constructconnect®

Winter 2021–2022 (For October 2021 Release)

Construction Starts Forecast

Contents

Housing starts in the U.S., as the average of the monthly seasonally adjusted and annualized (SAAR) figures through August of this year, have been ahead by one-fifth (+20.3%) versus the first eight months of last year. Canada's figure over the same time frame is +34.6%.

Highlights

- US construction starts increased 9.7% year-on-year (y/y) in Q3 2021. All three headline sectors of residential, non-residential building, and civil engineering posted solid y/y growth. Residential construction has been robust since its trough in Q2 2020, while both non-residential and civil engineering works were boosted by large projects.
- GDP growth slowed significantly in Q3 2021, but recent high-frequency data have been more encouraging. Looking ahead, we expect that a slowly improving health situation, solid household finances, a rebuild of inventories, and additional fiscal stimulus will support solid growth momentum in 2022. GDP is expected to grow 5.4% in 2021, slowing to 4.3% in 2022.
- We forecast total US construction starts to expand 6.7% in 2021, accelerating to 12% growth in 2022. Residential construction is the primary impulse in 2021, and growth is set to continue at a solid – albeit slowing – pace over the forecast period. The medium-term outlook for civil engineering is robust, underpinned by the expected passage of the bipartisan infrastructure package. Although non-residential building is set to return to growth in 2022, the scarring from the pandemic will be large in sectors such as hotels and private offices.
- Total Canadian construction starts fell 25.5% y/y in Q3 2021, with new non-residential building down 17% y/y and new engineering construction down 50% y/y. Residential construction was more robust, as a strong rise in single-family homebuilding more than offset a decline in apartment building.
- We forecast Canadian construction starts will decline 4% in 2021, then accelerate to 23.8% in 2022 as almost all sub-sectors return to growth. We forecast the recovery will continue through 2022 as the pandemic is contained, supply bottlenecks gradually clear, and energy prices normalize, combined with new fiscal stimulus measures. Engineering starts are expected to be the main engine of growth into the medium-term with strong support coming from the miscellaneous civil and power sectors.

Sources: ConstructConnect®/Oxford Economics.
Forecast reflects actual starts through Q3 2021.

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Overview

Growth in new US construction continued in Q3

Total US construction starts rose 9.7% year-on-year (y/y) and 7.3% year-to-date (ytd) in Q3 2021. While such growth may look robust, construction in 2020 was particularly weak with the most acute impact felt during Q2 and Q3. This low level of construction has now fallen out of the annual calculation, flattering both the y/y and ytd growth figures. Indeed, the level of construction in Q3 was more than 3% below the quarterly average in 2019.

Non-residential building starts grew 7.2% y/y in Q3, the first annual rise since Q4 2019, although ytd construction in the sector declined 4.9%. The sector was boosted in Q3 by a number of mega projects valued at over $1 billion, most notably, a new $8 billion Intel computer chip factory in Arizona (classified in the industrial sector). In addition to this, groundbreaking began on a $1.3 billion plastics plant in Louisiana, and as a result, new factory construction was up 102% y/y and 41.6% ytd.

Construction on a $1 billion medical center at UC Irvine propped up hospital construction, and with a number of large projects started earlier this year, the sector is up 25.9% ytd. A new $1 billion FBI office building in Alabama helped boost government office-building, while groundbreaking on several data centers and a JPMorgan Chase office tower in New York boosted private office building. Despite this, the hangover from the pandemic on office building looms large, as some workers have shifted permanently to homeworking or hybrid working, and as a result, private office building was down 6.8% y/y and 26.8% ytd in Q3. Hotel construction is another sector to have experienced deep scarring as a result of the pandemic, with construction down nearly 40% ytd following a 57% decline last year.

Engineering construction starts rose 15.6% y/y and were broadly flat (+1.7%) in ytd terms. A $2.8 billion offshore wind project in Massachusetts boosted the power infrastructure sub-category, which is now 213% ahead of its level a year ago, and also thanks to some major projects earlier in the year, up 133% ytd. Elsewhere in engineering, recent trends have been positive in the construction of roads and water & sewage treatment facilities, both of which are positive in both y/y and ytd terms. By contrast, construction trends in bridges, airports, and miscellaneous civil projects are all negative. The latter category includes energy and pipeline projects, as well as railways and tunnel projects, all of which could see a boost in the upcoming quarters.

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

	2019	2020	2021	2022	2023	2024	2025
US							
Macro variables							
GDP	2.3	-3.4	5.4	4.3	2.7	2.1	2.0
Population growth	0.5	0.4	0.2	0.4	0.5	0.5	0.5
Unemployment rate (%)	3.7	8.1	5.4	4.0	3.7	3.5	3.5
Real disposable income*	2.3	6.2	2.6	-1.7	1.8	1.6	1.5
Central bank rate (%)	2.2	0.4	0.1	0.1	0.6	1.1	1.5
10-year government yield (%)	2.1	0.9	1.5	2.1	2.5	2.6	2.6
Construction starts (y/y % change of $ volumes)							
Total starts	8.5	-15.0	6.7	12.0	9.3	7.8	6.0
Residential	0.4	1.1	16.7	10.5	7.3	6.8	6.2
Non-res bldg	12.2	-27.3	-4.4	12.2	11.0	8.0	5.6
Civil engineering	16.1	-18.3	4.9	15.0	11.0	9.5	6.3
Canada							
Macro variables							
GDP	1.9	-5.3	5.2	4.7	2.8	1.5	1.7
Population growth	1.4	1.2	0.7	1.1	1.1	1.0	1.0
Unemployment rate (%)	5.7	9.6	7.6	6.6	6.3	6.2	6.1
Real disposable income*	2.2	9.5	1.1	-0.5	2.0	1.5	1.5
Central bank rate (%)	1.8	0.6	0.3	0.3	0.8	1.2	1.7
10-year government yield (%)	1.6	0.8	1.4	2.0	2.5	2.7	2.7
Exchange rate C$ per US$	1.33	1.34	1.26	1.27	1.25	1.22	1.19
Construction starts (y/y % change of $ volumes)							
Total starts	-11.8	-12.7	-4.0	23.8	10.5	8.2	6.9
Residential	3.9	-13.5	18.1	5.5	2.7	4.3	4.6
Non-res bldg	-35.7	-11.9	-5.2	27.9	13.7	9.6	8.2
Civil engineering	6.6	-12.5	-20.9	42.3	14.8	10.1	7.6

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

Residential construction grew 9% y/y and 21.1% ytd, driven by single-family homebuilding. New single-family construction increased 15.4% y/y and 27.1% ytd. The pandemic and work from home orders have boosted demand for single-family homes, a trend that was already underway pre-pandemic due to family formation in the millennial generation and a housing shortage after several years of underinvestment following the global financial crisis. Apartment construction has been less robust since the onset of the pandemic — multi-family homebuilding declined 10.5% y/y in Q3. This was largely driven by a pandemic shift away from urban living. In addition, unlike in the single-family segment, apartment construction was strong in the years following the global financial crisis, so there is less pent-up demand.

Other measures of construction activity tell a similar story. Put-in-place (PIP) construction, a measure of work-in-progress construction, grew 8.9% y/y in August. Like the starts data, residential PIP construction supported sectoral growth, growing 23.9% y/y in August, in contrast to non-residential construction, which was down 3%. PIP construction tends to lag starts by six months to two years, since construction is spread through the lifetime of the project in the former. ConstructConnect, in partnership with Oxford Economics, a world-leading economic forecasting firm, have developed a service covering PIP by type of structure for US states, cities, and counties. The service includes data and forecasts, and uses ConstructConnect's starts data and forecasts to derive the PIP forecasts.

In recent months, soaring prices of building materials has been an important and worrying development in the construction sector. The price of construction materials rose 16.7% y/y in September, a slight easing from its high of 20.4% in June and July. Lumber prices have eased significantly — softwood lumber prices fell 31.4% y/y in September, down from a 161% y/y increase as recently as May. But countering that, metal prices have soared — prices for steel mill

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products were up 134% y/y in September, for example. In addition, there are signs that labor shortages may be a growing constraint. The JOLTS survey of job openings suggests construction vacancies are near record highs (though still below a recent peak in early-2019), and average weekly earnings were up 7.2% y/y in September.

US economy resilient despite supply constraints and inflation concerns

Deteriorating health conditions, a reduced fiscal impulse, and lingering supply constraints weighed on consumer and business activity in Q3. GDP growth slowed to 2% annualized, down from 6.7% in Q2. Encouragingly, high-frequency data point to reaccelerating economic momentum in late September amid signs that the Delta wave is receding. Looking ahead, we expect that a slowly improving health situation, solid household finances, a rebuild of inventories, and additional fiscal stimulus will support solid growth momentum in 2022, although the economy is almost certainly past its post-Covid growth peak. GDP is expected to grow 5.4% in 2021, slowing to 4.3% in 2022.

Household spending still has plenty of room to grow. In the coming months, declines in Covid infection rates should spur renewed consumer optimism while a resilient jobs recovery should support income growth. Healthy household finances, along with some $2.7 trillion in excess savings, will support consumer spending growth just below 8% in 2021 and 4.1% in 2022. We expect business investment growth to moderate through 2022. However, recent supply-side constraints have highlighted the need to expand productive capacity and replenish inventory levels, which should provide some impetus to investment.

Democrats hope to pass the roughly $1 trillion bipartisan infrastructure bill — which includes about $550 billion federal spending on roads, bridges, public transport, expanded broadband, and more — imminently. The other big bill, the final reconciliation bill, will be much smaller than the initially proposed $3.5 trillion, as it's unlikely to total more than $2 trillion. Many of President Biden's proposed initiatives will be eliminated from the package, while others will be shortened in duration.

We expect inflation to cool over the next few quarters but remain at high levels not seen since the early 1990s. Headline PCE inflation, the Fed's preferred measure, is expected to average 3.8% in Q4 2021 and 2.3% in Q4 2022. At the September policy meeting, Fed Chair Powell all but confirmed that the QE tapering will start in November and run through mid-2022. Given the Fed's more hawkish guidance and the persistence of inflation, we now believe that the Fed will start to raise rates in December 2022, and we expect two 25 basis-point increases in 2023.

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

Starts rebound this year, with near broad-based growth expected in 2022

We continue to forecast a significant recovery in construction starts of 6.7% this year, following the 15% contraction in 2020. The growth rates across the subsectors continue to diverge, with residential and industrial construction starts providing much of the growth impetus as non-residential construction continues to drag on overall growth. Looking ahead, we expect construction starts to grow by 12% in 2022, with all subsectors forecast to grow except for industrial starts.

Residential construction starts are forecast to experience strong growth in 2021 of 16.7%. This growth is driven by strong single-family housing starts (21.7% growth this year), as increased working from home and demographic trends, accelerated by the pandemic, lead to demand for suburban housing outside of city centres in a bid for greater space. Multi-family starts are forecast to grow by 3.3% this year, following a fall of 17.4% last year. From 2022 to 2024, we expect multi-family starts to grow faster than single-family homes, with some anecdotal evidence of younger millennials (yet to settle down with families) returning to cities and thus generating demand for multi-family properties after spending much of the pandemic outside of urban centres.

Growth in civil engineering starts is forecast at 4.9% in 2021. The subsector growth profiles are divergent, with roads, water & sewage treatment, and power returning to growth after contracting in 2020 while the other subsectors (miscellaneous civil, airports, bridges, and dams, canals, & marine) continue to contract. Looking ahead, we expect the bipartisan infrastructure bill, once passed, to boost this sector with civil engineering starts growth expected to exceed overall construction starts over the medium term.

Of the civil engineering subsectors, miscellaneous civil engineering, which includes oil & gas, tunnels, and railway projects, is forecast to be the fastest growing subsector out to 2023. This growth will be supported by the bipartisan infrastructure bill, which includes significant funding for passenger and freight rail alongside major infrastructure projects such as tunnelling. Additionally, growth in power infrastructure starts is expected to be robust over this period, with further upside gains coming from President Biden's proposed reconciliation bill with its focus on tackling climate change by providing tax incentives for renewable energy and encouraging clean energy transition, such as by implementing electric vehicle charging infrastructure.

We forecast growth in the industrial sector to rebound this year, expanding by 35.6% after shrinking by 61.3% in 2020. This strong expansion is supported by September's $8 billion groundbreaking for two new Intel chip factories in Arizona and Shintech's $1.3 billion expansion in their plastic and PVC plants in Louisiana. Semiconductor manufacturing is one area in particular that will see robust investment, partially for strategic geopolitical reasons, as the US would like to reduce its reliance on China for semiconductor production in the medium term. However, growth is forecast to stall in 2022, partially a normal-

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ization from strong growth this year, with industrial starts to contract by 0.8%.

