConstructConnect



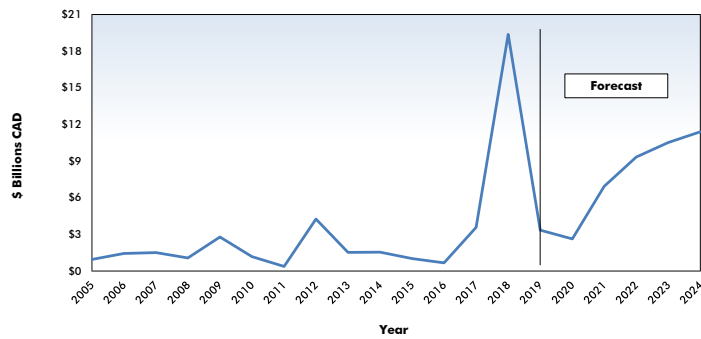
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 24: Canadian Warehouse Construction Starts — ConstructConnect



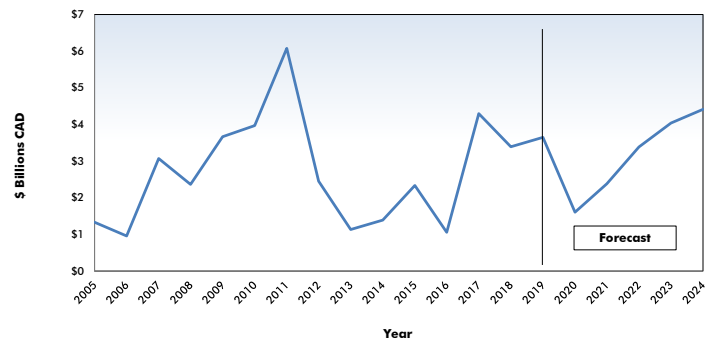
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 25: Canadian Industrial/Manufacturing Construction Starts — ConstructConnect



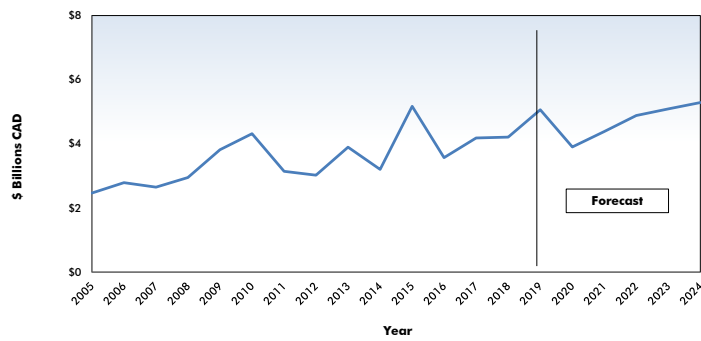
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 26: Canadian Hospital/Clinic Construction Starts — ConstructConnect



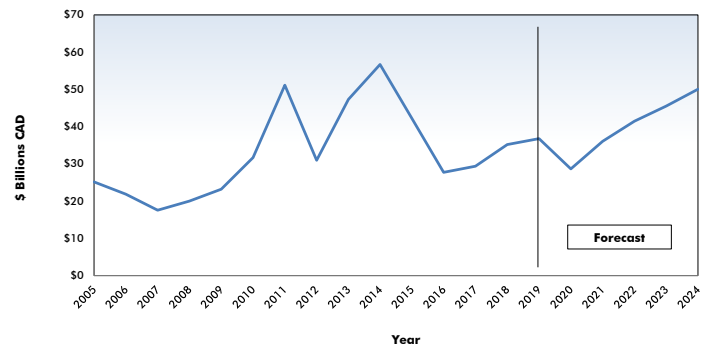
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 27: Canadian Education Construction Starts — ConstructConnect



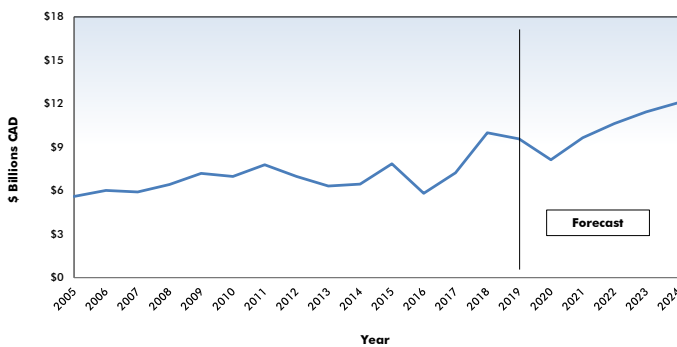
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 28: Canadian Engineering Construction Starts — ConstructConnect



