Construction Starts Forecast

Contents

> **Through** April **of this year,**
> Canada **has accounted**
> **for nearly** 18% **of** U.S.
> goods export shipments
> **and** Mexico, **nearly** 16%.
> China **is in** third **spot, well back**
> **at** 6.2%. **No other country** takes
> **more than** 5% **of U.S. goods**
> **export shipments.**

Highlights

- US construction starts declined by 8.9% year-on-year in Q2 2019. Both residential and non-residential building projects fell from a year earlier, while new civil engineering construction increased 13.1% year-on-year.

- The economy has maintained reasonable momentum in early-2019, with GDP expanding at an annualized rate of 3.1% in Q1 and slowing to 2.1% in Q2. The economy is facing headwinds due to reduced fiscal stimulus, slower global growth and lingering trade uncertainty, but in the near-term, a strong labor market and resilient private sector confidence should prevent an immediate downturn. GDP growth is expected at 2.6% in 2019 before slowing to 1.8% in 2020.

- Total US construction starts are expected to fall 3.9% in 2019 before improving to 3.6% growth in 2020. Residential starts are forecast to contract in 2019, driven by affordability issues and supply-side pressures, but improved affordability conditions and a demographic boost should support a rebound in 2020. Non-residential building starts are also expected to fall with a weaker investment outlook weighing on the prospects of several sectors. Engineering construction starts, by contrast, are expected to rise, boosted by upcoming pipeline, railroad and airport projects.

- Canadian construction starts declined by 54.8% year-on-year in Q2 2019 with steep declines in all three headline sectors. Canadian construction in early-2019 has yet to see any major projects valued at over C$1 billion, compared to six such mega-projects in the first half of 2018.

- Total Canadian construction starts are forecast to decline by 20.4% this year, before returning to growth of 13.8% in 2020. Both the residential and non-residential building segments are expected to contract, by 14.9% and 40.9% respectively, although the latter decline follows annual growth above 90% in 2018. Civil engineering construction is expected to post modest growth of 1.3%, driven by construction of new energy projects.

Sources: ConstructConnect®/Oxford Economics.
Forecast reflects actual starts through Q2 2019.

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Overview

US construction continued its downward trend in Q2

Total US construction starts contracted by 8.9% year-on-year in Q2 2019. Groundbreaking on both residential and non-residential projects fell in year-on-year terms, while construction on new engineering projects increased from a year earlier. New residential construction fell for the sixth consecutive quarter, down 16.6% year-on-year, the steepest decline since the global financial crisis. Groundbreaking on apartment complexes fell by 33.4% year-on-year, while single-family construction contracted 9.6%.

Non-residential building starts fell 13.2% year-on-year, with a mixed picture across the subsectors. Several subsectors experienced annual declines of more than 40%, including sports & convention centers, prisons, industrial labs, hotels & motels, amusement, religious facilities, and hospitals. However, these declines were partially offset by strong growth in a few segments, underpinned by mega-projects. Starts of new transportation terminals grew by 72.2%, driven by construction of a $3.2 billion light rail extension in Seattle. Construction of private offices increased by 39.4% year-on-year, boosted by groundbreaking on a new Microsoft campus in Washington state. Factory construction also saw a number of large projects in Q2, including a $1.67 billion car battery plant in Georgia and a $10 billion LNG export terminal in Texas. However, several megaprojects dropped out of the annual calculation from Q2 2018, including a $10 billion Foxconn plant in Wisconsin, so manufacturing starts fell 13.7% year-on-year.

The 13.1% increase in civil engineering projects was boosted by strong increases in the power infrastructure and dams, canals & marine work segments. Construction in new power infrastructure increased by 173% year-on-year, driven by a $3.1 billion wind power station in Wyoming. Dams, canals & marine work grew 120% from a year earlier, boosted by a $1.685 billion dam project in Pennsylvania. Construction of new airports and bridges also increased at a double-digit pace, with only the water &

Table 1: Summary forecasts (Annual percentage changes unless specified otherwise)							
	2017	2018	2019	2020	2021	2022	2023
US							
Macro variables							
GDP	2.2	2.9	2.6	1.8	1.9	1.8	1.9
Population growth	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Unemployment rate (%)	4.4	3.9	3.6	3.5	3.7	3.8	3.9
Real disposable income	2.6	2.8	2.1	1.9	1.7	1.8	1.8
Central bank rate (%)	1.0	1.8	2.2	1.6	1.6	1.9	2.1
10-year government yield (%)	2.3	2.9	2.2	1.9	2.0	2.3	2.5
Construction starts (y/y % change of $ volumes)							
Total starts	14.5	-2.8	-3.9	3.6	4.4	4.4	4.2
Residential	16.2	-6.9	-7.7	3.5	4.8	6.0	6.4
Non-res bldg	8.7	-4.0	-4.8	2.6	3.2	3.0	2.6
Civil engineering	25.1	8.5	4.5	5.6	5.7	4.2	3.4
Canada							
Macro variables							
GDP	3.0	1.9	1.2	1.4	1.5	1.6	1.5
Population growth	1.2	1.4	1.2	1.0	0.9	0.9	0.9
Unemployment rate (%)	6.3	5.8	5.6	5.6	5.8	5.9	5.9
Real disposable income	3.9	2.1	2.1	2.2	1.9	1.8	1.8
Central bank rate (%)	0.7	1.4	1.7	1.5	1.5	1.7	2.0
10-year government yield (%)	1.8	2.3	1.6	1.5	1.7	1.9	2.1
Exchange rate C$ per US$	1.30	1.30	1.33	1.29	1.27	1.25	1.23
Construction starts (y/y % change of $ volumes)							
Total starts	17.9	28.4	-20.4	13.8	8.3	5.2	3.5
Residential	8.2	-7.5	-14.9	5.6	3.8	4.3	4.3
Non-res bldg	61.3	92.6	-40.9	16.7	8.2	4.3	3.6
Civil engineering	5.7	16.6	1.3	17.4	11.2	6.5	3.1

sewage and miscellaneous civil engineering segments shrinking in year-on-year terms.

Other indicators of the health of the construction sector are also weak. Following signs of improvement earlier in the year, the Census Bureau's put-in-place measure of construction spending fell back on the month in May and is now below its level a year ago. Construction starts are a leading indicator for put-in-place construction, so the recent weakness in starts suggests that construction spending could be anemic for much of the remainder of the year. By contrast, the construction labor market continues to look healthy. Establishment-based employment data show solid job growth in the construction sector in Q2, with 60,000 jobs added over the quarter. However, labor shortages, especially for skilled workers, could

constrain construction output. The JOLTS labor market survey shows job vacancy rates in the construction sector close to historic highs, although the monthly readings are volatile. Meanwhile, hourly earnings in the construction sector were up 3.2% year-on-year in Q2 and the unemployment rate fell to an historic Q2 low of 4.4% (the data are not seasonally adjusted). Some of the recent weakness in groundbreaking may be a sign that labor shortages are limiting the extent to which construction activity can keep pace with demand.

Economy moderating through 2020

The economic expansion has continued apace through the first half of 2019, with GDP rising at a 3.1% annualized rate in Q1, before slowing to 2.1% in Q2. While eco-

nomic headwinds persist due to reduced fiscal stimulus, slower global growth and lingering trade uncertainty, strong labor market fundamentals and resilient private sector confidence should prevent an imminent downturn. GDP growth is expected at 2.6% in 2019 before slowing to 1.8% in 2020.

Labor market activity remains solid — the economy added 224,000 jobs in June and year-on-year wage growth remains above 3%. We expect job growth to slow to a still healthy 150,000 per month later this year, driven by gradually softening economic activity and diminished slack in the labor market. In addition, rising incomes and strong household wealth should continue to support consumer confidence and solid growth in household spending.

Business activity, by contrast, is expected to moderate over the next two years. The boost from energy investment is expected to ease, and the benefits from the Tax Cuts and Jobs Act are expected to gradually fade. Business investment* growth is expected to slow to 3.8% in 2019 and 2.4% in 2020. Housing activity has been weak in early-2019, due to affordability issues and cost pressures faced by builders. However, affordability conditions are improving, and a demographic boost should support a modest rebound in housing activity in H2. After a weak first half to the year, residential investment is expected to fall 1.7% in 2019, before rebounding to 1.5% growth in 2020.

The Federal Reserve has adopted a more dovish tone of late and recent statements suggest interest rate cuts in the coming months. We now see three 25 basis point rate cuts in the next nine months compared to a single rate cut in our previous update.

US construction starts to decline for second consecutive year

After a weak first half of the year, we expect US construction starts to fall for the second consecutive year in 2019, down 3.9%, before recovering to 3.6% growth in 2020. Residential starts are expected to shrink 7.7% and non-residential building is expected to fall 4.8%, with growth of 4.5% in the engineering sector providing some offset.

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

Construction of both single-family and multi-family housing units is now seen shrinking in 2019. Single-family construction starts are expected to contract by 1.9%, the first annual decline since 2011. Declining affordability conditions have weighed on home sales in early-2019, and supply-side cost pressures have also dented new construction activity. However, affordability conditions are improving, and lower interest rates and rising wages should support a rebound in single-family construction in the second half of the year. In addition, demographic factors should also support single-family housing — family formation by the millennial generation should boost demand for houses. Starts of multi-family housing units are expected to decline 20.1% this year. Rising prices in cities (with a greater share of apartment living), supply-side planning restrictions, and rising labor and material costs are weighing on the outlook. Although apartment/condo construction is expected to return to growth in 2020, the demographics are less favorable, and it will lag single-family construction throughout the forecast period.

Despite the weakness early in the year, groundbreaking on a number of large projects is expected to begin in late-2019 and early-2020 in the non-residential building sector. In the manufacturing sector, for example, construction is expected to begin on several new LNG plants (the largest of

which are in Louisiana, Oregon and Texas) over the next two years, and construction is also expected on an ethylene and polymer plant in Louisiana. The competitiveness of US manufacturing has improved in recent years, due to cheap energy prices, a skilled workforce, advanced technology supply chains and a large domestic market. Factory construction has benefitted as a result.

Transportation terminals is another segment with several large upcoming prospects including bus and railway projects over the next two years — transport terminal construction is expected to rise 76.1% in 2019 and a further 15.8% in 2020. Nonetheless, steep declines in several sectors is offsetting this in 2019. Annual decreases of more than 20% are expected in hotels & motels, amusement, industrial laboratories, sports stadiums & convention centers, and prisons, and several other sectors are expected to post shallower declines.

In the civil engineering segment, the large dam and power plant projects posted in the most recent quarter have led to a slight upgrade to our forecast over the last three months. Looking to the next two years, a number of large pipeline and airport projects are expected to come on stream. In airport work, multi-billion dollar expansions are planned at New York's JFK and at several other international hubs. Also, construction of several railway and tunnel projects will lift the miscellaneous civil engineering sector.

*Business investment statistics differ somewhat from starts statistics both in coverage and timing.

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Sharp contraction in Canadian construction

Total construction starts in Canada declined by 54.8% year-on-year in Q2 2019 with steep declines in each of the three headline segments of non-res building, residential and civil engineering. Nonresidential building declined by nearly 70% year-on-year, with a particularly steep 95.7% annual decline in the manufacturing subsector. However, groundbreaking began in Q2 2018 on two large industrial projects — a C$3.5 billion dehydrogenation plant in Alberta and a C$1.7 billion polyethylene plant expansion in Ontario — which distorts the annual calculation. Outside of manufacturing, the warehouse, hospital, retail, and police & fire sectors all posted annual declines of more than 50%, although the latter segment was also influenced by a large project in the same period last year. Civil engineering starts contracted 56.3% from the same period a year earlier. All sub-sectors in engineering fell in year-on-year terms, with especially large declines in power infrastructure (-94.2%) and water & sewage treatment plants (-67.5%). New residential construction declined 33.1%, the biggest decline since the global financial crisis. Overall, Canadian construction starts have had a disappointing first half of 2019 — year-to-date starts are down 47.8%. In the first half of 2018, groundbreaking began on six projects valued at over C$1 billion each. By contrast, there have been no large projects in H1 2019. If mega-projects are excluded from the calculation, the year-to-date decline is a milder 28%.