Non-residential building starts are forecast to shrink by 4.4% in 2021 as the sector continues to be waylaid by the impacts of the pandemic. Ongoing hybrid working practices and the inability or unwillingness to travel and engage in leisure activities are reflected in the subsectors contributing most to the decline. Large falls are expected in hotels (-33.2%), private offices (-30.8%), and libraries & museums (-33.2%). On the other hand, with some restrictions easing, retail starts are expected to see growth of 7.7% this year as consumers return to spending in stores from their reliance on online channels in 2020.

By next year, we expect all non-residential subsectors, bar industrial starts, to return to growth as the removal or loosening of restrictions enables demand pent up during the pandemic to be released back into the economy. Indeed, we forecast hotels, private offices, and libraries & museums to expand by 41.1%, 13.8% and 34.6% respectively in 2022. However, with the pandemic exacerbating pre-existing shifts towards remote working, private office starts are expected to remain over 37% below their 2019 peak in 2025.

Transportation terminals are forecast to see double digit starts growth out to 2025, with several large projects expected to commence groundbreaking in each year over this period. Growth in this subsector is further supported by Biden's green agenda and targeting within the bipartisan infrastructure bill. Starts in airports, which are forecast to shrink by a further 3.1% this year, are expected to begin their recovery in 2022 as travel recovers, with growth in airports outpacing overall construction starts from 2022 to 2025. Additionally, we expect hospital construction to rebound from a weak 2020, growing by 22.3% in 2021 as healthcare funding used to directly fight the pandemic during its peak is being reallocated towards investment.

Canadian construction remains weak, but picking up in 2022

Canadian construction continues to lag progress south of the border. Total construction starts fell 25.5% y/y and 5.7% ytd in Q3 2021 despite extreme weakness in the same period of last year. Of the three headline sectors, only new residential construction increased, by 6.7% y/y and 23.1% ytd. New single-family construction grew 30.2% y/y and 49.4% ytd, driven by demographic factors and a pandemic-related rise in demand for more spacious housing. New apartment building, by contrast, declined 14.1% y/y and 2% ytd.

The civil engineering sector contracted 26.6% y/y and 23.7% ytd. Y/y declines were present in all sectors, with an especially steep decline of 94% y/y in the miscellaneous civil sector. However, ytd outturns were positive in the power infrastructure and water & sewage treatment sectors after some strong growth posted earlier in the year.

Non-residential building construction fell 17.3% y/y and 9.1% ytd with significant differences between growth in the sub-sectors. All commercial sectors declined in y/y terms, with only amusement positive in ytd terms. Hotel construction posted an especially steep decline, down 98% y/y and 65% ytd. Perhaps more surprising was a sharp contraction in factory building, which fell 90% y/y, although the decline in ytd construction was less severe (down 9%). Some of the strongest gains have been in institutional segments, such as hospitals and educational facilities.

While we are still upbeat about the economic outlook for Canada, we have trimmed our GDP growth expectations for H2. Supply constraints have lasted longer than we previously thought and have spilled over to many segments of the economy. Furthermore, spiking energy prices are reducing real incomes. We expect GDP to rebound from its 0.3% q/q decline in Q2, growing 1.3% in Q3 and 1.7% in Q4. Overall, we expect GDP to grow 5.2% in 2021. We forecast the recovery will continue through 2022 as the pandemic is contained, supply bottlenecks gradually clear, and energy prices normalize. Adding the impact of new fiscal stimulus measures, we see GDP growth at 4.7% in 2022 and 2.8% in 2023. A combination of new fiscal stimulus along with supply chain bottlenecks and spiking energy prices are expected to boost inflation, and as a result, we expect the Bank of Canada to start raising interest rates in Q4 2022 (although, the BOC Governor has suggested it may be earlier).

Canadian construction starts are expected to shrink further in 2021, falling by 4%. Growth in the headline subsectors is variable with residential construction growing 18.1%, but non-residential construction and engineering shrinking by 5.2% and 20.9% respectively. However, overall construction is set for a strong recovery of 23.8% in 2022, with further double-digit growth of 10.5% forecast in 2023.

As in the US, residential construction growth in Canada is expected to be driven by single-family builds which are forecast to see a 39.6% increase in 2021, while multi-family builds are set to shrink by 3.2%. These growth dynamics are mainly due to pandemic-driven trends, such as demand for more space outside of urban centres and the adoption of hybrid working practices. Looking ahead, residential construction growth is set to cool with the multi-family segment outpacing single-family units from 2022-2025.

The subsectors of non-residential building starts are also experiencing divergent growth. Commercial sectors such as hotels, private offices, retail, parking garages and warehouses are forecast to decline by over 40% in 2021, with only amusement starts offering a contribution to growth of 80.7%. As pandemic restrictions ease and the economy reopens, we expect strong growth in 2022 and 2023 in these sectors. However, even with several years of robust growth, many subsectors will not return to their pre-pandemic levels over the forecast horizon out to 2025. Indeed, office starts are expected to only reach just under 60% of its 2019 level by the end of 2025. The institutional sectors are expected to grow by 4% in 2021, driven by the robust growth in religious and hospital construction of 155% and 110% respectively. Industrial construction is also set to expand by 2.1% this year, before a forecast 136% expansion in 2022 as groundbreaking is expected to begin on several large petrochemical and LNG plants.

Civil engineering is also expected to decline in 2021 by 20.9%, led by contractions in the bridges, dams/canal/marine, roads, and miscellaneous civil sectors. The sector is forecast to experience a broad-based recovery in 2022, with civil engineering starts expanding by 42.3%. This will be led by growth in the miscellaneous civil engineering subsector of 135%, which includes oil and gas projects, railroad and tunnel work. Additionally, after two consecutive years of contractions, we expect the dams/canals/marine subsector to grow by 46.6% in 2022 with groundbreakings tied to climate change mitigation.

Table 3: U.S. Type-of-Structure Forecasts

($ Billions USD)