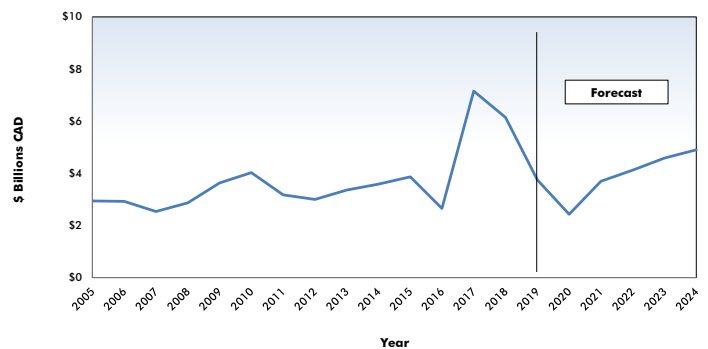
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 29: Canadian Roadwork Construction Starts — ConstructConnect



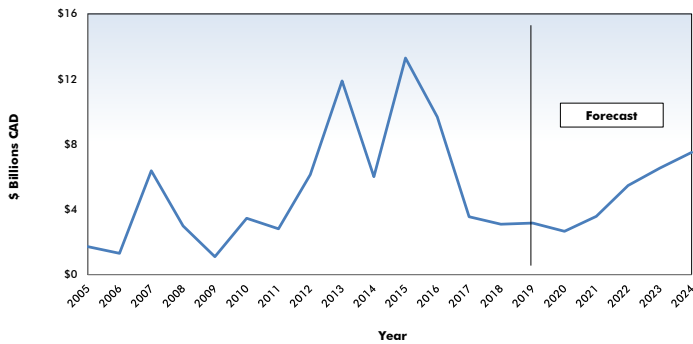
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 30: Canadian Water and Sewage Construction Starts — ConstructConnect



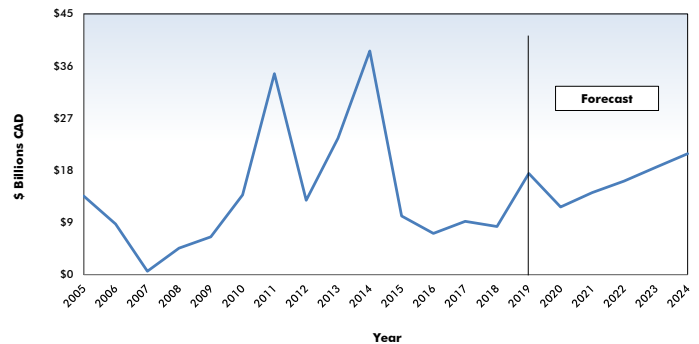
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 31: Canadian Power Infrastructure Construction Starts — ConstructConnect



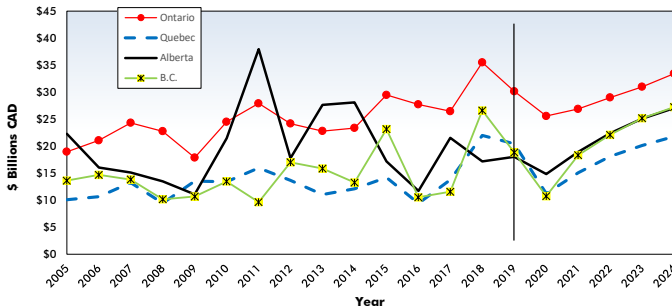
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



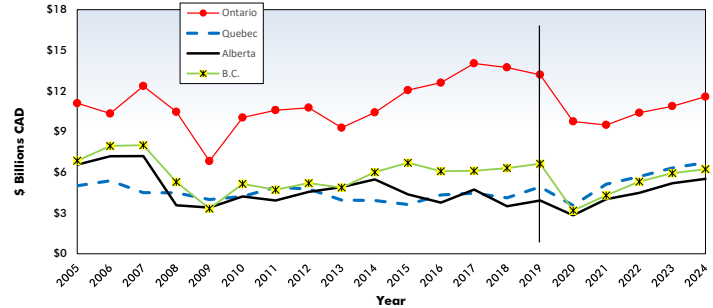
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