The Canadian economy grew just 0.3-0.4% annualized in Q4 2018 and Q1 2019, but key indicators, including retail and wholesale trade, home sales, and exports, suggest that economic activity has improved since then. We expect quarterly GDP growth to improve to an annualized rate of 1.8% in both Q2 and Q3, before slowing to around 1.2-1.4% annualized by the end of the year.

We expect GDP to grow 1.2% in 2019, picking up to 1.4% in 2020. High household indebtedness will continue to weigh on consumer spending, which we expect to slow to 2.0% in 2019 and 1.6% in 2020. Meanwhile, persistent trade policy uncertainty and slowing external demand are expected to constrain business investment and exports. While the recent approval of the Trans Mountain pipeline expansion is a positive for the energy sector, the main benefits will be felt in the longer-term. A recent uptick in the inflation rate means that the Bank of Canada is likely to keep rates on hold for now, but a slowing economy should give room for a 25bp cut in December.

After a bad start to the year, total Canadian construction starts are expected to decline by 20.4% in 2019 amid drops in both residential and non-residential building. Civil engineering construction is expected to manage a small increase. Although this would be among the worst annual performances since the series began in 2005, the forecast hinges on a marked improvement in the second half of the year. Indeed, construction of pipeline work and energy projects is expected to start before year end, boosting growth in the manufacturing and miscellaneous civil engineering sectors.

After a weak start to the year, civil engineering construction is expected to strengthen later in the year, growing by 1.3% for the year as a whole, driven by new energy projects. Construction in the miscellaneous civil sector, which includes oil & gas projects, fell sharply during the oil price collapse of 2014-16. More recently, downstream transport bottlenecks have created the need for investment in pipeline and railroad transport. Indeed, construction of a number of new pipeline projects is expected over the forecast horizon. Despite weakness in H1 2019, miscellaneous civil engineering starts are expected to pick up in the second half of the year and into 2020.

Non-residential building starts are forecast to decrease 40.9% in 2019, although this follows 92.6% growth in 2018. New transportation terminal construction, in particular, is expected to shrink 81.2%, as a C$6.3 billion Montreal metro extension in early-2018 has fallen out of the annual calculation. Next year, new transport projects in Toronto, Vancouver and Edmonton should underpin renewed growth in the sector. Manufacturing construction is also expected to decline this year as large projects in 2018 fall out of the annual calculation — most notably a C$10 billion LNG plant in British Columbia in Q4, but also the dehydrogenation plant in Alberta and polyethylene plant in Ontario. Anecdotally, Canadian manufacturing has been struggling, most notably with the announced closure of GM's Oshawa plant. Nonetheless, construction on a number of LNG plants is expected over the next few years, which should keep factory construction at a high level.

Residential construction starts are expected to shrink for the second consecutive year in 2019, by 14.9%, with declines expected in both the single-family and multi-family segments. High levels of household indebtedness, ongoing affordability issues and stagnant house prices have left the Canadian housing market vulnerable to an economic slowdown. Moreover, tighter macroprudential policies aimed at cooling the housing market in Toronto and Vancouver in particular will weigh on homebuilding, especially in the multi-family segment. Although the single-family segment is expected to be especially weak this year, shrinking by 21.6%, demographic trends favor single-family homebuilding, so growth is more robust over the forecast period. Population growth in Canada is healthy, especially compared to other developed economies, and like in the US, a sizable millennial generation is forming families and moving into larger housing.

Table 3: U.S. Type-of-Structure Forecasts							
($ Billions USD)							
	Actuals		**Forecasts**				
	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Single-family	199.937	202.422	198.543	206.827	215.535	229.539	245.560
Multi-family	117.978	93.502	74.738	75.976	80.912	84.552	88.751
TOTAL RESIDENTIAL	317.915	295.924	273.281	282.803	296.447	314.091	334.311
(Yr/yr % change)	*16.2%*	*-6.9%*	*-7.7%*	*3.5%*	*4.8%*	*6.0%*	*6.4%*
Hotels/Motels	28.645	26.151	18.845	17.898	17.547	17.561	18.035
Shopping/Retail	19.999	18.057	15.114	14.704	15.186	16.185	16.905
Parking Garages	3.514	2.847	3.096	3.030	3.139	3.238	3.365
Amusement	7.854	8.530	6.476	7.068	7.418	7.743	7.995
Private Offices	28.974	29.545	26.673	28.614	29.636	29.810	29.709
Govenmental Offices	10.572	10.727	10.863	11.256	11.485	11.702	11.860
Laboratories (Schools & Industrial)	2.994	2.907	2.124	2.654	2.817	2.944	3.060
Warehouses	21.567	21.493	18.703	17.568	18.331	19.323	20.270
Sports Stadium/Convention Center	15.493	7.011	5.246	7.066	7.904	8.789	9.650
Transportation Terminals	3.839	5.142	9.057	10.485	11.550	12.240	12.743
TOTAL COMMERCIAL	143.452	132.410	116.197	120.343	125.014	129.535	133.593
(Yr/yr % change)	*4.7%*	*-7.7%*	*-12.2%*	*3.6%*	*3.9%*	*3.6%*	*3.1%*
TOTAL INDUSTRIAL (manufacturing)	36.748	35.482	41.994	38.466	39.241	40.865	42.081
(Yr/yr % change)	*81.9%*	*-3.4%*	*18.4%*	*-8.4%*	*2.0%*	*4.1%*	*3.0%*
Religious	2.246	2.186	1.894	1.966	1.991	2.013	2.032
Hospitals/Clinics	16.628	16.751	14.083	15.064	15.775	16.457	17.177
Nursing Homes/Assisted Living	11.906	10.632	9.207	9.821	10.110	10.400	10.694
Libraries/Museums	3.582	2.733	3.169	3.244	3.349	3.469	3.560
Courthouse	2.698	1.928	2.098	2.279	2.336	2.383	2.450
Police/Fire	2.858	3.039	3.345	3.439	3.616	3.805	3.927
Prisons	2.886	3.163	2.199	2.571	2.741	2.850	2.918
Military	4.776	5.223	5.444	6.280	6.674	6.950	7.174
Educational Facilities	69.453	71.133	72.743	75.523	77.010	78.028	78.859
MED misc	10.909	11.228	9.350	10.014	10.538	10.819	11.108
TOTAL INSTITUTIONAL	127.941	128.016	123.532	130.201	134.139	137.173	139.899
(Yr/yr % change)	*2.6%*	*0.1%*	*-3.5%*	*5.4%*	*3.0%*	*2.3%*	*2.0%*
Miscellaneous Non-Res Building	7.661	7.181	6.703	6.786	6.938	7.058	7.143
TOTAL NON-RES BLDG	315.802	303.090	288.427	295.796	305.332	314.631	322.716
(Yr/yr % change)	*8.7%*	*-4.0%*	*-4.8%*	*2.6%*	*3.2%*	*3.0%*	*2.6%*
Airport	12.541	7.146	6.973	9.164	10.225	11.128	11.993
Roads	53.103	63.220	66.696	70.803	74.113	76.696	79.321
Bridges	20.610	24.046	26.678	27.807	28.666	29.356	30.018
Dams/Canal/Marine	5.089	6.650	8.459	7.892	8.080	8.318	8.535
Water & Sewage Treatment	32.041	29.460	29.616	31.649	33.049	34.655	36.049
Misc Civil (Power, etc.)	26.358	31.889	31.258	31.854	35.241	37.128	38.054
TOTAL ENGINEERING	149.741	162.410	169.680	179.168	189.375	197.280	203.970
(Yr/yr % change)	*25.1%*	*8.5%*	*4.5%*	*5.6%*	*5.7%*	*4.2%*	*3.4%*
TOTAL NON-RESIDENTIAL	465.544	465.500	458.107	474.964	494.707	511.910	526.686
(Yr/yr % change)	*13.5%*	*0.0%*	*-1.6%*	*3.7%*	*4.2%*	*3.5%*	*2.9%*
GRAND TOTAL	783.459	761.424	731.388	757.767	791.154	826.001	860.997
(Yr/yr % change)	*14.5%*	*-2.8%*	*-3.9%*	*3.6%*	*4.4%*	*4.4%*	*4.2%*

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

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

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

Table 4: U.S. Type-of-Structure Forecasts						
Arranged to match the alphabetical category drop-down menus in INSIGHT ($ Billions USD)						
Actuals		**Forecasts**				
2017	2018	2019	2020	2021	2022	2023
Summary						
CIVIL 149.741	162.410	169.680	179.168	189.375	197.280	203.970
NON-RESIDENTIAL BUILDING 315.802	303.090	288.427	295.796	305.332	314.631	322.716
RESIDENTIAL 317.915	295.924	273.281	282.803	296.447	314.091	334.311
GRAND TOTAL 783.459	761.424	731.388	757.767	791.154	826.001	860.997
Verticals						
Airport 12.541	7.146	6.973	9.164	10.225	11.128	11.993
All Other Civil 15.627	24.177	22.688	23.142	25.869	27.376	28.060
Bridges 20.610	24.046	26.678	27.807	28.666	29.356	30.018
Dams / Canals / Marine Work 5.089	6.650	8.459	7.892	8.080	8.318	8.535
Power Infrastructure 10.731	7.712	8.570	8.712	9.372	9.752	9.994
Roads 53.103	63.220	66.696	70.803	74.113	76.696	79.321
Water and Sewage Treatment 32.041	29.460	29.616	31.649	33.049	34.655	36.049
CIVIL 149.741	162.410	169.680	179.168	189.375	197.280	203.970
(Yr/yr % change) 25.1%	8.5%	4.5%	5.6%	5.7%	4.2%	3.4%
Offices (private) 28.974	29.545	26.673	28.614	29.636	29.810	29.709
Parking Garages 3.514	2.847	3.096	3.030	3.139	3.238	3.365
Transportation Terminals 3.839	5.142	9.057	10.485	11.550	12.240	12.743
Commercial 36.326	37.535	38.826	42.128	44.325	45.288	45.818
(Yr/yr % change) 3.2%	3.3%	3.4%	8.5%	5.2%	2.2%	1.2%
Amusement 7.854	8.530	6.476	7.068	7.418	7.743	7.995
Libraries / Museums 3.582	2.733	3.169	3.244	3.349	3.469	3.560
Religious 2.246	2.186	1.894	1.966	1.991	2.013	2.032
Sports Arenas / Convention Centers 15.493	7.011	5.246	7.066	7.904	8.789	9.650
Community 29.175	20.460	16.785	19.345	20.662	22.014	23.237
(Yr/yr % change) 50.1%	-29.9%	-18.0%	15.2%	6.8%	6.5%	5.6%
College / University 22.270	19.727	18.389	18.842	19.158	19.427	19.745
Elementary / Pre School 18.885	19.360	20.660	22.100	22.804	23.343	23.800
Jr / Sr High School 26.549	30.313	31.989	32.851	33.260	33.397	33.384
Special / Vocational 1.749	1.733	1.706	1.731	1.789	1.860	1.931
Educational 69.453	71.133	72.743	75.523	77.010	78.028	78.859
(Yr/yr % change) -0.9%	2.4%	2.3%	3.8%	2.0%	1.3%	1.1%
Courthouses 2.698	1.928	2.098	2.279	2.336	2.383	2.450
Fire and Police Stations 2.858	3.039	3.345	3.439	3.616	3.805	3.927
Government Offices 10.572	10.727	10.863	11.256	11.485	11.702	11.860
Prisons 2.886	3.163	2.199	2.571	2.741	2.850	2.918
Government 19.013	18.857	18.505	19.545	20.178	20.740	21.155
(Yr/yr % change) -0.4%	-0.8%	-1.9%	5.6%	3.2%	2.8%	2.0%
Industrial Labs / Labs / School Labs 2.994	2.907	2.124	2.654	2.817	2.944	3.060
Manufacturing 36.748	35.482	41.994	38.466	39.241	40.865	42.081
Warehouses 21.567	21.493	18.703	17.568	18.331	19.323	20.270
Industrial 61.309	59.883	62.821	58.688	60.389	63.132	65.411
(Yr/yr % change) 57.6%	-2.3%	4.9%	-6.6%	2.9%	4.5%	3.6%
Hospitals / Clinics 16.628	16.751	14.083	15.064	15.775	16.457	17.177
Medical Misc. 10.909	11.228	9.350	10.014	10.538	10.819	11.108
Nursing Homes 11.906	10.632	9.207	9.821	10.110	10.400	10.694
Medical 39.443	38.610	32.640	34.899	36.423	37.676	38.980
(Yr/yr % change) 1.2%	-2.1%	-15.5%	6.9%	4.4%	3.4%	3.5%
Military 4.776	5.223	5.444	6.280	6.674	6.950	7.174
(Yr/yr % change) 2.1%	9.3%	4.2%	15.3%	6.3%	4.1%	3.2%
Hotels 28.645	26.151	18.845	17.898	17.547	17.561	18.035
Retail Misc. 7.661	7.181	6.703	6.786	6.938	7.058	7.143
Shopping 19.999	18.057	15.114	14.704	15.186	16.185	16.905
Retail 56.306	51.389	40.662	39.388	39.672	40.804	42.083
(Yr/yr % change) -12.3%	-8.7%	-20.9%	-3.1%	0.7%	2.9%	3.1%
NON-RESIDENTIAL BUILDING 315.802	303.090	288.427	295.796	305.332	314.631	322.716
(Yr/yr % change) 8.7%	-4.0%	-4.8%	2.6%	3.2%	3.0%	2.6%
Multi-Family 117.978	93.502	74.738	75.976	80.912	84.552	88.751
Single-Family 199.937	202.422	198.543	206.827	215.535	229.539	245.560
RESIDENTIAL 317.915	295.924	273.281	282.803	296.447	314.091	334.311
(Yr/yr % change) 16.2%	-6.9%	-7.7%	3.5%	4.8%	6.0%	6.4%
GRAND TOTAL 783.459	761.424	731.388	757.767	791.154	826.001	860.997
(Yr/yr % change) 14.5%	-2.8%	-3.9%	3.6%	4.4%	4.4%	4.2%