	Actuals		Forecasts				
	2019	2020	2021	2022	2023	2024	2025
Single-family	198.784	219.290	266.879	291.390	312.208	332.873	353.588
Multi-family	99.042	81.854	84.594	96.947	104.449	112.167	118.982
TOTAL RESIDENTIAL	297.825	301.145	351.473	388.337	416.658	445.041	472.570
(Yr/yr % change)	*0.4%*	*1.1%*	*16.7%*	*10.5%*	*7.3%*	*6.8%*	*6.2%*
Hotels/Motels	23.537	10.219	6.829	9.635	13.348	15.991	17.132
Shopping/Retail	16.510	12.276	13.217	15.806	18.295	20.666	22.485
Parking Garages	3.164	1.740	1.661	2.067	2.440	2.640	2.828
Amusement	7.596	6.304	6.621	7.052	7.956	8.706	9.383
Private Offices	36.585	25.880	17.915	20.384	23.178	25.266	26.630
Govenmental Offices	11.749	10.661	11.910	12.318	12.932	13.526	13.905
Laboratories (Schools & Industrial)	2.417	2.351	2.466	2.572	2.784	2.908	2.997
Warehouses	22.563	26.212	24.091	26.414	28.371	29.712	30.876
Sports Stadium/Convention Center	9.835	4.516	4.022	5.302	6.802	7.758	8.206
Transportation Terminals	10.746	2.361	4.096	5.788	7.366	8.499	9.397
TOTAL COMMERCIAL	144.703	102.521	92.829	107.338	123.471	135.671	143.839
(Yr/yr % change)	*8.1%*	*-29.2%*	*-9.5%*	*15.6%*	*15.0%*	*9.9%*	*6.0%*
TOTAL INDUSTRIAL (manufacturing)	55.810	21.624	29.318	29.074	31.137	34.439	37.094
(Yr/yr % change)	*55.9%*	*-61.3%*	*35.6%*	*-0.8%*	*7.1%*	*10.6%*	*7.7%*
Religious	1.889	1.622	1.068	1.449	1.543	1.596	1.640
Hospitals/Clinics	21.790	13.345	16.319	19.055	21.213	22.578	23.829
Nursing Homes/Assisted Living	9.599	7.487	5.997	7.209	8.195	8.943	9.727
Libraries/Museums	4.072	3.807	2.542	3.421	4.272	4.614	4.790
Courthouse	1.568	2.376	2.669	2.783	2.949	3.106	3.243
Police/Fire	3.260	3.320	2.866	3.183	3.454	3.616	3.708
Prisons	2.111	2.387	2.157	2.465	2.696	2.895	3.037
Military	5.049	9.207	8.737	9.800	10.446	11.065	11.407
Educational Facilities	75.879	67.508	60.973	67.460	71.792	75.337	78.538
MED misc	9.342	8.216	7.006	8.052	9.190	9.954	10.616
TOTAL INSTITUTIONAL	134.560	119.277	110.334	124.877	135.750	143.705	150.534
(Yr/yr % change)	*4.7%*	*-11.4%*	*-7.5%*	*13.2%*	*8.7%*	*5.9%*	*4.8%*
Miscellaneous Non-Res Building	7.667	5.794	5.816	6.186	6.419	6.568	6.698
TOTAL NON-RES BLDG	342.740	249.217	238.297	267.475	296.778	320.382	338.165
(Yr/yr % change)	*12.2%*	*-27.3%*	*-4.4%*	*12.2%*	*11.0%*	*8.0%*	*5.6%*
Airport	7.393	6.028	5.842	6.552	7.519	8.366	9.087
Roads	65.315	63.638	69.984	76.794	83.509	90.223	94.210
Bridges	30.186	22.761	18.793	22.402	24.823	27.720	30.428
Dams/Canal/Marine	8.547	8.283	7.066	7.906	8.642	9.316	9.938
Water & Sewage Treatment	31.617	31.247	34.347	37.857	41.495	45.381	48.657
Misc Civil (Power, etc.)	46.189	22.719	26.287	35.194	41.209	45.799	48.847
TOTAL ENGINEERING	189.247	154.677	162.319	186.705	207.199	226.805	241.167
(Yr/yr % change)	*16.1%*	*-18.3%*	*4.9%*	*15.0%*	*11.0%*	*9.5%*	*6.3%*
TOTAL NON-RESIDENTIAL	531.987	403.893	400.616	454.180	503.976	547.187	579.332
(Yr/yr % change)	*13.6%*	*-24.1%*	*-0.8%*	*13.4%*	*11.0%*	*8.6%*	*5.9%*
GRAND TOTAL	829.812	705.038	752.088	842.517	920.634	992.228	1,051.902
(Yr/yr % change)	*8.5%*	*-15.0%*	*6.7%*	*12.0%*	*9.3%*	*7.8%*	*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				
	2019	2020	2021	2022	2023	2024	2025
Summary							
CIVIL	189.247	154.677	162.319	186.705	207.199	226.805	241.167
NON-RESIDENTIAL BUILDING	342.740	249.217	238.297	267.475	296.778	320.382	338.165
RESIDENTIAL	297.825	301.145	351.473	388.337	416.658	445.041	472.570
GRAND TOTAL	829.812	705.038	752.088	842.517	920.634	992.228	1,051.902
Verticals							
Airport	7.393	6.028	5.842	6.552	7.519	8.366	9.087
All Other Civil	31.491	18.159	17.166	22.584	25.729	28.695	30.220
Bridges	30.186	22.761	18.793	22.402	24.823	27.720	30.428
Dams / Canals / Marine Work	8.547	8.283	7.066	7.906	8.642	9.316	9.938
Power Infrastructure	14.697	4.560	9.120	12.609	15.480	17.104	18.627
Roads	65.315	63.638	69.984	76.794	83.509	90.223	94.210
Water and Sewage Treatment	31.617	31.247	34.347	37.857	41.495	45.381	48.657
CIVIL	189.247	154.677	162.319	186.705	207.199	226.805	241.167
(Yr/yr % change)	*16.1%*	*-18.3%*	*4.9%*	*15.0%*	*11.0%*	*9.5%*	*6.3%*
Offices (private)	36.585	25.880	17.915	20.384	23.178	25.266	26.630
Parking Garages	3.164	1.740	1.661	2.067	2.440	2.640	2.828
Transportation Terminals	10.746	2.361	4.096	5.788	7.366	8.499	9.397
Commercial	50.496	29.981	23.673	28.239	32.983	36.405	38.856
(Yr/yr % change)	*32.9%*	*-40.6%*	*-21.0%*	*19.3%*	*16.8%*	*10.4%*	*6.7%*
Amusement	7.596	6.304	6.621	7.052	7.956	8.706	9.383
Libraries / Museums	4.072	3.807	2.542	3.421	4.272	4.614	4.790
Religious	1.889	1.622	1.068	1.449	1.543	1.596	1.640
Sports Arenas / Convention Centers	9.835	4.516	4.022	5.302	6.802	7.758	8.206
Community	23.392	16.249	14.254	17.223	20.574	22.674	24.019
(Yr/yr % change)	*14.0%*	*-30.5%*	*-12.3%*	*20.8%*	*19.5%*	*10.2%*	*5.9%*
College / University	19.675	17.872	15.450	18.237	19.400	20.601	21.627
Elementary / Pre School	21.456	19.820	16.957	18.885	20.479	21.502	22.366
Jr / Sr High School	32.841	27.862	26.867	28.475	29.916	31.172	32.429
Special / Vocational	1.908	1.954	1.700	1.863	1.997	2.063	2.117
Educational	75.879	67.508	60.973	67.460	71.792	75.337	78.538
(Yr/yr % change)	*6.1%*	*-11.0%*	*-9.7%*	*10.6%*	*6.4%*	*4.9%*	*4.2%*
Courthouses	1.568	2.376	2.669	2.783	2.949	3.106	3.243
Fire and Police Stations	3.260	3.320	2.866	3.183	3.454	3.616	3.708
Government Offices	11.749	10.661	11.910	12.318	12.932	13.526	13.905
Prisons	2.111	2.387	2.157	2.465	2.696	2.895	3.037
Government	18.688	18.745	19.601	20.750	22.031	23.143	23.892
(Yr/yr % change)	*-2.3%*	*0.3%*	*4.6%*	*5.9%*	*6.2%*	*5.0%*	*3.2%*
Industrial Labs / Labs / School Labs	2.417	2.351	2.466	2.572	2.784	2.908	2.997
Manufacturing	55.810	21.624	29.318	29.074	31.137	34.439	37.094
Warehouses	22.563	26.212	24.091	26.414	28.371	29.712	30.876
Industrial	80.790	50.187	55.875	58.059	62.292	67.059	70.967
(Yr/yr % change)	*33.6%*	*-37.9%*	*11.3%*	*3.9%*	*7.3%*	*7.7%*	*5.8%*
Hospitals / Clinics	21.790	13.345	16.319	19.055	21.213	22.578	23.829
Medical Misc.	9.342	8.216	7.006	8.052	9.190	9.954	10.616
Nursing Homes	9.599	7.487	5.997	7.209	8.195	8.943	9.727
Medical	40.731	29.048	29.322	34.317	38.597	41.475	44.173
(Yr/yr % change)	*5.1%*	*-28.7%*	*0.9%*	*17.0%*	*12.5%*	*7.5%*	*6.5%*
Military	5.049	9.207	8.737	9.800	10.446	11.065	11.407
(Yr/yr % change)	*-3.5%*	*82.4%*	*-5.1%*	*12.2%*	*6.6%*	*5.9%*	*3.1%*
Hotels	23.537	10.219	6.829	9.635	13.348	15.991	17.132
Retail Misc.	7.667	5.794	5.816	6.186	6.419	6.568	6.698
Shopping	16.510	12.276	13.217	15.806	18.295	20.666	22.485
Retail	47.715	28.290	25.862	31.627	38.062	43.224	46.315
(Yr/yr % change)	*-7.8%*	*-40.7%*	*-8.6%*	*22.3%*	*20.3%*	*13.6%*	*7.2%*
NON-RESIDENTIAL BUILDING	342.740	249.217	238.297	267.475	296.778	320.382	338.165
(Yr/yr % change)	*12.2%*	*-27.3%*	*-4.4%*	*12.2%*	*11.0%*	*8.0%*	*5.6%*
Multi-Family	99.042	81.854	84.594	96.947	104.449	112.167	118.982
Single-Family	198.784	219.290	266.879	291.390	312.208	332.873	353.588
RESIDENTIAL	297.825	301.145	351.473	388.337	416.658	445.041	472.570
(Yr/yr % change)	*0.4%*	*1.1%*	*16.7%*	*10.5%*	*7.3%*	*6.8%*	*6.2%*
GRAND TOTAL	829.812	705.038	752.088	842.517	920.634	992.228	1,051.902
(Yr/yr % change)	*8.5%*	*-15.0%*	*6.7%*	*12.0%*	*9.3%*	*7.8%*	*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) 2020	Forecasts (Year versus previous year % change) 2021	2022	2023	2024	2025
Alaska - AK	$1,966	-10.2%	14.8%	11.3%	8.3%	6.5%
Alabama - AL	$10,171	26.6%	7.1%	11.3%	9.1%	6.7%
Arkansas - AR	$7,747	-8.9%	18.1%	10.1%	8.0%	6.2%
Arizona - AZ	$21,313	38.8%	-33.5%	3.9%	7.1%	5.9%
California - CA*	$63,562	-8.3%	25.0%	10.9%	8.5%	6.9%
Colorado - CO	$17,411	8.4%	22.6%	10.6%	8.5%	6.9%
Connecticut - CT	$5,401	-19.6%	29.4%	20.0%	7.6%	4.9%
District Of Columbia - DC	$2,153	-0.1%	41.9%	8.4%	4.0%	4.9%
Delaware - DE	$3,115	-11.8%	-1.9%	5.1%	6.8%	5.6%
Florida - FL*	$53,292	14.4%	17.3%	7.9%	7.8%	6.0%
Georgia - GA	$24,972	4.3%	16.5%	10.6%	8.7%	6.6%
Hawaii - HI	$2,441	5.6%	16.1%	10.1%	2.4%	6.7%
Iowa - IA	$7,001	7.4%	-15.2%	10.3%	8.7%	5.6%
Idaho - ID	$4,937	11.8%	32.7%	7.9%	5.5%	5.9%
Illinois - IL	$19,492	-20.0%	38.9%	9.7%	8.7%	5.9%
Indiana - IN	$14,088	1.7%	13.0%	8.9%	8.6%	6.2%
Kansas - KS	$7,218	-27.6%	24.9%	8.5%	7.8%	6.3%
Kentucky - KY	$8,034	-9.7%	19.6%	12.0%	8.2%	6.0%
Louisiana - LA	$8,364	40.8%	5.1%	8.3%	7.6%	5.9%
Massachusetts - MA	$12,878	16.0%	7.7%	7.4%	7.2%	6.4%
Maryland - MD	$10,581	-6.6%	-10.0%	8.6%	8.3%	5.9%
Maine - ME	$2,570	67.5%	-21.8%	6.6%	4.9%	8.1%
Michigan - MI	$11,909	15.1%	21.6%	9.3%	7.4%	5.7%
Minnesota - MN	$15,658	12.2%	-0.2%	8.5%	8.7%	6.0%
Missouri - MO	$14,236	-6.3%	-19.6%	9.1%	8.3%	5.4%
Mississippi - MS	$5,258	-16.4%	5.8%	11.0%	9.0%	6.5%
Montana - MT	$2,045	6.0%	18.3%	7.8%	7.8%	5.8%
North Carolina - NC	$26,494	21.9%	6.5%	9.8%	9.2%	6.8%
North Dakota - ND	$2,967	-0.4%	19.3%	13.0%	8.7%	7.2%
Nebraska - NE	$5,905	-4.9%	-5.0%	9.8%	8.0%	6.1%
New Hampshire - NH	$1,948	25.8%	19.3%	7.1%	7.8%	5.9%
New Jersey - NJ	$11,305	0.2%	40.5%	7.6%	-7.0%	5.8%
New Mexico - NM	$3,318	-5.2%	12.0%	10.3%	8.1%	5.8%
Nevada - NV	$7,216	15.8%	-4.8%	9.0%	7.1%	6.4%
New York - NY*	$28,054	20.1%	14.7%	10.7%	6.3%	-0.1%
Ohio - OH	$20,689	2.4%	4.1%	9.1%	8.1%	5.8%
Oklahoma - OK	$7,959	14.1%	8.5%	10.7%	9.0%	6.5%
Oregon - OR	$7,781	28.7%	7.1%	7.7%	8.1%	6.9%
Pennsylvania - PA	$17,119	32.1%	5.6%	8.7%	7.0%	5.7%
Rhode Island - RI	$972	29.7%	21.0%	9.9%	6.6%	5.4%
South Carolina - SC	$12,947	23.8%	-0.2%	8.4%	8.4%	6.3%
South Dakota - SD	$2,223	23.3%	9.9%	8.0%	8.6%	6.3%
Tennessee - TN	$19,910	14.0%	-7.1%	8.8%	8.1%	5.8%
Texas - TX*	$97,498	9.2%	15.7%	8.8%	8.0%	6.5%
Utah - UT	$12,347	0.9%	30.9%	8.7%	8.9%	7.5%
Virginia - VA	$18,594	0.2%	19.0%	9.7%	8.3%	5.7%
Vermont - VT	$938	-23.9%	15.9%	8.2%	7.8%	6.2%
Washington - WA	$22,804	-19.9%	42.6%	9.3%	8.6%	7.5%
Wisconsin - WI	$13,806	-14.3%	10.3%	10.2%	9.0%	5.3%
West Virginia - WV	$3,039	-35.7%	42.9%	10.3%	9.6%	6.1%
Wyoming - WY	$1,390	10.8%	37.5%	10.3%	9.7%	6.7%
United States	$705,038	6.7%	12.0%	9.3%	7.8%	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				
		2019	2020	2021	2022	2023	2024	2025
New York	Residential	10.760	8.419	10.705	11.385	12.502	14.117	14.018
	Non-res Building	21.070	14.354	14.282	13.771	15.369	16.177	16.051
	Engineering/Civil	7.802	5.280	8.700	13.482	14.921	15.200	15.368
	Total	39.631	28.054	33.687	38.639	42.792	45.494	45.437
(Yr vs previous yr % Change)		*3.9%*	*-29.2%*	*20.1%*	*14.7%*	*10.7%*	*6.3%*	*-0.1%*
Florida	Residential	28.886	29.153	37.177	42.244	44.273	47.412	50.253
	Non-res Building	18.938	15.333	14.825	17.022	19.235	20.753	21.928
	Engineering/Civil	14.363	8.806	8.950	12.217	13.624	15.005	15.986
	Total	62.187	53.292	60.951	71.483	77.132	83.170	88.167
(Yr vs previous yr % Change)		*11.9%*	*-14.3%*	*14.4%*	*17.3%*	*7.9%*	*7.8%*	*6.0%*
Texas	Residential	44.134	45.496	55.456	59.886	63.277	66.588	71.275
	Non-res Building	63.303	32.656	28.640	39.195	44.357	48.307	51.108
	Engineering/Civil	24.006	19.346	22.354	24.125	26.434	29.942	31.835
	Total	131.444	97.498	106.450	123.206	134.067	144.837	154.218
(Yr vs previous yr % Change)		*36.7%*	*-25.8%*	*9.2%*	*15.7%*	*8.8%*	*8.0%*	*6.5%*
California	Residential	24.366	23.597	23.393	29.020	31.428	34.044	36.497
	Non-res Building	25.881	21.659	19.796	26.335	29.434	31.321	33.282
	Engineering/Civil	15.566	18.305	15.089	17.466	19.892	22.245	23.836
	Total	65.814	63.562	58.278	72.822	80.754	87.609	93.615
(Yr vs previous yr % Change)		*-7.3%*	*-3.4%*	*-8.3%*	*25.0%*	*10.9%*	*8.5%*	*6.9%*

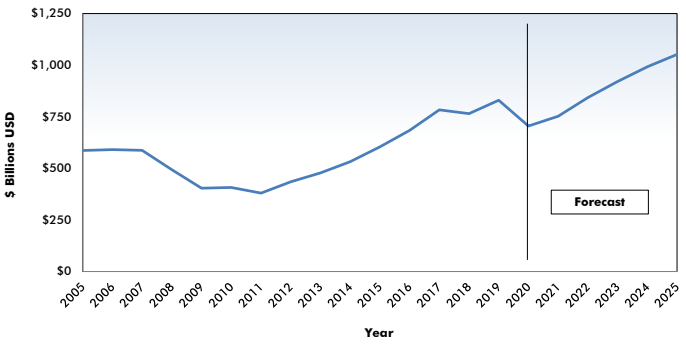
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Table: ConstructConnect.