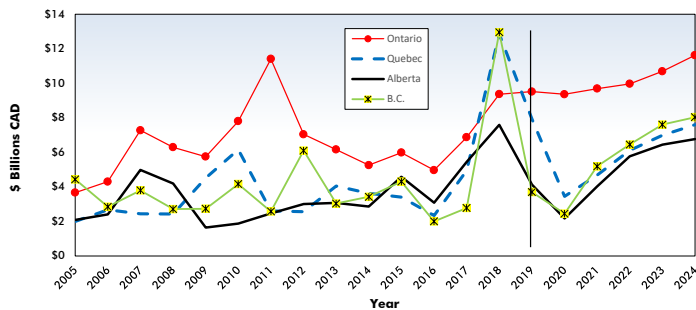
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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



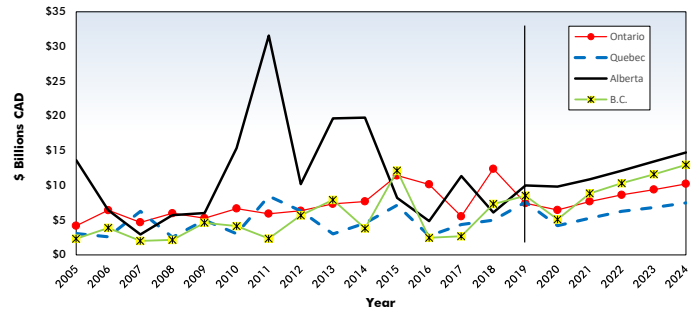
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

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.

Table 11: U.S. Type-of-Structure Forecasts
(Square Feet Millions)

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Single-family	1,673.7	1,643.6	1,689.1	1,806.0	1,941.6	2,110.8	2,285.2
Multi-family	526.7	553.5	428.9	457.8	520.6	568.6	608.0
TOTAL RESIDENTIAL	2,200.5	2,197.1	2,118.0	2,263.8	2,462.2	2,679.4	2,893.2
(Yr/yr % change)	-4.5%	-0.2%	-3.6%	6.9%	8.8%	8.8%	8.0%
Hotels/Motels	109.9	105.8	46.4	53.6	73.2	85.7	91.7
Shopping/Retail	76.2	69.1	46.3	55.2	64.0	70.2	76.3
Parking Garages	28.3	34.5	19.1	23.9	28.2	31.1	33.7
Amusement	28.0	23.8	19.8	20.5	22.5	24.4	25.6
Private Offices	92.7	106.1	68.5	77.4	85.2	91.5	96.9
Govenmental Offices	15.6	17.2	15.6	16.7	17.2	18.1	18.8
Laboratories (Schools & Industrial)	4.9	3.5	2.4	3.3	4.0	4.4	4.6
Warehouses	203.9	207.5	195.8	206.1	218.0	229.2	240.2
Sports Stadium/Convention Center	13.1	21.0	11.0	12.5	14.3	17.0	19.0
Transportation Terminals	6.2	9.5	5.2	6.9	9.0	10.3	11.5
TOTAL COMMERCIAL	578.8	598.0	430.0	476.2	535.5	581.9	618.3
(Yr/yr % change)	-15.1%	3.3%	-28.1%	10.7%	12.5%	8.7%	6.3%
TOTAL INDUSTRIAL (manufacturing)	99.2	105.8	68.6	76.7	95.2	105.9	115.6
(Yr/yr % change)	7.5%	6.6%	-35.1%	11.7%	24.2%	11.2%	9.1%
Religious	6.2	5.1	3.3	3.8	4.2	4.3	4.4
Hospitals/Clinics	25.4	31.0	13.7	25.1	33.1	41.0	50.0
Nursing Homes/Assisted Living	45.5	40.6	27.8	39.5	50.1	54.0	56.7
Libraries/Museums	3.9	3.2	3.7	3.8	3.9	4.1	4.3
Courthouse	2.8	1.8	2.3	1.9	2.1	2.3	2.3
Police/Fire	7.7	7.6	7.8	7.9	8.3	8.6	8.9
Prisons	4.5	2.1	2.1	2.4	2.4	2.5	2.6
Military	10.8	11.8	21.5	17.7	17.5	18.5	19.6
Educational Facilities	156.3	168.1	138.4	155.0	167.1	177.0	185.2
MED misc	22.7	19.7	13.4	15.4	18.7	21.4	23.2
TOTAL INSTITUTIONAL	285.8	291.0	234.0	272.4	307.4	333.6	357.2
(Yr/yr % change)	-6.8%	1.8%	-19.6%	16.4%	12.8%	8.6%	7.1%
Miscellaneous Non-Res Building	25.9	26.6	21.5	25.9	27.3	28.8	34.4
TOTAL NON-RES BLDG	989.7	1,021.5	754.1	851.2	965.4	1,050.2	1,125.4
(Yr/yr % change)	-10.8%	3.2%	-26.2%	12.9%	13.4%	8.8%	7.2%
RESIDENTIAL + NON-RES BLDG	3,190.1	3,218.6	2,872.1	3,114.9	3,427.6	3,729.6	4,018.6
(Yr/yr % change)	-6.6%	0.9%	-10.8%	8.5%	10.0%	8.8%	7.7%

