Fall 2020 Issue

Construction Starts Forecast

For July 2020 Release

Contents

In May and June, the U.S. economy recovered 28.6% of all the jobs it lost in March and April. The construction sector in the latest two months has managed to restore more than half (51.6%) of its March-April jobs decline.

Highlights

- US construction starts fell 30.7% year-on-year in Q2 2020, as the worst of the virus-related recession weighed on construction activity. All three headline sectors of residential building, non-residential building, and civil engineering declined, but the recession was less severe in the latter as it is more dependent on public funding.
- We estimate that GDP plunged by a record-breaking 30% annualized in Q2. Data from May and June suggest the initial post-lockdown recovery phase was robust, especially on the consumer front. However, high frequency data suggest that economic activity started to plateau again in early July with the up-tick in new COVID-19 cases. With new daily infections continuing to hit record highs, the risk that renewed lockdowns will reverse the nascent recovery is growing. On balance, we expect GDP to fall 4.2% in 2020, before growing 3.9% in 2021.
- US construction is expected to see a historically large annual decline in 2020, larger than that seen during the global financial crisis. However, Q2 likely represents the trough in construction activity, which should start to improve in the coming quarters. Even if lockdowns are re-imposed, construction activity is likely to be deemed an essential service, and hence allowed to continue, but in a weak demand environment, the recovery will be slow and uneven. We do not see construction starts rising above their 2019 levels until 2023.
- Canadian construction starts declined 23.7% year-on-year in Q2 2020. Restrictions on construction activity were in place in Quebec and Ontario through April and early-May, but the health crisis in Canada is now mostly under control, so restrictions have since been lifted.
- Canadian construction starts are expected to fall 30% in 2020, with annual declines of more than 20% in all three sub-sectors. Although the pace of decline is likely to be steeper than the US this year, the recovery is also likely to be more robust. We expect Canadian construction starts to exceed 2019 levels by 2022, a year before the US, with a similar speed of recovery in each of residential, non-residential and civil engineering starts.

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Sources: ConstructConnect®/Oxford Economics. Forecast reflects actual starts through Q2 2020.

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Overview

Steep decline in US construction in H1 2020

Total US construction starts fell steeply in Q2, shrinking 30.7% from a year earlier and 19.3% year-to-date (from January to June over the same period in the previous year). Non-residential building experienced the largest decline, down 41.9% year-on-year and 30.9% year-to-date. New residential construction declined 25.7% year-on-year and 12.7% year-to-date. Engineering construction fell by a milder 18.5% year-on-year and 7.8% year-to-date.

The decline in new homebuilding was steeper in the multi-family segment than the single-family segment. New multi-family construction decreased 36.6% from its level in Q2 2019, compared to a 21.1% decrease in new construction of single-family homes. Construction of multi-family homes includes larger projects such as apartment buildings where new construction is more likely to be put on hold at a time of social distancing and weak underlying demand. Construction of single-family units, by contrast, depends on a larger number of lower value projects and smaller construction crews.

In the non-residential sector, new construction fell from its level a year earlier in all sectors except prisons and military construction, with the latter boosted by groundbreaking on a $1.75 billion military intelligence base in St Louis. Several sectors posted annual declines of more than 60%, including private office building, transportation terminals, parking garages, manufacturing, and hotels & motels. Construction in manufacturing, private offices, and transportation terminals all included mega projects of over $1 billion in Q2 2019 that have dropped out of the year-on-year calculations, but the impact of weak demand and stay-at-home orders is also apparent in the latest non-residential construction numbers. Construction of hotels & motels, in particular, was especially weak, given it also declined in 2019.

Although it declined from the same level a year earlier, new engineering construction has been more resilient. Construction in this segment is often funded by government infrastructure projects, so is therefore less cyclical than privately-funded residential and non-residential construction. Construction of new power infrastructure posted a steep 78.6% year-on-year decline as a large wind power project in Wyoming fell out of the annual calculation. By contrast, new road works increased 2.2% from a year earlier, underpinned by groundbreaking on a $2.2 billion highway extension in Washington state. Although this was the only growth sector, airports and water & sewage posted modest single-digit annual declines.

Other construction indicators have been slightly better than the starts data. Put-in-place construction from the Census Bureau, for example, was 0.3% higher than a year earlier in May. In all likelihood, construction activity has been largely allowed to continue through shelter-in-place orders, while new construction work has been delayed or cancelled. The weakness in construction starts in the first half of 2020 is likely to translate into anemic put-in-place activity later in the year. Construction sector employment declined by 65,000 in March and by a further 1,018,000 in April. However, 611,000 jobs were added back in May and June, a higher proportion of the total jobs lost than in any other sector.

Table 1: Summary forecasts
(Annual percentage changes unless specified otherwise)

	2018	2019	2020	2021	2022	2023	2024
US							
Macro variables							
GDP	2.9	2.3	-4.2	3.9	3.4	2.3	2.0
Population growth	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Unemployment rate (%)	3.9	3.7	9.6	7.6	5.5	4.8	4.6
Real disposable income	4.0	2.9	1.2	-1.1	3.0	2.0	1.8
Central bank rate (%)	1.8	2.2	0.4	0.1	0.2	0.7	1.2
10-year government yield (%)	2.9	2.1	0.9	1.2	1.5	1.8	2.0
Construction starts (y/y % change of $ volumes)							
Total starts	-2.4	7.7	-21.3	9.6	12.6	8.1	6.0
Residential	-6.7	0.2	-17.4	7.7	14.4	10.1	7.8
Non-res bldg	-3.3	10.8	-29.7	10.8	13.1	7.9	5.3
Civil engineering	8.8	15.8	-12.4	10.8	9.4	5.4	4.3
Canada							
Macro variables							
GDP	2.0	1.7	-7.2	7.3	4.5	1.7	1.5
Population growth	1.4	1.4	1.0	1.0	1.1	1.1	1.0
Unemployment rate (%)	5.8	5.7	9.5	8.0	7.3	6.8	6.5
Real disposable income	1.8	2.7	-0.2	2.1	3.9	2.5	2.1
Central bank rate (%)	1.4	1.8	0.6	0.3	0.3	0.5	0.8
10-year government yield (%)	2.3	1.6	0.8	1.2	1.6	1.9	2.2
Exchange rate C$ per US$	1.30	1.33	1.38	1.41	1.39	1.37	1.35
Construction starts (y/y % change of $ volumes)							
Total starts	32.0	-14.9	-30.0	28.6	16.7	11.0	6.8
Residential	-5.9	2.0	-25.1	21.4	12.2	7.2	4.5
Non-res bldg	97.4	-39.1	-28.9	27.9	18.2	10.7	5.5
Civil engineering	20.9	2.6	-35.1	36.3	19.5	14.5	9.6

Steep decline in economic activity with growing risks

US real GDP posted an annualized contraction of 5% in Q1 2020, the sharpest decline since 2008, and we estimate that real GDP plunged by a record-breaking 30% annualized in Q2. A collapse in consumer spending, a steep decline in business activity and stalled trade flows are expected to lead to a peak-to-trough decline in GDP of around 10% — 2.5 times as large as the global financial crisis.

Data from May and June suggest that the economy sprang back to life quickly. Retail sales surged by a record 18.2% in May and grew an additional 7.5% in June. After initially shedding more than 22 million jobs combined in March and April, the economy added back 2.7 million

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jobs in May and a record-breaking 4.8 million jobs in June. Nonetheless, on net, nearly 15 million jobs have been lost since the onset of the crisis, and the expiring federal top-up to unemployment insurance at the end of July poses an additional downside risk to households.

The initial rebound on the business front has been less robust. Core capital goods orders, a proxy for investment demand, rose by a modest 1.6% in May, and remains 6.8% below its peak in January. Industrial production rose only modestly in May and June, and in June, was still some 10.8% below its level in February.

After posting strong growth from May to mid-June, Oxford Economics' Recovery Tracker — based on high frequency data on health, mobility, demand, employment and production — started to plateau in early-July. With new daily infections continuing to hit record highs, the risk that renewed lockdowns will reverse the nascent recovery is growing. On balance, we expect GDP to fall 4.2% in 2020, before growing 3.9% in 2021.

While the Federal Reserve has provided stimulus likely to add more than 2 percentage points to GDP growth, its actions have lifted asset prices more than the real economy. Moreover, uptake to emergency lending facilities has been slow — so far, only $95 billion out of a possible $4.5 trillion has been lent. The Fed has maintained a dovish tone, and we believe that interest rates will remain at their effective lower bound until the end of 2022. On the fiscal side, a proposal for new fiscal stimulus is starting to take shape. New cash transfers to lower-income households, extended jobless benefits, albeit at a less generous level, and funds for school reopenings are gathering consensus.

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

Total construction starts are expected to decline 21.3% in 2020, a record annual decline, as stay-at-home orders and weak demand have led to owners delaying groundbreaking. Although construction spending was deemed an essential service in most states, and was thus allowed to proceed throughout lockdowns, there were limited shutdowns in some states, and Pennsylvania introduced a shutdown of almost all construction activity. The construction firms that continued working prioritized projects already under way, rather than breaking ground on new projects, and as a result, construction starts have fallen more steeply than other measures of construction activity such as put-in-place construction.

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

With economic activity starting to return to normal, Q2 will likely be the trough for construction starts. Although rising daily infections have led to new closures of non-essential services in some states, construction activity has mostly been allowed to continue. Construction starts are expected to rise 9.6% in 2021. However, with economic activity likely to remain muted for some time, construction starts are not expected to exceed their 2019 value until 2023.

Construction of civil engineering projects is expected to be the strongest performer over the next two years. The sector largely depends on public spending and less on discretionary private spending and is therefore more resilient in downturns. In addition, civil engineering projects are more likely to be classified as essential services. For instance, power infrastructure and water, sewage & treatment facilities must remain functional, and ongoing road and bridge maintenance is also necessary. Furthermore, construction is expected to begin on several large engineering projects over the next two years, including on some pipeline, rail and bridge projects. Although groundbreaking on new engineering projects is expected to continue, it is not without risk. There has been a structural shift away from air travel in the current climate, and the low oil price environment casts a potential shadow over planned oil projects. Engineering construction is expected to shrink 12.4% in 2020, before rising 10.8% in 2021 and rising above its 2019 peak in 2022.

Non-residential building, heavily linked to private sector investment spending, is expected to shrink by a record 29.7% this year and is not expected to return to its pre-crisis level until the end of our forecast period in 2024. Only a handful of small sub-sectors are expected to grow this year, including libraries & museums, courthouses, prisons, and military projects, all of which have already had solid growth so far in 2020. Laboratory construction is another segment expected to do well in the current climate, although the sector is relatively small; research into coronavirus treatments and vaccines has increased significantly. Although it is expected to decline slightly in 2020, warehouse construction is also expected to be one of the better performing sectors due to increased investment in logistics facilities to support online sales.

In theory, medical-related construction is one area that should be performing well in the current climate. States which initially shut down construction activity during lockdowns mostly made exceptions for hospital construction. However, year-to-date hospital construction has been far from robust, and as a result, is expected to shrink this year. While there have been serious concerns about hospitals being overstretched in the current crisis, hospital budgets have also been squeezed preparing for the patient inflow.

New manufacturing construction is expected to see an especially steep decline of 68.3% in 2020. This is partly a result of several

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mega projects in 2019 falling out of the annual calculation — annual growth in the sector can be quite volatile as it is driven by large-scale projects. But demand for manufactured goods has also fallen sharply as investment and trade dry up. Further out, several large LNG production facilities are in the project pipeline, although these could be at risk if oil and natural gas demand remain muted. More importantly, the trend of re-shoring industrial capacity to the US remains an important driver of factory construction, and the coronavirus crisis has highlighted the need to boost domestic manufacturing capacity.

New residential construction is forecast to decline by 17.4% in 2020. With residential construction being seen as largely non-essential, many homebuilding projects were suspended during the worst of the crisis and may halt again in states with rising COVID-19 infections. Certainly, the need for new housing remains in place — existing home sales rose sharply in June, and strong demand and a dearth of supply have pushed up prices. The uneven impact of the coronavirus recession may be playing a role — high-income households, looking to enter the housing market, have been less affected in the current crisis than lower-earning households. Certainly, the crisis has highlighted the need to increase the housing stock, both for single-family homes as well as for apartment buildings serving the rental sector. Residential construction is expected to return to its 2019 level in 2022.

