constructconnect

Summer 2023 (For May 2023 Release)

Construction Starts Forecast

Contents

Link to article here: https://bit.ly/3nxUWI3

Sources: ConstructConnect®/Oxford Economics.
Forecast reflects actual starts through Q1 2023.

Highlights

■ Total US construction starts increased by 5.1% year-on-year (y/y) in Q1 2023. Strong growth in non-residential building and civil engineering construction starts more than offset a decline of nearly 30% in new homebuilding. The trend of building mega-projects—projects valued at more than $1 billion—continued in Q1.

■ Tighter lending standards and the recent stress in the banking system will result in a slightly deeper recession than we originally anticipated in the second half of 2023, but economic activity has held up relatively well to-date. We expect US GDP to enter a mild recession in the second half of this year, expanding 0.9% in 2023 as a whole before slowing to 0.4% growth next year. The Federal Reserve has continued its tightening cycle in an effort to curb inflation, and we expect two more rate hikes in May and June.

■ Total US construction starts are expected to fall 3% in 2023, following strong growth last year. Homebuilding, the most interest rate-sensitive sector, is expected to lead the decline. We expect a mild contraction in non-residential building after a bumper 2022, and we forecast double-digit growth in new engineering activity, boosted by government investment.

■ Total Canadian construction starts fell by 16.2% y/y in Q1 2023. Declines in new engineering activity and homebuilding more than offset a strong rise in non-residential building. Growth in the latter was flattered by favorable base effects due to low levels of construction in Q1 2022.

■ Total Canadian constructions starts are forecast to decline 0.4% in 2023, underpinned by a double-digit decline in new homebuilding. A correction in the housing market is already underway, and government policy to deter speculation is likely to further weigh on house prices. Growth in new non-residential building and engineering projects will not be sufficient to offset this.

Overview

New construction growth continued in Q1 2023

Total US construction starts increased by 5.1% year-on-year (y/y) in Q1 2023. In the first quarter of the year, y/y growth is equivalent to year-to-date growth. A 39.8% y/y rise in new non-residential building and a 29.9% y/y increase in new engineering projects more than offset a 29.3% y/y decline in homebuilding.

The large number of mega-projects—projects that are valued at more than $1 billion—seen in recent quarters continued in Q1 2023 when there were seven such projects for a total value of $24.7 billion. While 2022 as a whole was a big year for mega-projects, there was only one such project in the first quarter of last year. Therefore, growth in 2023 is being compared to a relatively low base.

The recent trend of groundbreaking on large new factory projects continued in Q1. The largest such project was a $10.5 billion LNG terminal in Texas, but groundbreaking also started on a $2.5 billion aluminum recycling plant in Alabama and a $3.5 billion EV battery plant in Ohio. As a result, new manufacturing construction grew 194% y/y in Q1.

Elsewhere in non-residential building, transportation terminal construction starts grew 283% y/y, boosted by a $2.6 billion expansion at JFK airport. New military construction posted the fastest pace of non-residential growth, up 564% y/y. While there were no projects valued at over $1 billion started in this segment, groundbreaking began on a $698 million Army base in Maryland, and Q1 2022 was an exceptionally low level for military construction. New hospital construction increased by 90.1% y/y, driven by a $1.6 billion project started in Indiana. By contrast, new construction declined in y/y terms in several commercial sectors that are more sensitive to the swings in interest rates. These include private office building (-24.6%), shopping and retail (-24.9%), parking garages (-21.3%), and warehouses (-42.1%).

Every sub-segment within engineering construction grew in y/y terms in Q1 2023. The strongest growth—of 133%—was in the all other civil segment, underpinned by a $3 billion oil project in Alaska. New power infrastructure was the only other engineering segment to boast a mega-project in Q1—a $1 billion solar project in California—although power construction had the weakest display in growth terms as the only mega-project in Q1 2022 was in this sector.

The decline in new residential construction continued apace in both the single-

Table 1: Summary forecasts (Annual percentage changes unless specified otherwise)							
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
US							
Macro variables							
GDP	5.9	2.1	0.9	0.4	2.2	2.0	1.9
Population growth	0.2	0.4	0.4	0.5	0.5	0.5	0.5
Unemployment rate (%)	5.4	3.6	4.2	5.2	4.9	4.5	4.4
Real disposable income	1.9	-6.1	3.0	2.1	2.3	1.6	1.4
Central bank rate (%)	0.1	1.7	5.1	3.9	2.2	2.0	2.0
10-year government yield (%)	1.4	3.0	3.6	3.0	2.8	2.8	2.8
Construction starts (% growth in U.S.$)							
Total starts	10.8	19.8	-3.0	5.7	8.4	7.1	6.2
Residential	20.3	1.2	-12.0	8.5	13.1	10.7	9.0
Non-res bldg	5.5	41.1	-1.6	2.7	5.1	4.4	4.5
Civil engineering	1.1	27.3	11.1	6.7	6.5	5.6	4.3
Canada							
Macro variables							
GDP	5.0	3.4	-0.3	1.3	3.5	3.0	2.7
Population growth	0.6	1.8	1.3	1.4	1.4	1.3	1.2
Unemployment rate (%)	7.5	5.3	6.0	7.3	6.8	6.4	6.1
Real disposable income	1.0	-0.5	0.7	-0.1	2.7	2.6	2.6
Central bank rate (%)	0.3	1.9	4.5	3.5	2.1	2.0	2.0
10-year government yield (%)	1.4	2.8	3.1	2.9	2.9	2.9	2.9
Exchange rate C$ per US$	1.25	1.30	1.37	1.35	1.26	1.19	1.18
Construction starts (% growth in C$)							
Total starts	16.3	-7.8	-0.4	21.0	9.3	7.8	6.3
Residential	32.3	-9.2	-17.5	19.1	14.8	9.6	8.1
Non-res bldg	37.7	-9.2	9.7	8.8	-3.9	4.7	4.3
Civil engineering	-14.0	-4.4	7.8	37.9	17.8	8.8	6.3

family (-34.3% y/y) and multi-family (-19.1% y/y) segments. Housing is among the most sensitive sectors to rising interest rates. The rise in mortgage rates over the last year, combined with ongoing affordability issues, has weighed on new single-family construction since the middle of 2022. Apartment building has been somewhat more resilient—the decline in Q1 partly resulted from strong growth in the same period last year.

Put-in-place (PIP) construction, a measure of work in progress, increased by 3% y/y in March (in non-seasonally adjusted terms). PIP was led by residential activity through the course of the pandemic and in its immediate aftermath. But starting in the second half of last year, the drivers of construction have moved from residential to non-residential activity. In March, residential PIP was down 10.7% y/y, while non-residential construction grew 19.1%. Construction starts are a leading indicator for PIP construction since it spreads the start over the lifetime of the project. The pattern between residential and non-residential construction is consistent with what

we have seen in the starts data since early-2022. ConstructConnect, in partnership with Oxford Economics, a world-leading economic forecasting firm, has 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.

Input prices for key building materials have come down significantly from their peak in early 2022, and in several instances, inflation has turned negative. Construction input costs, excluding capital, labor, and imports, fell 3.8% y/y in March, the first deflationary reading since July 2020. Meanwhile, construction material costs—a less comprehensive input cost index—was -4% y/y in March, the fourth consecutive month of deflation. Prices for lumber, metals, and energy are mostly deflationary, while inflation is at a double-digit rate for most concrete, cement, and related products. Final demand inflation for construction was 15.6% in March, an easing from its peak of 23.1% in July. Output prices generally lag input prices by six to nine months,

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as it takes time for construction firms to adjust prices up in response to rising input costs. But falls in input prices and a weaker outlook for the economy mean that output prices are also likely to ease in due course.

Construction labor shortages remain a constraint, although there are some early signs these may be starting to ease. The JOLTS survey of construction job openings has been volatile in recent months, but its Q1 average fell to the lowest level in nearly two years. Meanwhile, construction recorded its first monthly net job loss in over a year in March, and the (non-seasonally adjusted) unemployment rate in March was just 0.3 percentage points below its rate a year earlier having risen in y/y terms in February. However, it will take several more months of data to see if job openings and construction employment are starting to ease. Meanwhile, wage growth in the sector remains high—hourly earnings were up 5.4% y/y and weekly earnings grew 5.9% y/y in March.

Stress in the banking sector increases the likelihood of a hard landing

Tighter lending standards and the recent stress in the banking system will result in a slightly deeper recession than we originally anticipated in the second half of 2023. However, the economic losses caused by the banking stress will be felt with a lag. As a result, we expect US GDP to expand 0.9% in 2023, but slow to 0.4% growth next year. The drag from tighter lending standards lends a downside risk to our forecast, as does the significant recent inventory build.

The latest consumer price index (CPI) and personal consumption expenditure (PCE) data indicated that inflation continues to run hot. Core PCE services inflation excluding housing remained stubborn at 4.4% y/y in March, driven by the stubbornly tight labor market and nominal wage growth around 5% y/y. Nominal wage growth would need to fall to 3.5% y/y for the Federal Reserve to meet its inflation goal. Services inflation has proved stickier than goods inflation, though tighter credit conditions will apply some downward pressure by cooling wage growth, employment, and GDP. We expect all measures of inflation to remain well above the Fed's 2% target throughout 2023, but to gradually fall over time.

Despite the labor market retaining plenty of momentum, the Fed will have been pleased to see wage growth slowing in March as tighter monetary policy begins to take effect. Nonfarm payroll employment rose 236,000 in March, though the number of job openings fell, indicating a softening in the market. We expect payrolls will begin to fall in Q3 during the mild recession. However, job losses will not be extreme as the

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

drop in demand is minor and short lived. We expect the unemployment rate will sit at around 5% at the end of 2023, as businesses choose to cut hours and retain hard to come by employees, rather than lay them off and struggle to recruit once conditions improve.

The Fed raised the target range for its fed funds rate by 0.25% in March, to 4.75%-5%. We expect the hiking cycle to continue as the tight labor market and stubborn inflation persist, with further 25bps rate hikes in May and June included in our baseline forecasts. We believe the Fed will look to cut rates in early 2024, but the cuts are likely to be conservative due to the need to find a balance between pulling the economy out of recession while restraining inflation.

Residential building to lead fall in construction despite a strong engineering outlook

Total US construction starts are expected to fall 3% in 2023, following strong growth of 19.8% in 2022. Residential construction will continue to be the weakest performing major subsector, with a decline of 12% expected throughout 2023. Non-residential building is forecast to fall 1.6% this year, but this is mostly a normalization following bumper growth of over 40% in 2022, rather than a sign of fundamental weakness; non-residential starts in 2023 are still forecast to be some 39% above their level in 2021. The civil engineering subsector is expected to continue to thrive in 2023, with growth of 11.1% expected to build on 2022's expansion of over 25%. A key theme for construction this year will be the extent to which construction firms are able to dictate their output prices. The Bureau of Labour Statistics' data show that the prices of inputs have been deflationary in recent months, but firms have continued to raise output prices.

Construction in square footage terms is expected to contract more aggressively than in dollar terms. Our latest forecasts pencil in a 13.3% fall in 2023, compounding the minor loss incurred in 2022. Construction in square footage terms is a volume metric, so therefore does not include the impact of rising prices. Furthermore, engineering construction and some factory building (for example, for LNG projects) do not have any associated square feet. As new engineering projects are expected to be the main driver on construction starts this year, it is unsurprising that this metric is expected to lag the value metric.

One of the key challenges facing the construction sector in 2023 is the availability and cost of credit. The unsettling of the banking system has tightened the availability of credit, while rising interest rates pushes up the cost of borrowing. The residential sector is particularly credit-sensitive and will feel the full force of the current credit conditions. After falling in Q4 2022, the 30-year fixed mortgage rate began to climb once again in Q1, though it is expected to gradually fall throughout the rest of the year. Furthermore, high inflation is squeezing household budgets and weighing on affordability. Households have been running down the excess savings accumulated during the pandemic since-mid 2021 and the household savings rate has also fallen below pre-pandemic levels. Lower levels of savings mean that many households are now unable to afford a down payment. However, the National Association of Realtors' fixed rate housing mortgage affordability index reveals that affordability has improved slightly since the turn of the year.