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.

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	1,021.5	754.1	851.2	965.4	1,050.2	1,125.4
RESIDENTIAL	2,200.5	2,197.1	2,118.0	2,263.8	2,462.2	2,679.4	2,893.2
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,190.1	3,218.6	2,872.1	3,114.9	3,427.6	3,729.6	4,018.6
Verticals							
Offices (private)	92.7	106.1	68.5	77.4	85.2	91.5	96.9
Parking Garages	28.3	34.5	19.1	23.9	28.2	31.1	33.7
Transportation Terminals	6.2	9.5	5.2	6.9	9.0	10.3	11.5
Commercial	127.2	150.1	92.8	108.3	122.4	132.9	142.1
(Yr/yr % change)	-12.4%	18.0%	-38.2%	16.7%	13.0%	8.6%	6.9%
Amusement	28.0	23.8	19.8	20.5	22.5	24.4	25.6
Libraries / Museums	3.9	3.2	3.7	3.8	3.9	4.1	4.3
Religious	6.2	5.1	3.3	3.8	4.2	4.3	4.4
Sports Arenas / Convention Centers	13.1	21.0	11.0	12.5	14.3	17.0	19.0
Community	51.3	53.2	37.7	40.6	44.9	49.8	53.4
(Yr/yr % change)	-20.1%	3.7%	-29.1%	7.8%	10.6%	10.8%	7.2%
College / University	40.0	38.0	29.1	31.7	33.3	35.1	36.5
Elementary / Pre School	43.2	48.9	47.3	52.5	56.9	60.9	64.2
Jr / Sr High School	69.0	75.6	57.4	65.8	71.8	75.8	79.0
Special / Vocational	4.1	5.6	4.6	4.9	5.1	5.3	5.4
Educational	156.3	168.1	138.4	155.0	167.1	177.0	185.2
(Yr/yr % change)	-3.3%	7.5%	-17.6%	12.0%	7.8%	5.9%	4.6%
Courthouses	2.8	1.8	2.3	1.9	2.1	2.3	2.3
Fire and Police Stations	7.7	7.6	7.8	7.9	8.3	8.6	8.9
Government Offices	15.6	17.2	15.6	16.7	17.2	18.1	18.8
Prisons	4.5	2.1	2.1	2.4	2.4	2.5	2.6
Government	30.5	28.7	27.9	28.8	29.9	31.5	32.6
(Yr/yr % change)	-1.5%	-5.8%	-2.9%	3.3%	3.9%	5.1%	3.6%
Industrial Labs / Labs / School Labs	4.9	3.5	2.4	3.3	4.0	4.4	4.6
Manufacturing	99.2	105.8	68.6	76.7	95.2	105.9	115.6
Warehouses	203.9	207.5	195.8	206.1	218.0	229.2	240.2
Industrial	308.0	316.8	266.8	286.1	317.3	339.5	360.3
(Yr/yr % change)	-1.5%	2.9%	-15.8%	7.2%	10.9%	7.0%	6.1%
Hospitals / Clinics	25.4	31.0	13.7	25.1	33.1	41.0	50.0
Medical Misc.	22.7	19.7	13.4	15.4	18.7	21.4	23.2
Nursing Homes	45.5	40.6	27.8	39.5	50.1	54.0	56.7
Medical	93.6	91.3	54.8	80.0	101.8	116.3	129.9
(Yr/yr % change)	-11.2%	-2.4%	-39.9%	45.9%	27.2%	14.2%	11.7%
Military	10.8	11.8	21.5	17.7	17.5	18.5	19.6
(Yr/yr % change)	-15.1%	9.2%	81.7%	-17.8%	-0.7%	5.5%	5.7%
Hotels	109.9	105.8	46.4	53.6	73.2	85.7	91.7
Retail Misc.	25.9	26.6	21.5	25.9	27.3	28.8	34.4
Shopping	76.2	69.1	46.3	55.2	64.0	70.2	76.3
Retail	212.0	201.5	114.2	134.7	164.4	184.8	202.5
(Yr/yr % change)	-23.3%	-4.9%	-43.4%	18.0%	22.1%	12.4%	9.6%
NON-RESIDENTIAL BUILDING	989.7	1,021.5	754.1	851.2	965.4	1,050.2	1,125.4
(Yr/yr % change)	-10.8%	3.2%	-26.2%	12.9%	13.4%	8.8%	7.2%
Multi-Family	526.7	553.5	428.9	457.8	520.6	568.6	608.0
Single-Family	1,673.7	1,643.6	1,689.1	1,806.0	1,941.6	2,110.8	2,285.2
RESIDENTIAL	2,200.5	2,197.1	2,118.0	2,263.8	2,462.2	2,679.4	2,893.2
(Yr/yr % change)	-4.5%	-0.2%	-3.6%	6.9%	8.8%	8.8%	8.0%
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,190.1	3,218.6	2,872.1	3,114.9	3,427.6	3,729.6	4,018.6
(Yr/yr % change)	-6.6%	0.9%	-10.8%	8.5%	10.0%	8.8%	7.7%