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

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

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

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

States (alphabetical by 2-letter code)	Actuals (Level in $ Millions USD) 2018	Forecasts (Year versus previous year % change)				
		2019	2020	2021	2022	2023
Alaska - AK	$2,071	-19.4%	17.3%	3.6%	4.0%	3.5%
Alabama - AL	$10,026	27.6%	-0.2%	3.6%	3.3%	4.3%
Arkansas - AR	$5,825	-8.8%	17.0%	4.7%	4.9%	4.3%
Arizona - AZ	$18,877	-11.4%	-4.2%	3.3%	4.7%	4.8%
California - CA*	$70,225	-11.3%	7.4%	5.3%	4.6%	4.6%
Colorado - CO	$19,021	-3.0%	5.2%	5.0%	5.1%	5.2%
Connecticut - CT	$5,438	18.6%	12.5%	3.9%	3.0%	2.6%
District Of Columbia - DC	$4,812	-17.3%	20.3%	7.7%	2.1%	3.1%
Delaware - DE	$2,513	-4.2%	0.1%	3.8%	4.1%	3.9%
Florida - FL*	$55,454	-0.7%	6.5%	3.7%	4.9%	5.1%
Georgia - GA	$24,594	13.3%	-6.8%	2.9%	4.3%	4.1%
Hawaii - HI	$2,919	-0.3%	13.1%	5.2%	4.4%	3.4%
Iowa - IA	$7,033	-5.1%	-5.4%	4.1%	2.8%	3.7%
Idaho - ID	$5,035	-8.8%	-1.1%	2.2%	4.5%	4.7%
Illinois - IL	$18,149	-2.5%	3.2%	7.3%	2.7%	3.1%
Indiana - IN	$13,419	2.5%	11.4%	3.2%	4.2%	3.3%
Kansas - KS	$7,313	-13.8%	11.9%	4.2%	3.8%	3.4%
Kentucky - KY	$9,262	-10.8%	3.3%	4.0%	4.0%	3.4%
Louisiana - LA	$8,643	25.9%	23.5%	0.1%	4.4%	4.2%
Massachusetts - MA	$15,136	-3.8%	4.2%	5.8%	3.0%	2.7%
Maryland - MD	$11,486	6.0%	-4.3%	4.3%	2.8%	2.7%
Maine - ME	$2,952	-16.4%	17.8%	3.2%	2.5%	3.6%
Michigan - MI	$15,927	-17.1%	15.8%	5.7%	4.3%	2.9%
Minnesota - MN	$14,850	9.7%	-7.8%	3.8%	4.1%	3.6%
Missouri - MO	$11,602	-17.4%	5.6%	3.5%	3.7%	3.2%
Mississippi - MS	$4,201	8.0%	-1.7%	3.3%	3.1%	3.9%
Montana - MT	$2,084	-11.5%	13.1%	4.5%	4.1%	3.8%
North Carolina - NC	$29,626	-10.4%	6.7%	4.1%	4.9%	4.6%
North Dakota - ND	$3,696	-43.6%	10.9%	6.9%	3.3%	4.6%
Nebraska - NE	$3,815	24.6%	3.9%	4.8%	2.8%	4.0%
New Hampshire - NH	$2,748	-11.2%	21.8%	3.8%	4.1%	3.7%
New Jersey - NJ	$12,435	-14.7%	13.0%	4.3%	3.8%	3.3%
New Mexico - NM	$3,263	-16.2%	20.0%	3.6%	2.8%	3.8%
Nevada - NV	$9,882	-7.4%	7.0%	6.7%	4.8%	4.9%
New York - NY*	$37,904	-6.9%	34.5%	4.8%	4.2%	4.1%
Ohio - OH	$22,646	-17.3%	8.5%	3.4%	3.7%	2.9%
Oklahoma - OK	$8,639	3.4%	6.7%	4.8%	4.7%	4.4%
Oregon - OR	$10,149	-11.1%	9.2%	4.5%	4.7%	4.5%
Pennsylvania - PA	$21,978	4.8%	1.0%	3.4%	3.4%	3.0%
Rhode Island - RI	$3,232	-60.5%	41.8%	4.8%	2.2%	3.3%
South Carolina - SC	$13,140	3.6%	1.2%	3.2%	4.4%	4.2%
South Dakota - SD	$2,396	-2.4%	-3.9%	5.5%	3.4%	4.2%
Tennessee - TN	$18,094	-4.7%	4.3%	3.3%	4.6%	4.2%
Texas - TX*	$95,841	17.3%	-6.5%	5.2%	5.8%	5.5%
Utah - UT	$11,347	-14.6%	0.2%	5.4%	5.4%	4.4%
Virginia - VA	$25,294	-29.7%	19.1%	4.0%	3.9%	3.7%
Vermont - VT	$859	1.2%	11.3%	4.3%	3.4%	4.0%
Washington - WA	$22,467	17.4%	-19.0%	4.7%	4.6%	4.4%
Wisconsin - WI	$23,878	-53.3%	-15.6%	3.4%	3.8%	3.4%
West Virginia - WV	$7,802	-68.5%	15.8%	4.1%	3.5%	3.3%
Wyoming - WY	$1,428	190.0%	-62.4%	4.7%	4.0%	3.5%
United States	$761,424	-3.9%	3.6%	4.4%	4.4%	4.2%

*One in three Americans lives in one of the four shaded states, New York, Florida, Texas or California.

Sum of first column may not exactly equal total due to rounding.

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

Table 6: U.S. Four Largest States: Type-of-Structure Forecasts ($ Billions USD)							
		Actuals		**Forecasts**			
		2017	2018	2019	2020	2021	2022	2023
New York	Residential	15.218	9.723	9.139	11.811	12.475	13.067	13.765
	Non-res Building	21.955	17.454	16.237	20.101	20.839	21.475	21.966
	Engineering/Civil	12.929	10.727	9.905	15.531	16.416	17.255	18.212
	Total	50.101	37.904	35.282	47.443	49.730	51.797	53.944
(Yr vs previous yr % Change)		*20.8%*	*-24.3%*	*-6.9%*	*34.5%*	*4.8%*	*4.2%*	*4.1%*
Florida	Residential	28.404	26.733	27.536	28.684	29.929	31.738	33.944
	Non-res Building	20.326	18.663	17.303	18.911	19.149	19.740	20.243
	Engineering/Civil	9.727	10.059	10.234	11.046	11.744	12.340	12.868
	Total	58.458	55.454	55.074	58.641	60.821	63.818	67.055
(Yr vs previous yr % Change)		*24.2%*	*-5.1%*	*-0.7%*	*6.5%*	*3.7%*	*4.9%*	*5.1%*
Texas	Residential	42.241	41.964	44.541	47.307	49.797	53.373	57.289
	Non-res Building	44.902	33.756	43.445	35.011	37.062	39.223	41.278
	Engineering/Civil	14.867	20.121	24.403	22.797	23.769	24.487	24.944
	Total	102.009	95.841	112.388	105.115	110.628	117.083	123.511
(Yr vs previous yr % Change)		*14.3%*	*-6.0%*	*17.3%*	*-6.5%*	*5.2%*	*5.8%*	*5.5%*
California	Residential	30.170	27.218	21.287	21.222	22.264	23.592	25.375
	Non-res Building	32.879	26.046	25.622	29.372	30.719	31.642	32.310
	Engineering/Civil	15.443	16.961	15.373	16.288	17.469	18.468	19.394
	Total	78.492	70.225	62.282	66.882	70.452	73.703	77.079
(Yr vs previous yr % Change)		*31.5%*	*-10.5%*	*-11.3%*	*7.4%*	*5.3%*	*4.6%*	*4.6%*

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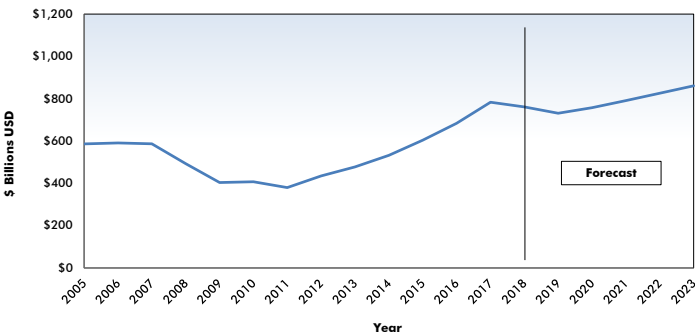*Table: ConstructConnect.*

Tweeted by ConstructConnect:

@ConstructConnx

U.S. initial jobless claims in the middle of the 2008-2009 recession skyrocketed to 665,000. But they have now been less than 300,000 — i.e., the benchmark usually adopted to denote a solid jobs recovery — for 226 weeks in a row (i.e., more than four years).
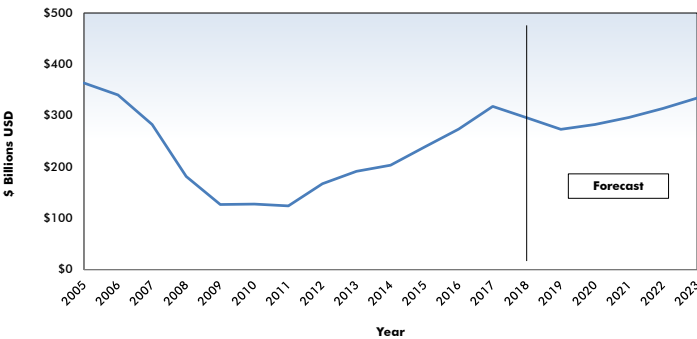
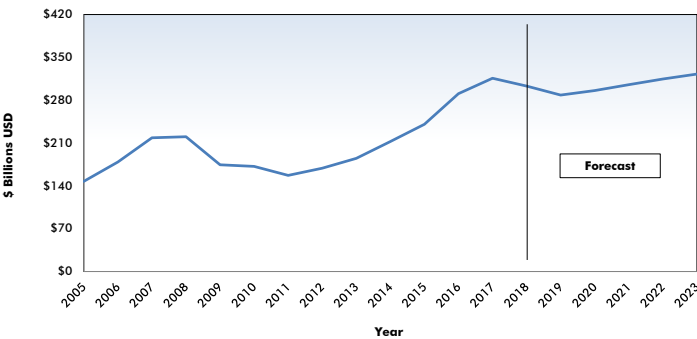## Graph 1: U.S. Grand Total Construction Starts — ConstructConnect