Single-family construction activity is expected to underperform the multi-family segment once again in 2023, compounding last year's decline with a further contraction of 13.4%. New multi-family construc-

tion activity is expected to post an annual decline for the first time since 2020, falling 9.9%.

Within non-residential building, new industrial construction is expected to decline 13.7% in 2023. However, this follows growth of over 200% in 2022, so the total value of new construction projects is likely to remain near a record high. Indeed, groundbreaking on major projects including chip factories and LNG facilities—two areas of strong growth last year—is expected to continue this year. Growth in institutional sectors such as educational facilities and hospitals—the two largest sectors—is underpinned by demographic factors.

Commercial construction activity growth is expected to be relatively sluggish this year, although we forecast this will pick up in 2024 and beyond as the economy exits a mild recession. Warehousing, the largest commercial subsector, is expected to post a 19.6% decline. Heavy investment in the sector during the pandemic, followed by a subsequent shift in spending patterns away from goods, will underpin this fall. Private office building is the second largest sector. It is also set to decline, albeit at a more modest pace. Shifts in working patterns have weighed heavily on the sector since the start of the pandemic, and commercial real estate is also quite exposed to the ongoing tight credit conditions. Office building is forecast to be nearly 45% below its pre-pandemic peak this year. Elsewhere within commercial building, construction of new transportation terminals is a more positive story, boosted by the expansion at JFK earlier this year and with more public transport projects in the pipeline.

Civil engineering activity is set to continue its upward trajectory with continued support from the Infrastructure Investment and Jobs Act. We expect growth of 11.1% in 2023, though this is a significant slowdown from the rapid expansion of 27.3% last year. Water & sewage treatment is the only subsector expected to fall, albeit only mildly, and it follows rapid growth in 2022. Roads is by far the largest sector within civil engineering, accounting for over 40% of the total in dollar terms last year. Therefore, our forecast for roads construction to rise 8.4% makes it a major driver for the overall sector. Airports, bridges, and dams, canals & marine works are all also expected to increase in 2023, but all are set to grow more slowly than in 2022.

Miscellaneous civil activity will be an important driver of engineering construction in 2023-24 before moderating thereafter. We forecast growth of over 50% this year, partly driven by the energy project already started in Alaska, but also a number of rail and tunnel projects are planned. New power infrastructure is also expected to

grow through the forecast period, although the pace of growth is expected to slow from its heady pace in 2021-22. Investment in power infrastructure is important for decarbonizing the economy, with investment in new nuclear plants, wind projects, and power grids all in the pipeline.

Second year of decline expected in new Canadian construction

Total Canadian construction starts fell by 16.2% y/y in Q1 2023. New engineering construction declined 54.4% y/y, while residential construction starts fell 29.5% y/y. By contrast, new non-residential building grew 50.3% y/y, although this growth is from a relatively low base in the same period last year.

Despite the strong growth in non-residential building, only four sectors posted positive year-on-year growth: government offices, parking garages, hospitals, and industrial. Hospital building was the only segment to post a mega-project, a C$1.65 billion project in Quebec, and there was also a large hospital started in BC valued at C$890 million. As a result, new hospital construction grew 130.5% y/y. Factory building saw a 25-fold increase, but this came off of an especially low level in Q1 2022. While there were no projects valued at over C$1 billion started in Q1, groundbreaking began on two projects valued at over C$500 million: a refinery in Alberta and a gold mine in British Columbia. There was significant weakness in several commercial sectors; hotels, private office building, and retail construction all fell more than 60% y/y in Q1. Within institutional sectors, new religious building and miscellaneous medical construction also fell more than 60% y/y. In general, volumes in Canada are smaller than in the US, so growth rates in individual segments are particularly volatile.

New construction of civil engineering projects declined in all sectors except for water & sewage and power infrastructure. New power infrastructure grew 294% y/y but comes off a particularly low base in Q1 2022—the sector in Q1 2023 was 25% below its average in 2022 as a whole. Water & sewage construction starts increased 21.6% y/y. Miscellaneous civil engineering construction was especially weak, down 96% y/y.

In the residential sector, both single-family and multi-family starts fell in Q1. Single-family construction starts contracted by 22.8% y/y, while new apartment building fell by 34% y/y in Q1 2023. New residential construction has declined in y/y terms for the last four quarters.

Despite performing well in Q1, the lagged impact of tighter credit conditions will push Canada's economy into a moderate recession from Q2 lasting until the end of the year. We forecast GDP will decline 1.7%

peak-to-trough between Q2 and Q4. Excess savings and improvements in the supply of durable goods underpinned strong consumer spending in Q1, but we expect high inflation will weigh on spending through the rest of 2023. The labor market has proved resilient, with unemployment sitting at 5%. However, we expect recession-induced job losses will lift the unemployment rate to 7.4% by early-2024. Headline CPI inflation fell 0.9 ppts to 4.3% y/y in March, the slowest pace since August 2021, while CPI inflation excluding food also slowed and is now marginally above the Bank of Canada's 1%-3% target range. As a result, the BoC is likely to maintain the current overnight rate of 4.5% throughout the recession this year, after leaving it unchanged in April. However, if labor markets fail to loosen in coming months and wage growth accelerates, the BoC may hike rates again as soon as this summer.

Total construction starts, in Canadian dollar terms, are forecast to fall 0.4% in 2023 following a contraction of 7.8% last year. In square foot terms, we forecast a much more dramatic decline of 16%.

Despite the recent uptick in house prices, we think the house price correction will continue and expect benchmark prices to fall another 10% by the end of 2023. The government's policies of taxing house flippers and underused housing, and banning foreign buyers will work in tandem to help reduce speculative housing demand and weigh on prices. Consequently, we expect residential construction starts to fall 17.5% this year, with multi-family units faring worse than single-family. Both sectors are expected to post double digit declines, of 19.6% and 15.2% respectively, as high interest rates and falling residential investment weigh on activity.

Non-residential building starts are expected to rise 9.7%, with mixed performance across the subsectors. Commercial building is expected to fall 33.6%, though this is mostly due to governmental offices, which grew over 300% in 2022. Industrial building is forecast to bounce back in 2023 with growth of 49% after falling last year. Upcoming large projects in the sector are mostly related to energy or the transition to the green economy. Institutional building is also expected to climb in 2023, driven by bumper growth in hospitals and transportation of 83% and 96% respectively.

Civil engineering is set to expand 7.8% in 2023 despite the smaller sectors falling year-on-year. Growth will be driven by the power and other civil sectors, which are expected to climb 113% and 21.8% respectively. Like in the US, upgrades to power infrastructure is a key priority as the economy decarbonizes, supporting healthy sector growth over the forecast horizon out to 2027.

Table 3: U.S. Type-of-Structure Forecasts ($ Billions USD)							
	Actuals		Forecasts				
	2021	2022	2023	2024	2025	2026	2027
Single-family	257.708	225.083	195.034	213.549	241.191	269.604	294.307
Multi-family	104.818	141.641	127.671	136.619	154.860	168.919	183.684
TOTAL RESIDENTIAL	362.526	366.724	322.705	350.168	396.051	438.524	477.991
(Yr/yr % change)	*20.3%*	*1.2%*	*-12.0%*	*8.5%*	*13.1%*	*10.7%*	*9.0%*
Hotels/Motels	7.207	10.616	12.943	14.734	16.587	18.538	20.262
Shopping/Retail	12.885	15.159	15.555	17.070	19.612	22.066	24.800
Parking Garages	1.768	2.235	2.153	2.281	2.517	2.741	2.941
Amusement	6.555	7.795	8.536	8.774	9.291	9.798	10.265
Private Offices	20.957	21.414	20.498	23.388	26.658	29.843	32.645
Govenmental Offices	11.703	13.366	13.671	14.087	15.042	15.667	16.398
Laboratories (Schools & Industrial)	2.453	4.847	4.500	4.400	4.476	4.670	4.789
Warehouses	28.230	28.663	23.053	26.700	29.329	30.799	32.176
Sports Stadium/Convention Center	6.043	6.371	8.565	7.384	7.722	8.046	8.227
Transportation Terminals	9.969	5.998	9.300	10.800	10.900	10.801	10.349
TOTAL COMMERCIAL	107.769	116.465	118.774	129.617	142.134	152.969	162.851
(Yr/yr % change)	*5.1%*	*8.1%*	*2.0%*	*9.1%*	*9.7%*	*7.6%*	*6.5%*
TOTAL INDUSTRIAL (manufacturing)	35.082	110.398	95.240	88.009	86.000	85.008	86.994
(Yr/yr % change)	*61.4%*	*214.7%*	*-13.7%*	*-7.6%*	*-2.3%*	*-1.2%*	*2.3%*
Religious	1.217	1.022	1.056	1.124	1.210	1.277	1.338
Hospitals/Clinics	18.730	25.878	27.608	28.505	29.505	29.990	31.006
Nursing Homes/Assisted Living	5.965	4.397	3.930	4.577	5.286	6.085	6.739
Libraries/Museums	3.591	3.483	3.411	3.672	3.840	4.010	4.161
Courthouse	2.477	1.713	1.859	2.057	2.271	2.408	2.535
Police/Fire	3.035	4.277	4.048	4.171	4.482	4.681	4.866
Prisons	2.231	2.972	3.007	3.218	3.478	3.621	3.765
Military	9.211	9.703	12.890	13.065	13.796	14.445	14.866
Educational Facilities	59.892	73.877	76.808	79.017	82.299	85.715	88.422
MED misc	7.479	9.087	9.802	10.635	11.997	13.127	13.936
TOTAL INSTITUTIONAL	113.829	136.409	144.421	150.042	158.164	165.360	171.634
(Yr/yr % change)	*-4.6%*	*19.8%*	*5.9%*	*3.9%*	*5.4%*	*4.5%*	*3.8%*
Miscellaneous Non-Res Building	6.330	7.843	6.870	7.338	7.713	8.107	8.501
TOTAL NON-RES BLDG	263.010	371.115	365.304	375.005	394.012	411.445	429.980
(Yr/yr % change)	*5.5%*	*41.1%*	*-1.6%*	*2.7%*	*5.1%*	*4.4%*	*4.5%*
Airport	5.204	7.741	8.048	8.566	9.284	9.964	10.661
Roads	67.384	83.724	90.722	94.941	100.947	107.064	111.703
Bridges	17.994	27.455	27.601	28.326	29.875	31.251	32.323
Dams/Canal/Marine	8.541	9.466	10.084	11.021	11.864	12.511	13.029
Water & Sewage Treatment	33.868	43.370	43.170	45.810	49.252	52.023	54.276
Misc Civil (Power, etc.)	23.485	27.367	41.587	47.299	50.173	52.689	54.938
TOTAL ENGINEERING	156.475	199.123	221.212	235.963	251.395	265.504	276.930
(Yr/yr % change)	*1.1%*	*27.3%*	*11.1%*	*6.7%*	*6.5%*	*5.6%*	*4.3%*
TOTAL NON-RESIDENTIAL	419.486	570.239	586.516	610.968	645.407	676.948	706.909
(Yr/yr % change)	*3.8%*	*35.9%*	*2.9%*	*4.2%*	*5.6%*	*4.9%*	*4.4%*
GRAND TOTAL	782.012	936.963	909.221	961.136	1,041.458	1,115.472	1,184.900
(Yr/yr % change)	*10.8%*	*19.8%*	*-3.0%*	*5.7%*	*8.4%*	*7.1%*	*6.2%*