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.

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	106.7	115.0	126.7	138.9	147.5
Multi-family	80.9	92.2	44.2	58.4	66.6	72.5	77.1
TOTAL RESIDENTIAL	205.7	198.6	150.9	173.4	193.3	211.5	224.6
(Yr/yr % change)	-8.7%	-3.4%	-24.0%	14.9%	11.5%	9.4%	6.2%
Hotels/Motels	1.9	2.5	0.4	0.8	1.0	1.1	1.3
Private Offices	9.2	11.1	3.9	4.0	5.5	6.3	7.0
Governmental Offices	1.8	2.3	1.5	1.7	1.9	2.1	2.2
Shopping/Retail	6.5	9.6	2.7	4.8	7.1	8.9	9.8
Retail Miscellaneous	1.1	1.3	0.4	0.8	1.1	1.3	1.5
Parking Garages	0.2	1.4	0.2	0.3	0.6	0.8	0.9
Amusement	5.1	3.5	1.1	1.6	2.2	2.7	3.1
Warehouses	13.0	9.9	10.2	11.9	11.7	12.2	12.7
TOTAL COMMERCIAL	39.0	41.6	20.5	25.9	31.2	35.4	38.5
(Yr/yr % change)	0.7%	6.8%	-50.9%	26.8%	20.2%	13.4%	8.8%
TOTAL INDUSTRIAL (manufacturing)	7.9	6.3	5.7	6.5	7.1	7.7	8.4
(Yr/yr % change)	51.0%	-19.9%	-9.4%	13.1%	9.2%	9.2%	8.3%
Religious	0.3	0.1	0.1	0.2	0.2	0.3	0.3
Hospitals/Clinics	9.7	7.6	6.8	6.9	9.2	10.8	11.8
MED misc	0.9	1.2	0.1	0.4	0.5	0.8	1.0
Transportation Terminals*	4.0	0.2	0.5	1.0	1.3	1.6	1.9
Police/Fire	1.9	1.5	0.9	0.8	0.8	0.9	0.9
Educational Facilities	11.9	12.0	6.9	8.3	9.5	10.0	10.4
TOTAL INSTITUTIONAL	28.7	22.6	15.2	17.4	21.6	24.4	26.5
(Yr/yr % change)	12.1%	-21.3%	-32.5%	14.3%	24.2%	12.9%	8.4%
TOTAL NON-RES BLDG	75.5	70.5	41.4	49.8	59.9	67.5	73.3
(Yr/yr % change)	8.7%	-6.6%	-41.3%	20.3%	20.2%	12.7%	8.6%
RESIDENTIAL + NON-RES BLDG	281.3	269.2	192.3	223.2	253.2	279.0	297.9
(Yr/yr % change)	-4.6%	-4.3%	-28.5%	16.1%	13.4%	10.2%	6.8%

* 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.