Canadian construction continues to fall

Total construction starts in Canada declined 23.7% year-on-year in Q2 with declines in all three headline segments. Construction activity was severely restricted in Quebec and Ontario, the two most populous provinces, in April and early-May. Quebec had a near-shutdown of construction projects during this period. The measures in Ontario were somewhat less restrictive, with public sector and some residential construction allowed to continue. Both provinces had restarted construction by mid-May, and restrictions were less severe elsewhere in Canada.

From a sectoral perspective, residential construction had the steepest decline, down 43.2% year-on-year. This was largely the result of a 75% decline in multi-family home-building; new single-family construction fell by a softer 8.7%. Non-residential building starts fell 8% year-on-year. However, this relative position of strength was largely the result of a massive increase in transportation terminal construction, thanks to a large project in Ottawa. New warehouse construction was also buoyant, up 180% year-on-year, as firms have increased investment in logistics in response to the structural shift towards online shopping. All other non-residential starts declined from a year earlier — by more than 90% in the cases of hotels & motels, private offices and miscellaneous retail. Civil engineering construction fell 16.4% from a year earlier, with declines in all sub-sectors except for miscellaneous civil projects. Construction in that sub-sector grew 172% from the same period a year earlier, although that reflects weakness in Q2 2019 rather than underlying strength in the most recent quarter.

Canadian GDP collapsed 18.2% in just two months — March and April — when containment measures were most restrictive. The initial wave of the pandemic appears to have been sufficiently contained to allow for phased re-openings across much of the country. Preliminary data from Statistics Canada suggest GDP grew 3% month-on-month in May, and we expect a stronger increase in June. We estimate that GDP declined almost 13% quarter-on-quarter in Q2 and will rebound 7.4% in Q3. But we expect growth will slow markedly in Q4 and through next year, as scarring from the deep recession, supply chain issues, and continued uncertainty lead to a protracted and uneven economic recovery. Although we do not envision a substantive second wave in our baseline forecast, the prospect of one will hold back growth until the health crisis eases. We forecast GDP will shrink 7.2% in 2020, rebounding to 7.3% growth in 2021. The Bank of Canada has clearly signalled that it intends to keep rates near its lower bound and continue its quantitative easing program for the foreseeable future.

Headline construction starts are forecast to decline by 30% in 2020. Residential starts are expected to decline 25.1%, non-residential starts by 28.9% and civil engineering by 35.1%. Although this is a slightly steeper decline than in the US, construction should be more robust in the recovery phase, growing 28.6% next year and rising above their 2019 level in 2022.

The residential segment is expected to post the smallest decline this year. Although there was a total ban on construction in Quebec in April, other provinces have fared better. The single-family segment is expected to be the stronger performing sub-sector this year, posting a decline of just 4.1%, compared to 39.4% for the multi-family segment. Part of this is due to base effects — single family construction declined in 2019 while multi-family starts increased. But smaller projects are also more nimble and easier to start in a period of social distancing. Although construction of new multi-family units is expected to grow more quickly in the recovery phase, it is not expected to return to its pre-pandemic level until 2024. By contrast, construction of single-family units will return to 2019 levels next year.

New non-residential building is expected to decline 28.9% in 2020. All sub-sectors are expected to decline this year, except for transportation terminals, boosted by the large Ottawa project referenced earlier, and warehouses, boosted by strong investment in logistics capabilities. During the recovery phase, total non-residential building is expected to return to 2019 levels in 2022. In particular, the transportation terminals and manufacturing sub-sectors have several large projects in the pipeline over the next two years, so should see steady growth if projects go ahead as planned. A number of the planned projects in the manufacturing sector sit in the oil pipeline, so persistently low oil prices could put some of these at risk.

The civil engineering sector in Canada is forecast to decline by 35.1% in 2020. All sub-sectors except for bridge construction are expected to shrink this year. Of particular note is the 46% decline in the miscellaneous civil sector, given it rose 180% year-to-date in the first half of the year. This is almost entirely due to base effects — there was almost no construction in the sector in the first half of 2019, whereas the second half of the year included large projects in British Columbia and Alberta. During the recovery phase, engineering construction is seen rising above its pre-pandemic levels in 2022. Public funding for infrastructure projects such as roads, railways, and bridges 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	198.782	175.113	189.030	212.628	232.786	251.458
Multi-family	94.207	98.355	70.381	75.318	89.684	100.199	107.436
TOTAL RESIDENTIAL	296.633	297.137	245.494	264.348	302.312	332.985	358.894
(Yr/yr % change)	*-6.7%*	*0.2%*	*-17.4%*	*7.7%*	*14.4%*	*10.1%*	*7.8%*
Hotels/Motels	26.252	23.353	12.798	12.806	17.072	20.467	21.919
Shopping/Retail	18.307	16.435	12.476	14.336	16.353	18.127	19.882
Parking Garages	2.867	3.159	2.063	2.545	2.910	3.156	3.388
Amusement	8.552	7.517	6.076	6.726	7.216	7.742	8.037
Private Offices	29.887	35.983	20.069	22.626	25.568	27.517	28.804
Govenmental Offices	11.016	11.601	10.383	11.667	12.340	12.959	13.455
Laboratories (Schools & Industrial)	2.908	2.312	2.623	2.898	3.160	3.292	3.386
Warehouses	21.746	22.154	21.438	23.147	24.958	26.405	27.127
Sports Stadium/Convention Center	7.028	9.719	5.312	6.689	7.817	8.590	9.343
Transportation Terminals	5.254	10.746	5.013	6.254	7.169	8.152	8.841
TOTAL COMMERCIAL	133.816	142.980	98.250	109.693	124.563	136.408	144.181
(Yr/yr % change)	*-6.7%*	*6.8%*	*-31.3%*	*11.6%*	*13.6%*	*9.5%*	*5.7%*
TOTAL INDUSTRIAL (manufacturing)	35.799	53.959	17.118	18.153	26.810	30.747	33.904
(Yr/yr % change)	*-2.6%*	*50.7%*	*-68.3%*	*6.0%*	*47.7%*	*14.7%*	*10.3%*
Religious	2.191	1.911	1.377	1.605	1.809	1.849	1.869
Hospitals/Clinics	16.888	20.738	15.806	17.551	19.881	21.631	22.854
Nursing Homes/Assisted Living	10.614	9.649	7.745	10.084	11.409	12.181	12.760
Libraries/Museums	2.748	4.023	4.050	4.542	4.766	4.907	4.998
Courthouse	1.928	1.571	1.610	1.922	2.079	2.227	2.293
Police/Fire	3.038	3.213	2.887	3.266	3.449	3.626	3.776
Prisons	3.147	2.151	2.192	2.466	2.668	2.812	2.922
Military	5.231	5.162	7.291	6.429	6.974	7.381	7.665
Educational Facilities	71.499	75.882	66.235	72.094	76.711	80.118	82.850
MED misc	11.249	9.351	7.452	8.818	9.596	10.069	10.454
TOTAL INSTITUTIONAL	128.531	133.650	116.646	128.777	139.342	146.801	152.441
(Yr/yr % change)	*0.5%*	*4.0%*	*-12.7%*	*10.4%*	*8.2%*	*5.4%*	*3.8%*
Miscellaneous Non-Res Building	7.207	7.613	5.714	6.702	7.208	7.643	7.975
TOTAL NON-RES BLDG	305.353	338.202	237.728	263.325	297.923	321.600	338.502
(Yr/yr % change)	*-3.3%*	*10.8%*	*-29.7%*	*10.8%*	*13.1%*	*7.9%*	*5.3%*
Airport	7.269	7.356	5.899	6.796	7.551	8.131	8.607
Roads	63.257	65.254	64.660	69.840	75.675	79.225	82.427
Bridges	24.029	29.998	25.047	27.083	28.596	29.706	30.734
Dams/Canal/Marine	6.645	8.536	7.867	8.490	9.037	9.557	9.803
Water & Sewage Treatment	29.644	31.358	30.499	33.428	37.720	39.647	41.294
Misc Civil (Power, etc.)	32.139	46.169	31.290	37.488	41.763	44.823	47.309
TOTAL ENGINEERING	162.984	188.671	165.261	183.126	200.342	211.088	220.174
(Yr/yr % change)	*8.8%*	*15.8%*	*-12.4%*	*10.8%*	*9.4%*	*5.4%*	*4.3%*
TOTAL NON-RESIDENTIAL	468.337	526.873	402.989	446.452	498.266	532.688	558.676
(Yr/yr % change)	*0.6%*	*12.5%*	*-23.5%*	*10.8%*	*11.6%*	*6.9%*	*4.9%*
GRAND TOTAL	764.970	824.010	648.483	710.799	800.578	865.673	917.570
(Yr/yr % change)	*-2.4%*	*7.7%*	*-21.3%*	*9.6%*	*12.6%*	*8.1%*	*6.0%*

EXPLANATION: Table 3 conforms to the type-of-structure ordering adopted by many firms and organizations in the industry. Specifically, it breaks non-residential building into ICI work (i.e., industrial, commercial and institutional), since each has its own set of economic and demographic drivers.

Table 4 presents an alternative, perhaps more user-friendly and intuitive, type-of-structure ordering that matches how the data appears in ConstructConnect's on-line product 'Insight'.