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

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

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

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

	Actuals		Forecasts				
	2021	2022	2023	2024	2025	2026	2027
Summary							
CIVIL	156.475	199.123	221.212	235.963	251.395	265.504	276.930
NON-RESIDENTIAL BUILDING	263.010	371.115	365.304	375.005	394.012	411.445	429.980
RESIDENTIAL	362.526	366.724	322.705	350.168	396.051	438.524	477.991
GRAND TOTAL	782.012	936.963	909.221	961.136	1,041.458	1,115.472	1,184.900
Verticals							
Airport	5.204	7.741	8.048	8.566	9.284	9.964	10.661
All Other Civil	14.452	12.840	25.738	29.811	31.378	32.815	34.077
Bridges	17.994	27.455	27.601	28.326	29.875	31.251	32.323
Dams / Canals / Marine Work	8.541	9.466	10.084	11.021	11.864	12.511	13.029
Power Infrastructure	9.033	14.527	15.849	17.488	18.795	19.875	20.861
Roads	67.384	83.724	90.722	94.941	100.947	107.064	111.703
Water and Sewage Treatment	33.868	43.370	43.170	45.810	49.252	52.023	54.276
CIVIL	156.475	199.123	221.212	235.963	251.395	265.504	276.930
(Yr/yr % change)	*1.1%*	*27.3%*	*11.1%*	*6.7%*	*6.5%*	*5.6%*	*4.3%*
Offices (private)	20.957	21.414	20.498	23.388	26.658	29.843	32.645
Parking Garages	1.768	2.235	2.153	2.281	2.517	2.741	2.941
Transportation Terminals	9.969	5.998	9.300	10.800	10.900	10.801	10.349
Commercial	32.694	29.648	31.951	36.468	40.075	43.386	45.934
(Yr/yr % change)	*9.0%*	*-9.3%*	*7.8%*	*14.1%*	*9.9%*	*8.3%*	*5.9%*
Amusement	6.555	7.795	8.536	8.774	9.291	9.798	10.265
Libraries / Museums	3.591	3.483	3.411	3.672	3.840	4.010	4.161
Religious	1.217	1.022	1.056	1.124	1.210	1.277	1.338
Sports Arenas / Convention Centers	6.043	6.371	8.565	7.384	7.722	8.046	8.227
Community	17.407	18.670	21.568	20.953	22.064	23.131	23.991
(Yr/yr % change)	*7.1%*	*7.3%*	*15.5%*	*-2.9%*	*5.3%*	*4.8%*	*3.7%*
College / University	15.096	18.941	21.084	21.301	22.000	23.199	23.906
Elementary / Pre School	15.796	22.066	22.564	23.197	24.351	25.393	26.527
Jr / Sr High School	26.922	30.541	31.275	32.464	33.769	34.869	35.661
Special / Vocational	2.077	2.329	1.885	2.055	2.179	2.254	2.327
Educational	59.892	73.877	76.808	79.017	82.299	85.715	88.422
(Yr/yr % change)	*-11.3%*	*23.4%*	*4.0%*	*2.9%*	*4.2%*	*4.2%*	*3.2%*
Courthouses	2.477	1.713	1.859	2.057	2.271	2.408	2.535
Fire and Police Stations	3.035	4.277	4.048	4.171	4.482	4.681	4.866
Government Offices	11.703	13.366	13.671	14.087	15.042	15.667	16.398
Prisons	2.231	2.972	3.007	3.218	3.478	3.621	3.765
Government	19.446	22.328	22.586	23.534	25.273	26.378	27.564
(Yr/yr % change)	*3.8%*	*14.8%*	*1.2%*	*4.2%*	*7.4%*	*4.4%*	*4.5%*
Industrial Labs / Labs / School Labs	2.453	4.847	4.500	4.400	4.476	4.670	4.789
Manufacturing	35.082	110.398	95.240	88.009	86.000	85.008	86.994
Warehouses	28.230	28.663	23.053	26.700	29.329	30.799	32.176
Industrial	65.765	143.908	122.793	119.109	119.805	120.477	123.958
(Yr/yr % change)	*30.7%*	*118.8%*	*-14.7%*	*-3.0%*	*0.6%*	*0.6%*	*2.9%*
Hospitals / Clinics	18.730	25.878	27.608	28.505	29.505	29.990	31.006
Medical Misc.	7.479	9.087	9.802	10.635	11.997	13.127	13.936
Nursing Homes	5.965	4.397	3.930	4.577	5.286	6.085	6.739
Medical	32.175	39.363	41.341	43.717	46.789	49.202	51.682
(Yr/yr % change)	*10.8%*	*22.3%*	*5.0%*	*5.7%*	*7.0%*	*5.2%*	*5.0%*
Military	9.211	9.703	12.890	13.065	13.796	14.445	14.866
(Yr/yr % change)	*0.0%*	*5.3%*	*32.8%*	*1.4%*	*5.6%*	*4.7%*	*2.9%*
Hotels	7.207	10.616	12.943	14.734	16.587	18.538	20.262
Retail Misc.	6.330	7.843	6.870	7.338	7.713	8.107	8.501
Shopping	12.885	15.159	15.555	17.070	19.612	22.066	24.800
Retail	26.422	33.619	35.368	39.141	43.912	48.711	53.563
(Yr/yr % change)	*-6.5%*	*27.2%*	*5.2%*	*10.7%*	*12.2%*	*10.9%*	*10.0%*
NON-RESIDENTIAL BUILDING	263.010	371.115	365.304	375.005	394.012	411.445	429.980
(Yr/yr % change)	*5.5%*	*41.1%*	*-1.6%*	*2.7%*	*5.1%*	*4.4%*	*4.5%*
Multi-Family	104.818	141.641	127.671	136.619	154.860	168.919	183.684
Single-Family	257.708	225.083	195.034	213.549	241.191	269.604	294.307
RESIDENTIAL	362.526	366.724	322.705	350.168	396.051	438.524	477.991
(Yr/yr % change)	*20.3%*	*1.2%*	*-12.0%*	*8.5%*	*13.1%*	*10.7%*	*9.0%*
GRAND TOTAL	782.012	936.963	909.221	961.136	1,041.458	1,115.472	1,184.900
(Yr/yr % change)	*10.8%*	*19.8%*	*-3.0%*	*5.7%*	*8.4%*	*7.1%*	*6.2%*

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

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

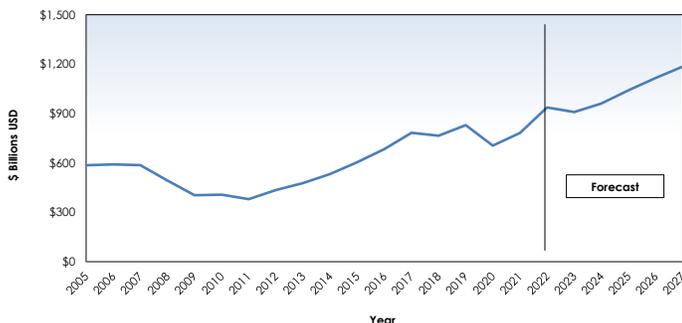*Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.*

	Actuals (Level in $ Millions USD)	Forecasts (Year versus previous year % change)				
Table 5: U.S. States, Total Construction Starts — ConstructConnect						
States (alphabetical by 2-letter code)	2022	2023	2024	2025	2026	2027
Alaska - AK	$2,176	140.7%	-56.0%	8.6%	6.9%	5.0%
Alabama - AL	$13,807	20.3%	-6.0%	8.4%	6.8%	5.9%
Arkansas - AR	$7,321	14.0%	-2.7%	9.4%	9.2%	6.6%
Arizona - AZ	$32,126	-28.4%	17.8%	14.6%	10.9%	7.9%
California - CA*	$69,895	4.2%	13.0%	9.3%	6.4%	7.2%
Colorado - CO	$17,323	6.2%	16.9%	11.6%	8.4%	7.5%
Connecticut - CT	$5,941	6.4%	9.4%	7.8%	6.2%	4.7%
District Of Columbia - DC	$3,916	-5.3%	-1.4%	16.3%	0.7%	2.1%
Delaware - DE	$3,279	-29.4%	8.8%	7.0%	6.7%	6.0%
Florida - FL*	$72,745	0.0%	0.9%	13.3%	10.8%	8.0%
Georgia - GA	$34,567	-4.0%	7.9%	7.7%	6.4%	6.3%
Hawaii - HI	$3,454	16.7%	-3.2%	7.3%	6.5%	5.8%
Iowa - IA	$7,950	-3.6%	15.8%	7.6%	5.6%	5.2%
Idaho - ID	$7,147	-1.2%	16.8%	7.1%	3.9%	6.2%
Illinois - IL	$22,029	2.4%	13.7%	7.8%	5.8%	4.7%
Indiana - IN	$19,757	1.6%	0.6%	6.1%	4.7%	4.7%
Kansas - KS	$7,955	-5.1%	-2.5%	7.2%	6.1%	5.3%
Kentucky - KY	$14,795	-26.9%	20.2%	6.9%	5.8%	5.6%
Louisiana - LA	$20,742	-10.5%	32.4%	3.8%	2.9%	3.9%
Massachusetts - MA	$16,191	5.0%	20.1%	8.4%	5.0%	5.6%
Maryland - MD	$12,838	27.5%	-2.2%	8.1%	6.1%	5.8%
Maine - ME	$4,682	-29.0%	10.0%	10.5%	7.3%	5.2%
Michigan - MI	$23,294	-22.5%	8.5%	6.7%	5.8%	5.1%
Minnesota - MN	$15,344	10.3%	19.7%	7.6%	6.0%	5.3%
Missouri - MO	$14,601	-10.8%	4.4%	7.8%	5.8%	5.0%
Mississippi - MS	$5,352	-3.3%	-2.8%	7.1%	6.5%	5.3%
Montana - MT	$2,842	-6.5%	5.8%	10.1%	9.2%	6.3%
North Carolina - NC	$43,496	-10.6%	-5.0%	5.9%	8.4%	7.1%
North Dakota - ND	$4,540	5.9%	2.1%	9.6%	6.7%	5.5%
Nebraska - NE	$7,273	7.8%	5.9%	8.6%	6.4%	5.6%
New Hampshire - NH	$2,308	29.5%	-8.0%	9.6%	9.0%	6.4%
New Jersey - NJ	$14,256	17.2%	-2.6%	9.2%	5.8%	4.6%
New Mexico - NM	$4,762	-19.1%	-0.5%	8.1%	6.2%	5.0%
Nevada - NV	$11,199	-37.1%	12.5%	15.0%	10.8%	8.2%
New York - NY*	$48,581	-10.5%	27.0%	-2.0%	-0.5%	3.1%
Ohio - OH	$21,394	35.0%	-7.0%	5.1%	3.9%	4.7%
Oklahoma - OK	$10,728	-1.7%	4.4%	8.7%	7.7%	6.1%
Oregon - OR	$8,703	12.6%	20.9%	10.1%	7.4%	6.7%
Pennsylvania - PA	$24,031	6.5%	4.3%	8.2%	6.3%	5.4%
Rhode Island - RI	$1,774	-19.5%	8.9%	7.9%	5.5%	4.5%
South Carolina - SC	$16,892	-0.5%	-6.0%	8.8%	9.4%	7.4%
South Dakota - SD	$4,849	-0.2%	-31.3%	9.0%	9.0%	6.9%
Tennessee - TN	$25,892	-6.5%	-4.0%	9.7%	7.9%	6.7%
Texas - TX*	$151,627	-10.3%	-6.1%	11.0%	9.9%	7.1%
Utah - UT	$12,492	14.6%	19.2%	12.2%	8.3%	6.7%
Virginia - VA	$18,745	7.6%	5.5%	10.5%	7.9%	6.3%
Vermont - VT	$1,014	-7.5%	-1.4%	8.2%	8.1%	6.0%
Washington - WA	$21,023	-19.7%	20.4%	13.4%	9.0%	7.2%
Wisconsin - WI	$14,831	-2.4%	8.9%	6.5%	5.2%	5.1%
West Virginia - WV	$2,455	13.7%	4.0%	7.6%	5.3%	4.5%
Wyoming - WY	$2,027	15.3%	166.5%	-43.1%	6.7%	5.7%
United States	$936,963	-3.0%	5.7%	8.4%	7.1%	6.2%