Tweeted by ConstructConnect:

@ConstructConnx

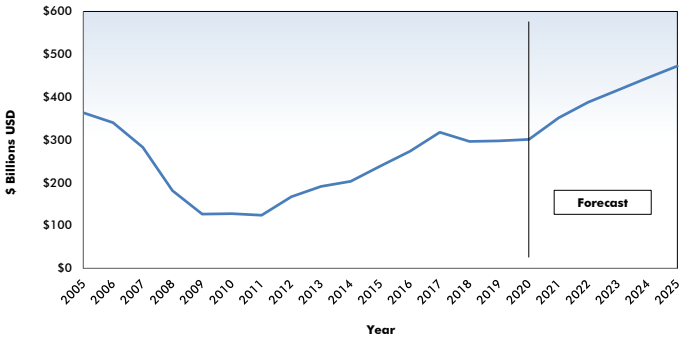
Link to article here: https://bit.ly/2TI0kt7

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



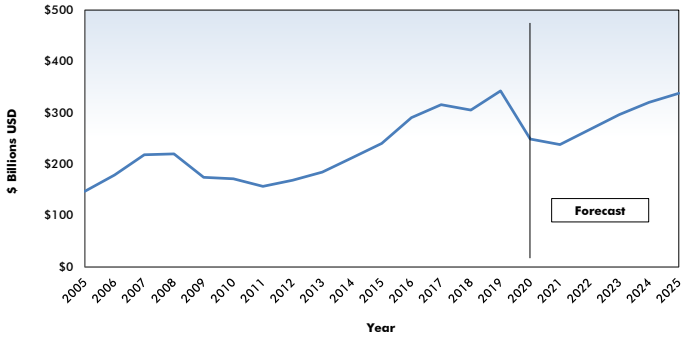
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



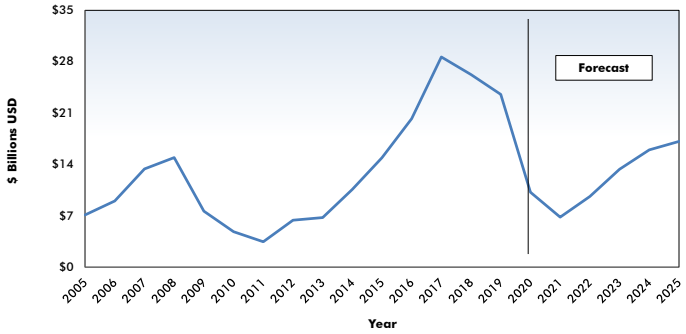
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



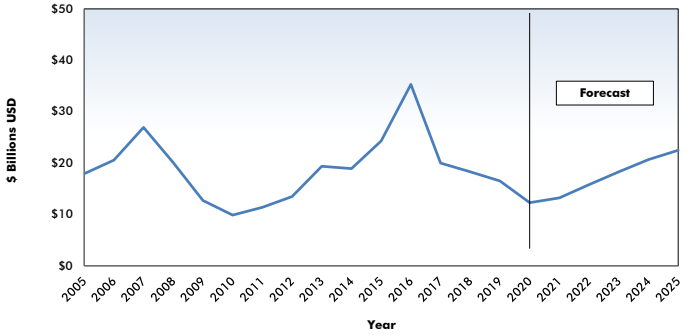
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



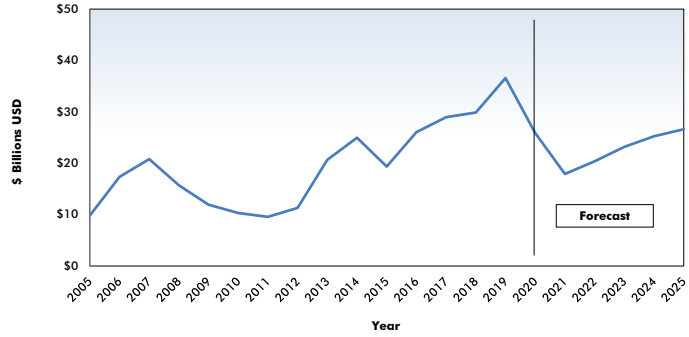
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



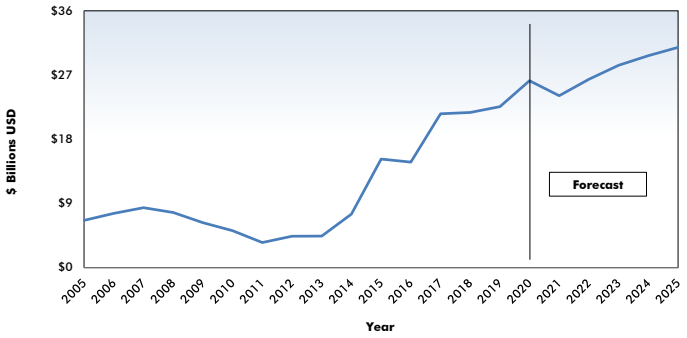
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



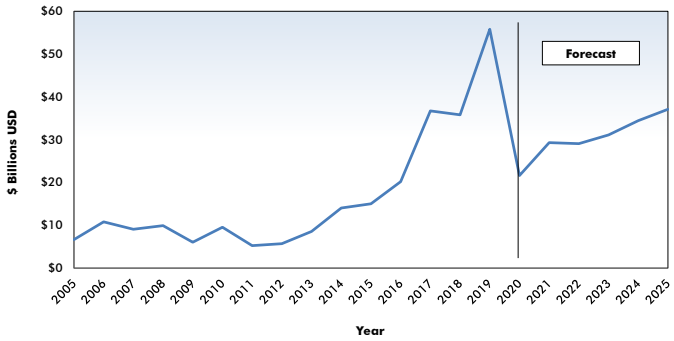
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



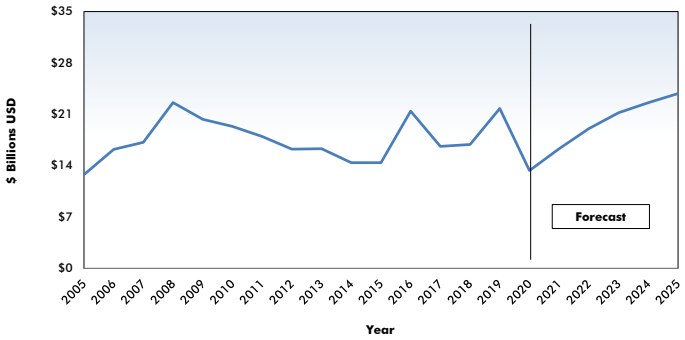
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



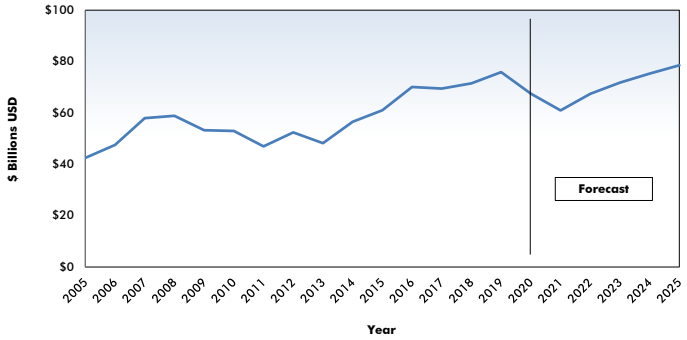
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



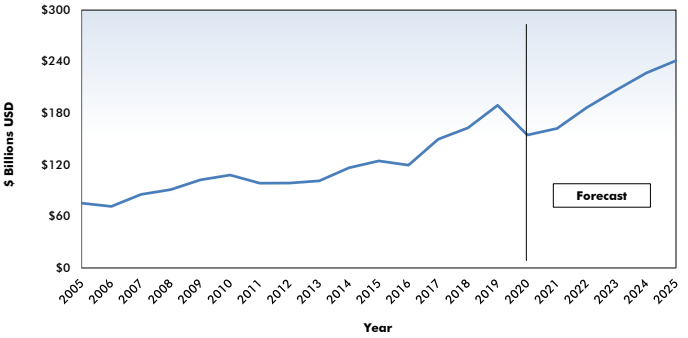
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



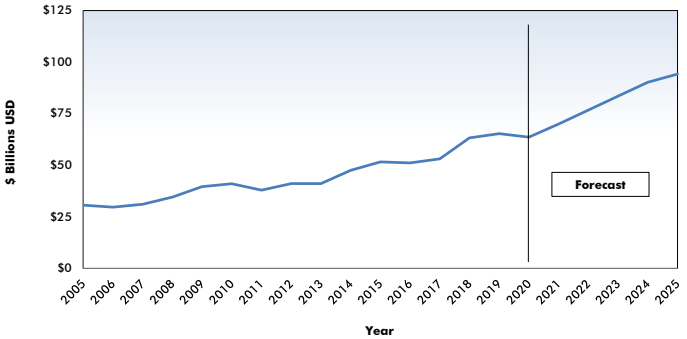
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



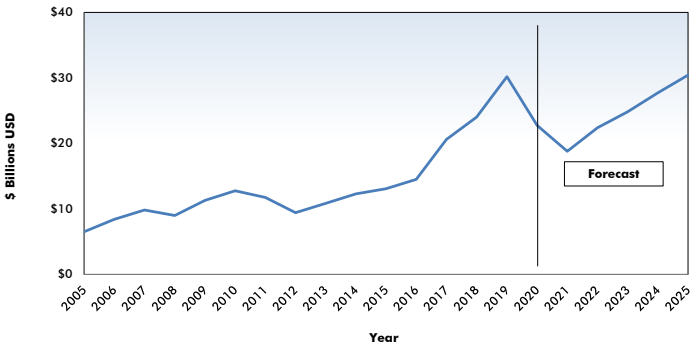
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



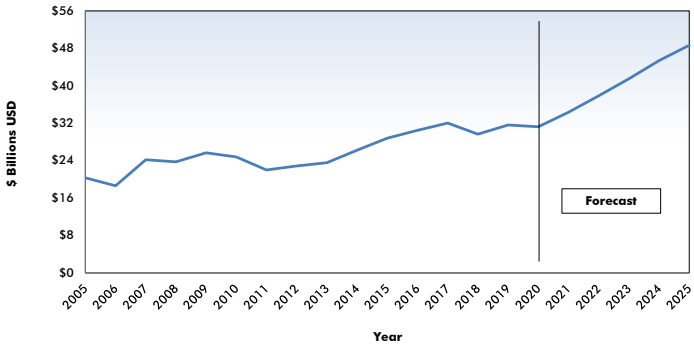
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



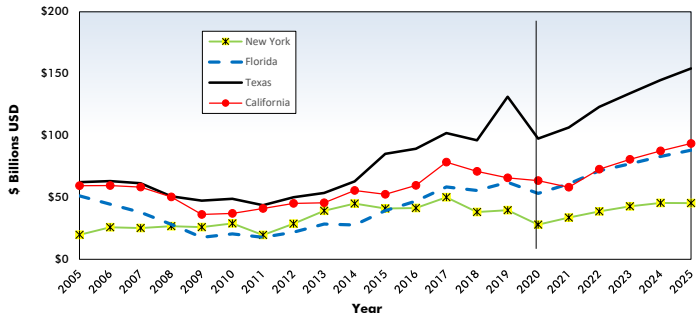
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



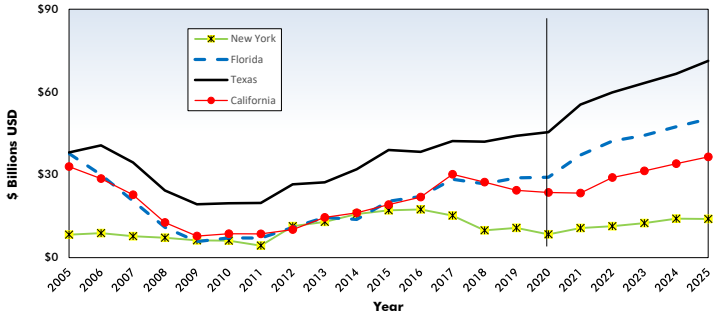
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



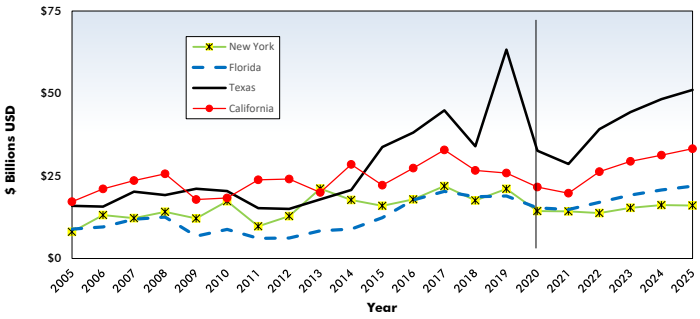
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