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

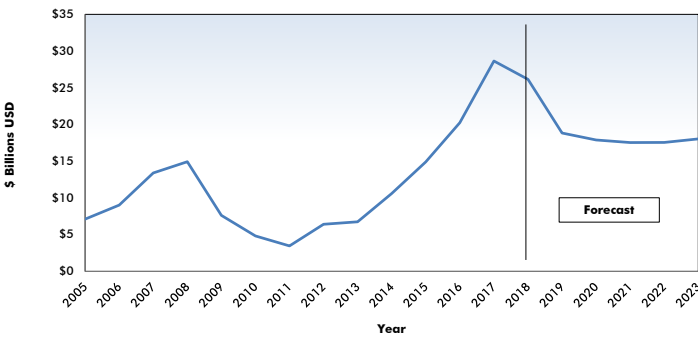## Graph 2: U.S. Total Residential Construction Starts — ConstructConnect

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

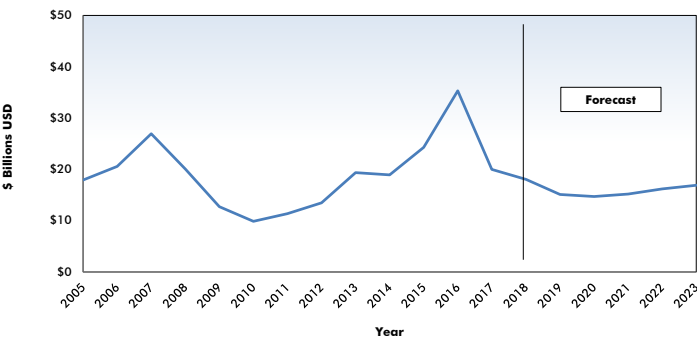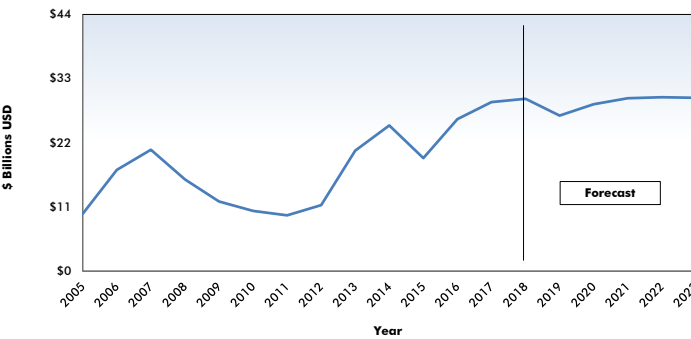## Graph 3: U.S. Total Non-Residential Building Starts — ConstructConnect

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

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

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

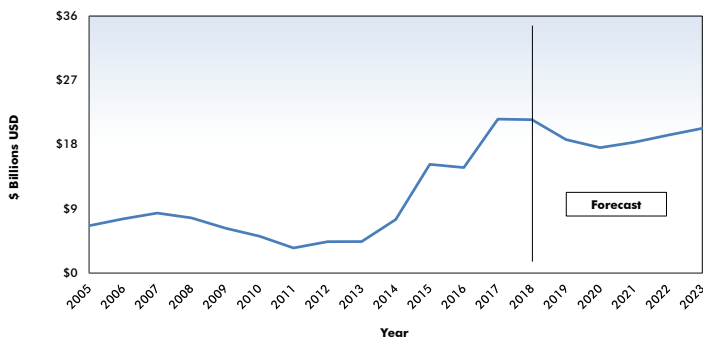## Graph 5: U.S. Shopping/Retail Construction Starts — ConstructConnect

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

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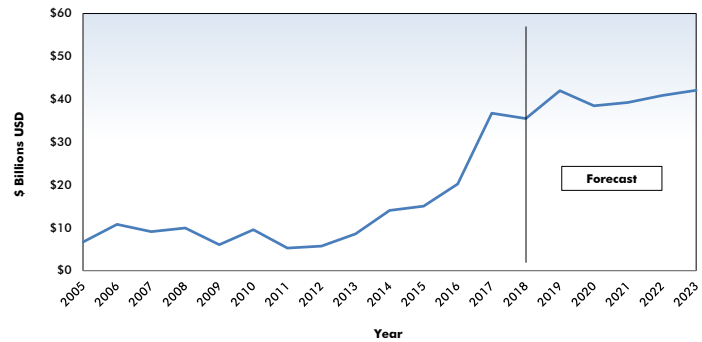

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

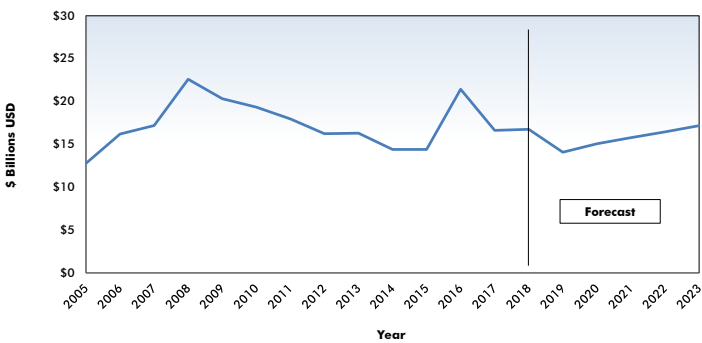## Graph 7: U.S. Warehouse Construction Starts — ConstructConnect

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

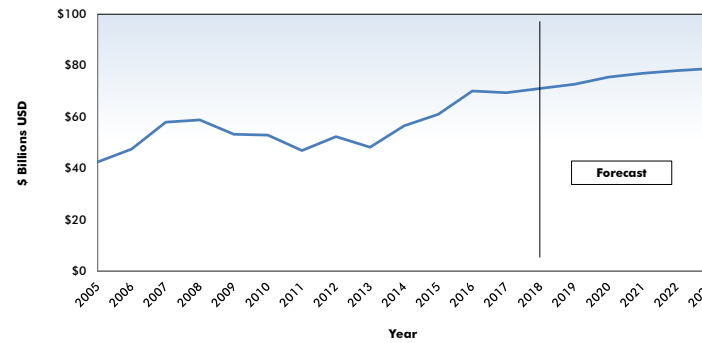## Graph 8: U.S. Industrial/Manufacturing Construction Starts — ConstructConnect

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

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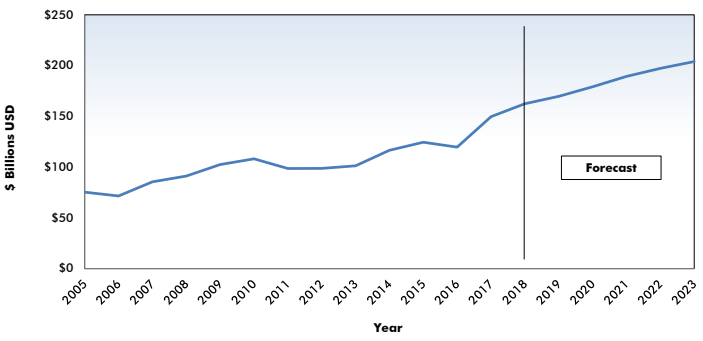

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

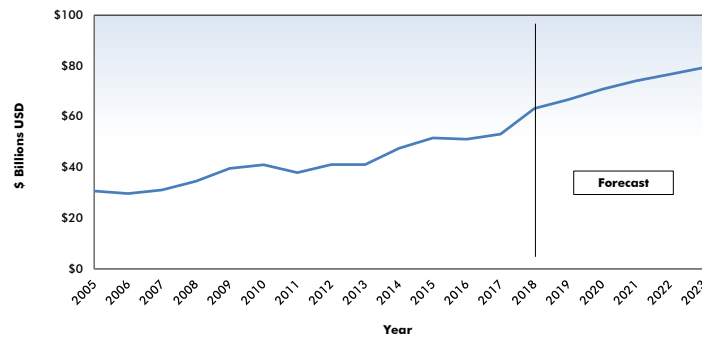## Graph 10: U.S. Total Educational Construction Starts — ConstructConnect

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

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

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

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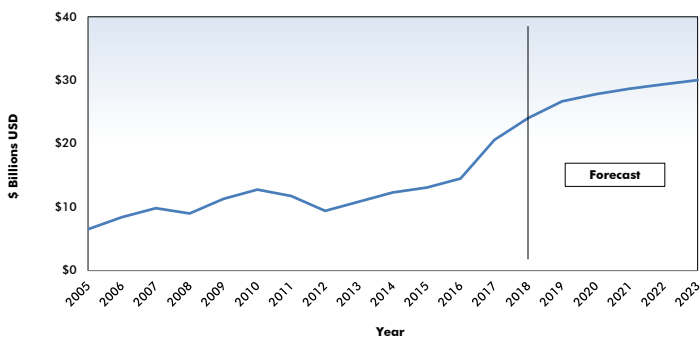

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

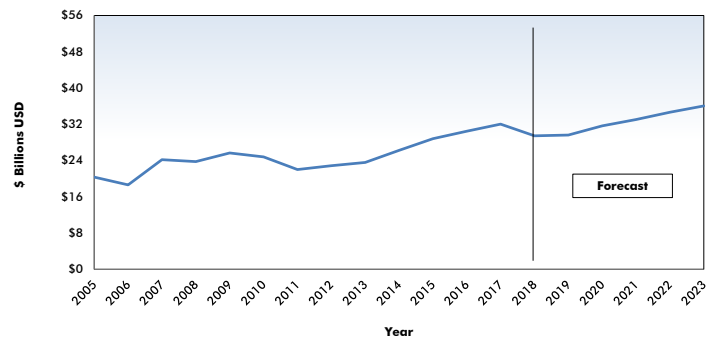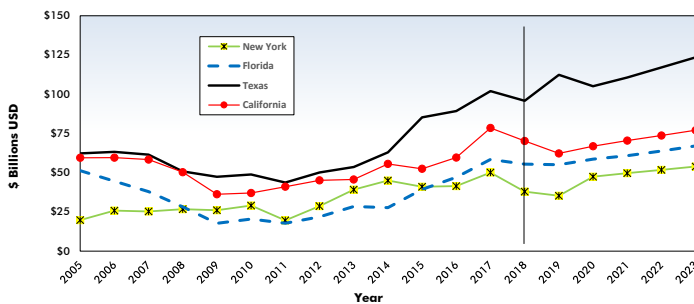## Graph 13: U.S. Bridge Construction Starts — ConstructConnect

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

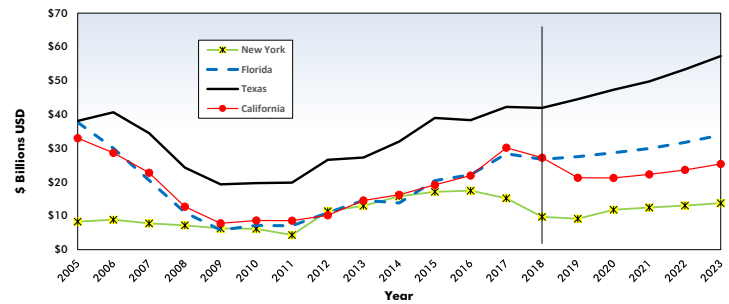## Graph 14: U.S. Water and Sewage Treatment Construction Starts — ConstructConnect

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

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

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

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

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

Graph 17: U.S. Four Largest States: Total Non-residential Building Starts — ConstructConnect
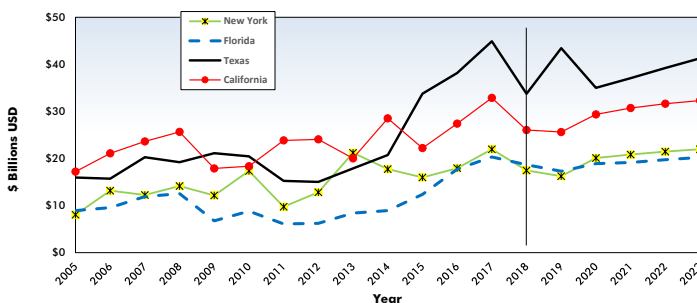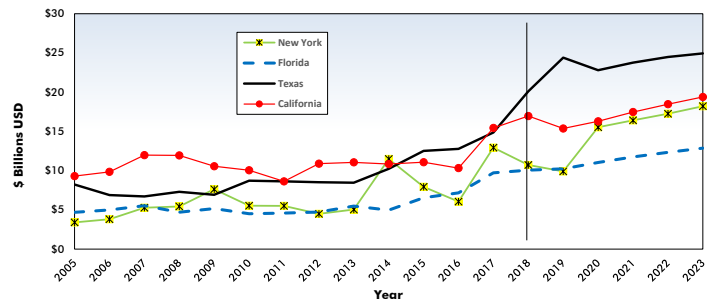