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

Table 6: U.S. Four Largest States: Type-of-Structure Forecasts ($ Billions USD)		Actuals		Forecasts				
		2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
New York	Residential	10.816	15.159	9.357	14.076	14.888	14.538	14.849
	Non-res Building	14.452	18.003	19.408	22.552	19.970	19.046	19.530
	Engineering/Civil	8.009	15.419	14.715	18.611	19.257	20.272	21.124
	Total	33.276	48.581	43.480	55.238	54.114	53.856	55.503
(Yr vs previous yr % Change)		*18.6%*	*46.0%*	*-10.5%*	*27.0%*	*-2.0%*	*-0.5%*	*3.1%*
Florida	Residential	37.566	43.952	38.011	38.347	44.823	50.964	56.115
	Non-res Building	16.816	19.196	20.693	20.260	22.328	24.289	25.768
	Engineering/Civil	8.620	9.597	14.011	14.739	15.963	16.824	17.532
	Total	63.001	72.745	72.715	73.346	83.114	92.077	99.415
(Yr vs previous yr % Change)		*18.2%*	*15.5%*	*0.0%*	*0.9%*	*13.3%*	*10.8%*	*8.0%*
Texas	Residential	55.437	55.005	45.183	47.463	53.916	61.372	67.807
	Non-res Building	30.059	69.281	60.178	50.088	55.440	60.181	63.261
	Engineering/Civil	20.073	27.342	30.724	30.227	32.519	34.437	35.989
	Total	105.569	151.627	136.085	127.777	141.875	155.990	167.058
(Yr vs previous yr % Change)		*8.1%*	*43.6%*	*-10.3%*	*-6.1%*	*11.0%*	*9.9%*	*7.1%*
California	Residential	24.620	28.936	22.511	26.978	31.181	34.263	38.264
	Non-res Building	26.429	25.337	29.624	33.940	35.367	36.606	38.272
	Engineering/Civil	14.501	15.621	20.696	21.360	23.396	24.844	26.048
	Total	65.550	69.895	72.831	82.278	89.944	95.713	102.584
(Yr vs previous yr % Change)		*3.1%*	*6.6%*	*4.2%*	*13.0%*	*9.3%*	*6.4%*	*7.2%*

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

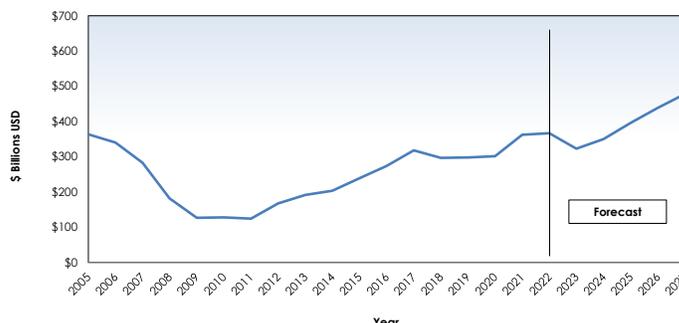# Tweeted by ConstructConnect:

@ConstructConnx

Link to article here: https://bit.ly/3NFx7Zs

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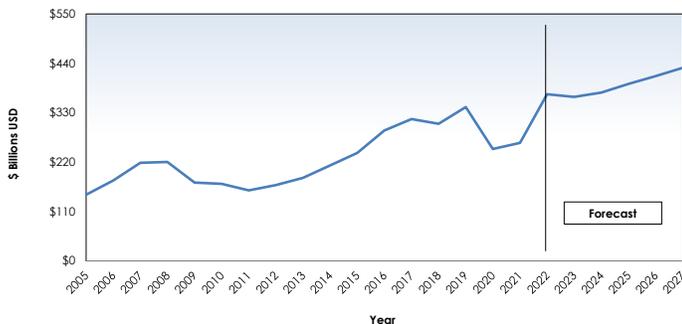

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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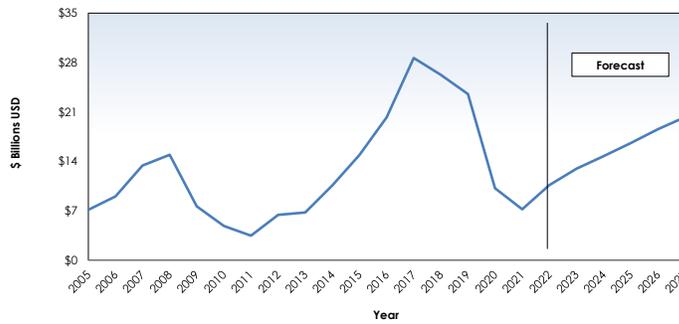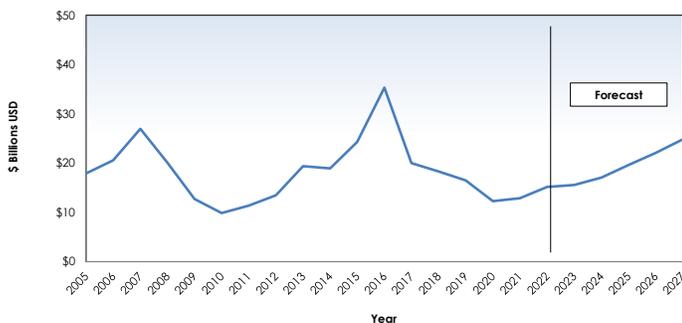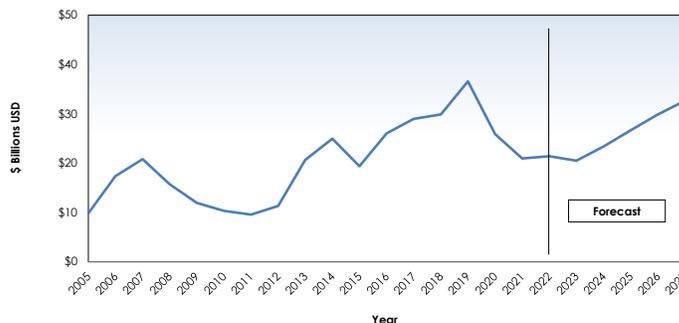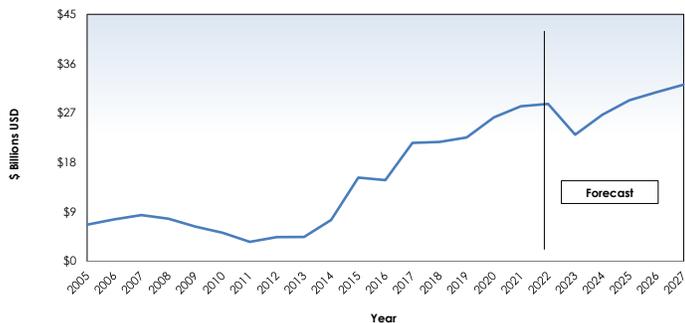

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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
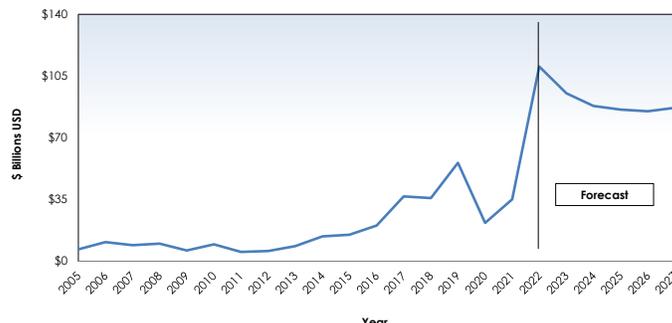

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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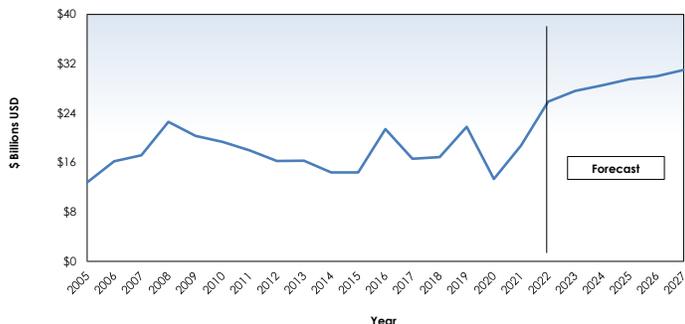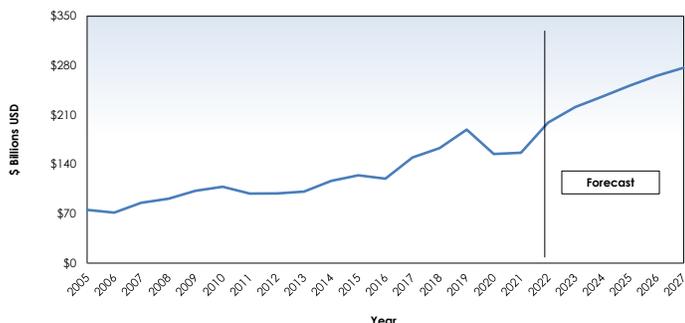

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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
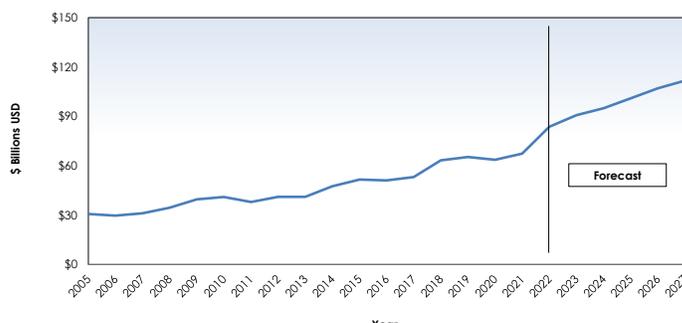

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

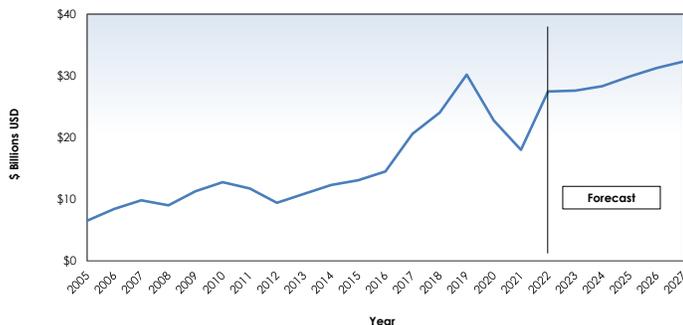**Graph 11: U.S. Total Heavy Engineering/Civil Construction Starts — ConstructConnect**

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

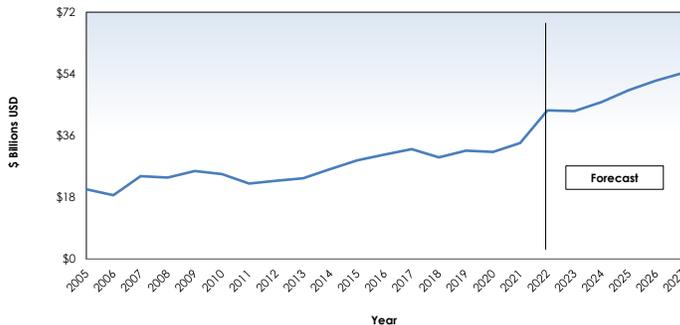**Graph 12: U.S. Roadwork Construction Starts — ConstructConnect**

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

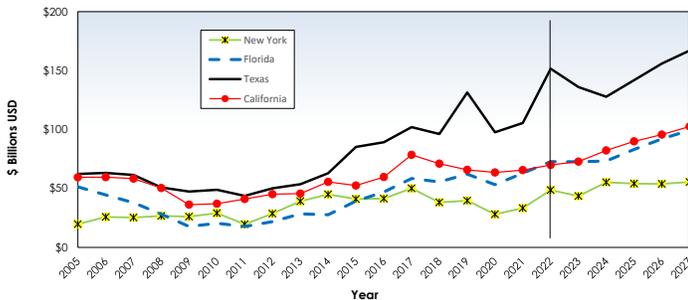### Graph 13: U.S. Bridge Construction Starts — ConstructConnect

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

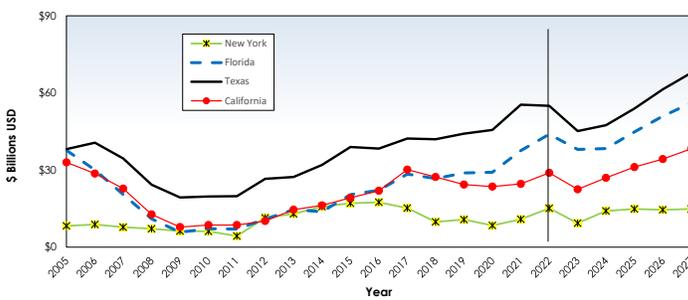### Graph 14: U.S. Water and Sewage Treatment Construction Starts — ConstructConnect