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

Table 4: U.S. Type-of-Structure Forecasts

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

	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Summary							
CIVIL	162.984	188.671	165.261	183.126	200.342	211.088	220.174
NON-RESIDENTIAL BUILDING	305.353	338.202	237.728	263.325	297.923	321.600	338.502
RESIDENTIAL	296.633	297.137	245.494	264.348	302.312	332.985	358.894
GRAND TOTAL	764.970	824.010	648.483	710.799	800.578	865.673	917.570
Verticals							
Airport	7.269	7.356	5.899	6.796	7.551	8.131	8.607
All Other Civil	24.429	31.469	26.649	28.134	30.011	31.971	33.544
Bridges	24.029	29.998	25.047	27.083	28.596	29.706	30.734
Dams / Canals / Marine Work	6.645	8.536	7.867	8.490	9.037	9.557	9.803
Power Infrastructure	7.710	14.700	4.641	9.355	11.751	12.851	13.765
Roads	63.257	65.254	64.660	69.840	75.675	79.225	82.427
Water and Sewage Treatment	29.644	31.358	30.499	33.428	37.720	39.647	41.294
CIVIL	162.984	188.671	165.261	183.126	200.342	211.088	220.174
(Yr/yr % change)	*8.8%*	*15.8%*	*-12.4%*	*10.8%*	*9.4%*	*5.4%*	*4.3%*
Offices (private)	29.887	35.983	20.069	22.626	25.568	27.517	28.804
Parking Garages	2.867	3.159	2.063	2.545	2.910	3.156	3.388
Transportation Terminals	5.254	10.746	5.013	6.254	7.169	8.152	8.841
Commercial	38.008	49.887	27.145	31.425	35.647	38.825	41.033
(Yr/yr % change)	*4.6%*	*31.3%*	*-45.6%*	*15.8%*	*13.4%*	*8.9%*	*5.7%*
Amusement	8.552	7.517	6.076	6.726	7.216	7.742	8.037
Libraries / Museums	2.748	4.023	4.050	4.542	4.766	4.907	4.998
Religious	2.191	1.911	1.377	1.605	1.809	1.849	1.869
Sports Arenas / Convention Centers	7.028	9.719	5.312	6.689	7.817	8.590	9.343
Community	20.519	23.170	16.815	19.562	21.608	23.088	24.248
(Yr/yr % change)	*-29.7%*	*12.9%*	*-27.4%*	*16.3%*	*10.5%*	*6.8%*	*5.0%*
College / University	20.006	19.756	16.426	18.562	19.559	20.528	21.230
Elementary / Pre School	19.349	21.429	19.572	21.479	23.507	24.508	25.391
Jr / Sr High School	30.419	32.691	28.575	30.246	31.741	33.106	34.187
Special / Vocational	1.726	2.007	1.663	1.806	1.903	1.975	2.042
Educational	71.499	75.882	66.235	72.094	76.711	80.118	82.850
(Yr/yr % change)	*2.9%*	*6.1%*	*-12.7%*	*8.8%*	*6.4%*	*4.4%*	*3.4%*
Courthouses	1.928	1.571	1.610	1.922	2.079	2.227	2.293
Fire and Police Stations	3.038	3.213	2.887	3.266	3.449	3.626	3.776
Government Offices	11.016	11.601	10.383	11.667	12.340	12.959	13.455
Prisons	3.147	2.151	2.192	2.466	2.668	2.812	2.922
Government	19.128	18.535	17.072	19.321	20.536	21.625	22.446
(Yr/yr % change)	*0.6%*	*-3.1%*	*-7.9%*	*13.2%*	*6.3%*	*5.3%*	*3.8%*
Industrial Labs / Labs / School Labs	2.908	2.312	2.623	2.898	3.160	3.292	3.386
Manufacturing	35.799	53.959	17.118	18.153	26.810	30.747	33.904
Warehouses	21.746	22.154	21.438	23.147	24.958	26.405	27.127
Industrial	60.453	78.425	41.179	44.198	54.928	60.444	64.416
(Yr/yr % change)	*-1.4%*	*29.7%*	*-47.5%*	*7.3%*	*24.3%*	*10.0%*	*6.6%*
Hospitals / Clinics	16.888	20.738	15.806	17.551	19.881	21.631	22.854
Medical Misc.	11.249	9.351	7.452	8.818	9.596	10.069	10.454
Nursing Homes	10.614	9.649	7.745	10.084	11.409	12.181	12.760
Medical	38.750	39.739	31.003	36.452	40.887	43.882	46.067
(Yr/yr % change)	*-1.8%*	*2.6%*	*-22.0%*	*17.6%*	*12.2%*	*7.3%*	*5.0%*
Military	5.231	5.162	7.291	6.429	6.974	7.381	7.665
(Yr/yr % change)	*9.5%*	*-1.3%*	*41.3%*	*-11.8%*	*8.5%*	*5.8%*	*3.9%*
Hotels	26.252	23.353	12.798	12.806	17.072	20.467	21.919
Retail Misc.	7.207	7.613	5.714	6.702	7.208	7.643	7.975
Shopping	18.307	16.435	12.476	14.336	16.353	18.127	19.882
Retail	51.766	47.402	30.988	33.843	40.632	46.237	49.777
(Yr/yr % change)	*-8.1%*	*-8.4%*	*-34.6%*	*9.2%*	*20.1%*	*13.8%*	*7.7%*
NON-RESIDENTIAL BUILDING	305.353	338.202	237.728	263.325	297.923	321.600	338.502
(Yr/yr % change)	*-3.3%*	*10.8%*	*-29.7%*	*10.8%*	*13.1%*	*7.9%*	*5.3%*
Multi-Family	94.207	98.355	70.381	75.318	89.684	100.199	107.436
Single-Family	202.426	198.782	175.113	189.030	212.628	232.786	251.458
RESIDENTIAL	296.633	297.137	245.494	264.348	302.312	332.985	358.894
(Yr/yr % change)	*-6.7%*	*0.2%*	*-17.4%*	*7.7%*	*14.4%*	*10.1%*	*7.8%*
GRAND TOTAL	764.970	824.010	648.483	710.799	800.578	865.673	917.570
(Yr/yr % change)	*-2.4%*	*7.7%*	*-21.3%*	*9.6%*	*12.6%*	*8.1%*	*6.0%*

EXPLANATION: Table 3 conforms to the type-of-structure ordering adopted by many firms and organizations in the industry. Specifically, it breaks non-residential building into ICI work (i.e., industrial, commercial and institutional), since each has its own set of economic and demographic drivers.

Table 4 presents an alternative, perhaps more user-friendly and intuitive, type-of-structure ordering that matches how the data appears in ConstructConnect's on-line product 'Insight'.

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

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

States (alphabetical by 2-letter code)	Actuals (Level in $ Millions USD) 2019	Forecasts (Year versus previous year % change) 2020	2021	2022	2023	2024
Alaska - AK	$1,594	-10.2%	16.9%	10.6%	5.3%	5.6%
Alabama - AL	$12,772	-23.0%	17.0%	9.3%	9.2%	6.2%
Arkansas - AR	$6,438	9.8%	-3.3%	11.3%	9.3%	6.2%
Arizona - AZ	$20,615	-14.4%	-11.4%	8.9%	9.3%	5.7%
California - CA*	$65,013	-11.6%	7.3%	16.9%	7.2%	6.4%
Colorado - CO	$20,093	-13.8%	4.8%	13.6%	8.9%	7.3%
Connecticut - CT	$6,980	-17.4%	12.1%	17.7%	1.9%	3.7%
District Of Columbia - DC	$4,153	-42.4%	43.9%	8.6%	4.2%	5.3%
Delaware - DE	$2,675	-23.7%	6.1%	14.1%	4.5%	5.3%
Florida - FL*	$61,741	-20.8%	13.7%	11.9%	10.1%	7.0%
Georgia - GA	$30,907	-33.1%	16.5%	14.9%	9.5%	6.5%
Hawaii - HI	$3,009	-38.4%	63.5%	23.6%	0.9%	4.7%
Iowa - IA	$7,875	-17.4%	-12.2%	9.8%	7.8%	6.2%
Idaho - ID	$5,381	-20.2%	3.9%	8.9%	9.2%	6.5%
Illinois - IL	$22,061	-15.2%	10.2%	10.8%	6.3%	5.0%
Indiana - IN	$13,977	-12.8%	5.2%	12.5%	8.9%	6.4%
Kansas - KS	$6,383	-13.4%	16.3%	10.5%	9.0%	5.4%
Kentucky - KY	$9,528	-42.1%	36.2%	15.7%	5.7%	5.3%
Louisiana - LA	$12,070	5.7%	-11.8%	12.7%	7.8%	6.3%
Massachusetts - MA	$17,451	-37.4%	22.6%	22.0%	3.2%	4.9%
Maryland - MD	$10,926	-3.1%	-21.4%	11.8%	5.5%	4.5%
Maine - ME	$2,585	10.1%	9.3%	11.5%	3.0%	4.1%
Michigan - MI	$17,762	-18.8%	18.5%	9.9%	7.9%	6.1%
Minnesota - MN	$18,114	-25.8%	9.4%	13.0%	6.4%	5.8%
Missouri - MO	$12,090	4.5%	-23.3%	9.1%	6.6%	5.3%
Mississippi - MS	$4,744	-2.5%	-11.8%	6.7%	8.2%	6.6%
Montana - MT	$2,637	-1.6%	-2.1%	9.7%	8.8%	6.2%
North Carolina - NC	$33,166	-26.0%	14.4%	12.9%	8.0%	6.6%
North Dakota - ND	$3,090	-10.6%	0.5%	11.3%	8.5%	6.7%
Nebraska - NE	$4,914	2.5%	-6.3%	7.7%	7.7%	6.7%
New Hampshire - NH	$2,661	-35.6%	35.6%	20.6%	3.7%	5.3%
New Jersey - NJ	$13,331	-24.1%	19.8%	16.8%	3.2%	4.6%
New Mexico - NM	$3,784	-9.5%	-8.9%	7.0%	7.0%	5.9%
Nevada - NV	$10,049	-22.4%	10.1%	22.3%	7.4%	6.2%
New York - NY*	$38,658	-22.0%	15.7%	17.6%	14.4%	5.1%
Ohio - OH	$20,491	-21.6%	9.2%	12.9%	6.4%	5.5%
Oklahoma - OK	$8,736	-12.3%	15.8%	7.0%	9.0%	6.9%
Oregon - OR	$10,087	-21.1%	11.3%	14.2%	8.4%	7.0%
Pennsylvania - PA	$21,220	-28.5%	33.8%	18.6%	3.3%	4.7%
Rhode Island - RI	$1,107	-4.6%	20.0%	21.0%	2.3%	5.4%
South Carolina - SC	$14,639	-20.3%	9.4%	12.0%	8.5%	5.9%
South Dakota - SD	$3,413	-21.9%	4.9%	8.3%	9.7%	6.6%
Tennessee - TN	$18,916	-8.6%	-3.2%	9.2%	10.0%	6.1%
Texas - TX*	$130,110	-35.6%	21.8%	8.8%	9.8%	6.1%
Utah - UT	$10,641	4.0%	11.1%	10.4%	8.6%	6.7%
Virginia - VA	$23,230	-24.4%	15.1%	7.7%	8.1%	5.7%
Vermont - VT	$769	-0.6%	-10.6%	22.1%	2.3%	5.6%
Washington - WA	$28,520	-19.1%	-10.2%	13.0%	6.9%	6.6%
Wisconsin - WI	$14,908	-19.3%	-4.1%	14.2%	5.7%	5.2%
West Virginia - WV	$2,314	29.2%	-11.0%	10.9%	5.6%	4.9%
Wyoming - WY	$5,681	-62.4%	37.0%	9.9%	7.7%	5.7%
United States	$824,010	-21.3%	9.6%	12.6%	8.1%	6.0%

*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.

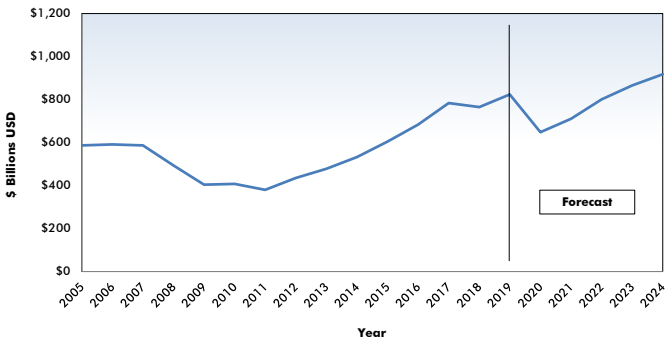
Table 6: U.S. Four Largest States: Type-of-Structure Forecasts ($ Billions USD)								
		Actuals		Forecasts				
		2018	2019	2020	2021	2022	2023	2024
New York	Residential	9.855	10.684	8.115	9.259	10.166	12.796	13.815
	Non-res Building	17.575	20.177	13.261	12.774	17.152	17.912	18.608
	Engineering/Civil	10.720	7.797	8.761	12.821	13.670	16.196	16.892
	Total	38.151	38.658	30.136	34.855	40.988	46.904	49.315
(Yr vs previous yr % Change)		*-23.9%*	*1.3%*	*-22.0%*	*15.7%*	*17.6%*	*14.4%*	*5.1%*
Florida	Residential	26.700	28.871	24.891	27.051	31.199	34.813	37.776
	Non-res Building	18.729	18.765	15.246	17.387	18.644	20.636	21.909
	Engineering/Civil	10.126	14.104	8.792	11.172	12.390	13.050	13.595
	Total	55.555	61.741	48.929	55.611	62.233	68.499	73.281
(Yr vs previous yr % Change)		*-5.0%*	*11.1%*	*-20.8%*	*13.7%*	*11.9%*	*10.1%*	*7.0%*
Texas	Residential	41.983	44.078	34.025	38.498	43.695	47.372	50.714
	Non-res Building	34.028	62.075	30.864	38.946	40.737	47.101	49.939
	Engineering/Civil	20.142	23.958	18.868	24.538	26.545	27.428	28.652
	Total	96.153	130.110	83.757	101.982	110.976	121.900	129.306
(Yr vs previous yr % Change)		*-5.7%*	*35.3%*	*-35.6%*	*21.8%*	*8.8%*	*9.8%*	*6.1%*
California	Residential	27.328	24.203	19.379	20.028	23.759	26.282	28.746
	Non-res Building	26.682	25.460	21.012	25.489	30.273	31.748	33.296
	Engineering/Civil	17.007	15.350	17.109	16.198	18.095	19.258	20.170
	Total	71.016	65.013	57.500	61.715	72.128	77.287	82.212
(Yr vs previous yr % Change)		*-9.5%*	*-8.5%*	*-11.6%*	*7.3%*	*16.9%*	*7.2%*	*6.4%*

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

Tweeted by ConstructConnect:

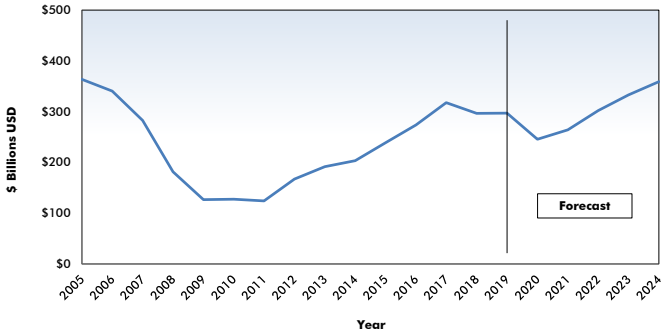
@ConstructConnx

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



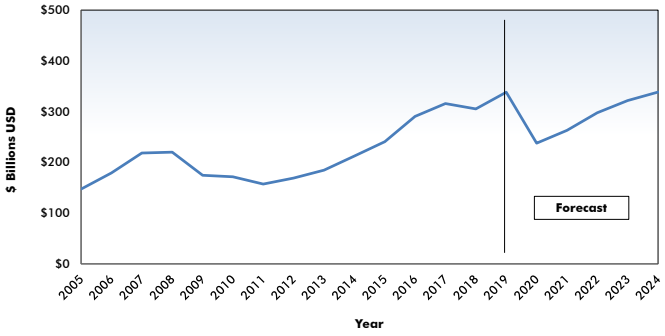
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



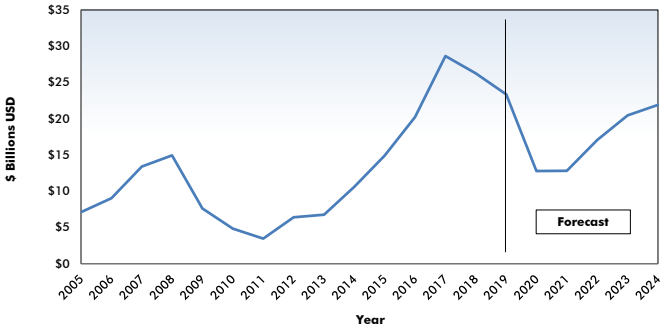
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



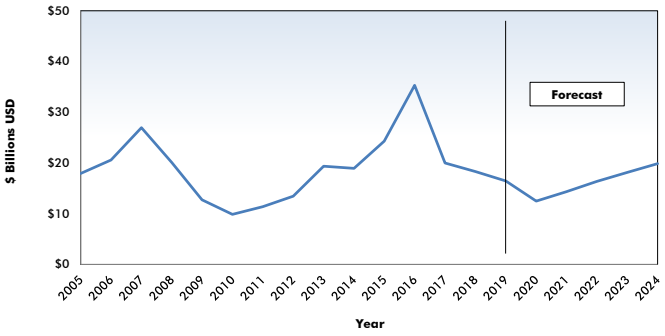
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



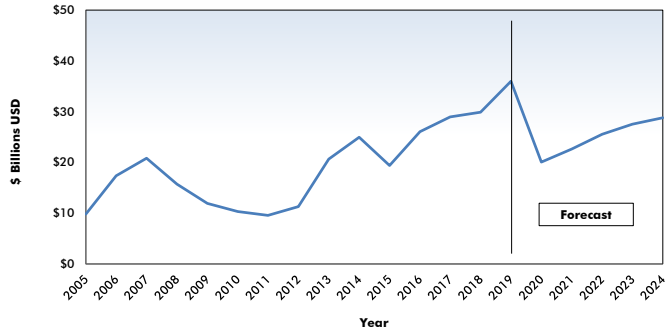
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



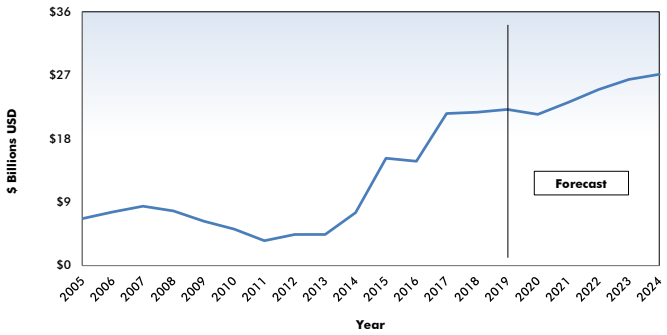
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



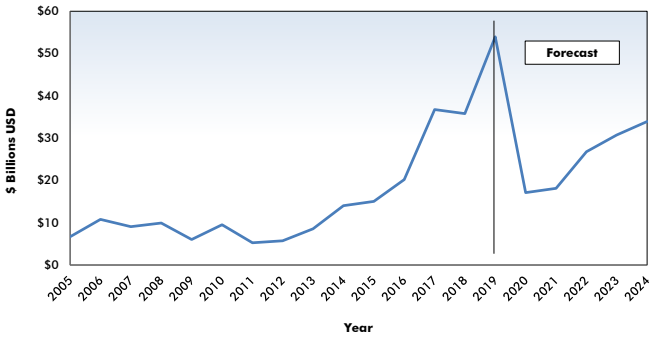
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



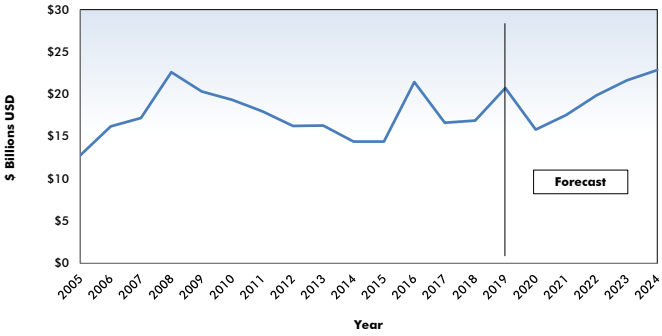
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



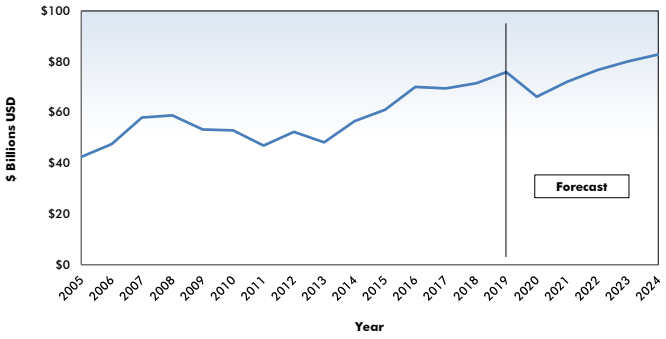
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



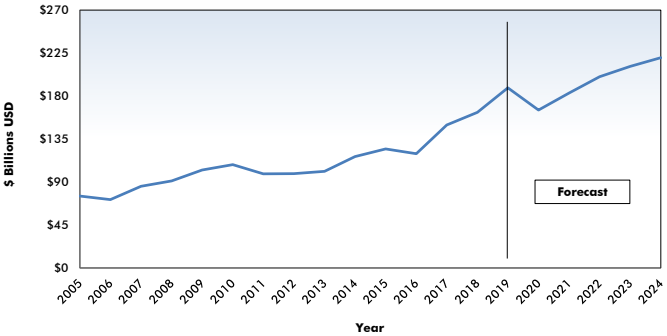
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



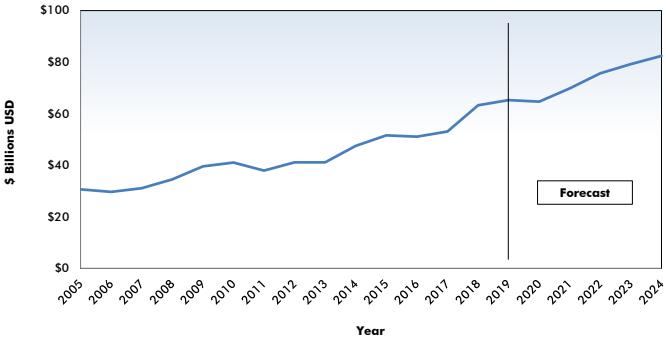
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



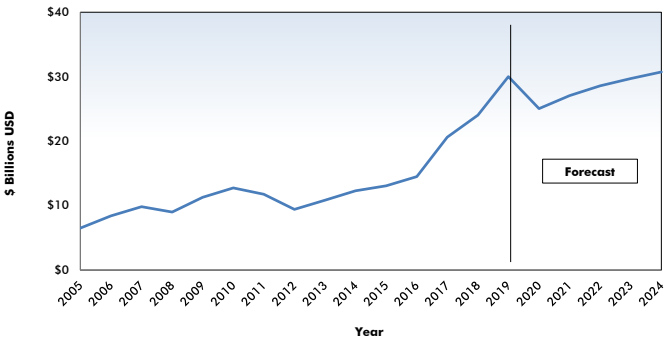
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



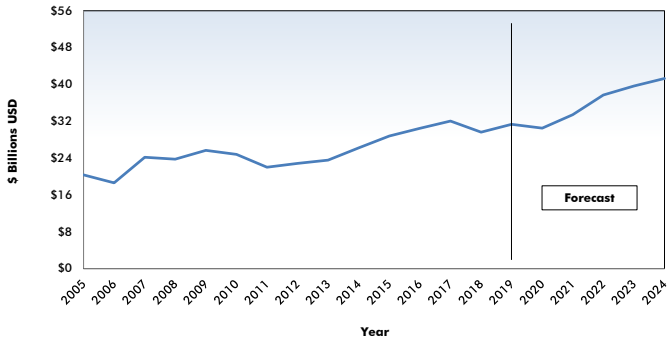
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



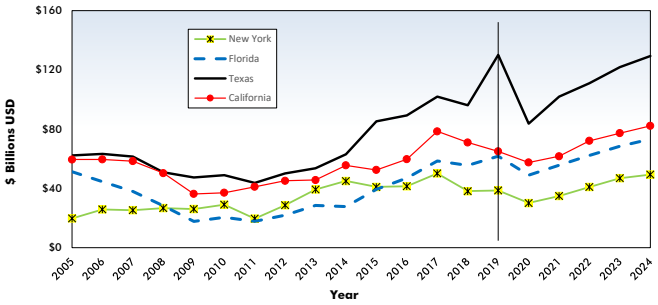
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



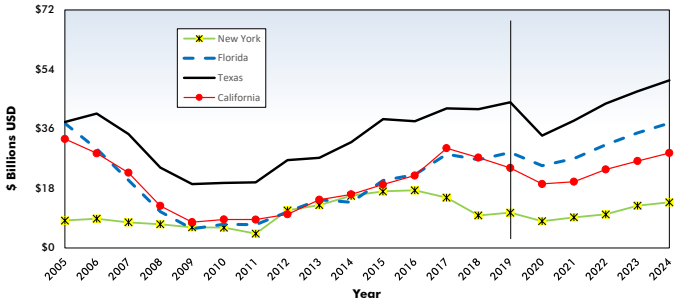
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



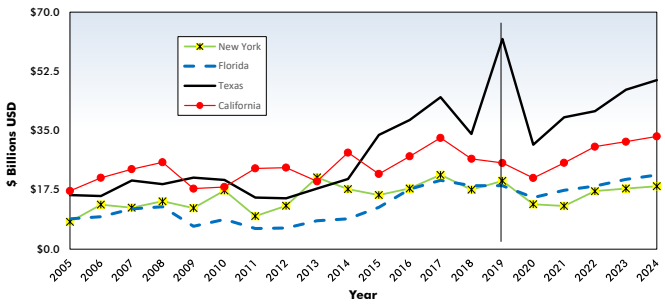
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