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

Graph 18: U.S. Four Largest States: Total Engineering/Civil Construction Starts — ConstructConnect

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

Table 7: Canada Type-of-Structure Forecasts						
($ Billions CAD)						
	Actuals		Forecasts				
	2017	2018	2019	2020	2021	2022	2023
Single-family	16.838	14.487	11.352	12.274	12.970	13.560	14.156
Multi-family	14.746	14.726	13.504	13.983	14.273	14.844	15.473
TOTAL RESIDENTIAL	31.584	29.212	24.856	26.257	27.243	28.404	29.629
(Yr/yr % change)	8.2%	-7.5%	-14.9%	5.6%	3.8%	4.3%	4.3%
Hotels/Motels	1.068	0.361	0.356	0.581	0.718	0.721	0.612
Private Offices	1.451	1.805	2.456	2.432	2.443	2.245	2.170
Govenmental Offices	1.356	1.533	1.941	1.338	1.442	1.541	1.603
Shopping/Retail	1.019	0.801	0.480	0.520	0.582	0.706	0.834
Retail Miscellaneous	0.191	0.196	0.178	0.195	0.229	0.270	0.298
Parking Garages	0.166	0.192	0.176	0.193	0.199	0.206	0.214
Amusement	2.253	2.372	2.190	2.390	2.522	2.642	2.758
Warehouses	1.424	1.568	1.503	1.802	1.913	2.026	2.139
TOTAL COMMERCIAL	8.927	8.827	9.280	9.452	10.050	10.357	10.628
(Yr/yr % change)	15.0%	-1.1%	5.1%	1.8%	6.3%	3.1%	2.6%
TOTAL INDUSTRIAL (manufacturing)	3.580	18.652	7.239	8.411	9.106	9.750	10.380
(Yr/yr % change)	435.6%	421.0%	-61.2%	16.2%	8.3%	7.1%	6.5%
Religious	0.133	0.151	0.107	0.118	0.122	0.126	0.128
Hospitals/Clinics	4.206	3.366	2.831	3.122	3.336	3.474	3.599
MED misc	0.520	0.231	0.189	0.345	0.499	0.561	0.635
Transportation Terminals*	0.467	6.983	1.314	3.468	4.092	4.204	4.204
Police/Fire	1.035	2.014	1.038	1.242	1.290	1.326	1.360
Educational Facilities	4.160	4.134	4.236	4.457	4.634	4.761	4.858
TOTAL INSTITUTIONAL	10.520	16.879	9.716	12.752	13.974	14.452	14.784
(Yr/yr % change)	79.8%	60.4%	-42.4%	31.3%	9.6%	3.4%	2.3%
TOTAL NON-RES BUILDING	23.028	44.358	26.235	30.615	33.130	34.560	35.792
(Yr/yr % change)	61.3%	92.6%	-40.9%	16.7%	8.2%	4.3%	3.6%
Bridges	1.608	6.689	2.938	3.298	3.385	3.468	3.530
Dams/Canal/Marine	0.620	0.913	0.931	1.032	1.106	1.179	1.253
Water & Sewage Treatment	6.970	5.750	3.492	3.918	4.189	4.440	4.679
Roads	7.238	9.957	8.879	9.729	10.194	10.505	10.806
Power Infrastructure	3.699	2.490	2.191	2.831	3.461	4.055	4.657
All Other Civil (Oil & Gas etc.)	9.190	8.390	16.218	19.883	22.912	24.526	24.721
TOTAL ENGINEERING	29.327	34.188	34.647	40.690	45.246	48.172	49.646
(Yr/yr % change)	5.7%	16.6%	1.3%	17.4%	11.2%	6.5%	3.1%
TOTAL NON-RESIDENTIAL	52.354	78.546	60.883	71.305	78.376	82.732	85.438
(Yr/yr % change)	24.6%	50.0%	-22.5%	17.1%	9.9%	5.6%	3.3%
GRAND TOTAL	83.938	107.759	85.738	97.562	105.619	111.136	115.066
(Yr/yr % change)	17.9%	28.4%	-20.4%	13.8%	8.3%	5.2%	3.5%

* With respect to Tables 3 and 7, 'transportation terminals' is the one type-of-structure that is categorized differently in Canada (institutional) than in the U.S. (commercial), for reasons having to do with government statistics.

EXPLANATION: Table 7 conforms to the type-of-structure ordering adopted by many firms and organizations in the industry. Specifically, it breaks non-residential building into ICI work (i.e., industrial, commercial and institutional), since each has its own set of economic and demographic drivers.

Table 8 presents an alternative, perhaps more user-friendly and intuitive, type-of-structure ordering that matches how the data appears in ConstructConnect's on-line product 'Insight'.

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

Table 8: Canada Type-of-Structure Forecasts Arranged to match the alphabetical category drop-down menus in INSIGHT ($ Billions CAD)						
	Actuals		**Forecasts**				
	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Summary							
CIVIL	29.327	34.188	34.647	40.690	45.246	48.172	49.646
NON-RESIDENTIAL BUILDING	23.028	44.358	26.235	30.615	33.130	34.560	35.792
RESIDENTIAL	31.584	29.212	24.856	26.257	27.243	28.404	29.629
GRAND TOTAL	83.938	107.759	85.738	97.562	105.619	111.136	115.066
Verticals							
All Other Civil	9.190	8.390	16.218	19.883	22.912	24.526	24.721
Bridges	1.608	6.689	2.938	3.298	3.385	3.468	3.530
Dams / Canals / Marine Work	0.620	0.913	0.931	1.032	1.106	1.179	1.253
Power Infrastructure	3.699	2.490	2.191	2.831	3.461	4.055	4.657
Roads	7.238	9.957	8.879	9.729	10.194	10.505	10.806
Water and Sewage Treatment	6.970	5.750	3.492	3.918	4.189	4.440	4.679
CIVIL	29.327	34.188	34.647	40.690	45.246	48.172	49.646
(Yr/yr % change)	*5.7%*	*16.6%*	*1.3%*	*17.4%*	*11.2%*	*6.5%*	*3.1%*
Offices (private)	1.451	1.805	2.456	2.432	2.443	2.245	2.170
Parking Garages	0.166	0.192	0.176	0.193	0.199	0.206	0.214
Transportation Terminals	0.467	6.983	1.314	3.468	4.092	4.204	4.204
Commercial	2.084	8.980	3.946	6.093	6.734	6.655	6.588
(Yr/yr % change)	*117.9%*	*330.8%*	*-56.1%*	*54.4%*	*10.5%*	*-1.2%*	*-1.0%*
Amusement	2.253	2.372	2.190	2.390	2.522	2.642	2.758
Religious	0.133	0.151	0.107	0.118	0.122	0.126	0.128
Community	2.385	2.523	2.297	2.508	2.645	2.768	2.886
(Yr/yr % change)	*22.3%*	*5.8%*	*-9.0%*	*9.2%*	*5.5%*	*4.7%*	*4.3%*
Educational	4.160	4.134	4.236	4.457	4.634	4.761	4.858
(Yr/yr % change)	*16.6%*	*-0.6%*	*2.5%*	*5.2%*	*4.0%*	*2.7%*	*2.0%*
Fire and Police Stations	1.035	2.014	1.038	1.242	1.290	1.326	1.360
Government Offices	1.356	1.533	1.941	1.338	1.442	1.541	1.603
Government	2.390	3.546	2.979	2.580	2.732	2.867	2.963
(Yr/yr % change)	*31.6%*	*48.4%*	*-16.0%*	*-13.4%*	*5.9%*	*4.9%*	*3.3%*
Manufacturing	3.580	18.652	7.239	8.411	9.106	9.750	10.380
Warehouses	1.424	1.568	1.503	1.802	1.913	2.026	2.139
Industrial	5.004	20.220	8.742	10.213	11.019	11.777	12.519
(Yr/yr % change)	*119.7%*	*304.1%*	*-56.8%*	*16.8%*	*7.9%*	*6.9%*	*6.3%*
Hospitals / Clinics	4.206	3.366	2.831	3.122	3.336	3.474	3.599
Medical Misc.	0.520	0.231	0.189	0.345	0.499	0.561	0.635
Medical	4.725	3.597	3.020	3.468	3.835	4.035	4.234
(Yr/yr % change)	*196.4%*	*-23.9%*	*-16.0%*	*14.8%*	*10.6%*	*5.2%*	*4.9%*
Hotels	1.068	0.361	0.356	0.581	0.718	0.721	0.612
Retail Misc.	0.191	0.196	0.178	0.195	0.229	0.270	0.298
Shopping	1.019	0.801	0.480	0.520	0.582	0.706	0.834
Retail	2.278	1.358	1.015	1.296	1.529	1.697	1.744
(Yr/yr % change)	*7.7%*	*-40.4%*	*-25.3%*	*27.8%*	*18.0%*	*11.0%*	*2.8%*
NON-RESIDENTIAL BUILDING	23.028	44.358	26.235	30.615	33.130	34.560	35.792
(Yr/yr % change)	*61.3%*	*92.6%*	*-40.9%*	*16.7%*	*8.2%*	*4.3%*	*3.6%*
Multi-Family	14.746	14.726	13.504	13.983	14.273	14.844	15.473
Single-Family	16.838	14.487	11.352	12.274	12.970	13.560	14.156
RESIDENTIAL	31.584	29.212	24.856	26.257	27.243	28.404	29.629
(Yr/yr % change)	*8.2%*	*-7.5%*	*-14.9%*	*5.6%*	*3.8%*	*4.3%*	*4.3%*
TOTAL NON-RESIDENTIAL	52.354	78.546	60.883	71.305	78.376	82.732	85.438
(Yr/yr % change)	*24.6%*	*50.0%*	*-22.5%*	*17.1%*	*9.9%*	*5.6%*	*3.3%*
GRAND TOTAL	83.938	107.759	85.738	97.562	105.619	111.136	115.066
(Yr/yr % change)	*17.9%*	*28.4%*	*-20.4%*	*13.8%*	*8.3%*	*5.2%*	*3.5%*

EXPLANATION: Table 7 conforms to the type-of-structure ordering adopted by many firms and organizations in the industry. Specifically, it breaks non-residential building into ICI work (i.e., industrial, commercial and institutional), since each has its own set of economic and demographic drivers.

Table 8 presents an alternative, perhaps more user-friendly and intuitive, type-of-structure ordering that matches how the data appears in ConstructConnect's on-line product 'Insight'.