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
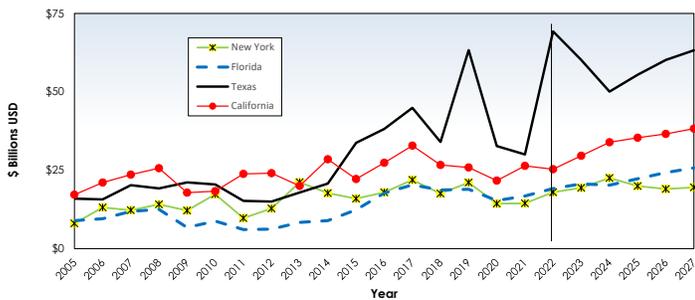

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

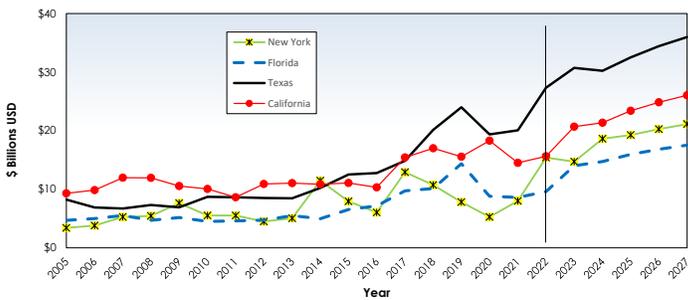### Graph 16: U.S. Four Largest States: Total Residential Construction Starts — ConstructConnect

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				
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Single-family	17.868	15.707	13.314	15.139	17.268	18.746	20.058
Multi-family	18.681	17.466	14.039	17.425	20.116	22.237	24.260
TOTAL RESIDENTIAL	36.550	33.172	27.353	32.565	37.385	40.983	44.318
(Yr/yr % change)	*32.3%*	*-9.2%*	*-17.5%*	*19.1%*	*14.8%*	*9.6%*	*8.1%*
Hotels/Motels	0.143	0.179	0.148	0.254	0.399	0.523	0.599
Private Offices	1.254	0.732	0.770	1.039	1.531	1.971	2.204
Govenmental Offices	1.183	4.974	2.036	2.140	2.214	2.309	2.361
Shopping/Retail	0.326	0.696	0.365	0.617	0.827	0.994	1.113
Retail Miscellaneous	0.078	0.207	0.144	0.188	0.214	0.242	0.265
Parking Garages	0.157	0.098	0.308	0.204	0.251	0.269	0.285
Amusement	2.547	2.332	1.946	2.424	2.748	3.018	3.272
Warehouses	2.350	2.189	1.857	2.066	2.208	2.314	2.367
TOTAL COMMERCIAL	8.038	11.407	7.576	8.931	10.393	11.639	12.467
(Yr/yr % change)	*-3.4%*	*41.9%*	*-33.6%*	*17.9%*	*16.4%*	*12.0%*	*7.1%*
TOTAL INDUSTRIAL (manufacturing)	11.675	8.398	12.515	13.000	9.165	8.697	8.666
(Yr/yr % change)	*375.9%*	*-28.1%*	*49.0%*	*3.9%*	*-29.5%*	*-5.1%*	*-0.4%*
Religious	0.109	0.033	0.030	0.037	0.043	0.048	0.053
Hospitals/Clinics	7.996	3.672	6.728	6.000	6.116	6.740	7.416
MED misc	0.100	0.554	0.349	0.411	0.477	0.544	0.595
Transportation Terminals*	0.348	1.626	3.181	4.163	4.009	3.792	3.605
Police/Fire	1.569	1.204	0.987	1.274	1.557	1.750	1.920
Educational Facilities	7.082	6.632	5.416	6.207	6.689	7.032	7.233
TOTAL INSTITUTIONAL	17.203	13.722	16.692	18.092	18.891	19.905	20.822
(Yr/yr % change)	*7.3%*	*-20.2%*	*21.6%*	*8.4%*	*4.4%*	*5.4%*	*4.6%*
TOTAL NON-RES BUILDING	36.916	33.527	36.783	40.024	38.449	40.241	41.955
(Yr/yr % change)	*37.7%*	*-9.2%*	*9.7%*	*8.8%*	*-3.9%*	*4.7%*	*4.3%*
Bridges	2.353	2.688	2.360	3.811	3.600	3.600	3.900
Dams/Canal/Marine	0.541	1.048	0.687	0.846	0.961	1.036	1.106
Water & Sewage Treatment	4.837	5.145	5.283	5.684	6.257	6.743	7.200
Roads	10.961	11.383	10.286	12.086	13.157	14.038	14.887
Power Infrastructure	4.402	2.396	5.109	6.464	7.258	7.674	8.112
All Other Civil (Oil & Gas etc.)	5.773	4.951	6.030	12.129	17.107	19.527	20.754
TOTAL ENGINEERING	*28.867*	*27.610*	*29.754*	*41.020*	*48.341*	*52.619*	*55.958*
(Yr/yr % change)	*-14.0%*	*-4.4%*	*7.8%*	*37.9%*	*17.8%*	*8.8%*	*6.3%*
TOTAL NON-RESIDENTIAL	65.783	61.137	66.537	81.044	86.790	92.860	97.913
(Yr/yr % change)	*9.0%*	*-7.1%*	*8.8%*	*21.8%*	*7.1%*	*7.0%*	*5.4%*
GRAND TOTAL	102.332	94.309	93.890	113.609	124.174	133.843	142.231
(Yr/yr % change)	*16.3%*	*-7.8%*	*-0.4%*	*21.0%*	*9.3%*	*7.8%*	*6.3%*

* 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**			
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Summary							
CIVIL	28.867	27.610	29.754	41.020	48.341	52.619	55.958
NON-RESIDENTIAL BUILDING	36.916	33.527	36.783	40.024	38.449	40.241	41.955
RESIDENTIAL	36.550	33.172	27.353	32.565	37.385	40.983	44.318
GRAND TOTAL	102.332	94.309	93.890	113.609	124.174	133.843	142.231
Verticals							
All Other Civil	5.773	4.951	6.030	12.129	17.107	19.527	20.754
Bridges	2.353	2.688	2.360	3.811	3.600	3.600	3.900
Dams / Canals / Marine Work	0.541	1.048	0.687	0.846	0.961	1.036	1.106
Power Infrastructure	4.402	2.396	5.109	6.464	7.258	7.674	8.112
Roads	10.961	11.383	10.286	12.086	13.157	14.038	14.887
Water and Sewage Treatment	4.837	5.145	5.283	5.684	6.257	6.743	7.200
CIVIL	28.867	27.610	29.754	41.020	48.341	52.619	55.958
(Yr/yr % change)	*-14.0%*	*-4.4%*	*7.8%*	*37.9%*	*17.8%*	*8.8%*	*6.3%*
Offices (private)	1.254	0.732	0.770	1.039	1.531	1.971	2.204
Parking Garages	0.157	0.098	0.308	0.204	0.251	0.269	0.285
Transportation Terminals	0.348	1.626	3.181	4.163	4.009	3.792	3.605
Commercial	1.759	2.456	4.259	5.407	5.792	6.031	6.094
(Yr/yr % change)	*-77.8%*	*39.6%*	*73.4%*	*26.9%*	*7.1%*	*4.1%*	*1.0%*
Amusement	2.547	2.332	1.946	2.424	2.748	3.018	3.272
Religious	0.109	0.033	0.030	0.037	0.043	0.048	0.053
Community	2.656	2.365	1.976	2.460	2.791	3.066	3.326
(Yr/yr % change)	*129.1%*	*-11.0%*	*-16.5%*	*24.5%*	*13.4%*	*9.9%*	*8.5%*
Educational	7.082	6.632	5.416	6.207	6.689	7.032	7.233
(Yr/yr % change)	*31.1%*	*-6.4%*	*-18.3%*	*14.6%*	*7.8%*	*5.1%*	*2.9%*
Fire and Police Stations	1.569	1.204	0.987	1.274	1.557	1.750	1.920
Government Offices	1.183	4.974	2.036	2.140	2.214	2.309	2.361
Government	2.751	6.178	3.023	3.413	3.771	4.058	4.281
(Yr/yr % change)	*7.4%*	*124.5%*	*-51.1%*	*12.9%*	*10.5%*	*7.6%*	*5.5%*
Manufacturing	11.675	8.398	12.515	13.000	9.165	8.697	8.666
Warehouses	2.350	2.189	1.857	2.066	2.208	2.314	2.367
Industrial	14.025	10.587	14.372	15.066	11.373	11.011	11.033
(Yr/yr % change)	*184.4%*	*-24.5%*	*35.8%*	*4.8%*	*-24.5%*	*-3.2%*	*0.2%*
Hospitals / Clinics	7.996	3.672	6.728	6.000	6.116	6.740	7.416
Medical Misc.	0.100	0.554	0.349	0.411	0.477	0.544	0.595
Medical	8.095	4.227	7.078	6.411	6.594	7.284	8.011
(Yr/yr % change)	*103.9%*	*-47.8%*	*67.4%*	*-9.4%*	*2.8%*	*10.5%*	*10.0%*
Hotels	0.143	0.179	0.148	0.254	0.399	0.523	0.599
Retail Misc.	0.078	0.207	0.144	0.188	0.214	0.242	0.265
Shopping	0.326	0.696	0.365	0.617	0.827	0.994	1.113
Retail	0.547	1.081	0.658	1.058	1.439	1.759	1.978
(Yr/yr % change)	*-35.4%*	*97.6%*	*-39.1%*	*60.8%*	*36.0%*	*22.2%*	*12.5%*
NON-RESIDENTIAL BUILDING	36.916	33.527	36.783	40.024	38.449	40.241	41.955
(Yr/yr % change)	*37.7%*	*-9.2%*	*9.7%*	*8.8%*	*-3.9%*	*4.7%*	*4.3%*
Multi-Family	18.681	17.466	14.039	17.425	20.116	22.237	24.260
Single-Family	17.868	15.707	13.314	15.139	17.268	18.746	20.058
RESIDENTIAL	36.550	33.172	27.353	32.565	37.385	40.983	44.318
(Yr/yr % change)	*32.3%*	*-9.2%*	*-17.5%*	*19.1%*	*14.8%*	*9.6%*	*8.1%*
TOTAL NON-RESIDENTIAL	65.783	61.137	66.537	81.044	86.790	92.860	97.913
(Yr/yr % change)	*9.0%*	*-7.1%*	*8.8%*	*21.8%*	*7.1%*	*7.0%*	*5.4%*
GRAND TOTAL	102.332	94.309	93.890	113.609	124.174	133.843	142.231
(Yr/yr % change)	*16.3%*	*-7.8%*	*-0.4%*	*21.0%*	*9.3%*	*7.8%*	*6.3%*

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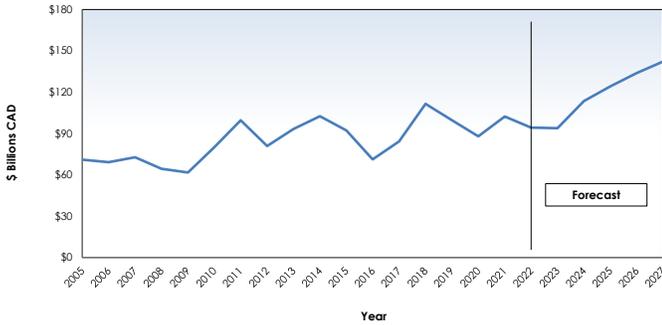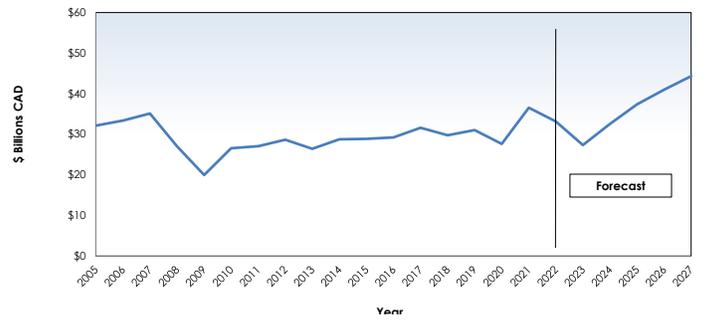
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