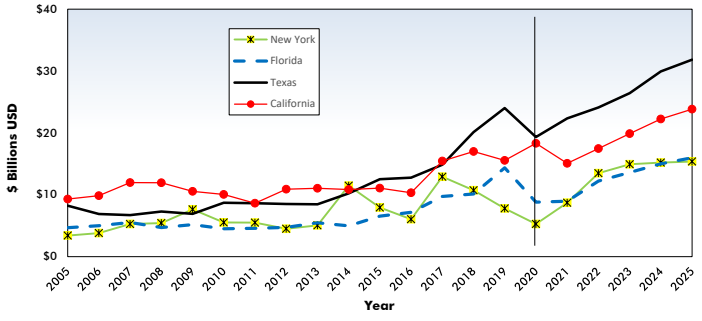
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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				
	2019	2020	2021	2022	2023	2024	2025
Single-family	12.331	13.301	18.574	19.412	19.421	19.934	20.712
Multi-family	18.607	13.457	13.021	13.929	14.836	15.783	16.648
TOTAL RESIDENTIAL	30.938	26.759	31.595	33.341	34.256	35.717	37.360
(Yr/yr % change)	*3.9%*	*-13.5%*	*18.1%*	*5.5%*	*2.7%*	*4.3%*	*4.6%*
Hotels/Motels	0.702	0.385	0.162	0.477	0.662	0.777	0.840
Private Offices	3.804	2.117	0.939	1.358	1.824	2.038	2.242
Govenmental Offices	3.216	1.503	1.054	1.292	1.574	1.629	1.681
Shopping/Retail	2.346	0.359	0.202	0.608	0.901	1.095	1.215
Retail Miscellaneous	0.238	0.096	0.056	0.141	0.196	0.228	0.253
Parking Garages	0.383	0.144	0.079	0.130	0.153	0.173	0.195
Amusement	2.376	1.062	1.919	1.999	2.108	2.428	2.682
Warehouses	1.565	1.991	1.161	1.406	1.577	1.736	1.866
TOTAL COMMERCIAL	14.631	7.656	5.573	7.412	8.995	10.104	10.974
(Yr/yr % change)	53.5%	-47.7%	-27.2%	33.0%	21.4%	12.3%	8.6%
TOTAL INDUSTRIAL (manufacturing)	3.465	2.403	2.453	5.779	6.819	7.843	8.899
(Yr/yr % change)	*-82.5%*	*-30.6%*	*2.1%*	*135.6%*	*18.0%*	*15.0%*	*13.5%*
Religious	0.050	0.039	0.098	0.103	0.107	0.111	0.115
Hospitals/Clinics	3.674	4.023	8.442	7.853	8.558	9.160	9.750
MED misc	0.295	0.153	0.109	0.259	0.325	0.383	0.439
Transportation Terminals*	1.497	5.566	0.654	2.643	3.329	3.713	4.048
Police/Fire	1.037	1.209	1.442	1.553	1.660	1.759	1.858
Educational Facilities	5.270	5.295	6.192	6.319	6.513	6.723	6.957
TOTAL INSTITUTIONAL	11.823	16.285	16.937	18.730	20.492	21.849	23.167
(Yr/yr % change)	*-31.3%*	*37.7%*	*4.0%*	*10.6%*	*9.4%*	*6.6%*	*6.0%*
TOTAL NON-RES BUILDING	29.918	26.344	24.963	31.920	36.307	39.796	43.039
(Yr/yr % change)	*-35.7%*	*-11.9%*	*-5.2%*	*27.9%*	*13.7%*	*9.6%*	*8.2%*
Bridges	2.283	3.674	2.193	3.141	3.603	3.794	3.854
Dams/Canal/Marine	1.006	0.690	0.476	0.697	0.776	0.822	0.870
Water & Sewage Treatment	3.928	3.033	3.974	4.278	4.562	4.848	5.147
Roads	9.701	10.284	9.520	10.167	10.852	11.547	12.268
Power Infrastructure	3.147	2.883	3.921	4.830	5.761	6.637	7.348
All Other Civil (Oil & Gas etc.)	17.492	12.290	5.909	13.862	16.896	19.073	20.764
TOTAL ENGINEERING	*37.558*	*32.853*	*25.993*	*36.975*	*42.450*	*46.721*	*50.252*
(Yr/yr % change)	*6.6%*	*-12.5%*	*-20.9%*	*42.3%*	*14.8%*	*10.1%*	*7.6%*
TOTAL NON-RESIDENTIAL	67.476	59.198	50.956	68.896	78.757	86.517	93.291
(Yr/yr % change)	*-17.5%*	*-12.3%*	*-13.9%*	*35.2%*	*14.3%*	*9.9%*	*7.8%*
GRAND TOTAL	98.414	85.956	82.551	102.237	113.013	122.234	130.652
(Yr/yr % change)	*-11.8%*	*-12.7%*	*-4.0%*	*23.8%*	*10.5%*	*8.2%*	*6.9%*

* 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				
	2019	2020	2021	2022	2023	2024	2025
Summary							
CIVIL	37.558	32.853	25.993	36.975	42.450	46.721	50.252
NON-RESIDENTIAL BUILDING	29.918	26.344	24.963	31.920	36.307	39.796	43.039
RESIDENTIAL	30.938	26.759	31.595	33.341	34.256	35.717	37.360
GRAND TOTAL	98.414	85.956	82.551	102.237	113.013	122.234	130.652
Verticals							
All Other Civil	17.492	12.290	5.909	13.862	16.896	19.073	20.764
Bridges	2.283	3.674	2.193	3.141	3.603	3.794	3.854
Dams / Canals / Marine Work	1.006	0.690	0.476	0.697	0.776	0.822	0.870
Power Infrastructure	3.147	2.883	3.921	4.830	5.761	6.637	7.348
Roads	9.701	10.284	9.520	10.167	10.852	11.547	12.268
Water and Sewage Treatment	3.928	3.033	3.974	4.278	4.562	4.848	5.147
CIVIL	37.558	32.853	25.993	36.975	42.450	46.721	50.252
(Yr/yr % change)	*6.6%*	*-12.5%*	*-20.9%*	*42.3%*	*14.8%*	*10.1%*	*7.6%*
Offices (private)	3.804	2.117	0.939	1.358	1.824	2.038	2.242
Parking Garages	0.383	0.144	0.079	0.130	0.153	0.173	0.195
Transportation Terminals	1.497	5.566	0.654	2.643	3.329	3.713	4.048
Commercial	5.684	7.827	1.672	4.132	5.306	5.924	6.484
(Yr/yr % change)	*-38.4%*	*37.7%*	*-78.6%*	*147.1%*	*28.4%*	*11.7%*	*9.5%*
Amusement	2.376	1.062	1.919	1.999	2.108	2.428	2.682
Religious	0.050	0.039	0.098	0.103	0.107	0.111	0.115
Community	2.426	1.101	2.017	2.102	2.215	2.539	2.797
(Yr/yr % change)	*-8.6%*	*-54.6%*	*83.3%*	*4.2%*	*5.4%*	*14.6%*	*10.2%*
Educational	5.270	5.295	6.192	6.319	6.513	6.723	6.957
(Yr/yr % change)	*24.6%*	*0.5%*	*16.9%*	*2.0%*	*3.1%*	*3.2%*	*3.5%*
Fire and Police Stations	1.037	1.209	1.442	1.553	1.660	1.759	1.858
Government Offices	3.216	1.503	1.054	1.292	1.574	1.629	1.681
Government	4.253	2.712	2.496	2.845	3.235	3.388	3.538
(Yr/yr % change)	*17.7%*	*-36.2%*	*-8.0%*	*14.0%*	*13.7%*	*4.7%*	*4.4%*
Manufacturing	3.465	2.403	2.453	5.779	6.819	7.843	8.899
Warehouses	1.565	1.991	1.161	1.406	1.577	1.736	1.866
Industrial	5.030	4.395	3.614	7.185	8.396	9.578	10.764
(Yr/yr % change)	*-76.8%*	*-12.6%*	*-17.8%*	*98.8%*	*16.9%*	*14.1%*	*12.4%*
Hospitals / Clinics	3.674	4.023	8.442	7.853	8.558	9.160	9.750
Medical Misc.	0.295	0.153	0.109	0.259	0.325	0.383	0.439
Medical	3.969	4.176	8.551	8.112	8.883	9.543	10.189
(Yr/yr % change)	*7.7%*	*5.2%*	*104.7%*	*-5.1%*	*9.5%*	*7.4%*	*6.8%*
Hotels	0.702	0.385	0.162	0.477	0.662	0.777	0.840
Retail Misc.	0.238	0.096	0.056	0.141	0.196	0.228	0.253
Shopping	2.346	0.359	0.202	0.608	0.901	1.095	1.215
Retail	3.286	0.839	0.420	1.226	1.759	2.100	2.308
(Yr/yr % change)	*123.6%*	*-74.5%*	*-49.9%*	*191.5%*	*43.5%*	*19.4%*	*9.9%*
NON-RESIDENTIAL BUILDING	29.918	26.344	24.963	31.920	36.307	39.796	43.039
(Yr/yr % change)	*-35.7%*	*-11.9%*	*-5.2%*	*27.9%*	*13.7%*	*9.6%*	*8.2%*
Multi-Family	18.607	13.457	13.021	13.929	14.836	15.783	16.648
Single-Family	12.331	13.301	18.574	19.412	19.421	19.934	20.712
RESIDENTIAL	30.938	26.759	31.595	33.341	34.256	35.717	37.360
(Yr/yr % change)	*3.9%*	*-13.5%*	*18.1%*	*5.5%*	*2.7%*	*4.3%*	*4.6%*
TOTAL NON-RESIDENTIAL	67.476	59.198	50.956	68.896	78.757	86.517	93.291
(Yr/yr % change)	*-17.5%*	*-12.3%*	*-13.9%*	*35.2%*	*14.3%*	*9.9%*	*7.8%*
GRAND TOTAL	98.414	85.956	82.551	102.237	113.013	122.234	130.652
(Yr/yr % change)	*-11.8%*	*-12.7%*	*-4.0%*	*23.8%*	*10.5%*	*8.2%*	*6.9%*

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) 2020	Forecasts (Year versus previous year % change) 2021	2022	2023	2024	2025
Atlantic region	$4,035	-12.7%	67.8%	9.4%	7.6%	4.9%
Quebec	$17,011	11.0%	-13.3%	11.5%	9.7%	7.6%
Ontario	$34,141	-23.0%	27.3%	8.8%	6.1%	5.5%
Manitoba	$1,782	23.7%	52.7%	2.1%	5.1%	8.3%
Saskatchewan	$1,313	105.1%	-2.7%	12.3%	7.3%	6.7%
Alberta	$12,701	13.3%	22.5%	14.9%	8.9%	8.3%
British Columbia	$14,973	-2.7%	57.1%	10.4%	10.0%	7.5%
Canada	$85,956	-4.0%	23.8%	10.5%	8.2%	6.9%

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

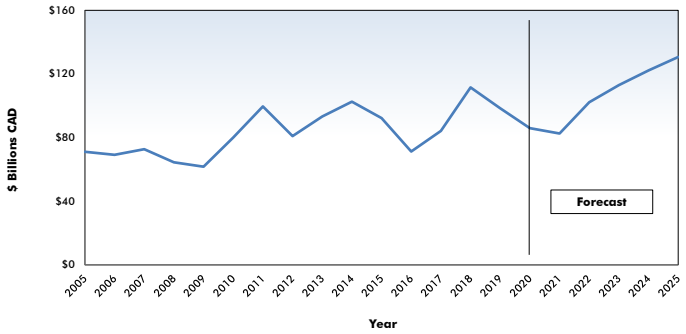
Table 10: Canada Four Largest Provinces: Type-of-Structure Forecasts

($ Billions CAD)