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

Table 9: Canadian Provinces, Total Construction Starts — ConstructConnect

| Regions/Provinces (East to West)	Actuals (Level in $ Millions CAD)	Forecasts (Year versus previous year % change)				
	2018	2019	2020	2021	2022	2023
Atlantic region	$5,119	-17.0%	36.9%	13.8%	4.5%	1.0%
Quebec	$21,689	-31.9%	0.9%	4.4%	4.4%	2.5%
Ontario	$34,572	-30.7%	9.4%	5.7%	5.1%	3.2%
Manitoba	$2,153	10.0%	5.7%	7.8%	4.7%	2.5%
Saskatchewan	$2,283	-15.2%	69.1%	5.3%	5.1%	2.3%
Alberta	$16,191	-4.6%	28.4%	15.5%	6.4%	6.3%
British Columbia	$25,753	-10.7%	8.8%	6.6%	5.0%	3.1%
Canada	$107,759	-20.4%	13.8%	8.3%	5.2%	3.5%

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

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

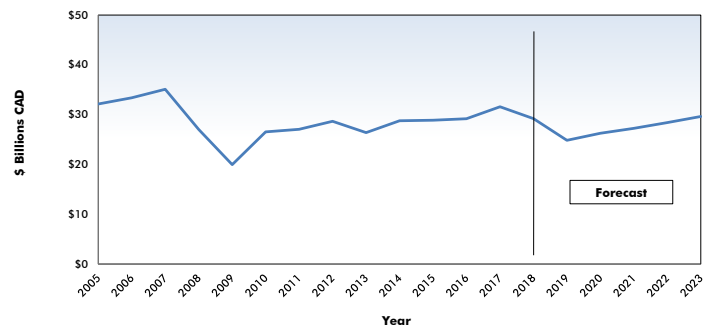|		Actuals		Forecasts				
		2017	2018	2019	2020	2021	2022	2023
Quebec	Residential	4.573	4.074	3.820	4.371	4.397	4.568	4.657
	Non-res Building	4.949	12.613	5.399	5.848	6.232	6.422	6.563
	Engineering/Civil	4.451	5.001	5.561	4.692	4.933	5.263	5.435
	Total	13.973	21.689	14.780	14.912	15.563	16.252	16.655
(Yr vs previous yr % Change)		*48.4%*	*55.2%*	*-31.9%*	*0.9%*	*4.4%*	*4.4%*	*2.5%*
Ontario	Residential	13.939	13.293	10.216	10.196	10.744	11.219	11.641
	Non-res Building	6.852	8.944	6.516	7.794	8.461	8.960	9.314
	Engineering/Civil	5.300	12.335	7.240	8.233	8.524	8.967	9.113
	Total	26.091	34.572	23.972	26.222	27.728	29.146	30.067
(Yr vs previous yr % Change)		*-5.9%*	*32.5%*	*-30.7%*	*9.4%*	*5.7%*	*5.1%*	*3.2%*
Alberta	Residential	4.737	3.502	3.550	3.461	3.929	4.225	4.553
	Non-res Building	5.426	7.130	3.967	5.157	5.739	6.064	6.249
	Engineering/Civil	11.510	5.559	7.922	11.209	13.233	14.087	15.101
	Total	21.673	16.191	15.439	19.826	22.901	24.376	25.902
(Yr vs previous yr % Change)		*84.7%*	*-25.3%*	*-4.6%*	*28.4%*	*15.5%*	*6.4%*	*6.3%*
British Columbia	Residential	6.113	6.311	5.770	6.236	6.024	6.134	6.429
	Non-res Building	2.555	12.455	8.115	7.739	8.190	8.434	8.867
	Engineering/Civil	2.681	6.987	9.109	11.034	12.446	13.427	13.557
	Total	11.349	25.753	22.994	25.008	26.660	27.995	28.853
(Yr vs previous yr % Change)		*8.1%*	*126.9%*	*-10.7%*	*8.8%*	*6.6%*	*5.0%*	*3.1%*

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

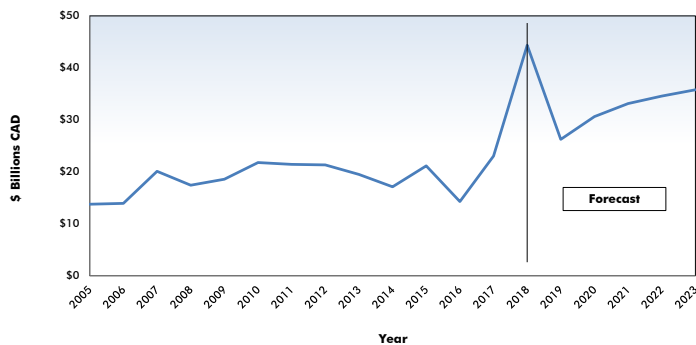## Graph 19: Canadian Grand Total Construction Starts — ConstructConnect
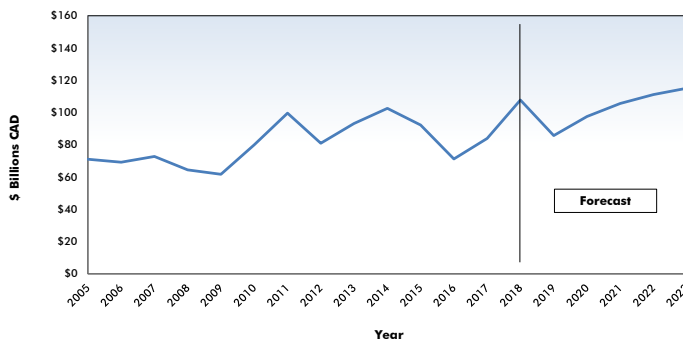
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

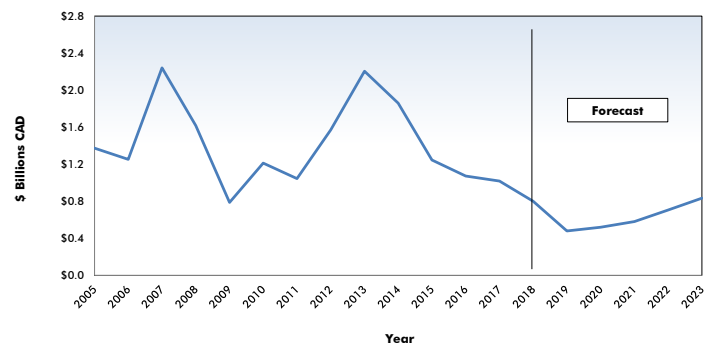## Graph 20: Canadian Residential Construction Starts — ConstructConnect

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

Graph 21: Canadian Non-Residential Building Starts — ConstructConnect

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

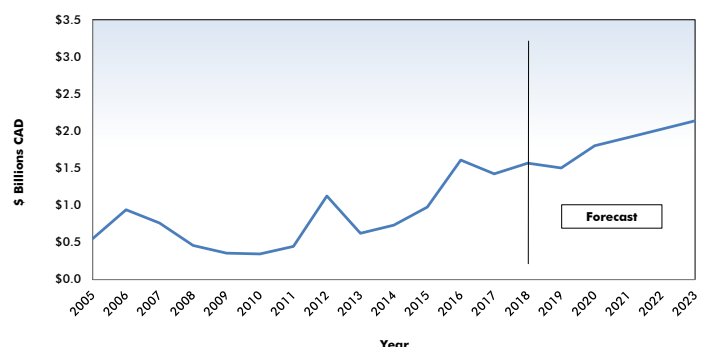## Graph 22: Canadian Shopping/Retail Construction Starts — ConstructConnect

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

Graph 23: Canadian Private Offices Construction Starts — ConstructConnect
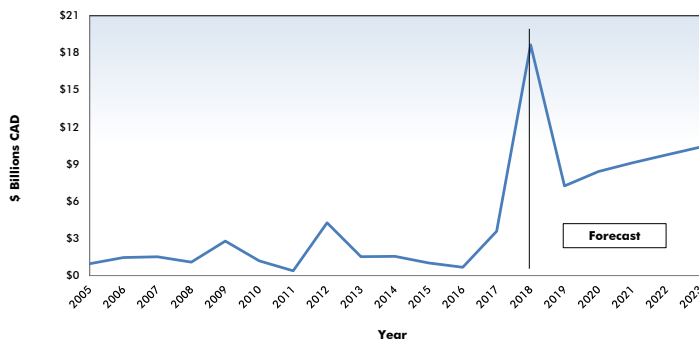

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

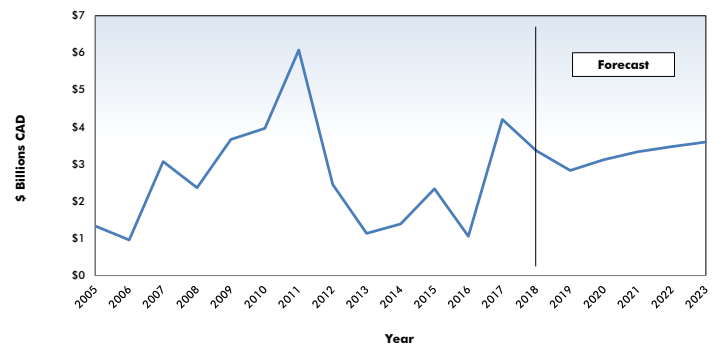## Graph 24: Canadian Warehouse Construction Starts — ConstructConnect

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

Graph 25: Canadian Industrial/Manufacturing Construction Starts — ConstructConnect
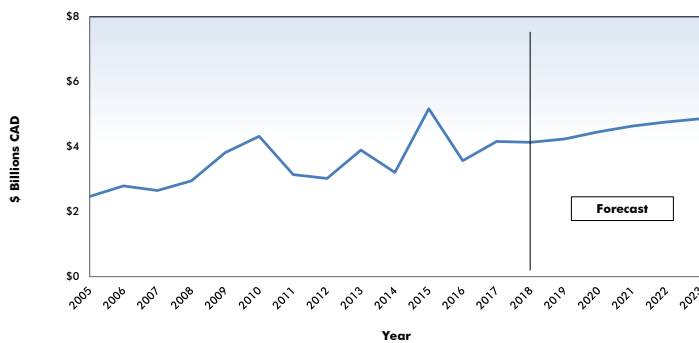

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect.
Chart: ConstructConnect.

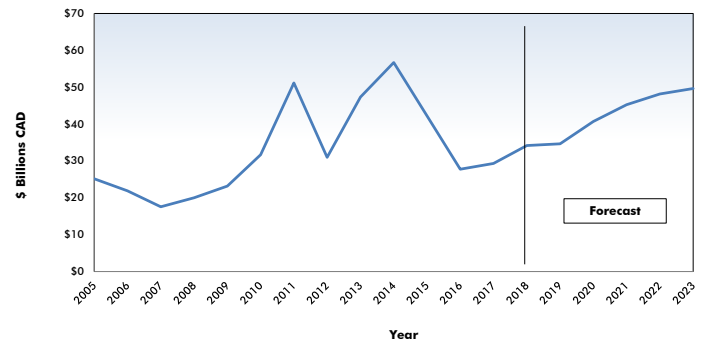## Graph 26: Canadian Hospital/Clinic Construction Starts — ConstructConnect

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

Graph 27: Canadian Education Construction Starts — ConstructConnect

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

Graph 28: Canadian Engineering Construction Starts — ConstructConnect

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

Graph 29: Canadian Roadwork Construction Starts — ConstructConnect

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

Graph 30: Canadian Water and Sewage Construction Starts — ConstructConnect

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

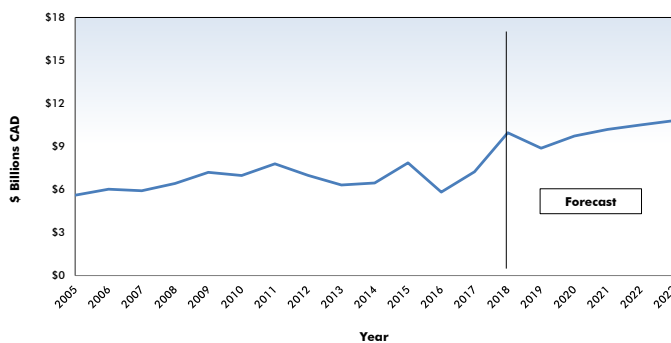## Graph 31: Canadian Power Infrastructure Construction Starts — ConstructConnect

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

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

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

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

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

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

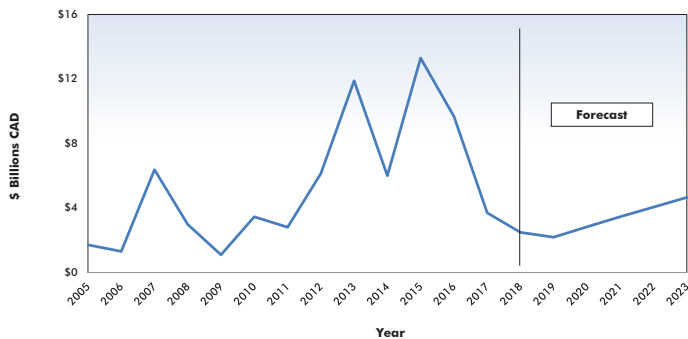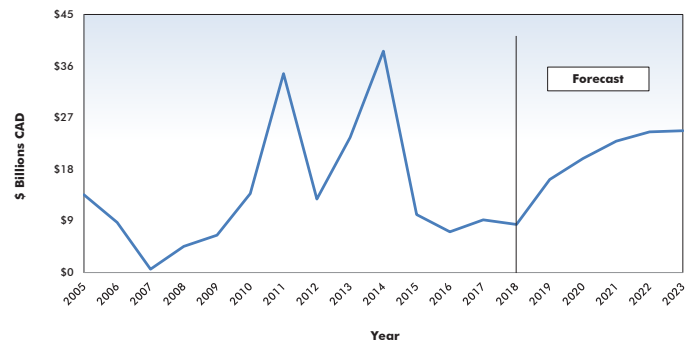*Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.*