Table 9: Canadian Provinces, Total Construction Starts — ConstructConnect						
	Actuals (Level in $ Millions CAD)	Forecasts (Year versus previous year % change)				
Regions/Provinces (East to West)	2022	2023	2024	2025	2026	2027
Atlantic region	$4,292	26.7%	22.6%	7.6%	6.2%	3.8%
Quebec	$17,056	-2.4%	20.9%	10.3%	8.9%	6.9%
Ontario	$38,603	-20.3%	22.9%	1.8%	7.4%	6.9%
Manitoba	$2,713	-4.6%	6.3%	13.6%	9.1%	7.5%
Saskatchewan	$1,589	43.6%	39.6%	10.8%	9.8%	6.9%
Alberta	$15,755	4.0%	17.7%	19.1%	11.6%	8.1%
British Columbia	$14,300	38.5%	20.1%	12.1%	4.2%	3.5%
Canada	$94,309	-0.4%	21.0%	9.3%	7.8%	6.3%

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

Table 10: Canada Four Largest Provinces: Type-of-Structure Forecasts ($ Billions CAD)								
		Actuals		Forecasts				
		2021	2022	2023	2024	2025	2026	2027
Quebec	Residential	6.871	4.356	`	5.221	6.019	6.789	7.456
	Non-res Building	9.556	6.830	7.985	7.688	7.612	8.178	8.587
	Engineering/Civil	5.616	5.871	5.879	7.224	8.582	9.214	9.801
	Total	22.044	17.056	16.651	20.133	22.213	24.180	25.844
(Yr vs previous yr % Change)		30.5%	-22.6%	-2.4%	20.9%	10.3%	8.9%	6.9%
Ontario	Residential	15.939	13.476	11.311	13.137	15.012	16.375	18.033
	Non-res Building	7.484	16.810	11.749	13.393	11.659	12.321	12.788
	Engineering/Civil	8.182	8.318	7.688	11.274	11.821	12.650	13.380
	Total	31.605	38.603	30.748	37.804	38.493	41.346	44.202
(Yr vs previous yr % Change)		-11.4%	22.1%	-20.3%	22.9%	1.8%	7.4%	6.9%
Alberta	Residential	4.792	4.580	4.438	5.058	5.826	6.562	7.269
	Non-res Building	2.556	3.722	4.665	4.467	4.857	5.388	5.760
	Engineering/Civil	8.767	7.453	7.277	9.755	12.281	13.677	14.672
	Total	16.115	15.755	16.380	19.279	22.964	25.627	27.700
(Yr vs previous yr % Change)		26.0%	-2.2%	4.0%	17.7%	19.1%	11.6%	8.1%
British Columbia	Residential	6.262	8.079	7.026	7.197	8.282	8.810	8.906
	Non-res Building	7.373	3.929	8.130	8.826	8.573	8.203	8.427
	Engineering/Civil	1.922	2.292	4.643	7.761	9.815	10.767	11.429
	Total	15.557	14.300	19.799	23.785	26.670	27.780	28.761
(Yr vs previous yr % Change)		1.4%	-8.1%	38.5%	20.1%	12.1%	4.2%	3.5%

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

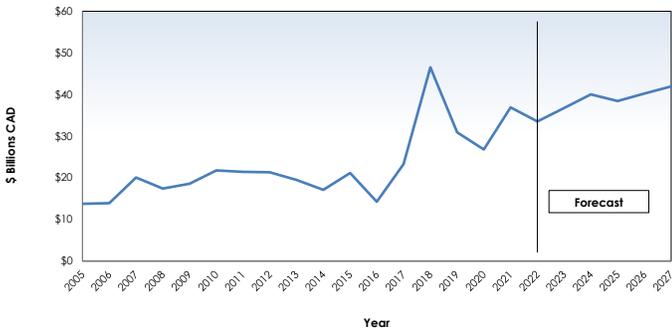## Graph 19: Canadian Grand Total Construction Starts — ConstructConnect

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

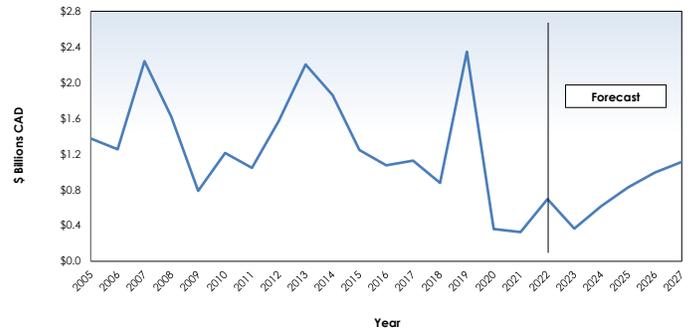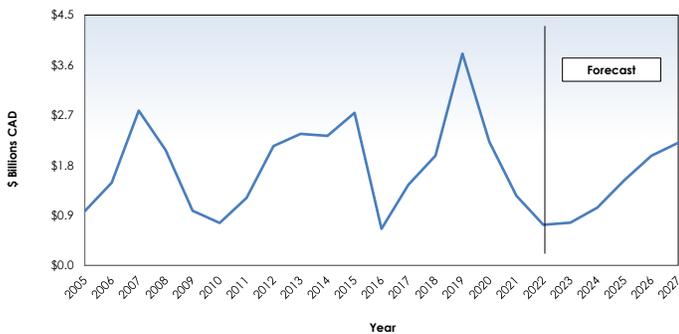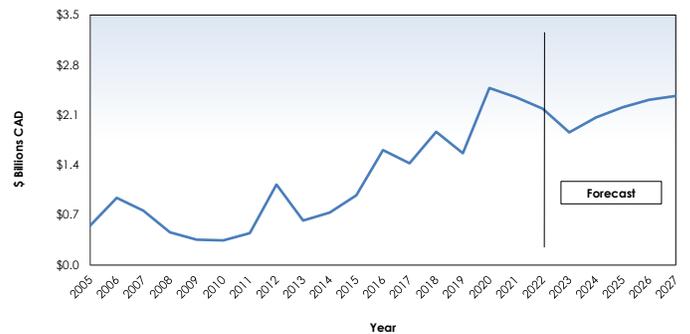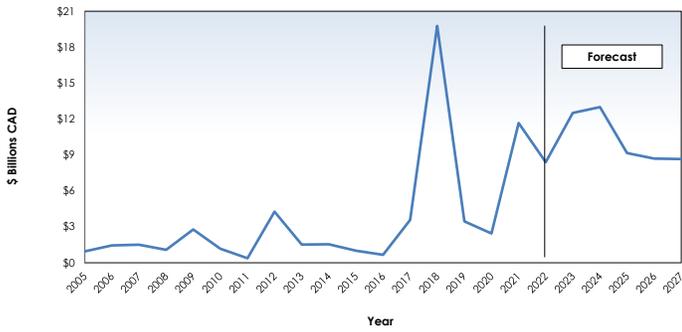## Graph 20: Canadian Residential Construction Starts — ConstructConnect

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.

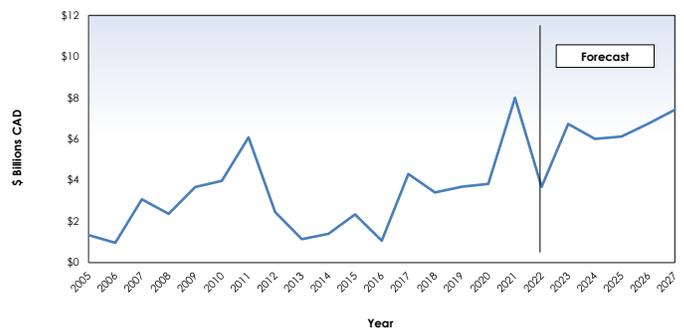## Graph 24: Canadian Warehouse Construction Starts — ConstructConnect

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

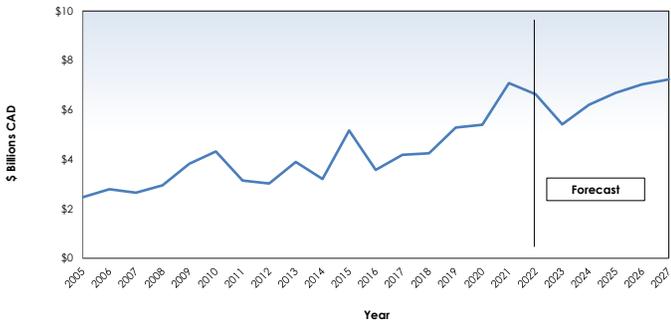**Graph 25: Canadian Industrial/Manufacturing Construction Starts — ConstructConnect**

Forecast

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

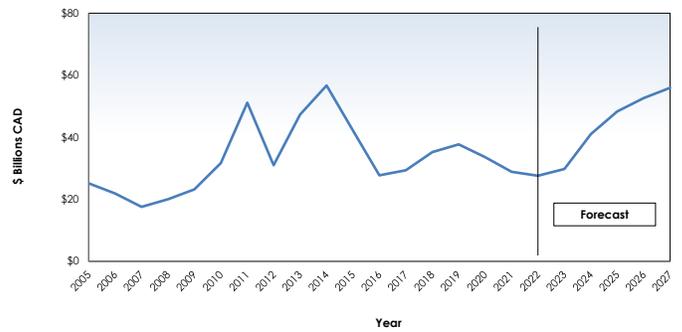**Graph 26: Canadian Hospital/Clinic Construction Starts — ConstructConnect**

Forecast

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

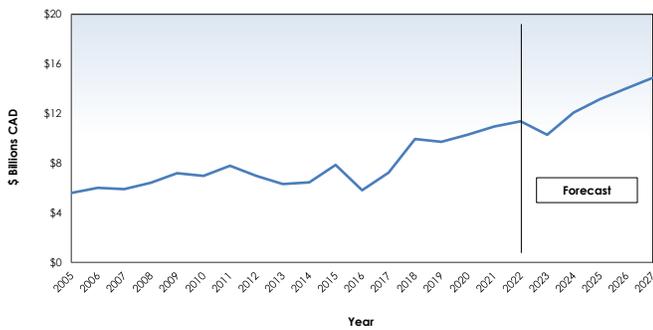**Graph 27: Canadian Education Construction Starts — ConstructConnect**

Forecast

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

Graph 28: Canadian Engineering Construction Starts — ConstructConnect
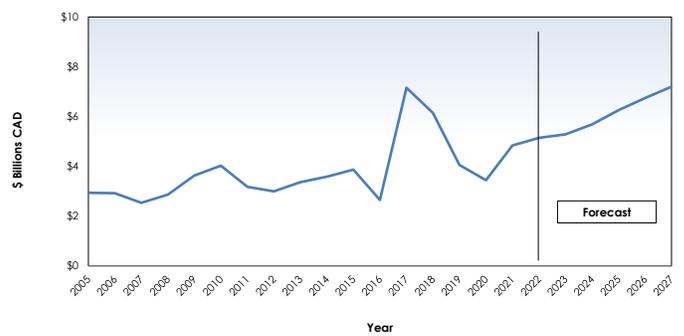
Forecast

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

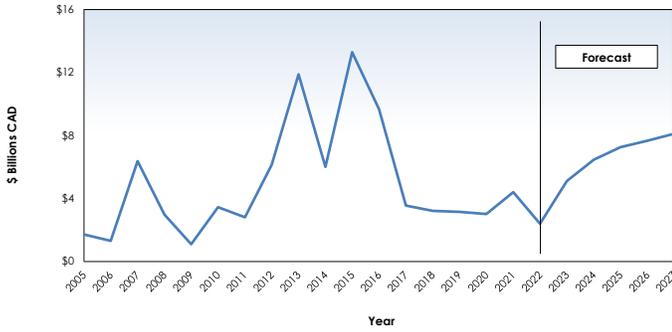**Graph 29: Canadian Roadwork Construction Starts — ConstructConnect**

Forecast

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

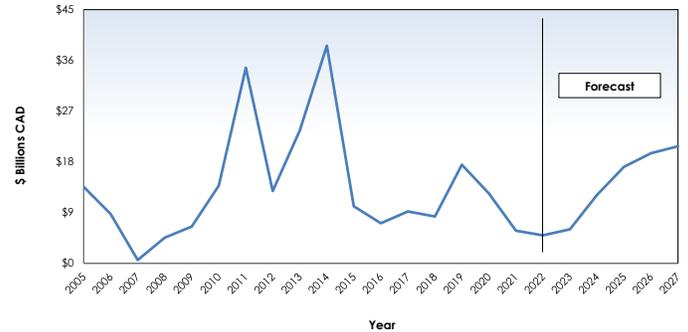**Graph 30: Canadian Water and Sewage Construction Starts — ConstructConnect**