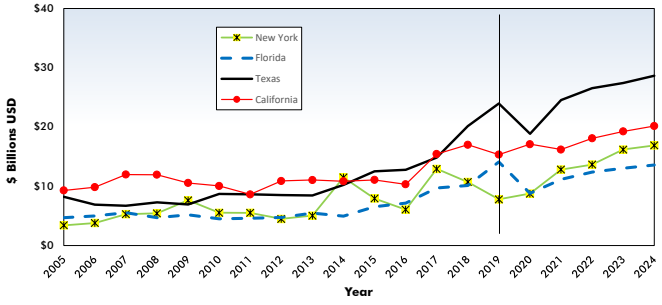
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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	11.823	13.036	14.418	15.552	16.285
Multi-family	15.251	18.012	10.913	14.559	16.534	17.633	18.389
TOTAL RESIDENTIAL	29.738	30.342	22.736	27.596	30.953	33.186	34.673
(Yr/yr % change)	*-5.9%*	*2.0%*	*-25.1%*	*21.4%*	*12.2%*	*7.2%*	*4.5%*
Hotels/Motels	0.406	0.627	0.450	0.525	0.675	0.749	0.790
Private Offices	1.970	3.778	2.500	2.004	2.205	2.404	2.604
Govenmental Offices	1.530	3.142	1.504	1.748	1.978	2.197	2.356
Shopping/Retail	0.870	2.283	0.493	0.705	0.858	1.000	1.100
Retail Miscellaneous	0.184	0.236	0.081	0.146	0.186	0.206	0.220
Parking Garages	0.192	0.383	0.100	0.143	0.195	0.212	0.218
Amusement	2.400	1.994	1.244	1.660	1.964	2.093	2.164
Warehouses	1.865	1.253	1.563	1.651	1.765	1.865	1.973
TOTAL COMMERCIAL	9.417	13.696	7.935	8.582	9.825	10.727	11.424
(Yr/yr % change)	3.9%	45.4%	-42.1%	8.2%	14.5%	9.2%	6.5%
TOTAL INDUSTRIAL (manufacturing)	19.373	3.243	2.836	5.595	7.297	8.341	8.779
(Yr/yr % change)	*441.1%*	*-83.3%*	*-12.5%*	*97.3%*	*30.4%*	*14.3%*	*5.2%*
Religious	0.153	0.050	0.039	0.069	0.074	0.077	0.079
Hospitals/Clinics	3.390	3.623	2.253	2.889	3.300	3.770	4.074
MED misc	0.282	0.285	0.212	0.398	0.478	0.558	0.635
Transportation Terminals*	7.064	1.242	3.111	3.663	4.097	4.497	4.697
Police/Fire	2.083	0.933	0.519	0.765	0.958	0.996	1.035
Educational Facilities	4.209	4.909	2.990	3.486	4.054	4.326	4.400
TOTAL INSTITUTIONAL	17.180	11.041	9.125	11.270	12.962	14.224	14.920
(Yr/yr % change)	*61.3%*	*-35.7%*	*-17.4%*	*23.5%*	*15.0%*	*9.7%*	*4.9%*
TOTAL NON-RES BUILDING	45.971	27.980	19.896	25.447	30.084	33.292	35.124
(Yr/yr % change)	*97.4%*	*-39.1%*	*-28.9%*	*27.9%*	*18.2%*	*10.7%*	*5.5%*
Bridges	6.704	2.122	2.498	3.286	3.625	3.839	4.100
Dams/Canal/Marine	0.928	0.661	0.464	0.710	0.819	0.887	0.955
Water & Sewage Treatment	6.143	3.748	2.227	3.597	4.068	4.651	4.971
Roads	10.006	8.936	7.471	9.258	10.186	11.107	11.612
Power Infrastructure	3.092	3.161	1.309	2.317	3.805	4.872	5.500
All Other Civil (Oil & Gas etc.)	8.296	17.458	9.465	12.781	15.678	18.345	20.772
TOTAL ENGINEERING	*35.169*	*36.086*	*23.434*	*31.950*	*38.181*	*43.702*	*47.910*
(Yr/yr % change)	*20.9%*	*2.6%*	*-35.1%*	*36.3%*	*19.5%*	*14.5%*	*9.6%*
TOTAL NON-RESIDENTIAL	81.139	64.066	43.330	57.397	68.265	76.995	83.034
(Yr/yr % change)	*54.9%*	*-21.0%*	*-32.4%*	*32.5%*	*18.9%*	*12.8%*	*7.8%*
GRAND TOTAL	110.877	94.409	66.066	84.993	99.217	110.180	117.707
(Yr/yr % change)	*32.0%*	*-14.9%*	*-30.0%*	*28.6%*	*16.7%*	*11.0%*	*6.8%*

* 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	35.169	36.086	23.434	31.950	38.181	43.702	47.910
NON-RESIDENTIAL BUILDING	45.971	27.980	19.896	25.447	30.084	33.292	35.124
RESIDENTIAL	29.738	30.342	22.736	27.596	30.953	33.186	34.673
GRAND TOTAL	110.877	94.409	66.066	84.993	99.217	110.180	117.707
Verticals							
All Other Civil	8.296	17.458	9.465	12.781	15.678	18.345	20.772
Bridges	6.704	2.122	2.498	3.286	3.625	3.839	4.100
Dams / Canals / Marine Work	0.928	0.661	0.464	0.710	0.819	0.887	0.955
Power Infrastructure	3.092	3.161	1.309	2.317	3.805	4.872	5.500
Roads	10.006	8.936	7.471	9.258	10.186	11.107	11.612
Water and Sewage Treatment	6.143	3.748	2.227	3.597	4.068	4.651	4.971
CIVIL	35.169	36.086	23.434	31.950	38.181	43.702	47.910
(Yr/yr % change)	*20.9%*	*2.6%*	*-35.1%*	*36.3%*	*19.5%*	*14.5%*	*9.6%*
Offices (private)	1.970	3.778	2.500	2.004	2.205	2.404	2.604
Parking Garages	0.192	0.383	0.100	0.143	0.195	0.212	0.218
Transportation Terminals	7.064	1.242	3.111	3.663	4.097	4.497	4.697
Commercial	9.226	5.403	5.710	5.810	6.497	7.113	7.519
(Yr/yr % change)	*342.3%*	*-41.4%*	*5.7%*	*1.7%*	*11.8%*	*9.5%*	*5.7%*
Amusement	2.400	1.994	1.244	1.660	1.964	2.093	2.164
Religious	0.153	0.050	0.039	0.069	0.074	0.077	0.079
Community	2.553	2.044	1.284	1.729	2.038	2.170	2.243
(Yr/yr % change)	*6.6%*	*-19.9%*	*-37.2%*	*34.7%*	*17.8%*	*6.5%*	*3.4%*
Educational	4.209	4.909	2.990	3.486	4.054	4.326	4.400
(Yr/yr % change)	*0.7%*	*16.6%*	*-39.1%*	*16.6%*	*16.3%*	*6.7%*	*1.7%*
Fire and Police Stations	2.083	0.933	0.519	0.765	0.958	0.996	1.035
Government Offices	1.530	3.142	1.504	1.748	1.978	2.197	2.356
Government	3.613	4.075	2.023	2.513	2.935	3.193	3.391
(Yr/yr % change)	*49.7%*	*12.8%*	*-50.4%*	*24.2%*	*16.8%*	*8.8%*	*6.2%*
Manufacturing	19.373	3.243	2.836	5.595	7.297	8.341	8.779
Warehouses	1.865	1.253	1.563	1.651	1.765	1.865	1.973
Industrial	21.238	4.496	4.399	7.246	9.062	10.207	10.752
(Yr/yr % change)	*324.4%*	*-78.8%*	*-2.1%*	*64.7%*	*25.1%*	*12.6%*	*5.3%*
Hospitals / Clinics	3.390	3.623	2.253	2.889	3.300	3.770	4.074
Medical Misc.	0.282	0.285	0.212	0.398	0.478	0.558	0.635
Medical	3.672	3.907	2.465	3.287	3.778	4.328	4.709
(Yr/yr % change)	*-23.9%*	*6.4%*	*-36.9%*	*33.3%*	*14.9%*	*14.5%*	*8.8%*
Hotels	0.406	0.627	0.450	0.525	0.675	0.749	0.790
Retail Misc.	0.184	0.236	0.081	0.146	0.186	0.206	0.220
Shopping	0.870	2.283	0.493	0.705	0.858	1.000	1.100
Retail	1.460	3.146	1.024	1.376	1.720	1.955	2.110
(Yr/yr % change)	*-38.9%*	*115.5%*	*-67.5%*	*34.4%*	*25.0%*	*13.7%*	*7.9%*
NON-RESIDENTIAL BUILDING	45.971	27.980	19.896	25.447	30.084	33.292	35.124
(Yr/yr % change)	*97.4%*	*-39.1%*	*-28.9%*	*27.9%*	*18.2%*	*10.7%*	*5.5%*
Multi-Family	15.251	18.012	10.913	14.559	16.534	17.633	18.389
Single-Family	14.487	12.331	11.823	13.036	14.418	15.552	16.285
RESIDENTIAL	29.738	30.342	22.736	27.596	30.953	33.186	34.673
(Yr/yr % change)	*-5.9%*	*2.0%*	*-25.1%*	*21.4%*	*12.2%*	*7.2%*	*4.5%*
TOTAL NON-RESIDENTIAL	81.139	64.066	43.330	57.397	68.265	76.995	83.034
(Yr/yr % change)	*54.9%*	*-21.0%*	*-32.4%*	*32.5%*	*18.9%*	*12.8%*	*7.8%*
GRAND TOTAL	110.877	94.409	66.066	84.993	99.217	110.180	117.707
(Yr/yr % change)	*32.0%*	*-14.9%*	*-30.0%*	*28.6%*	*16.7%*	*11.0%*	*6.8%*

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) 2019	Forecasts (Year versus previous year % change) 2020	2021	2022	2023	2024
Atlantic region	$3,861	1.2%	-2.1%	22.8%	9.2%	5.3%
Quebec	$20,422	-48.1%	44.2%	17.0%	10.6%	6.3%
Ontario	$28,962	-14.1%	6.4%	9.6%	7.3%	6.3%
Manitoba	$2,664	-39.9%	-2.2%	28.1%	4.9%	6.7%
Saskatchewan	$1,675	-2.9%	31.7%	35.4%	20.9%	6.1%
Alberta	$18,031	-38.7%	63.9%	19.2%	13.3%	6.9%
British Columbia	$18,794	-34.0%	41.7%	20.1%	13.9%	8.4%
Canada	$94,409	-30.0%	28.6%	16.7%	11.0%	6.8%

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

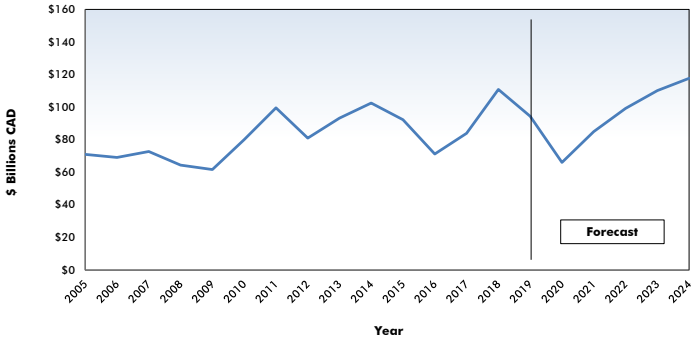
Table 10: Canada Four Largest Provinces: Type-of-Structure Forecasts

($ Billions CAD)

		Actuals 2018	2019	Forecasts 2020	2021	2022	2023	2024
Quebec	Residential	4.133	4.924	3.785	5.958	6.351	6.761	7.005
	Non-res Building	12.748	7.915	3.639	4.890	6.020	6.738	7.172
	Engineering/Civil	5.006	7.583	3.173	4.434	5.512	6.285	6.852
	Total	21.887	20.422	10.596	15.283	17.883	19.784	21.029
(Yr vs previous yr % Change)		*58.7%*	*-6.7%*	*-48.1%*	*44.2%*	*17.0%*	*10.6%*	*6.3%*
Ontario	Residential	13.738	13.012	10.085	10.303	11.847	12.313	12.905
	Non-res Building	9.369	9.185	9.101	9.285	9.129	9.800	10.423
	Engineering/Civil	12.388	6.765	5.696	6.893	8.044	9.027	9.771
	Total	35.494	28.962	24.881	26.480	29.020	31.141	33.099
(Yr vs previous yr % Change)		*35.5%*	*-18.4%*	*-14.1%*	*6.4%*	*9.6%*	*7.3%*	*6.3%*
Alberta	Residential	3.504	3.922	2.957	4.290	4.798	5.282	5.526
	Non-res Building	7.595	4.115	2.787	4.050	5.394	6.088	6.262
	Engineering/Civil	6.102	9.994	5.312	9.780	11.413	13.112	14.381
	Total	17.200	18.031	11.057	18.119	21.605	24.482	26.168
(Yr vs previous yr % Change)		*-20.2%*	*4.8%*	*-38.7%*	*63.9%*	*19.2%*	*13.3%*	*6.9%*
British Columbia	Residential	6.321	6.614	4.196	5.165	5.817	6.506	6.775
	Non-res Building	12.955	3.670	2.272	4.682	5.733	6.442	6.893
	Engineering/Civil	7.329	8.510	5.935	7.733	9.559	11.092	12.383
	Total	26.605	18.794	12.403	17.580	21.109	24.040	26.051
(Yr vs previous yr % Change)		*129.8%*	*-29.4%*	*-34.0%*	*41.7%*	*20.1%*	*13.9%*	*8.4%*

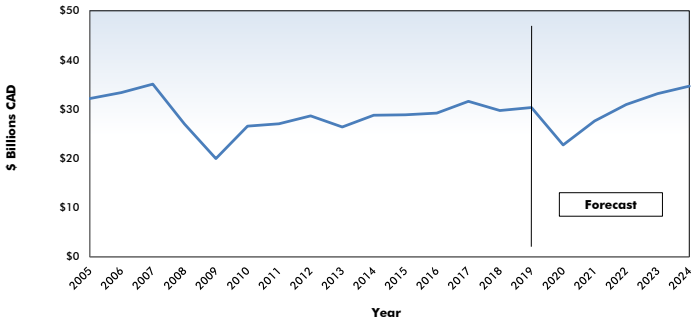
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Table: ConstructConnect.