		Actuals 2019	2020	Forecasts 2021	2022	2023	2024	2025
Quebec	Residential	4.949	4.183	5.493	4.698	4.870	5.014	5.230
	Non-res Building	8.418	5.474	8.210	6.254	7.297	8.296	9.098
	Engineering/Civil	7.712	7.354	5.177	5.410	6.073	6.707	7.202
	Total	21.079	17.011	18.881	16.362	18.240	20.017	21.530
(Yr vs previous yr % Change)		*-4.3%*	*-19.3%*	*11.0%*	*-13.3%*	*11.5%*	*9.7%*	*7.6%*
Ontario	Residential	13.472	12.929	14.155	14.780	15.047	15.714	16.447
	Non-res Building	10.139	13.901	5.622	10.194	11.856	12.561	13.264
	Engineering/Civil	7.750	7.311	6.519	8.502	9.510	10.361	11.068
	Total	31.361	34.141	26.296	33.476	36.413	38.637	40.778
(Yr vs previous yr % Change)		*-11.6%*	*8.9%*	*-23.0%*	*27.3%*	*8.8%*	*6.1%*	*5.5%*
Alberta	Residential	3.953	3.156	4.461	4.390	4.518	4.728	4.967
	Non-res Building	4.152	1.970	2.574	4.209	5.010	5.495	6.032
	Engineering/Civil	9.976	7.574	7.353	9.023	10.717	11.830	12.882
	Total	18.081	12.701	14.388	17.622	20.245	22.053	23.882
(Yr vs previous yr % Change)		*5.0%*	*-29.8%*	*13.3%*	*22.5%*	*14.9%*	*8.9%*	*8.3%*
British Columbia	Residential	6.657	4.724	5.025	6.982	7.366	7.702	8.032
	Non-res Building	3.770	2.747	6.735	6.312	6.593	7.488	8.300
	Engineering/Civil	8.786	7.502	2.807	9.588	11.310	12.614	13.558
	Total	19.213	14.973	14.566	22.882	25.270	27.804	29.889
(Yr vs previous yr % Change)		*-28.1%*	*-22.1%*	*-2.7%*	*57.1%*	*10.4%*	*10.0%*	*7.5%*

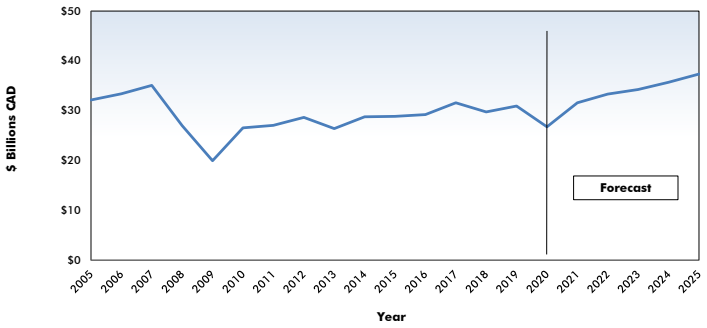
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Table: ConstructConnect.

Graph 19: Canadian Grand Total Construction Starts — ConstructConnect



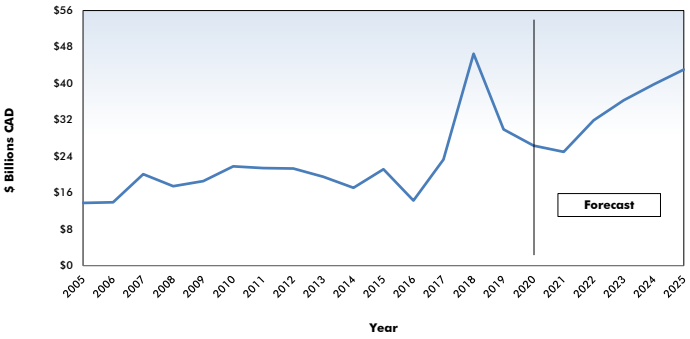
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 20: Canadian Residential Construction Starts — ConstructConnect



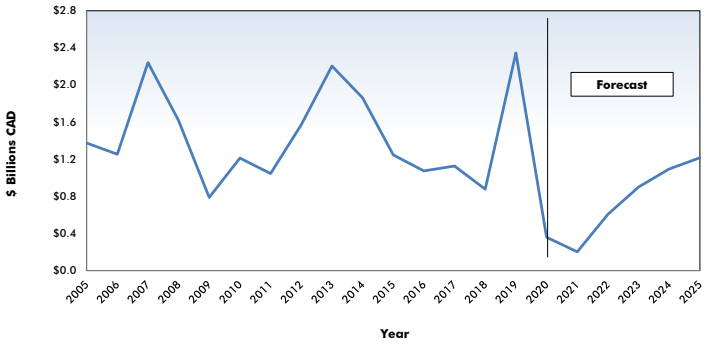
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 21: Canadian Non-Residential Building Starts — ConstructConnect



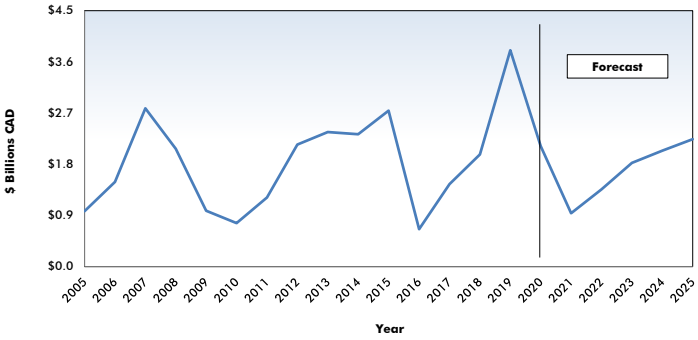
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 22: Canadian Shopping/Retail Construction Starts — ConstructConnect



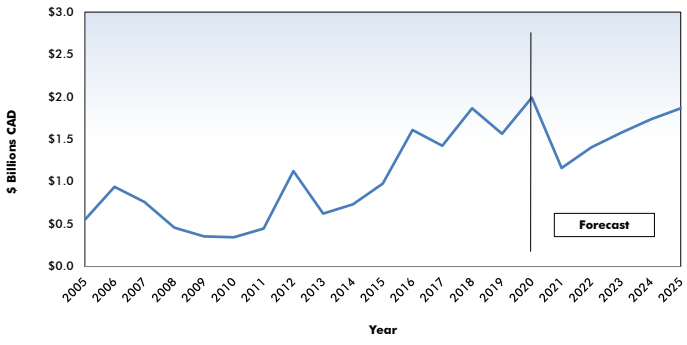
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 23: Canadian Private Offices Construction Starts — ConstructConnect



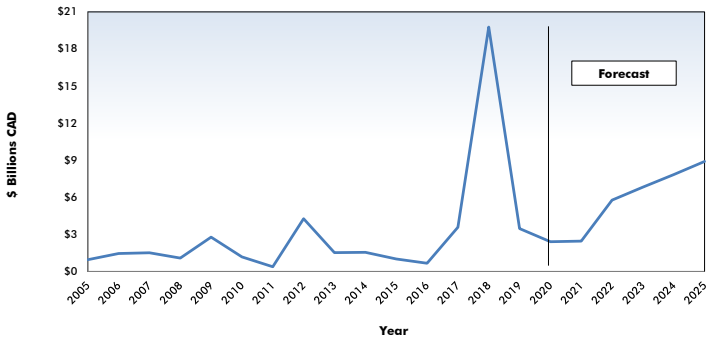
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 24: Canadian Warehouse Construction Starts — ConstructConnect



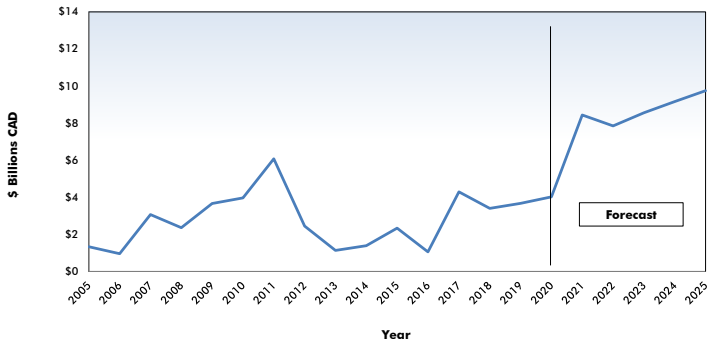
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 25: Canadian Industrial/Manufacturing Construction Starts — ConstructConnect



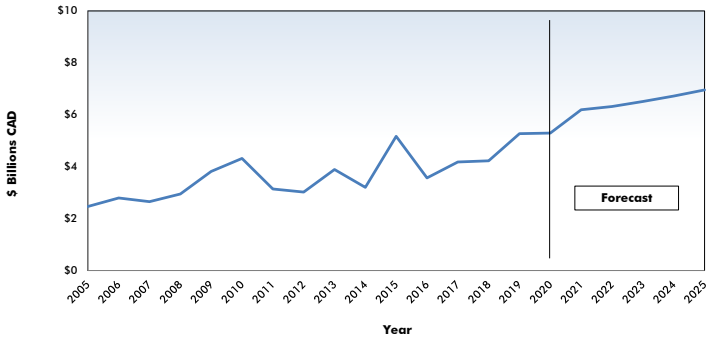
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 26: Canadian Hospital/Clinic Construction Starts — ConstructConnect



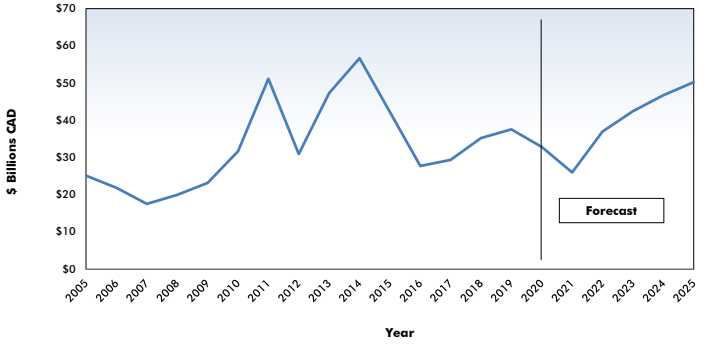
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 27: Canadian Education Construction Starts — ConstructConnect



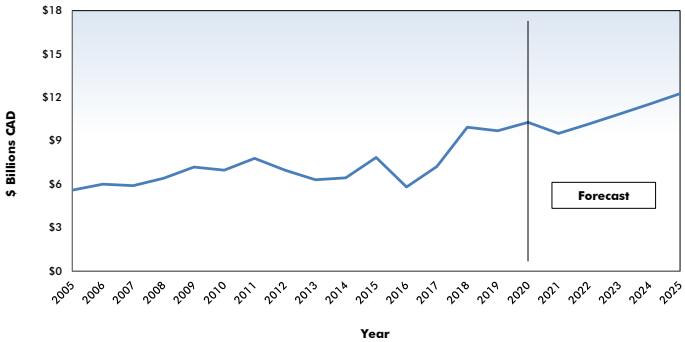
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 28: Canadian Engineering Construction Starts — ConstructConnect



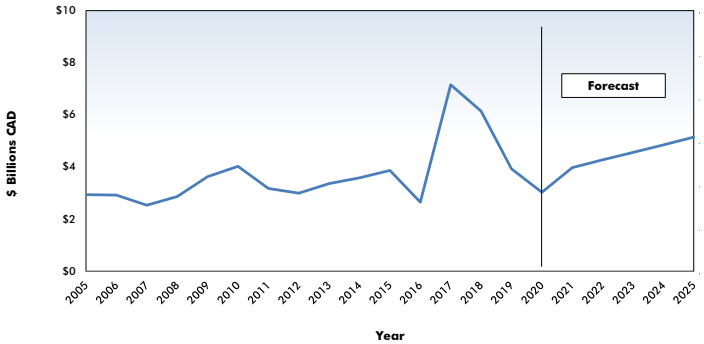
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 29: Canadian Roadwork Construction Starts — ConstructConnect



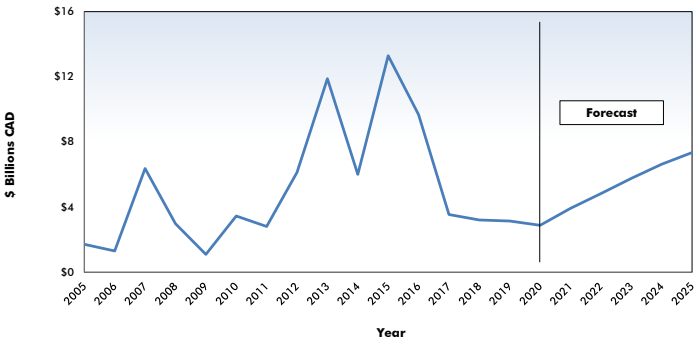
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 30: Canadian Water and Sewage Construction Starts — ConstructConnect