Forecast

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

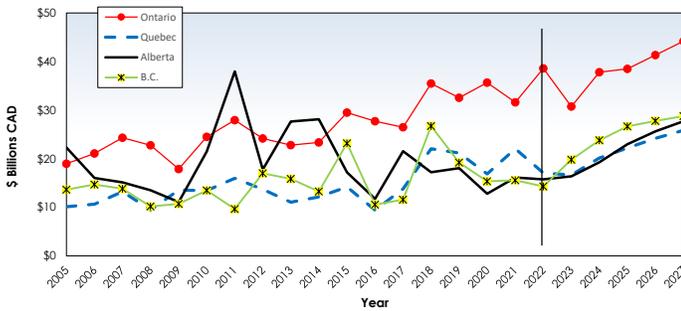**Graph 31: Canadian Power Infrastructure Construction Starts — ConstructConnect**

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

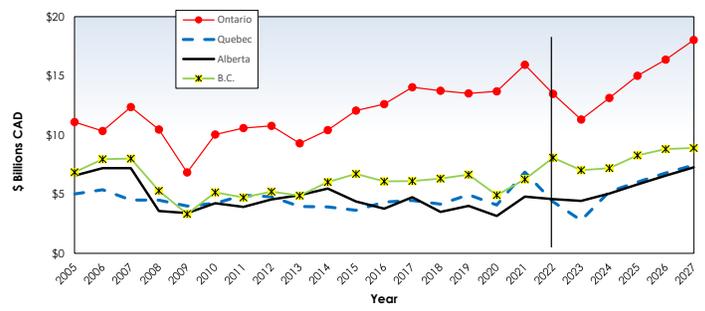**Graph 32: Canada All Other Civil (Oil Sands, Tunnels, RRs) Construction Starts — ConstructConnect**

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

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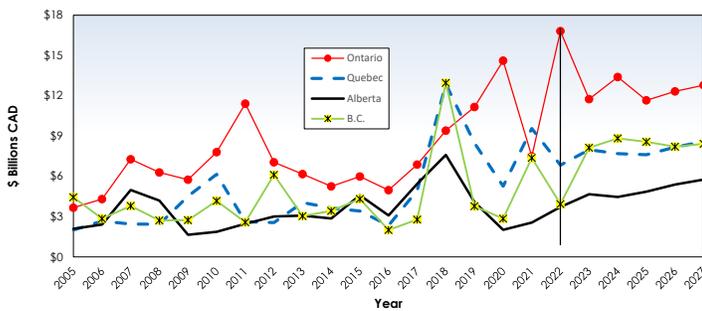

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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
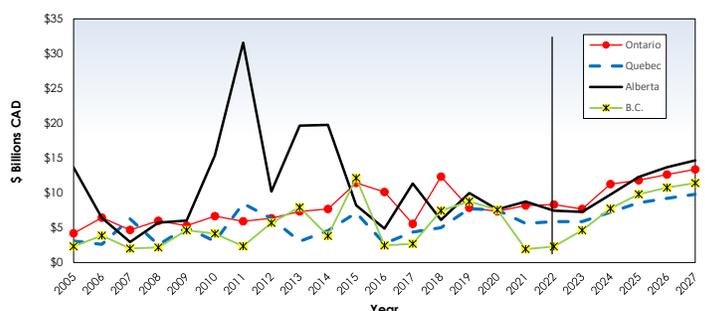

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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**				
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Single-family	2,130.8	1,861.1	1,612.6	1,765.7	1,994.3	2,229.2	2,433.4
Multi-family	575.7	729.6	579.5	646.5	752.5	826.3	899.9
TOTAL RESIDENTIAL	2,706.5	2,590.7	2,192.1	2,412.2	2,746.8	3,055.5	3,333.4
(Yr/yr % change)	*18.6%*	*-4.3%*	*-15.4%*	*10.0%*	*13.9%*	*11.2%*	*9.1%*
Hotels/Motels	30.8	38.9	42.3	56.2	70.6	83.8	97.1
Shopping/Retail	48.7	54.3	50.4	63.4	81.7	98.6	114.4
Parking Garages	15.0	18.0	18.2	18.9	20.7	22.5	24.1
Amusement	22.5	22.0	26.4	26.7	27.9	29.3	30.6
Private Offices	71.9	76.5	74.0	85.4	98.2	110.1	120.5
Govenmental Offices	16.4	17.1	17.2	16.9	17.9	18.6	19.4
Laboratories (Schools & Industrial)	5.5	9.1	7.3	7.3	7.7	8.3	8.8
Warehouses	267.3	242.6	200.9	230.9	252.6	265.0	276.7
Sports Stadium/Convention Center	14.2	13.6	17.0	14.3	14.9	15.5	15.9
Transportation Terminals	8.2	6.3	12.0	14.5	14.4	14.0	13.0
TOTAL COMMERCIAL	500.5	498.3	465.6	534.4	606.5	665.6	720.6
(Yr/yr % change)	*5.4%*	*-0.4%*	*-6.6%*	*14.8%*	*13.5%*	*9.7%*	*8.3%*
TOTAL INDUSTRIAL (manufacturing)	92.4	197.6	146.0	138.0	135.0	133.0	137.0
(Yr/yr % change)	*28.7%*	*113.9%*	*-26.1%*	*-5.5%*	*-2.2%*	*-1.5%*	*3.0%*
Religious	3.4	3.0	2.8	3.4	4.0	4.5	4.9
Hospitals/Clinics	23.8	27.1	35.8	39.2	44.9	49.5	55.1
Nursing Homes/Assisted Living	23.4	15.8	14.0	18.4	22.9	28.2	33.4
Libraries/Museums	6.4	3.1	3.3	3.5	3.6	3.8	3.9
Courthouse	4.4	1.9	2.5	2.6	2.7	2.9	3.0
Police/Fire	7.3	8.3	7.9	8.0	8.5	8.9	9.2
Prisons	1.7	4.2	4.0	4.6	5.0	5.3	5.6
Military	20.0	10.6	14.8	15.5	16.5	17.5	18.1
Educational Facilities	122.4	139.8	143.2	146.7	153.0	159.1	164.0
MED misc	15.4	17.2	18.0	19.4	21.6	23.8	25.4
TOTAL INSTITUTIONAL	228.1	230.9	246.5	261.2	282.7	303.3	322.6
(Yr/yr % change)	*-10.5%*	*1.2%*	*6.7%*	*6.0%*	*8.2%*	*7.3%*	*6.3%*
Miscellaneous Non-Res Building	21.2	21.8	19.7	20.8	21.8	22.9	24.0
TOTAL NON-RES BLDG	842.1	948.6	877.8	954.4	1,046.0	1,124.9	1,204.2
(Yr/yr % change)	*2.5%*	*12.6%*	*-7.5%*	*8.7%*	*9.6%*	*7.5%*	*7.0%*
RESIDENTIAL + NON-RES BLDG	3,548.6	3,539.2	3,069.9	3,366.6	3,792.8	4,180.4	4,537.5
(Yr/yr % change)	*14.3%*	*-0.3%*	*-13.3%*	*9.7%*	*12.7%*	*10.2%*	*8.5%*

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				
	2021	2022	2023	2024	2025	2026	2027
Summary							
NON-RESIDENTIAL BUILDING	842.1	948.6	877.8	954.4	1,046.0	1,124.9	1,204.2
RESIDENTIAL	2,706.5	2,590.7	2,192.1	2,412.2	2,746.8	3,055.5	3,333.4
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,548.6	3,539.2	3,069.9	3,366.6	3,792.8	4,180.4	4,537.5
Verticals							
Offices (private)	71.9	76.5	74.0	85.4	98.2	110.1	120.5
Parking Garages	15.0	18.0	18.2	18.9	20.7	22.5	24.1
Transportation Terminals	8.2	6.3	12.0	14.5	14.4	14.0	13.0
Commercial	95.2	100.8	104.2	118.8	133.3	146.6	157.7
(Yr/yr % change)	*-2.7%*	*5.9%*	*3.4%*	*14.0%*	*12.2%*	*10.0%*	*7.6%*
Amusement	22.5	22.0	26.4	26.7	27.9	29.3	30.6
Libraries / Museums	6.4	3.1	3.3	3.5	3.6	3.8	3.9
Religious	3.4	3.0	2.8	3.4	4.0	4.5	4.9
Sports Arenas / Convention Centers	14.2	13.6	17.0	14.3	14.9	15.5	15.9
Community	46.4	41.6	49.5	47.9	50.3	53.0	55.4
(Yr/yr % change)	*13.1%*	*-10.4%*	*19.0%*	*-3.2%*	*5.1%*	*5.3%*	*4.4%*
College / University	24.9	31.0	31.6	32.1	33.5	35.3	36.3
Elementary / Pre School	35.2	43.9	45.9	46.7	49.0	51.1	53.4
Jr / Sr High School	56.4	60.1	61.9	63.7	66.0	68.1	69.6
Special / Vocational	5.9	4.8	3.8	4.2	4.4	4.6	4.7
Educational	122.4	139.8	143.2	146.7	153.0	159.1	164.0
(Yr/yr % change)	*-16.7%*	*14.2%*	*2.4%*	*2.5%*	*4.2%*	*4.0%*	*3.1%*
Courthouses	4.4	1.9	2.5	2.6	2.7	2.9	3.0
Fire and Police Stations	7.3	8.3	7.9	8.0	8.5	8.9	9.2
Government Offices	16.4	17.1	17.2	16.9	17.9	18.6	19.4
Prisons	1.7	4.2	4.0	4.6	5.0	5.3	5.6
Government	29.7	31.5	31.6	32.1	34.1	35.6	37.2
(Yr/yr % change)	*10.5%*	*6.0%*	*0.2%*	*1.5%*	*6.3%*	*4.4%*	*4.6%*
Industrial Labs / Labs / School Labs	5.5	9.1	7.3	7.3	7.7	8.3	8.8
Manufacturing	92.4	197.6	146.0	138.0	135.0	133.0	137.0
Warehouses	267.3	242.6	200.9	230.9	252.6	265.0	276.7
Industrial	365.1	449.3	354.2	376.2	395.3	406.2	422.5
(Yr/yr % change)	*19.2%*	*23.1%*	*-21.2%*	*6.2%*	*5.1%*	*2.8%*	*4.0%*
Hospitals / Clinics	23.8	27.1	35.8	39.2	44.9	49.5	55.1
Medical Misc.	15.4	17.2	18.0	19.4	21.6	23.8	25.4
Nursing Homes	23.4	15.8	14.0	18.4	22.9	28.2	33.4
Medical	62.6	60.0	67.9	76.9	89.4	101.6	113.8
(Yr/yr % change)	*-3.2%*	*-4.1%*	*13.1%*	*13.3%*	*16.3%*	*13.6%*	*12.1%*
Military	20.0	10.6	14.8	15.5	16.5	17.5	18.1
(Yr/yr % change)	*-10.1%*	*-47.1%*	*40.6%*	*4.2%*	*6.7%*	*5.9%*	*3.6%*
Hotels	30.8	38.9	42.3	56.2	70.6	83.8	97.1
Retail Misc.	21.2	21.8	19.7	20.8	21.8	22.9	24.0
Shopping	48.7	54.3	50.4	63.4	81.7	98.6	114.4
Retail	100.6	114.9	112.4	140.4	174.1	205.3	235.5
(Yr/yr % change)	*-13.0%*	*14.2%*	*-2.2%*	*24.9%*	*24.0%*	*18.0%*	*14.7%*
NON-RESIDENTIAL BUILDING	842.1	948.6	877.8	954.4	1,046.0	1,124.9	1,204.2
(Yr/yr % change)	*2.5%*	*12.6%*	*-7.5%*	*8.7%*	*9.6%*	*7.5%*	*7.0%*
Multi-Family	575.7	729.6	579.5	646.5	752.5	826.3	899.9
Single-Family	2,130.8	1,861.1	1,612.6	1,765.7	1,994.3	2,229.2	2,433.4
RESIDENTIAL	2,706.5	2,590.7	2,192.1	2,412.2	2,746.8	3,055.5	3,333.4
(Yr/yr % change)	*18.6%*	*-4.3%*	*-15.4%*	*10.0%*	*13.9%*	*11.2%*	*9.1%*
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,548.6	3,539.2	3,069.9	3,366.6	3,792.8	4,180.4	4,537.5
(Yr/yr % change)	*14.3%*	*-0.3%*	*-13.3%*	*9.7%*	*12.7%*	*10.2%*	*8.5%*