Graph 19: Canadian Grand Total Construction Starts — ConstructConnect



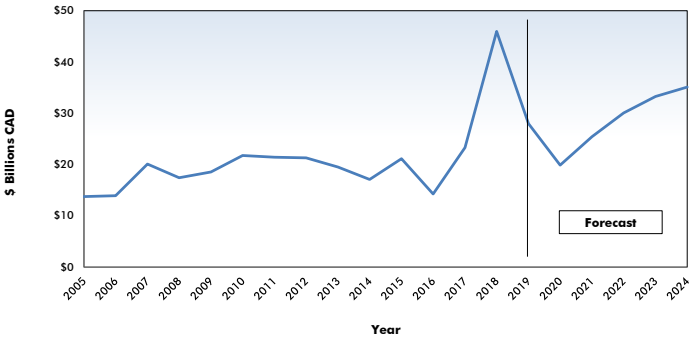
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 20: Canadian Residential Construction Starts — ConstructConnect



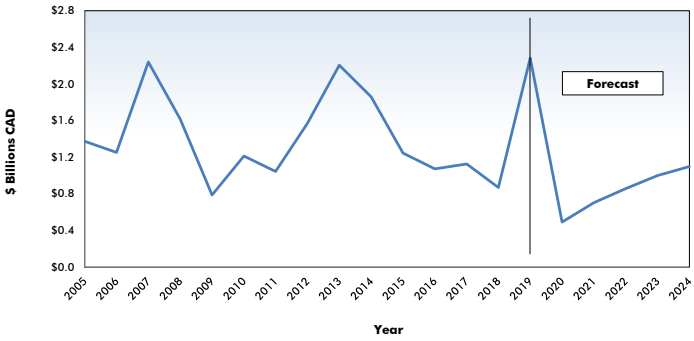
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 21: Canadian Non-Residential Building Starts — ConstructConnect



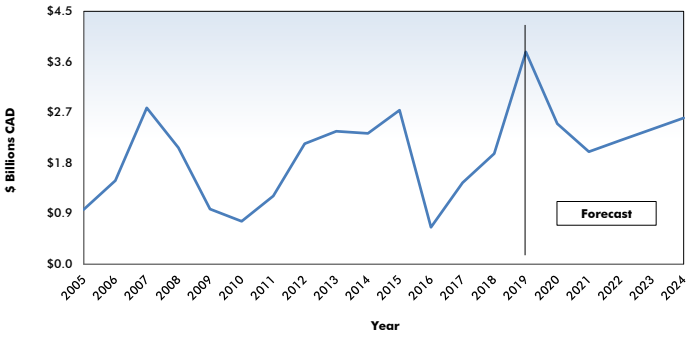
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 22: Canadian Shopping/Retail Construction Starts — ConstructConnect



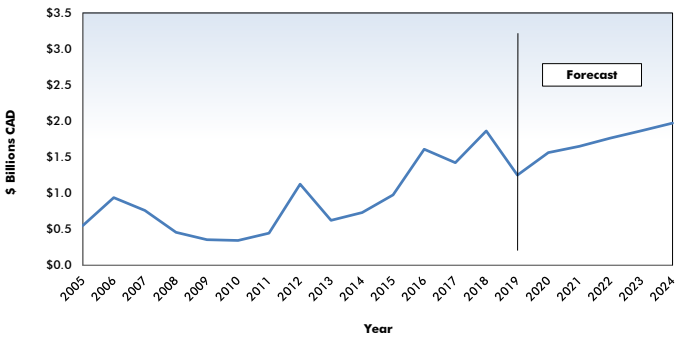
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 23: Canadian Private Offices Construction Starts — ConstructConnect



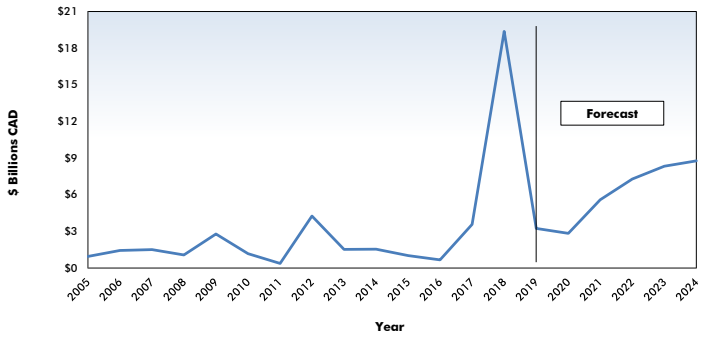
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 24: Canadian Warehouse Construction Starts — ConstructConnect



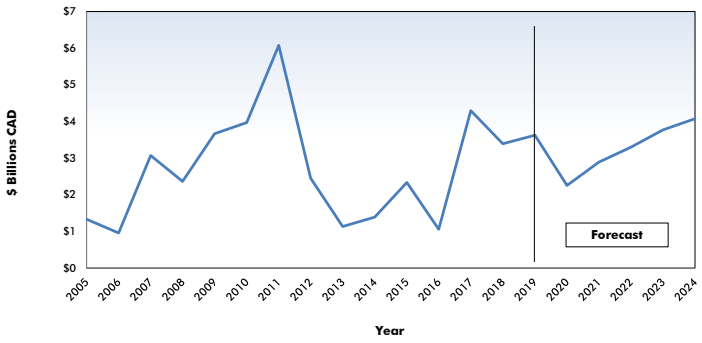
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 25: Canadian Industrial/Manufacturing Construction Starts — ConstructConnect



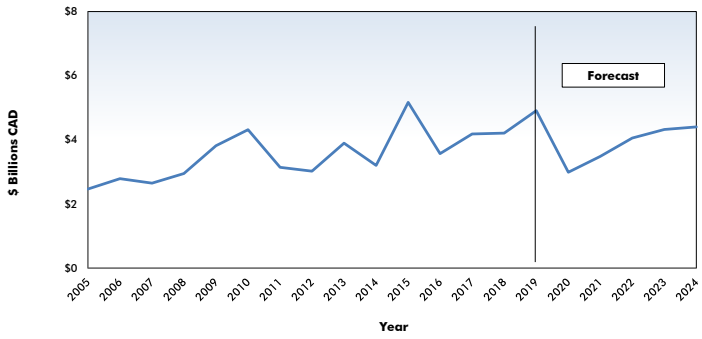
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 26: Canadian Hospital/Clinic Construction Starts — ConstructConnect



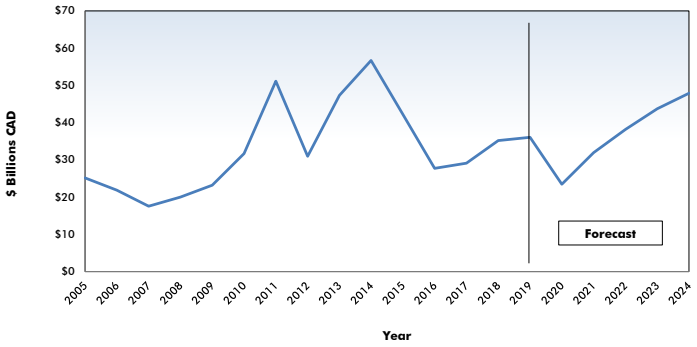
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 27: Canadian Education Construction Starts — ConstructConnect



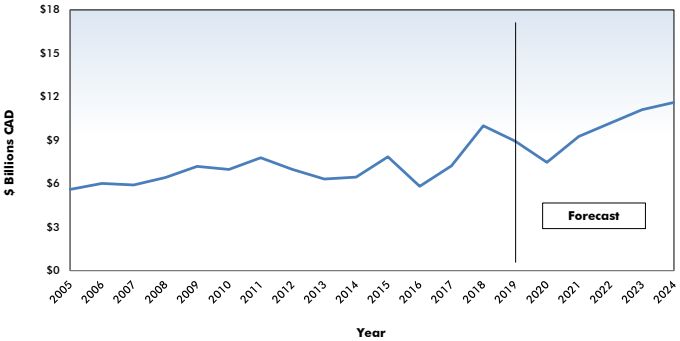
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 28: Canadian Engineering Construction Starts — ConstructConnect



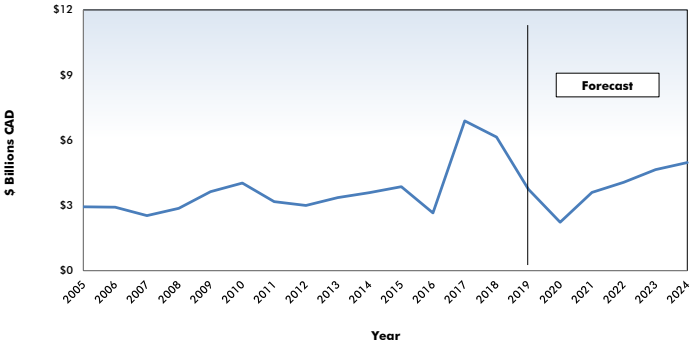
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 29: Canadian Roadwork Construction Starts — ConstructConnect



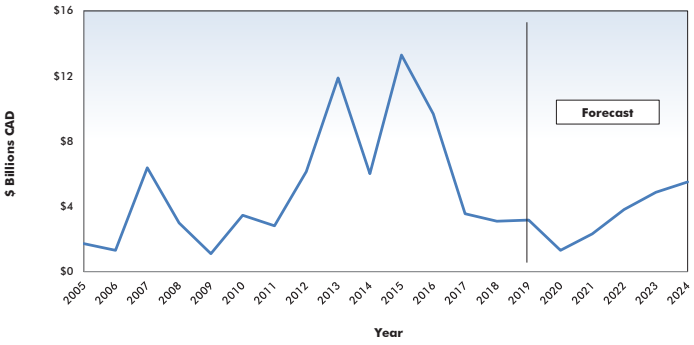
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 30: Canadian Water and Sewage Construction Starts — ConstructConnect



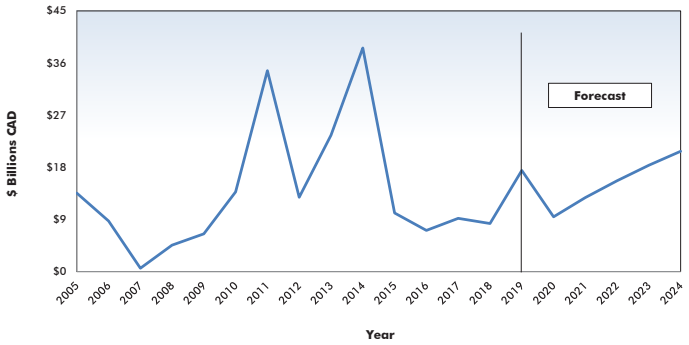
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 31: Canadian Power Infrastructure Construction Starts — ConstructConnect