Graph 35: Canada Four Largest Provinces: Total Non-residential Building Starts — ConstructConnect
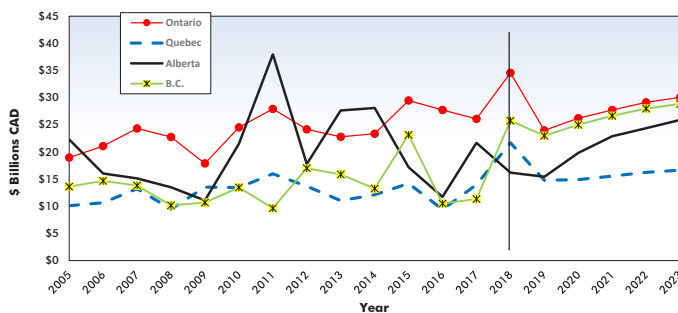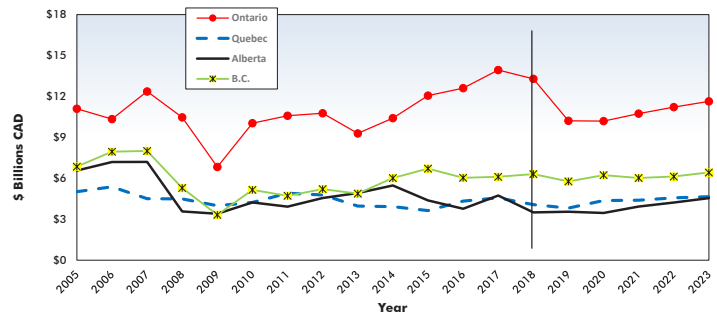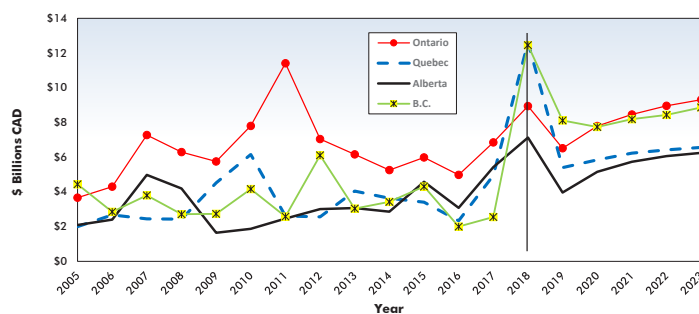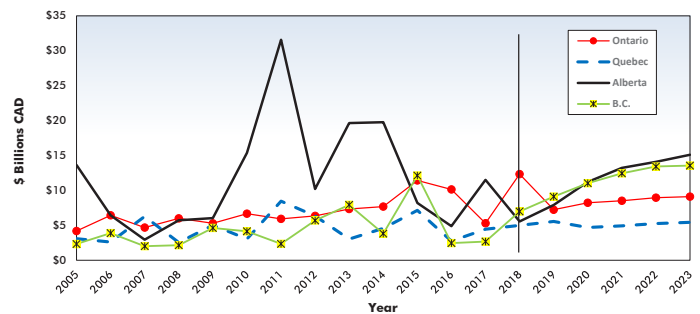

Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

Graph 36: Canada Four Largest Provinces: Total Engineering/Civil Construction Starts — ConstructConnect

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

Table 11: U.S. Type-of-Structure Forecasts (Square Feet Millions)							
	Actuals		**Forecasts**				
	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Single-family	1,653.2	1,673.7	1,601.1	1,683.2	1,775.3	1,896.2	2,029.9
Multi-family	651.8	523.0	395.4	408.3	440.8	462.2	485.5
TOTAL RESIDENTIAL	2,304.9	2,196.7	1,996.5	2,091.5	2,216.1	2,358.3	2,515.4
(Yr/yr % change)	*12.3%*	*-4.7%*	*-9.1%*	*4.8%*	*6.0%*	*6.4%*	*6.7%*
Hotels/Motels	158.5	109.5	77.3	74.5	75.7	76.4	78.6
Shopping/Retail	89.7	75.1	57.2	57.8	60.8	65.2	68.1
Parking Garages	30.8	28.3	36.1	32.5	32.6	33.4	34.7
Amusement	24.2	28.0	19.2	20.3	22.0	23.2	24.0
Private Offices	107.1	90.3	71.9	76.4	79.8	80.5	80.2
Govenmental Offices	15.4	15.3	15.4	16.0	16.3	16.6	16.8
Laboratories (Schools & Industrial)	6.5	4.9	2.5	3.4	3.6	3.8	3.9
Warehouses	214.0	201.0	178.3	165.0	174.1	184.0	193.1
Sports Stadium/Convention Center	28.5	13.0	10.5	12.8	14.2	15.8	17.3
Transportation Terminals	7.3	5.6	8.5	12.2	15.5	17.3	18.2
TOTAL COMMERCIAL	682.1	570.8	476.9	471.0	494.6	516.0	535.0
(Yr/yr % change)	*0.4%*	*-16.3%*	*-16.5%*	*-1.3%*	*5.0%*	*4.3%*	*3.7%*
TOTAL INDUSTRIAL (manufacturing)	92.3	97.9	78.1	73.8	80.8	85.6	88.5
(Yr/yr % change)	*-11.4%*	*6.1%*	*-20.2%*	*-5.5%*	*9.4%*	*6.0%*	*3.4%*
Religious	7.6	6.2	4.9	5.3	5.6	5.7	5.7
Hospitals/Clinics	26.5	25.1	18.2	19.9	21.5	22.7	23.7
Nursing Homes/Assisted Living	54.3	45.5	38.0	41.6	43.3	44.6	45.9
Libraries/Museums	3.8	3.9	2.6	2.8	3.0	3.2	3.3
Courthouse	2.5	2.8	3.1	3.1	3.3	3.4	3.5
Police/Fire	8.1	7.7	8.7	8.9	9.2	9.6	9.9
Prisons	4.9	4.4	2.8	3.1	3.4	3.5	3.6
Military	12.8	10.8	13.3	14.4	14.9	15.4	15.9
Educational Facilities	161.6	154.6	151.2	159.7	164.8	167.5	169.4
MED misc	24.5	22.9	17.8	19.6	21.3	22.0	22.7
TOTAL INSTITUTIONAL	306.6	283.9	260.7	278.4	290.2	297.5	303.5
(Yr/yr % change)	*0.8%*	*-7.4%*	*-8.2%*	*6.8%*	*4.2%*	*2.5%*	*2.0%*
Miscellaneous Non-Res Building	28.4	25.8	23.8	24.9	25.7	26.2	26.5
TOTAL NON-RES BLDG	1,109.3	978.5	839.5	848.1	891.3	925.3	953.6
(Yr/yr % change)	*-1.0%*	*-11.8%*	*-14.2%*	*1.0%*	*5.1%*	*3.8%*	*3.1%*
RESIDENTIAL + NON-RES BLDG	3,414.2	3,175.2	2,836.1	2,939.7	3,107.4	3,283.6	3,469.0
(Yr/yr % change)	*7.6%*	*-7.0%*	*-10.7%*	*3.7%*	*5.7%*	*5.7%*	*5.6%*

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				
	2017	2018	2019	2020	2021	2022	2023
Summary							
NON-RESIDENTIAL BUILDING	1,109.3	978.5	839.5	848.1	891.3	925.3	953.6
RESIDENTIAL	2,304.9	2,196.7	1,996.5	2,091.5	2,216.1	2,358.3	2,515.4
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,414.2	3,175.2	2,836.1	2,939.7	3,107.4	3,283.6	3,469.0
Verticals							
Offices (private)	107.1	90.3	71.9	76.4	79.8	80.5	80.2
Parking Garages	30.8	28.3	36.1	32.5	32.6	33.4	34.7
Transportation Terminals	7.3	5.6	8.5	12.2	15.5	17.3	18.2
Commercial	145.2	124.1	116.6	121.1	127.9	131.2	133.1
(Yr/yr % change)	*-1.4%*	*-14.5%*	*-6.1%*	*3.9%*	*5.6%*	*2.6%*	*1.5%*
Amusement	24.2	28.0	19.2	20.3	22.0	23.2	24.0
Libraries / Museums	3.8	3.9	2.6	2.8	3.0	3.2	3.3
Religious	7.6	6.2	4.9	5.3	5.6	5.7	5.7
Sports Arenas / Convention Centers	28.5	13.0	10.5	12.8	14.2	15.8	17.3
Community	64.2	51.1	37.2	41.2	44.8	47.8	50.3
(Yr/yr % change)	*9.2%*	*-20.3%*	*-27.2%*	*10.8%*	*8.7%*	*6.6%*	*5.2%*
College / University	46.2	38.6	35.2	35.8	36.5	37.1	37.7
Elementary / Pre School	47.6	43.2	44.0	47.6	50.5	52.1	53.2
Jr / Sr High School	61.9	68.7	67.2	71.4	72.7	73.1	73.1
Special / Vocational	5.9	4.2	4.9	4.8	5.0	5.2	5.4
Educational	161.6	154.6	151.2	159.7	164.8	167.5	169.4
(Yr/yr % change)	*-5.2%*	*-4.3%*	*-2.2%*	*5.6%*	*3.2%*	*1.6%*	*1.1%*
Courthouses	2.5	2.8	3.1	3.1	3.3	3.4	3.5
Fire and Police Stations	8.1	7.7	8.7	8.9	9.2	9.6	9.9
Government Offices	15.4	15.3	15.4	16.0	16.3	16.6	16.8
Prisons	4.9	4.4	2.8	3.1	3.4	3.5	3.6
Government	30.9	30.2	30.0	31.1	32.1	33.0	33.7
(Yr/yr % change)	*-1.4%*	*-2.5%*	*-0.4%*	*3.6%*	*3.1%*	*3.0%*	*2.1%*
Industrial Labs / Labs / School Labs	6.5	4.9	2.5	3.4	3.6	3.8	3.9
Manufacturing	92.3	97.9	78.1	73.8	80.8	85.6	88.5
Warehouses	214.0	201.0	178.3	165.0	174.1	184.0	193.1
Industrial	312.8	303.8	258.9	242.3	258.5	273.4	285.6
(Yr/yr % change)	*17.5%*	*-2.9%*	*-14.8%*	*-6.4%*	*6.7%*	*5.8%*	*4.5%*
Hospitals / Clinics	26.5	25.1	18.2	19.9	21.5	22.7	23.7
Medical Misc.	24.5	22.9	17.8	19.6	21.3	22.0	22.7
Nursing Homes	54.3	45.5	38.0	41.6	43.3	44.6	45.9
Medical	105.3	93.5	74.0	81.1	86.1	89.3	92.3
(Yr/yr % change)	*2.2%*	*-11.2%*	*-20.8%*	*9.6%*	*6.2%*	*3.7%*	*3.3%*
Military	12.8	10.8	13.3	14.4	14.9	15.4	15.9
(Yr/yr % change)	*43.4%*	*-15.1%*	*23.0%*	*8.4%*	*3.2%*	*3.4%*	*3.1%*
Hotels	158.5	109.5	77.3	74.5	75.7	76.4	78.6
Retail Misc.	28.4	25.8	23.8	24.9	25.7	26.2	26.5
Shopping	89.7	75.1	57.2	57.8	60.8	65.2	68.1
Retail	276.6	210.4	158.3	157.2	162.2	167.7	173.2
(Yr/yr % change)	*-17.4%*	*-23.9%*	*-24.8%*	*-0.6%*	*3.2%*	*3.4%*	*3.3%*
NON-RESIDENTIAL BUILDING	1,109.3	978.5	839.5	848.1	891.3	925.3	953.6
(Yr/yr % change)	*-1.0%*	*-11.8%*	*-14.2%*	*1.0%*	*5.1%*	*3.8%*	*3.1%*
Multi-Family	651.8	523.0	395.4	408.3	440.8	462.2	485.5
Single-Family	1,653.2	1,673.7	1,601.1	1,683.2	1,775.3	1,896.2	2,029.9
RESIDENTIAL	2,304.9	2,196.7	1,996.5	2,091.5	2,216.1	2,358.3	2,515.4
(Yr/yr % change)	*12.3%*	*-4.7%*	*-9.1%*	*4.8%*	*6.0%*	*6.4%*	*6.7%*
RESIDENTIAL + NON-RESIDENTIAL BUILDING	3,414.2	3,175.2	2,836.1	2,939.7	3,107.4	3,283.6	3,469.0
(Yr/yr % change)	*7.6%*	*-7.0%*	*-10.7%*	*3.7%*	*5.7%*	*5.7%*	*5.6%*