Table 14: Canada Type-of-Structure Forecasts

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

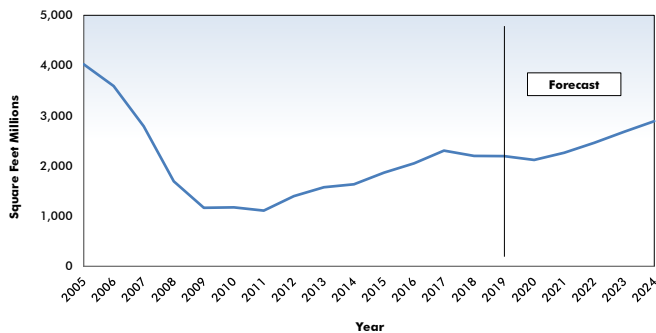
	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Summary							
NON-RESIDENTIAL BUILDING	75.5	70.5	41.4	49.8	59.9	67.5	73.3
RESIDENTIAL	205.7	198.6	150.9	173.4	193.3	211.5	224.6
RESIDENTIAL + NON-RESIDENTIAL BUILDING	281.3	269.2	192.3	223.2	253.2	279.0	297.9
Verticals							
Offices (private)	9.2	11.1	3.9	4.0	5.5	6.3	7.0
Parking Garages	0.2	1.4	0.2	0.3	0.6	0.8	0.9
Transportation Terminals	4.0	0.2	0.5	1.0	1.3	1.6	1.9
Commercial	13.5	12.8	4.6	5.3	7.4	8.7	9.8
(Yr/Yr % change)	74.8%	-5.5%	-63.8%	15.6%	39.4%	17.4%	12.8%
Amusement	5.1	3.5	1.1	1.6	2.2	2.7	3.1
Religious	0.3	0.1	0.1	0.2	0.2	0.3	0.3
Community	5.4	3.6	1.2	1.8	2.4	3.0	3.4
(Yr/Yr % change)	-11.3%	-32.9%	-68.1%	51.2%	37.8%	22.8%	14.5%
Educational	11.9	12.0	6.9	8.3	9.5	10.0	10.4
(Yr/Yr % change)	20.7%	0.9%	-42.5%	19.7%	15.6%	5.1%	4.1%
Fire and Police Stations	1.9	1.5	0.9	0.8	0.8	0.9	0.9
Government Offices	1.8	2.3	1.5	1.7	1.9	2.1	2.2
Government	3.7	3.8	2.4	2.5	2.7	3.0	3.1
(Yr/Yr % change)	-5.1%	2.9%	-37.9%	6.1%	9.5%	7.4%	6.6%
Manufacturing	7.9	6.3	5.7	6.5	7.1	7.7	8.4
Warehouses	13.0	9.9	10.2	11.9	11.7	12.2	12.7
Industrial	20.9	16.2	16.0	18.3	18.8	19.9	21.1
(Yr/Yr % change)	25.9%	-22.4%	-1.7%	14.8%	2.5%	5.8%	6.2%
Hospitals / Clinics	9.7	7.6	6.8	6.9	9.2	10.8	11.8
Medical Misc.	0.9	1.2	0.1	0.4	0.5	0.8	1.0
Medical	10.6	8.7	6.9	7.2	9.7	11.6	12.8
(Yr/Yr % change)	-14.5%	-17.4%	-20.7%	4.6%	34.1%	19.2%	10.7%
Hotels	1.9	2.5	0.4	0.8	1.0	1.1	1.3
Retail Misc.	1.1	1.3	0.4	0.8	1.1	1.3	1.5
Shopping	6.5	9.6	2.7	4.8	7.1	8.9	9.8
Retail	9.5	13.4	3.5	6.4	9.2	11.4	12.5
(Yr/Yr % change)	-26.3%	40.1%	-73.8%	83.5%	44.2%	23.1%	10.2%
NON-RESIDENTIAL BUILDING	75.5	70.5	41.4	49.8	59.9	67.5	73.3
(Yr/Yr % change)	8.7%	-6.6%	-41.3%	20.3%	20.2%	12.7%	8.6%
Multi-Family	80.9	92.2	44.2	58.4	66.6	72.5	77.1
Single-Family	124.8	106.4	106.7	115.0	126.7	138.9	147.5
RESIDENTIAL	205.7	198.6	150.9	173.4	193.3	211.5	224.6
(Yr/Yr % change)	-8.7%	-3.4%	-24.0%	14.9%	11.5%	9.4%	6.2%
RESIDENTIAL + NON-RESIDENTIAL BUILDING	281.3	269.2	192.3	223.2	253.2	279.0	297.9
(Yr/Yr % change)	-4.6%	-4.3%	-28.5%	16.1%	13.4%	10.2%	6.8%