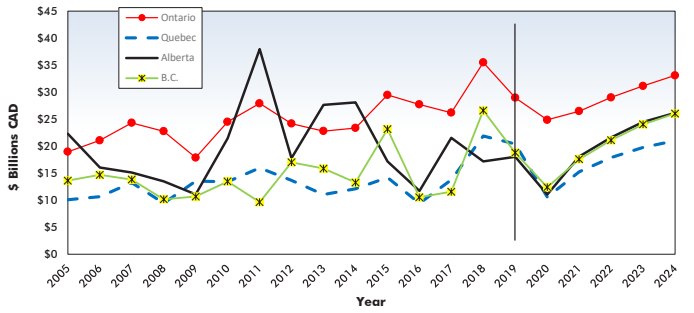
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



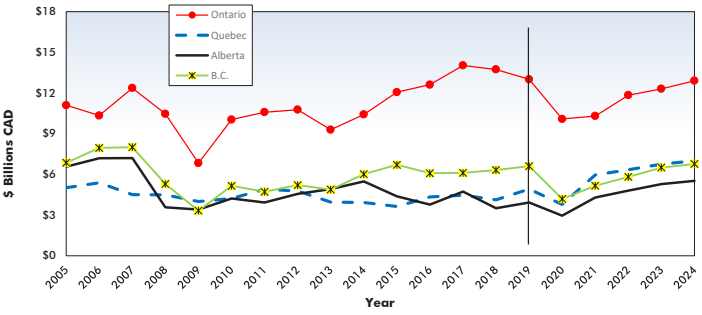
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



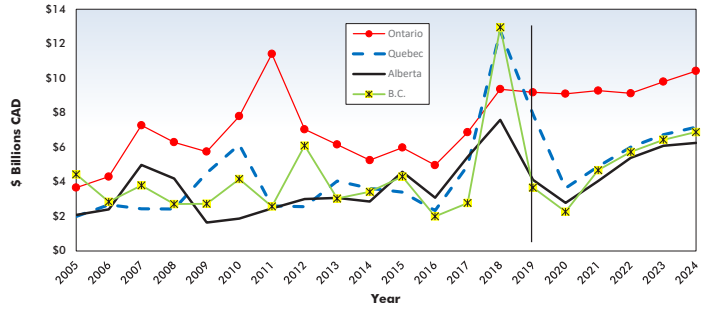
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



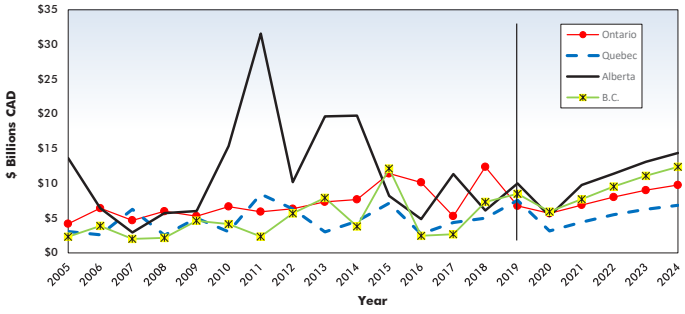
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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	1,453.2	1,562.4	1,757.9	1,924.7	2,079.1
Multi-family	526.7	549.9	409.4	433.2	511.5	570.3	611.2
TOTAL RESIDENTIAL	2,200.5	2,193.5	1,862.6	1,995.5	2,269.4	2,495.1	2,690.4
(Yr/yr % change)	*-4.5%*	*-0.3%*	*-15.1%*	*7.1%*	*13.7%*	*9.9%*	*7.8%*
Hotels/Motels	109.9	105.4	51.4	52.5	72.4	87.5	93.9
Shopping/Retail	76.2	68.5	46.6	55.4	65.3	72.9	80.1
Parking Garages	28.3	34.5	18.7	23.3	28.3	31.2	33.6
Amusement	28.0	23.5	20.2	20.8	22.1	23.6	24.5
Private Offices	92.7	104.8	63.4	68.9	76.4	81.8	85.6
Govenmental Offices	15.6	17.2	15.7	17.5	18.2	19.0	19.7
Laboratories (Schools & Industrial)	4.9	2.9	2.9	4.2	5.2	6.0	6.7
Warehouses	203.9	203.4	173.5	189.6	208.0	221.0	227.3
Sports Stadium/Convention Center	13.1	20.9	11.6	12.0	14.3	15.9	17.3
Transportation Terminals	6.2	9.3	6.4	7.0	8.3	9.5	10.4
TOTAL COMMERCIAL	578.8	590.3	410.4	451.1	518.5	568.5	599.0
(Yr/yr % change)	*-15.1%*	*2.0%*	*-30.5%*	*9.9%*	*14.9%*	*9.6%*	*5.4%*
TOTAL INDUSTRIAL (manufacturing)	99.2	94.0	37.5	28.9	43.7	50.5	55.7
(Yr/yr % change)	*7.5%*	*-5.2%*	*-60.1%*	*-23.0%*	*51.5%*	*15.4%*	*10.4%*
Religious	6.2	5.2	3.0	3.8	4.3	4.4	4.4
Hospitals/Clinics	25.4	30.5	16.2	25.0	32.5	40.0	47.5
Nursing Homes/Assisted Living	45.5	40.9	31.0	42.2	49.6	53.4	56.1
Libraries/Museums	3.9	3.2	3.5	3.7	3.9	4.0	4.0
Courthouse	2.8	1.8	2.8	1.6	1.8	2.0	2.0
Police/Fire	7.7	7.5	7.1	7.4	8.0	8.4	8.8
Prisons	4.5	2.2	1.6	1.9	2.1	2.2	2.3
Military	10.8	11.9	19.9	15.7	15.3	15.8	16.3
Educational Facilities	156.3	167.7	134.8	150.2	164.0	172.4	178.5
MED misc	22.7	19.7	14.2	16.8	19.4	20.6	21.5
TOTAL INSTITUTIONAL	285.8	290.8	234.2	268.4	300.7	323.1	341.4
(Yr/yr % change)	*-6.8%*	*1.8%*	*-19.5%*	*14.6%*	*12.0%*	*7.4%*	*5.7%*
Miscellaneous Non-Res Building	25.9	26.5	20.8	23.9	25.4	26.8	28.0
TOTAL NON-RES BLDG	989.7	1,001.6	702.9	772.3	888.3	968.8	1,024.1
(Yr/yr % change)	*-10.8%*	*1.2%*	*-29.8%*	*9.9%*	*15.0%*	*9.1%*	*5.7%*
RESIDENTIAL + NON-RES BLDG	3,190.1	3,195.1	2,565.5	2,767.9	3,157.7	3,463.9	3,714.4
(Yr/yr % change)	*-6.6%*	*0.2%*	*-19.7%*	*7.9%*	*14.1%*	*9.7%*	*7.2%*

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	1,001.6	702.9	772.3	888.3	968.8	1,024.1
RESIDENTIAL	2,200.5	2,193.5	1,862.6	1,995.5	2,269.4	2,495.1	2,690.4
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,190.1	3,195.1	2,565.5	2,767.9	3,157.7	3,463.9	3,714.4
Verticals							
Offices (private)	92.7	104.8	63.4	68.9	76.4	81.8	85.6
Parking Garages	28.3	34.5	18.7	23.3	28.3	31.2	33.6
Transportation Terminals	6.2	9.3	6.4	7.0	8.3	9.5	10.4
Commercial	127.2	148.6	88.5	99.1	113.0	122.6	129.5
(Yr/yr % change)	*-12.4%*	*16.8%*	*-40.5%*	*12.0%*	*14.0%*	*8.4%*	*5.7%*
Amusement	28.0	23.5	20.2	20.8	22.1	23.6	24.5
Libraries / Museums	3.9	3.2	3.5	3.7	3.9	4.0	4.0
Religious	6.2	5.2	3.0	3.8	4.3	4.4	4.4
Sports Arenas / Convention Centers	13.1	20.9	11.6	12.0	14.3	15.9	17.3
Community	51.3	52.8	38.4	40.3	44.5	47.8	50.2
(Yr/yr % change)	*-20.1%*	*3.0%*	*-27.3%*	*5.1%*	*10.5%*	*7.3%*	*5.1%*
College / University	40.0	37.6	29.2	32.7	35.0	36.9	38.1
Elementary / Pre School	43.2	48.8	44.4	49.8	54.4	56.7	58.8
Jr / Sr High School	69.0	75.1	57.4	63.6	70.0	73.9	76.5
Special / Vocational	4.1	6.2	3.7	4.1	4.6	4.9	5.0
Educational	156.3	167.7	134.8	150.2	164.0	172.4	178.5
(Yr/yr % change)	*-3.3%*	*7.3%*	*-19.6%*	*11.4%*	*9.2%*	*5.1%*	*3.6%*
Courthouses	2.8	1.8	2.8	1.6	1.8	2.0	2.0
Fire and Police Stations	7.7	7.5	7.1	7.4	8.0	8.4	8.8
Government Offices	15.6	17.2	15.7	17.5	18.2	19.0	19.7
Prisons	4.5	2.2	1.6	1.9	2.1	2.2	2.3
Government	30.5	28.7	27.2	28.4	30.1	31.6	32.8
(Yr/yr % change)	*-1.5%*	*-5.7%*	*-5.5%*	*4.5%*	*5.9%*	*5.2%*	*3.9%*
Industrial Labs / Labs / School Labs	4.9	2.9	2.9	4.2	5.2	6.0	6.7
Manufacturing	99.2	94.0	37.5	28.9	43.7	50.5	55.7
Warehouses	203.9	203.4	173.5	189.6	208.0	221.0	227.3
Industrial	308.0	300.3	213.9	222.7	256.9	277.5	289.7
(Yr/yr % change)	*-1.5%*	*-2.5%*	*-28.8%*	*4.1%*	*15.4%*	*8.0%*	*4.4%*
Hospitals / Clinics	25.4	30.5	16.2	25.0	32.5	40.0	47.5
Medical Misc.	22.7	19.7	14.2	16.8	19.4	20.6	21.5
Nursing Homes	45.5	40.9	31.0	42.2	49.6	53.4	56.1
Medical	93.6	91.2	61.5	84.1	101.4	114.0	125.1
(Yr/yr % change)	*-11.2%*	*-2.5%*	*-32.6%*	*36.8%*	*20.7%*	*12.4%*	*9.7%*
Military	10.8	11.9	19.9	15.7	15.3	15.8	16.3
(Yr/yr % change)	*-15.1%*	*9.8%*	*67.3%*	*-21.1%*	*-2.8%*	*3.3%*	*3.3%*
Hotels	109.9	105.4	51.4	52.5	72.4	87.5	93.9
Retail Misc.	25.9	26.5	20.8	23.9	25.4	26.8	28.0
Shopping	76.2	68.5	46.6	55.4	65.3	72.9	80.1
Retail	212.0	200.3	118.8	131.8	163.0	187.2	202.0
(Yr/yr % change)	*-23.3%*	*-5.5%*	*-40.7%*	*10.9%*	*23.7%*	*14.8%*	*7.9%*
NON-RESIDENTIAL BUILDING	989.7	1,001.6	702.9	772.3	888.3	968.8	1,024.1
(Yr/yr % change)	*-10.8%*	*1.2%*	*-29.8%*	*9.9%*	*15.0%*	*9.1%*	*5.7%*
Multi-Family	526.7	549.9	409.4	433.2	511.5	570.3	611.2
Single-Family	1,673.7	1,643.6	1,453.2	1,562.4	1,757.9	1,924.7	2,079.1
RESIDENTIAL	2,200.5	2,193.5	1,862.6	1,995.5	2,269.4	2,495.1	2,690.4
(Yr/yr % change)	*-4.5%*	*-0.3%*	*-15.1%*	*7.1%*	*13.7%*	*9.9%*	*7.8%*
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,190.1	3,195.1	2,565.5	2,767.9	3,157.7	3,463.9	3,714.4
(Yr/yr % change)	*-6.6%*	*0.2%*	*-19.7%*	*7.9%*	*14.1%*	*9.7%*	*7.2%*