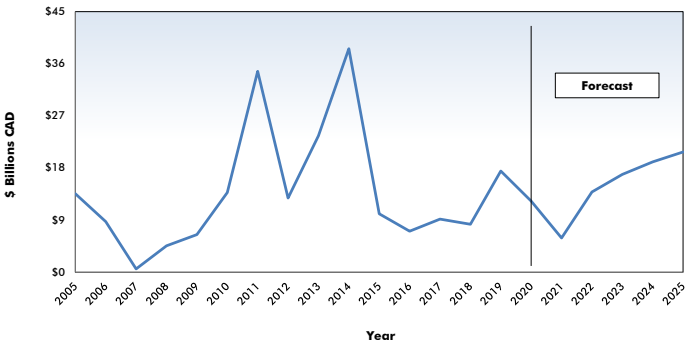
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 31: Canadian Power Infrastructure Construction Starts — ConstructConnect



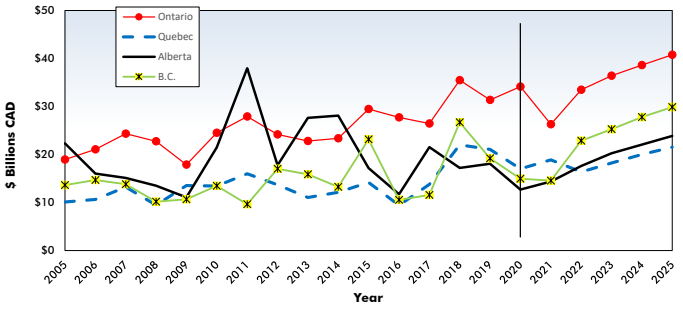
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 32: Canadian All Other Civil (Oil Sands, Pipelines, etc.) Construction Starts — ConstructConnect



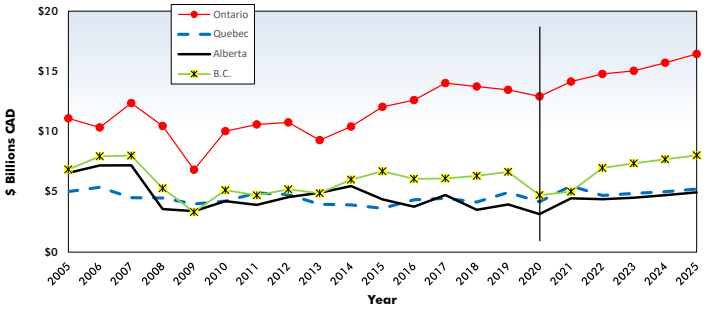
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



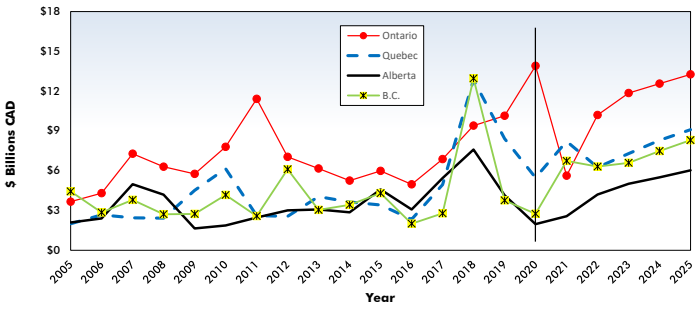
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



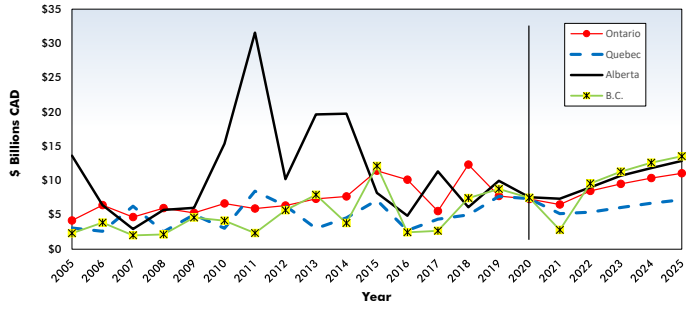
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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				
	2019	2020	2021	2022	2023	2024	2025
Single-family	1,643.6	1,813.2	2,206.7	2,409.3	2,581.5	2,752.3	2,923.6
Multi-family	555.0	473.1	474.3	546.4	588.1	631.4	669.7
TOTAL RESIDENTIAL	2,198.6	2,286.3	2,681.0	2,955.7	3,169.5	3,383.7	3,593.3
(Yr/yr % change)	*-0.1%*	*4.0%*	*17.3%*	*10.2%*	*7.2%*	*6.8%*	*6.2%*
Hotels/Motels	106.0	45.3	28.5	43.0	63.7	83.6	98.1
Shopping/Retail	69.0	51.0	48.6	61.5	76.3	91.0	101.2
Parking Garages	34.6	17.1	14.2	18.4	22.4	24.5	26.3
Amusement	23.9	21.6	23.9	24.8	29.5	32.7	35.3
Private Offices	107.8	76.4	61.9	72.9	82.4	90.2	97.0
Govenmental Offices	17.2	13.3	15.2	16.2	17.3	18.4	19.0
Laboratories (Schools & Industrial)	3.5	3.1	4.5	5.0	5.4	5.8	6.4
Warehouses	207.4	232.0	223.9	240.7	257.8	269.7	280.3
Sports Stadium/Convention Center	21.0	12.7	11.7	15.5	19.3	21.7	23.2
Transportation Terminals	9.5	4.9	6.2	9.4	12.9	15.1	16.9
TOTAL COMMERCIAL	599.9	477.3	438.6	507.4	586.9	652.7	703.8
(Yr/yr % change)	*3.6%*	*-20.4%*	*-8.1%*	*15.7%*	*15.7%*	*11.2%*	*7.8%*
TOTAL INDUSTRIAL (manufacturing)	106.4	71.3	64.6	76.4	93.3	106.8	116.0
(Yr/yr % change)	*7.2%*	*-33.0%*	*-9.4%*	*18.3%*	*22.0%*	*14.5%*	*8.6%*
Religious	5.1	3.8	3.0	4.1	4.9	5.5	6.1
Hospitals/Clinics	33.4	17.1	20.7	29.2	36.8	43.6	48.5
Nursing Homes/Assisted Living	40.6	32.4	23.0	28.6	33.7	37.1	40.4
Libraries/Museums	3.2	3.4	2.5	3.4	4.4	4.8	5.0
Courthouse	1.8	3.0	4.9	4.4	4.5	4.6	4.8
Police/Fire	7.6	8.3	7.2	7.9	8.7	9.1	9.4
Prisons	2.1	2.6	1.4	1.8	2.2	2.5	2.7
Military	11.7	22.5	20.8	22.7	24.2	25.6	26.7
Educational Facilities	168.1	148.6	122.6	142.8	156.5	165.2	172.4
MED misc	19.7	15.7	13.7	15.2	17.4	18.8	20.1
TOTAL INSTITUTIONAL	293.3	257.3	219.7	260.0	293.2	316.9	336.2
(Yr/yr % change)	*2.7%*	*-12.3%*	*-14.6%*	*18.3%*	*12.8%*	*8.1%*	*6.1%*
Miscellaneous Non-Res Building	26.7	20.4	21.3	22.3	22.4	22.7	23.1
TOTAL NON-RES BLDG	1,026.4	826.3	744.3	866.2	995.8	1,099.1	1,179.0
(Yr/yr % change)	*3.7%*	*-19.5%*	*-9.9%*	*16.4%*	*15.0%*	*10.4%*	*7.3%*
RESIDENTIAL + NON-RES BLDG	3,225.0	3,112.6	3,425.2	3,822.0	4,165.3	4,482.8	4,772.3
(Yr/yr % change)	*1.1%*	*-3.5%*	*10.0%*	*11.6%*	*9.0%*	*7.6%*	*6.5%*

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				
	2019	2020	2021	2022	2023	2024	2025
Summary							
NON-RESIDENTIAL BUILDING	1,026.4	826.3	744.3	866.2	995.8	1,099.1	1,179.0
RESIDENTIAL	2,198.6	2,286.3	2,681.0	2,955.7	3,169.5	3,383.7	3,593.3
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,225.0	3,112.6	3,425.2	3,822.0	4,165.3	4,482.8	4,772.3
Verticals							
Offices (private)	107.8	76.4	61.9	72.9	82.4	90.2	97.0
Parking Garages	34.6	17.1	14.2	18.4	22.4	24.5	26.3
Transportation Terminals	9.5	4.9	6.2	9.4	12.9	15.1	16.9
Commercial	151.9	98.3	82.3	100.7	117.7	129.8	140.2
(Yr/yr % change)	*19.4%*	*-35.2%*	*-16.3%*	*22.4%*	*16.9%*	*10.3%*	*8.0%*
Amusement	23.9	21.6	23.9	24.8	29.5	32.7	35.3
Libraries / Museums	3.2	3.4	2.5	3.4	4.4	4.8	5.0
Religious	5.1	3.8	3.0	4.1	4.9	5.5	6.1
Sports Arenas / Convention Centers	21.0	12.7	11.7	15.5	19.3	21.7	23.2
Community	53.2	41.5	41.2	47.8	58.1	64.7	69.7
(Yr/yr % change)	*3.8%*	*-22.0%*	*-0.8%*	*16.0%*	*21.6%*	*11.4%*	*7.7%*
College / University	38.1	32.8	25.6	30.8	33.9	36.3	38.2
Elementary / Pre School	48.8	48.0	36.7	42.7	47.8	50.6	52.7
Jr / Sr High School	75.6	62.4	56.1	64.3	68.9	72.1	75.1
Special / Vocational	5.6	5.4	4.3	5.0	5.9	6.2	6.4
Educational	168.1	148.6	122.6	142.8	156.5	165.2	172.4
(Yr/yr % change)	*7.5%*	*-11.6%*	*-17.5%*	*16.5%*	*9.5%*	*5.6%*	*4.4%*
Courthouses	1.8	3.0	4.9	4.4	4.5	4.6	4.8
Fire and Police Stations	7.6	8.3	7.2	7.9	8.7	9.1	9.4
Government Offices	17.2	13.3	15.2	16.2	17.3	18.4	19.0
Prisons	2.1	2.6	1.4	1.8	2.2	2.5	2.7
Government	28.7	27.2	28.6	30.3	32.7	34.7	35.9
(Yr/yr % change)	*-5.6%*	*-5.5%*	*5.2%*	*6.0%*	*7.9%*	*6.0%*	*3.5%*
Industrial Labs / Labs / School Labs	3.5	3.1	4.5	5.0	5.4	5.8	6.4
Manufacturing	106.4	71.3	64.6	76.4	93.3	106.8	116.0
Warehouses	207.4	232.0	223.9	240.7	257.8	269.7	280.3
Industrial	317.4	306.4	292.9	322.2	356.4	382.3	402.7
(Yr/yr % change)	*3.0%*	*-3.5%*	*-4.4%*	*10.0%*	*10.6%*	*7.3%*	*5.3%*
Hospitals / Clinics	33.4	17.1	20.7	29.2	36.8	43.6	48.5
Medical Misc.	19.7	15.7	13.7	15.2	17.4	18.8	20.1
Nursing Homes	40.6	32.4	23.0	28.6	33.7	37.1	40.4
Medical	93.8	65.1	57.4	72.9	87.9	99.5	109.0
(Yr/yr % change)	*0.2%*	*-30.6%*	*-11.8%*	*26.9%*	*20.5%*	*13.2%*	*9.6%*
Military	11.7	22.5	20.8	22.7	24.2	25.6	26.7
(Yr/yr % change)	*7.8%*	*92.9%*	*-7.6%*	*9.1%*	*6.6%*	*5.6%*	*4.5%*
Hotels	106.0	45.3	28.5	43.0	63.7	83.6	98.1
Retail Misc.	26.7	20.4	21.3	22.3	22.4	22.7	23.1
Shopping	69.0	51.0	48.6	61.5	76.3	91.0	101.2
Retail	201.7	116.7	98.4	126.8	162.4	197.3	222.5
(Yr/yr % change)	*-4.9%*	*-42.2%*	*-15.6%*	*28.8%*	*28.1%*	*21.5%*	*12.8%*
NON-RESIDENTIAL BUILDING	1,026.4	826.3	744.3	866.2	995.8	1,099.1	1,179.0
(Yr/yr % change)	*3.7%*	*-19.5%*	*-9.9%*	*16.4%*	*15.0%*	*10.4%*	*7.3%*
Multi-Family	555.0	473.1	474.3	546.4	588.1	631.4	669.7
Single-Family	1,643.6	1,813.2	2,206.7	2,409.3	2,581.5	2,752.3	2,923.6
RESIDENTIAL	2,198.6	2,286.3	2,681.0	2,955.7	3,169.5	3,383.7	3,593.3
(Yr/yr % change)	*-0.1%*	*4.0%*	*17.3%*	*10.2%*	*7.2%*	*6.8%*	*6.2%*
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,225.0	3,112.6	3,425.2	3,822.0	4,165.3	4,482.8	4,772.3
(Yr/yr % change)	*1.1%*	*-3.5%*	*10.0%*	*11.6%*	*9.0%*	*7.6%*	*6.5%*