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**



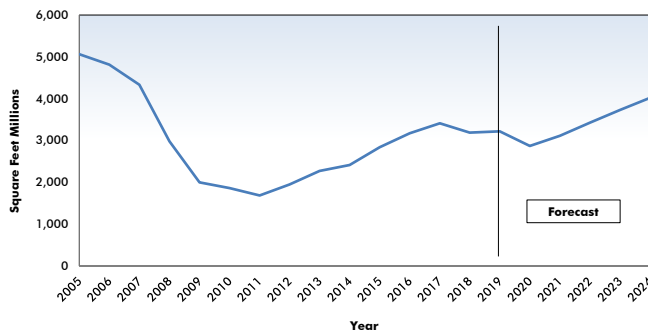
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
 Chart: ConstructConnect.

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



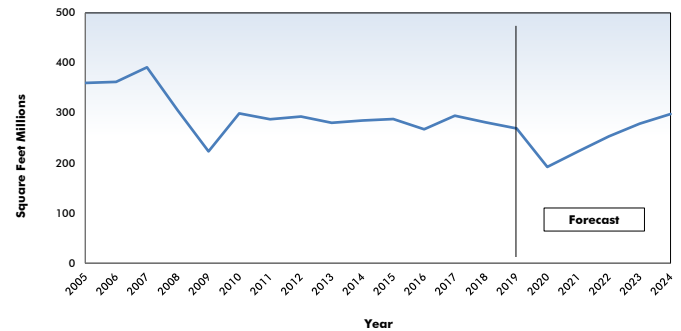
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
 Chart: ConstructConnect.

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



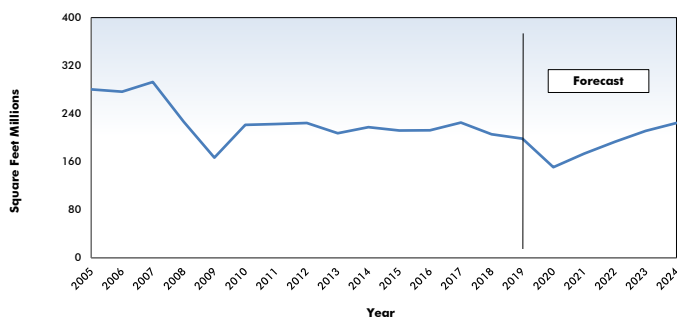
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
 Chart: ConstructConnect.

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



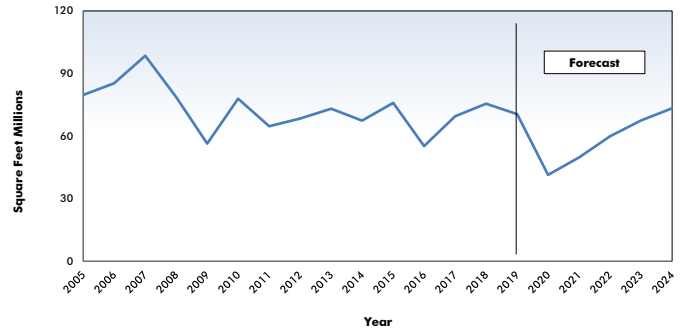
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
 Chart: ConstructConnect.

**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:
 Oxford Economics — Abby Samp, Lead Economist; Toby Whittington, Economist / ConstructConnect — Alex Carrick, Chief Economist; Erich Falkenberg, National Production Manager