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**				
	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Single-family	144.9	124.8	97.8	106.5	111.9	116.9	122.0
Multi-family	80.1	78.2	63.9	67.9	72.2	75.9	79.3
TOTAL RESIDENTIAL	225.0	203.0	161.7	174.4	184.2	192.8	201.3
(Yr/yr % change)	*6.0%*	*-9.8%*	*-20.3%*	*7.9%*	*5.6%*	*4.7%*	*4.4%*
Hotels/Motels	4.2	1.9	1.7	2.8	3.4	3.4	2.8
Private Offices	5.9	8.6	10.8	10.6	11.2	10.4	10.1
Govenmental Offices	1.8	1.9	1.9	1.3	1.3	1.4	1.5
Shopping/Retail	7.3	6.5	4.7	4.2	4.8	5.9	7.0
Retail Miscellaneous	1.2	1.2	1.0	1.1	1.4	1.6	1.8
Parking Garages	1.1	0.2	1.0	1.1	1.1	1.1	1.2
Amusement	5.5	4.8	4.1	4.6	4.8	5.0	5.2
Warehouses	11.4	12.5	9.1	11.6	12.4	13.1	13.9
TOTAL COMMERCIAL	38.5	37.6	34.3	37.2	40.3	41.9	43.4
(Yr/yr % change)	*5.0%*	*-2.3%*	*-8.8%*	*8.5%*	*8.4%*	*4.0%*	*3.5%*
TOTAL INDUSTRIAL (manufacturing)	5.2	7.6	8.2	8.6	8.0	7.4	6.6
(Yr/yr % change)	*90.7%*	*45.5%*	*8.2%*	*4.5%*	*-6.6%*	*-8.1%*	*-10.6%*
Religious	0.6	0.3	0.2	0.2	0.3	0.3	0.3
Hospitals/Clinics	10.9	9.5	5.8	6.8	7.7	8.2	8.5
MED misc	1.3	0.5	0.3	0.6	0.9	1.1	1.2
Transportation Terminals*	0.7	4.0	0.3	1.1	1.5	1.6	1.6
Police/Fire	2.1	1.7	1.2	1.4	1.4	1.5	1.5
Educational Facilities	9.8	11.6	10.4	10.8	11.7	12.2	12.5
TOTAL INSTITUTIONAL	25.3	27.6	18.3	20.9	23.6	24.8	25.6
(Yr/yr % change)	*59.7%*	*9.0%*	*-33.8%*	*14.4%*	*12.7%*	*5.0%*	*3.3%*
TOTAL NON-RES BLDG	69.0	72.8	60.8	66.7	71.9	74.1	75.6
(Yr/yr % change)	*25.0%*	*5.5%*	*-16.5%*	*9.7%*	*7.8%*	*3.0%*	*2.0%*
RESIDENTIAL + NON-RES BLDG	294.0	275.8	222.5	241.1	256.1	266.8	276.9
(Yr/yr % change)	*9.9%*	*-6.2%*	*-19.3%*	*8.4%*	*6.2%*	*4.2%*	*3.8%*

* 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**				
	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Summary							
NON-RESIDENTIAL BUILDING	69.0	72.8	60.8	66.7	71.9	74.1	75.6
RESIDENTIAL	225.0	203.0	161.7	174.4	184.2	192.8	201.3
RESIDENTIAL + NON-RESIDENTIAL BUILDING	294.0	275.8	222.5	241.1	256.1	266.8	276.9
Verticals							
Offices (private)	5.9	8.6	10.8	10.6	11.2	10.4	10.1
Parking Garages	1.1	0.2	1.0	1.1	1.1	1.1	1.2
Transportation Terminals	0.7	4.0	0.3	1.1	1.5	1.6	1.6
Commercial	7.7	12.9	12.0	12.8	13.8	13.1	12.8
(Yr/yr % change)	*117.9%*	*66.3%*	*-6.4%*	*5.9%*	*7.8%*	*-4.7%*	*-2.0%*
Amusement	5.5	4.8	4.1	4.6	4.8	5.0	5.2
Religious	0.6	0.3	0.2	0.2	0.3	0.3	0.3
Community	6.1	5.2	4.3	4.8	5.1	5.3	5.5
(Yr/yr % change)	*3.2%*	*-14.8%*	*-16.5%*	*11.7%*	*5.3%*	*4.7%*	*4.4%*
Educational	9.8	11.6	10.4	10.8	11.7	12.2	12.5
(Yr/yr % change)	*-9.1%*	*18.3%*	*-10.1%*	*3.6%*	*8.5%*	*3.8%*	*2.3%*
Fire and Police Stations	2.1	1.7	1.2	1.4	1.4	1.5	1.5
Government Offices	1.8	1.9	1.9	1.3	1.3	1.4	1.5
Government	3.9	3.5	3.1	2.8	2.8	2.9	3.0
(Yr/yr % change)	*8.0%*	*-8.8%*	*-13.6%*	*-9.9%*	*1.0%*	*3.6%*	*3.0%*
Manufacturing	5.2	7.6	8.2	8.6	8.0	7.4	6.6
Warehouses	11.4	12.5	9.1	11.6	12.4	13.1	13.9
Industrial	16.6	20.1	17.4	20.2	20.4	20.5	20.5
(Yr/yr % change)	*29.6%*	*21.2%*	*-13.8%*	*16.1%*	*1.3%*	*0.5%*	*-0.2%*
Hospitals / Clinics	10.9	9.5	5.8	6.8	7.7	8.2	8.5
Medical Misc.	1.3	0.5	0.3	0.6	0.9	1.1	1.2
Medical	12.2	9.9	6.2	7.4	8.6	9.2	9.7
(Yr/yr % change)	*215.3%*	*-18.2%*	*-37.9%*	*19.5%*	*17.2%*	*6.7%*	*5.1%*
Hotels	4.2	1.9	1.7	2.8	3.4	3.4	2.8
Retail Misc.	1.2	1.2	1.0	1.1	1.4	1.6	1.8
Shopping	7.3	6.5	4.7	4.2	4.8	5.9	7.0
Retail	12.7	9.5	7.4	8.0	9.5	10.9	11.6
(Yr/yr % change)	*-13.4%*	*-25.2%*	*-22.4%*	*8.5%*	*18.7%*	*14.0%*	*6.9%*
NON-RESIDENTIAL BUILDING	69.0	72.8	60.8	66.7	71.9	74.1	75.6
(Yr/yr % change)	*25.0%*	*5.5%*	*-16.5%*	*9.7%*	*7.8%*	*3.0%*	*2.0%*
Multi-Family	80.1	78.2	63.9	67.9	72.2	75.9	79.3
Single-Family	144.9	124.8	97.8	106.5	111.9	116.9	122.0
RESIDENTIAL	225.0	203.0	161.7	174.4	184.2	192.8	201.3
(Yr/yr % change)	*6.0%*	*-9.8%*	*-20.3%*	*7.9%*	*5.6%*	*4.7%*	*4.4%*
RESIDENTIAL + NON-RESIDENTIAL BUILDING	294.0	275.8	222.5	241.1	256.1	266.8	276.9
(Yr/yr % change)	*9.9%*	*-6.2%*	*-19.3%*	*8.4%*	*6.2%*	*4.2%*	*3.8%*

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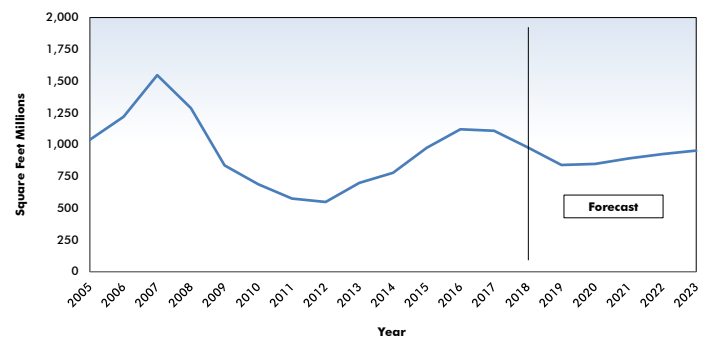
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect / Table: ConstructConnect.

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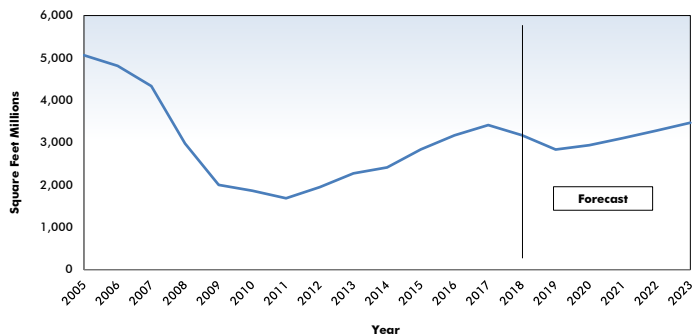## Construction Starts — ConstructConnect
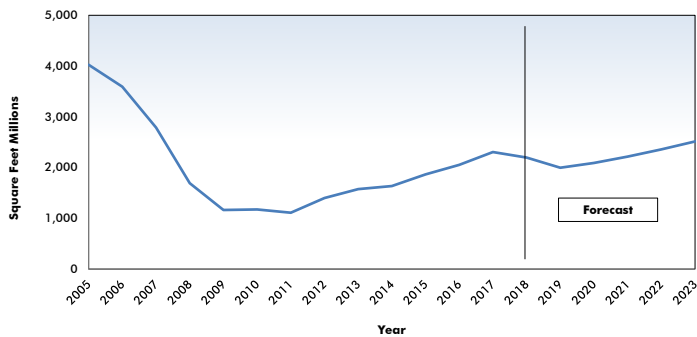
Source of actuals: ConstructConnect "Insight" / Forecasts: Oxford Economics and ConstructConnect. Chart: ConstructConnect.

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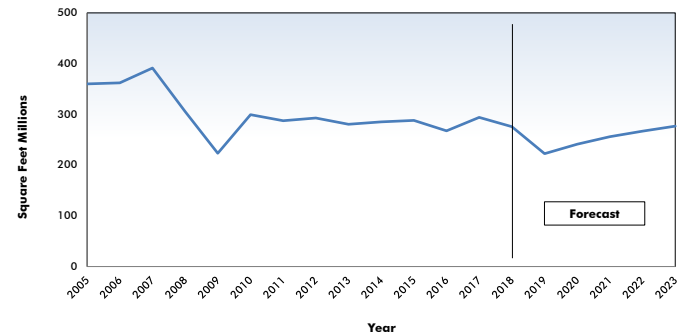## Building Construction Starts — ConstructConnect

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

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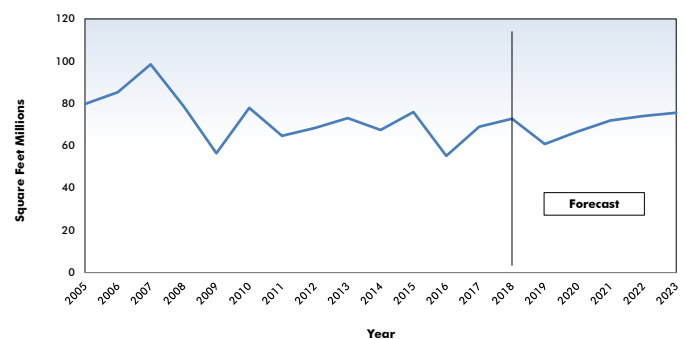## Building Construction Starts — ConstructConnect

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.

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