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				
	2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Single-family	154.2	135.4	112.9	129.5	148.6	161.5	172.9
Multi-family	86.3	83.2	65.6	82.3	95.3	105.4	115.0
TOTAL RESIDENTIAL	240.4	218.6	178.5	211.7	243.8	266.9	287.9
(Yr/yr % change)	*30.4%*	*-9.1%*	*-18.4%*	*18.6%*	*15.2%*	*9.5%*	*7.9%*
Hotels/Motels	0.7	0.8	0.9	1.2	1.8	2.3	2.6
Private Offices	5.4	2.8	1.7	2.6	4.0	6.0	7.4
Govenmental Offices	1.2	1.3	1.2	1.4	1.5	1.6	1.7
Shopping/Retail	2.5	3.6	2.1	4.1	5.8	7.2	8.3
Retail Miscellaneous	0.4	0.7	0.4	0.7	0.8	0.9	1.0
Parking Garages	0.5	0.2	0.7	0.4	0.5	0.6	0.6
Amusement	3.7	3.4	2.6	3.9	4.6	5.2	5.7
Warehouses	14.3	15.1	11.8	13.1	14.4	15.1	15.5
TOTAL COMMERCIAL	28.7	27.7	21.4	27.2	33.4	38.9	42.9
(Yr/yr % change)	*12.4%*	*-3.3%*	*-22.7%*	*27.1%*	*22.6%*	*16.5%*	*10.2%*
TOTAL INDUSTRIAL (manufacturing)	5.5	7.1	10.4	10.7	5.6	5.5	5.4
(Yr/yr % change)	*6.5%*	*27.1%*	*46.8%*	*3.4%*	*-48.2%*	*-1.4%*	*-1.5%*
Religious	0.4	0.1	0.1	0.2	0.2	0.2	0.2
Hospitals/Clinics	10.2	5.9	7.8	7.8	8.4	9.3	10.0
MED misc	0.2	1.3	0.7	0.8	1.0	1.1	1.2
Transportation Terminals*	0.2	1.1	1.4	1.8	1.5	1.2	1.1
Police/Fire	1.8	1.4	1.2	1.5	1.8	1.9	2.0
Educational Facilities	14.0	10.6	8.4	10.7	12.0	13.0	13.7
TOTAL INSTITUTIONAL	26.7	20.3	19.5	22.7	24.9	26.7	28.2
(Yr/yr % change)	*26.6%*	*-24.0%*	*-3.8%*	*16.1%*	*9.7%*	*7.4%*	*5.6%*
TOTAL NON-RES BLDG	60.9	55.1	51.3	60.6	63.8	71.1	76.5
(Yr/yr % change)	*17.6%*	*-9.6%*	*-6.8%*	*18.1%*	*5.3%*	*11.4%*	*7.6%*
RESIDENTIAL + NON-RES BLDG	301.4	273.7	229.8	272.4	307.7	338.0	364.4
(Yr/yr % change)	*27.6%*	*-9.2%*	*-16.0%*	*18.5%*	*13.0%*	*9.9%*	*7.8%*

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

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

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

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

Table 14: Canada Type-of-Structure Forecasts						
Arranged to match the alphabetical category drop-down menus in INSIGHT (Square Feet Millions)						
	Actuals		Forecasts				
	2021	2022	2023	2024	2025	2026	2027
Summary							
NON-RESIDENTIAL BUILDING	60.9	55.1	51.3	60.6	63.8	71.1	76.5
RESIDENTIAL	240.4	218.6	178.5	211.7	243.8	266.9	287.9
RESIDENTIAL + NON-RESIDENTIAL BUILDING	301.4	273.7	229.8	272.4	307.7	338.0	364.4
Verticals							
Offices (private)	5.4	2.8	1.7	2.6	4.0	6.0	7.4
Parking Garages	0.5	0.2	0.7	0.4	0.5	0.6	0.6
Transportation Terminals	0.2	1.1	1.4	1.8	1.5	1.2	1.1
Commercial	6.1	4.1	3.8	4.7	6.0	7.8	9.1
(Yr/yr % change)	*-4.3%*	*-32.3%*	*-7.3%*	*22.0%*	*27.8%*	*29.7%*	*17.5%*
Amusement	3.7	3.4	2.6	3.9	4.6	5.2	5.7
Religious	0.4	0.1	0.1	0.2	0.2	0.2	0.2
Community	4.1	3.4	2.6	4.0	4.8	5.4	5.9
(Yr/yr % change)	*139.4%*	*-15.6%*	*-23.6%*	*52.6%*	*20.1%*	*11.5%*	*9.8%*
Educational	14.0	10.6	8.4	10.7	12.0	13.0	13.7
(Yr/yr % change)	*34.0%*	*-24.6%*	*-20.5%*	*26.8%*	*13.1%*	*7.7%*	*5.4%*
Fire and Police Stations	1.8	1.4	1.2	1.5	1.8	1.9	2.0
Government Offices	1.2	1.3	1.2	1.4	1.5	1.6	1.7
Government	3.0	2.6	2.5	2.9	3.3	3.5	3.8
(Yr/yr % change)	*-15.8%*	*-12.3%*	*-5.1%*	*17.8%*	*11.2%*	*7.9%*	*7.1%*
Manufacturing	5.5	7.1	10.4	10.7	5.6	5.5	5.4
Warehouses	14.3	15.1	11.8	13.1	14.4	15.1	15.5
Industrial	19.8	22.1	22.2	23.8	19.9	20.6	20.9
(Yr/yr % change)	*18.2%*	*11.7%*	*0.1%*	*7.5%*	*-16.4%*	*3.5%*	*1.4%*
Hospitals / Clinics	10.2	5.9	7.8	7.8	8.4	9.3	10.0
Medical Misc.	0.2	1.3	0.7	0.8	1.0	1.1	1.2
Medical	10.4	7.2	8.4	8.6	9.4	10.4	11.2
(Yr/yr % change)	*25.0%*	*-30.7%*	*17.1%*	*1.9%*	*9.2%*	*11.1%*	*7.7%*
Hotels	0.7	0.8	0.9	1.2	1.8	2.3	2.6
Retail Misc.	0.4	0.7	0.4	0.7	0.8	0.9	1.0
Shopping	2.5	3.6	2.1	4.1	5.8	7.2	8.3
Retail	3.6	5.0	3.4	6.0	8.4	10.4	11.9
(Yr/yr % change)	*-23.6%*	*40.6%*	*-31.9%*	*75.4%*	*41.2%*	*23.6%*	*13.8%*
NON-RESIDENTIAL BUILDING	60.9	55.1	51.3	60.6	63.8	71.1	76.5
(Yr/yr % change)	*17.6%*	*-9.6%*	*-6.8%*	*18.1%*	*5.3%*	*11.4%*	*7.6%*
Multi-Family	86.3	83.2	65.6	82.3	95.3	105.4	115.0
Single-Family	154.2	135.4	112.9	129.5	148.6	161.5	172.9
RESIDENTIAL	240.4	218.6	178.5	211.7	243.8	266.9	287.9
(Yr/yr % change)	*30.4%*	*-9.1%*	*-18.4%*	*18.6%*	*15.2%*	*9.5%*	*7.9%*
RESIDENTIAL + NON-RESIDENTIAL BUILDING	301.4	273.7	229.8	272.4	307.7	338.0	364.4
(Yr/yr % change)	*27.6%*	*-9.2%*	*-16.0%*	*18.5%*	*13.0%*	*9.9%*	*7.8%*

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

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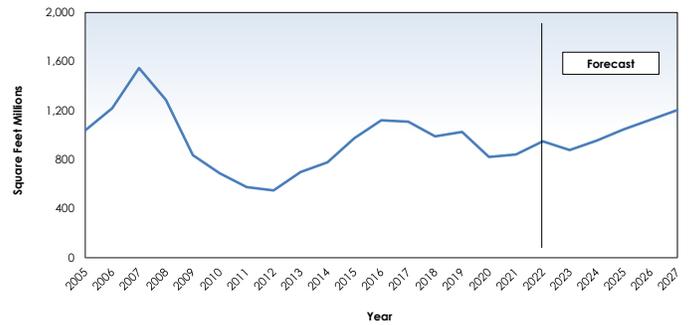
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

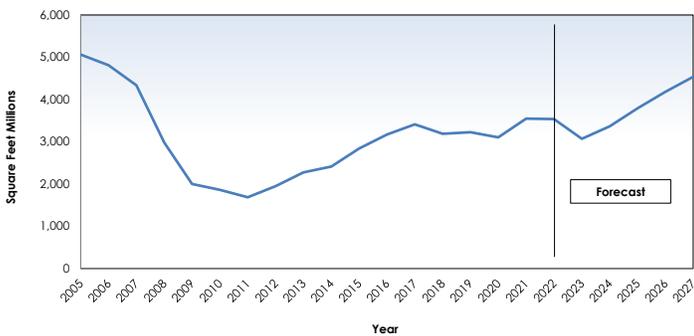### Graph 37: U.S. Residential Construction Starts — ConstructConnect
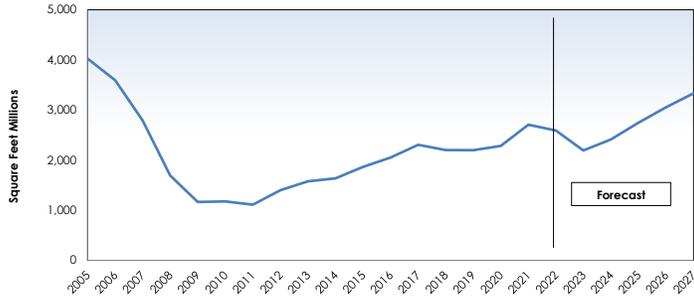
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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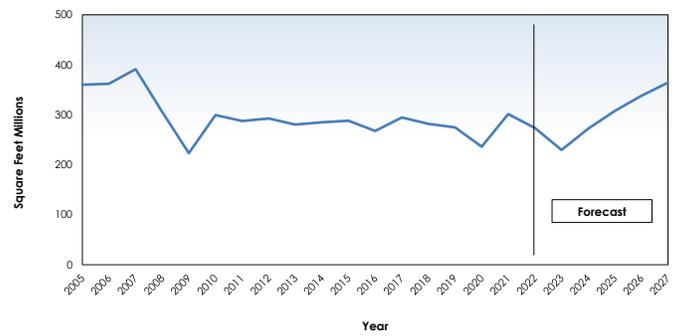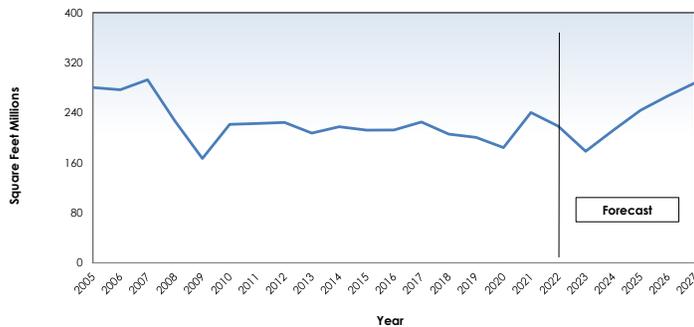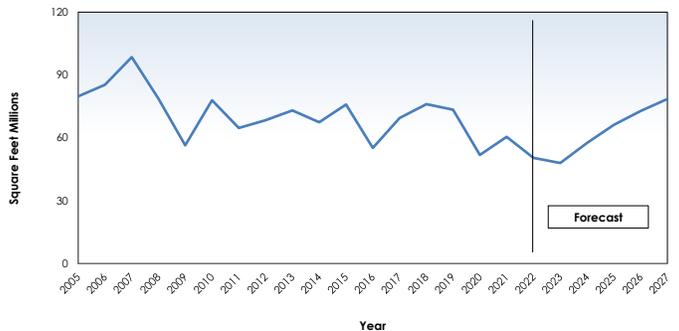

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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

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

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

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

Graph 41: Canada Residential Construction Starts — ConstructConnect

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

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

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