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	102.7	112.3	124.3	134.2	140.5
Multi-family	80.9	90.9	52.6	68.3	80.7	88.1	92.3
TOTAL RESIDENTIAL	205.7	197.4	155.3	180.6	205.1	222.3	232.8
(Yr/yr % change)	*-8.7%*	*-4.1%*	*-21.3%*	*16.3%*	*13.6%*	*8.4%*	*4.7%*
Hotels/Motels	1.9	2.4	1.3	1.7	2.0	2.3	2.6
Private Offices	9.2	11.1	3.6	4.5	5.2	6.3	7.1
Govenmental Offices	1.8	2.3	1.6	2.0	2.3	2.6	2.8
Shopping/Retail	6.5	9.6	4.1	4.1	5.1	6.0	6.9
Retail Miscellaneous	1.1	1.2	0.3	0.6	0.9	1.0	1.0
Parking Garages	0.2	1.4	0.3	0.5	0.6	0.8	0.9
Amusement	4.9	3.5	1.6	2.2	2.8	3.0	3.2
Warehouses	13.0	8.6	8.7	9.6	10.2	10.8	11.5
TOTAL COMMERCIAL	38.8	40.2	21.5	25.1	29.2	32.9	36.1
(Yr/yr % change)	*0.2%*	*3.6%*	*-46.6%*	*17.2%*	*16.2%*	*12.5%*	*9.7%*
TOTAL INDUSTRIAL (manufacturing)	7.9	6.2	2.9	5.6	6.6	7.4	7.9
(Yr/yr % change)	*51.0%*	*-21.4%*	*-53.4%*	*94.3%*	*17.6%*	*11.5%*	*6.8%*
Religious	0.3	0.1	0.1	0.2	0.3	0.3	0.3
Hospitals/Clinics	9.7	7.4	5.4	4.6	5.8	6.9	7.5
MED misc	0.9	1.2	0.4	0.9	1.2	1.5	1.7
Transportation Terminals*	4.0	0.2	0.7	1.2	1.4	1.8	1.9
Police/Fire	1.9	1.3	0.2	0.5	0.8	0.9	0.9
Educational Facilities	11.9	11.5	5.7	7.1	8.6	9.3	9.4
TOTAL INSTITUTIONAL	28.7	21.8	12.5	14.6	18.1	20.6	21.7
(Yr/yr % change)	*12.1%*	*-24.1%*	*-42.4%*	*16.5%*	*24.2%*	*13.5%*	*5.7%*
TOTAL NON-RES BLDG	75.3	68.1	36.9	45.4	54.0	60.8	65.7
(Yr/yr % change)	*8.4%*	*-9.6%*	*-45.9%*	*23.0%*	*19.0%*	*12.7%*	*8.0%*
RESIDENTIAL + NON-RES BLDG	281.0	265.5	192.2	226.0	259.0	283.1	298.5
(Yr/yr % change)	*-4.6%*	*-5.5%*	*-27.6%*	*17.6%*	*14.6%*	*9.3%*	*5.4%*

* 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)

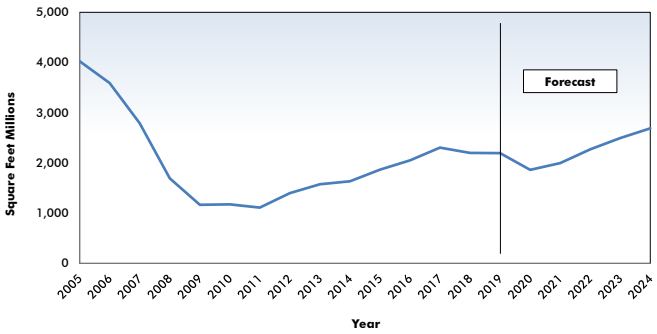
	Actuals		Forecasts				
	2018	2019	2020	2021	2022	2023	2024
Summary							
NON-RESIDENTIAL BUILDING	75.3	68.1	36.9	45.4	54.0	60.8	65.7
RESIDENTIAL	205.7	197.4	155.3	180.6	205.1	222.3	232.8
RESIDENTIAL + NON-RESIDENTIAL BUILDING	281.0	265.5	192.2	226.0	259.0	283.1	298.5
Verticals							
Offices (private)	9.2	11.1	3.6	4.5	5.2	6.3	7.1
Parking Garages	0.2	1.4	0.3	0.5	0.6	0.8	0.9
Transportation Terminals	4.0	0.2	0.7	1.2	1.4	1.8	1.9
Commercial	13.5	12.7	4.6	6.2	7.3	8.9	10.0
(Yr/yr % change)	*74.8%*	*-5.9%*	*-64.1%*	*34.6%*	*18.3%*	*21.8%*	*12.3%*
Amusement	4.9	3.5	1.6	2.2	2.8	3.0	3.2
Religious	0.3	0.1	0.1	0.2	0.3	0.3	0.3
Community	5.2	3.6	1.7	2.4	3.1	3.3	3.5
(Yr/yr % change)	*-14.6%*	*-30.3%*	*-53.5%*	*43.0%*	*26.6%*	*8.9%*	*4.4%*
Educational	11.9	11.5	5.7	7.1	8.6	9.3	9.4
(Yr/yr % change)	*20.7%*	*-3.1%*	*-50.2%*	*24.6%*	*20.4%*	*7.6%*	*1.9%*
Fire and Police Stations	1.9	1.3	0.2	0.5	0.8	0.9	0.9
Government Offices	1.8	2.3	1.6	2.0	2.3	2.6	2.8
Government	3.7	3.6	1.8	2.5	3.1	3.5	3.7
(Yr/yr % change)	*-5.1%*	*-3.1%*	*-49.5%*	*37.3%*	*24.2%*	*14.0%*	*6.3%*
Manufacturing	7.9	6.2	2.9	5.6	6.6	7.4	7.9
Warehouses	13.0	8.6	8.7	9.6	10.2	10.8	11.5
Industrial	20.9	14.8	11.6	15.2	16.9	18.2	19.3
(Yr/yr % change)	*25.9%*	*-29.1%*	*-22.1%*	*31.4%*	*11.0%*	*8.0%*	*6.2%*
Hospitals / Clinics	9.7	7.4	5.4	4.6	5.8	6.9	7.5
Medical Misc.	0.9	1.2	0.4	0.9	1.2	1.5	1.7
Medical	10.6	8.6	5.8	5.5	7.1	8.3	9.2
(Yr/yr % change)	*-14.5%*	*-18.6%*	*-32.6%*	*-4.6%*	*28.0%*	*17.9%*	*9.8%*
Hotels	1.9	2.4	1.3	1.7	2.0	2.3	2.6
Retail Misc.	1.1	1.2	0.3	0.6	0.9	1.0	1.0
Shopping	6.5	9.6	4.1	4.1	5.1	6.0	6.9
Retail	9.5	13.2	5.7	6.4	8.0	9.3	10.6
(Yr/yr % change)	*-26.3%*	*38.8%*	*-56.8%*	*12.5%*	*24.2%*	*16.3%*	*13.6%*
NON-RESIDENTIAL BUILDING	75.3	68.1	36.9	45.4	54.0	60.8	65.7
(Yr/yr % change)	*8.4%*	*-9.6%*	*-45.9%*	*23.0%*	*19.0%*	*12.7%*	*8.0%*
Multi-Family	80.9	90.9	52.6	68.3	80.7	88.1	92.3
Single-Family	124.8	106.4	102.7	112.3	124.3	134.2	140.5
RESIDENTIAL	205.7	197.4	155.3	180.6	205.1	222.3	232.8
(Yr/yr % change)	*-8.7%*	*-4.1%*	*-21.3%*	*16.3%*	*13.6%*	*8.4%*	*4.7%*
RESIDENTIAL + NON-RESIDENTIAL BUILDING	281.0	265.5	192.2	226.0	259.0	283.1	298.5
(Yr/yr % change)	*-4.6%*	*-5.5%*	*-27.6%*	*17.6%*	*14.6%*	*9.3%*	*5.4%*

EXPLANATION: Table 13 conforms to the type-of-structure ordering adopted by many firms and organizations in the industry. Specifically, it breaks non-residential building into ICI work (i.e., industrial, commercial and institutional), since each has its own set of economic and demographic drivers.

Table 14 presents an alternative, perhaps more user-friendly and intuitive, type-of-structure ordering that matches how the data appears in ConstructConnect's on-line product 'Insight'.

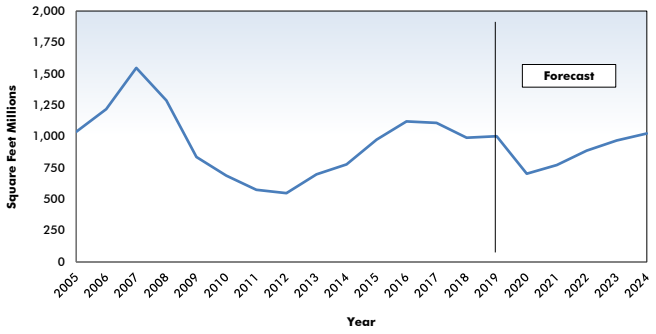
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

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



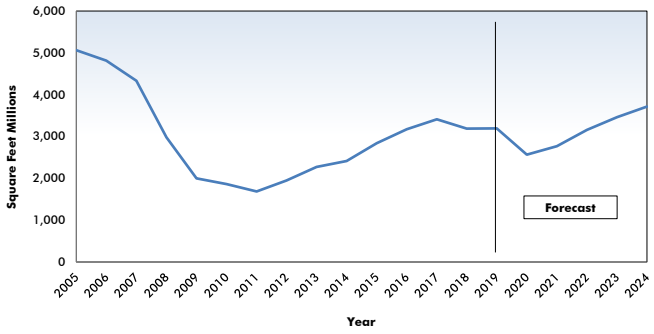
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



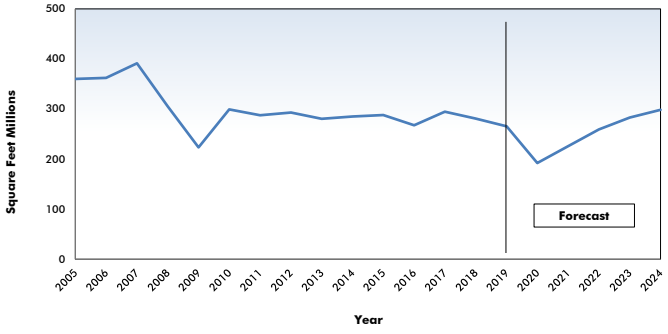
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



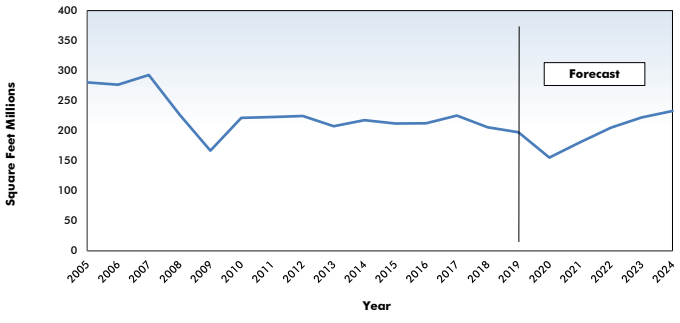
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



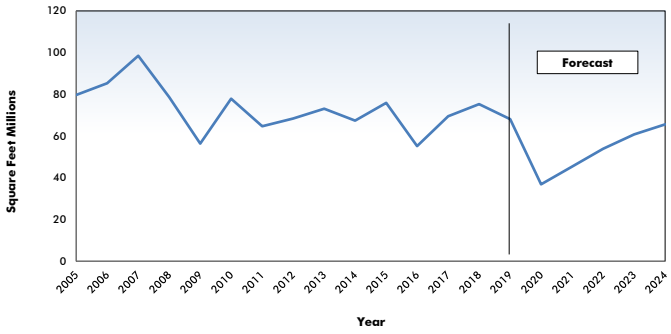
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 41: Canada Residential Construction Starts — ConstructConnect



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

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



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

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