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				
	2019	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Single-family	106.4	114.9	160.2	167.5	167.6	172.0	178.7
Multi-family	94.1	66.2	57.7	62.5	67.6	72.2	76.3
TOTAL RESIDENTIAL	200.5	181.1	217.9	230.0	235.2	244.2	255.0
(Yr/yr % change)	*-2.6%*	*-9.7%*	*20.3%*	*5.6%*	*2.3%*	*3.8%*	*4.4%*
Hotels/Motels	2.8	0.9	0.6	1.3	2.0	2.5	2.9
Private Offices	11.2	5.5	3.8	5.0	7.0	7.9	8.8
Govenmental Offices	2.4	1.8	0.9	1.2	1.6	1.7	1.8
Shopping/Retail	9.9	3.4	2.1	6.5	9.1	10.5	11.6
Retail Miscellaneous	1.3	0.4	0.2	0.4	0.7	0.9	1.0
Parking Garages	1.4	0.2	0.1	0.3	0.4	0.6	0.6
Amusement	4.0	1.6	3.3	3.4	3.5	3.9	4.6
Warehouses	10.5	10.8	8.3	9.7	10.9	12.0	12.9
TOTAL COMMERCIAL	43.5	24.4	19.3	27.7	35.1	39.8	44.1
(Yr/yr % change)	*11.5%*	*-43.8%*	*-21.2%*	*43.8%*	*26.8%*	*13.4%*	*10.7%*
TOTAL INDUSTRIAL (manufacturing)	6.4	5.1	2.6	5.1	5.8	6.7	7.7
(Yr/yr % change)	*-21.6%*	*-20.4%*	*-49.1%*	*95.4%*	*14.3%*	*15.6%*	*15.6%*
Religious	0.1	0.1	0.4	0.4	0.4	0.4	0.4
Hospitals/Clinics	7.6	9.2	9.4	8.4	9.8	10.6	11.4
MED misc	1.2	0.2	0.3	0.5	0.8	1.0	1.2
Transportation Terminals*	0.3	0.5	0.1	0.7	1.1	1.4	1.6
Police/Fire	1.6	2.6	1.8	2.1	2.2	2.4	2.5
Educational Facilities	12.4	10.3	11.4	11.5	12.2	12.7	13.1
TOTAL INSTITUTIONAL	23.2	23.0	23.4	23.5	26.4	28.4	30.1
(Yr/yr % change)	*-19.4%*	*-1.1%*	*1.8%*	*0.4%*	*12.3%*	*7.6%*	*6.2%*
TOTAL NON-RES BLDG	73.1	52.5	45.3	56.3	67.3	74.9	82.0
(Yr/yr % change)	*-3.8%*	*-28.2%*	*-13.9%*	*24.3%*	*19.6%*	*11.3%*	*9.4%*
RESIDENTIAL + NON-RES BLDG	273.6	233.6	263.1	286.2	302.5	319.1	337.0
(Yr/yr % change)	*-2.9%*	*-14.6%*	*12.6%*	*8.8%*	*5.7%*	*5.5%*	*5.6%*

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

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

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

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

Table 14: Canada Type-of-Structure Forecasts

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

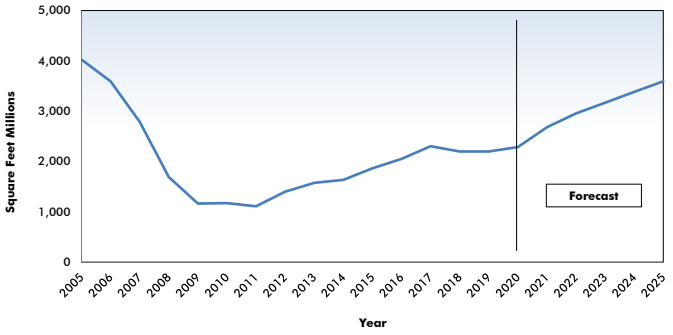
	Actuals		Forecasts				
	2019	2020	2021	2022	2023	2024	2025
Summary							
NON-RESIDENTIAL BUILDING	73.1	52.5	45.3	56.3	67.3	74.9	82.0
RESIDENTIAL	200.5	181.1	217.9	230.0	235.2	244.2	255.0
RESIDENTIAL + NON-RESIDENTIAL BUILDING	273.6	233.6	263.1	286.2	302.5	319.1	337.0
Verticals							
Offices (private)	11.2	5.5	3.8	5.0	7.0	7.9	8.8
Parking Garages	1.4	0.2	0.1	0.3	0.4	0.6	0.6
Transportation Terminals	0.3	0.5	0.1	0.7	1.1	1.4	1.6
Commercial	12.9	6.1	3.9	5.9	8.5	9.9	11.0
(Yr/yr % change)	*-4.7%*	*-52.3%*	*-35.9%*	*51.1%*	*43.3%*	*15.8%*	*11.2%*
Amusement	4.0	1.6	3.3	3.4	3.5	3.9	4.6
Religious	0.1	0.1	0.4	0.4	0.4	0.4	0.4
Community	4.1	1.7	3.7	3.8	3.9	4.2	5.0
(Yr/yr % change)	*-23.9%*	*-58.9%*	*117.2%*	*2.7%*	*3.2%*	*8.4%*	*17.4%*
Educational	12.4	10.3	11.4	11.5	12.2	12.7	13.1
(Yr/yr % change)	*3.2%*	*-16.5%*	*10.4%*	*0.7%*	*6.3%*	*4.0%*	*3.7%*
Fire and Police Stations	1.6	2.6	1.8	2.1	2.2	2.4	2.5
Government Offices	2.4	1.8	0.9	1.2	1.6	1.7	1.8
Government	4.0	4.4	2.8	3.3	3.8	4.1	4.3
(Yr/yr % change)	*9.9%*	*8.3%*	*-37.1%*	*18.3%*	*16.1%*	*7.0%*	*6.7%*
Manufacturing	6.4	5.1	2.6	5.1	5.8	6.7	7.7
Warehouses	10.5	10.8	8.3	9.7	10.9	12.0	12.9
Industrial	16.9	15.9	10.9	14.8	16.7	18.7	20.6
(Yr/yr % change)	*-20.4%*	*-5.7%*	*-31.5%*	*35.3%*	*12.9%*	*12.0%*	*10.4%*
Hospitals / Clinics	7.6	9.2	9.4	8.4	9.8	10.6	11.4
Medical Misc.	1.2	0.2	0.3	0.5	0.8	1.0	1.2
Medical	8.8	9.5	9.7	8.9	10.5	11.6	12.5
(Yr/yr % change)	*-16.8%*	*7.5%*	*2.8%*	*-8.5%*	*18.1%*	*10.2%*	*8.1%*
Hotels	2.8	0.9	0.6	1.3	2.0	2.5	2.9
Retail Misc.	1.3	0.4	0.2	0.4	0.7	0.9	1.0
Shopping	9.9	3.4	2.1	6.5	9.1	10.5	11.6
Retail	14.0	4.6	2.8	8.1	11.7	13.8	15.4
(Yr/yr % change)	*46.2%*	*-67.2%*	*-38.1%*	*186.3%*	*43.9%*	*17.9%*	*11.7%*
NON-RESIDENTIAL BUILDING	73.1	52.5	45.3	56.3	67.3	74.9	82.0
(Yr/yr % change)	*-3.8%*	*-28.2%*	*-13.9%*	*24.3%*	*19.6%*	*11.3%*	*9.4%*
Multi-Family	94.1	66.2	57.7	62.5	67.6	72.2	76.3
Single-Family	106.4	114.9	160.2	167.5	167.6	172.0	178.7
RESIDENTIAL	200.5	181.1	217.9	230.0	235.2	244.2	255.0
(Yr/yr % change)	*-2.6%*	*-9.7%*	*20.3%*	*5.6%*	*2.3%*	*3.8%*	*4.4%*
RESIDENTIAL + NON-RESIDENTIAL BUILDING	273.6	233.6	263.1	286.2	302.5	319.1	337.0
(Yr/yr % change)	*-2.9%*	*-14.6%*	*12.6%*	*8.8%*	*5.7%*	*5.5%*	*5.6%*

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

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

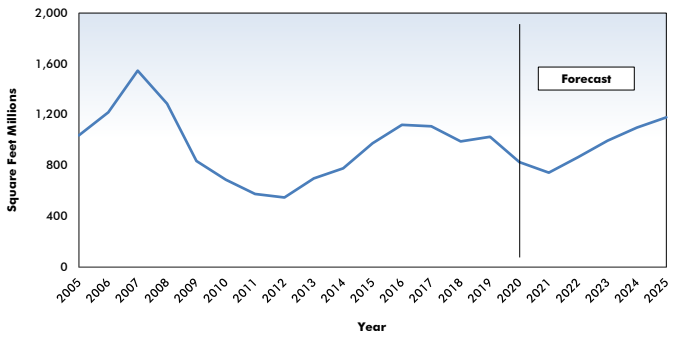
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

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



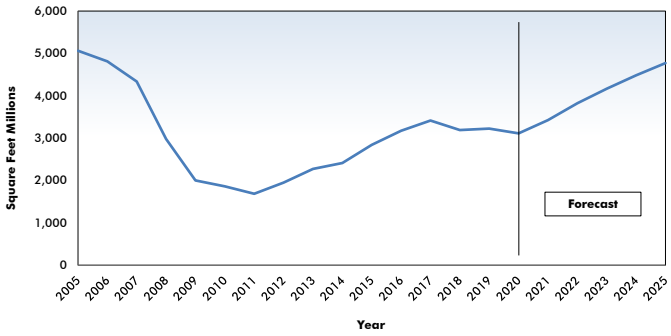
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



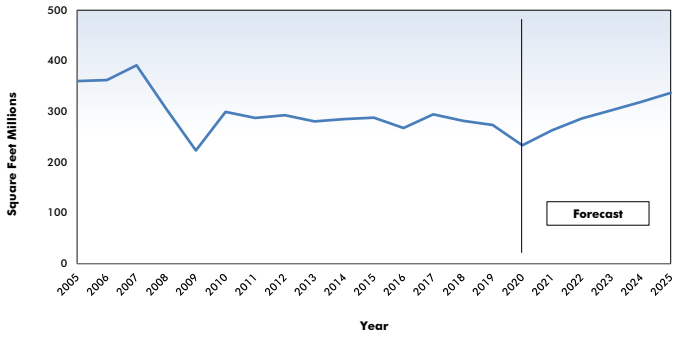
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



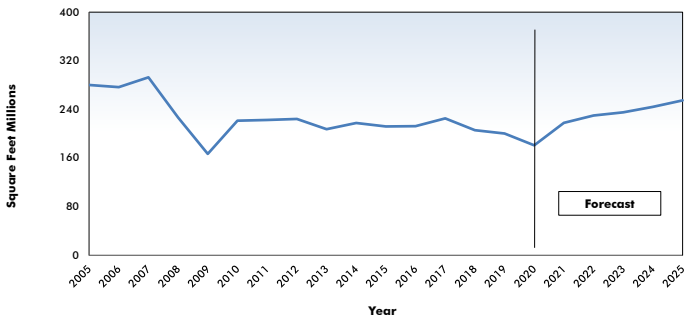
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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



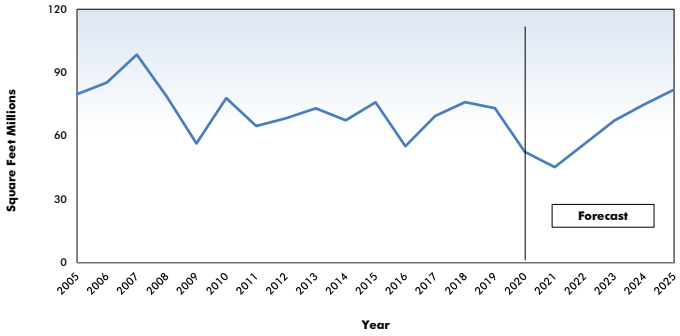
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 41: Canada Residential Construction Starts — ConstructConnect



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

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



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

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