

Image courtesy of B.C. Ministry of Transportation and Infrastructure

Highway 97 was expanded from four to six lanes for 4.5 km, between Highway 33 and Edwards Road in Kelowna. This part of the Highway 97 corridor sees approximately 40,000 vehicles a day. The project increased the number of high occupancy vehicle lanes and included intersection upgrades to Leathead, McCurdy, Findlay/Hollywood and Sexsmith roads. The \$67-million project was cost-shared with \$18 million from the Government of Canada through the Building Canada Fund, close to \$1 million from the City of Kelowna and the remainder from the Province.

BRITISH COLUMBIA MAJOR PROJECTS INVENTORY

FOURTH QUARTER 2018



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British Columbia Major Projects Inventory

Fourth Quarter 2018

Major Projects Inventory as of December 31, 2018.

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About this Report

The objectives of this report are to analyze the updates to the MPI and to provide additional context on changes to economic conditions and construction activities. These snapshots of current economic activities are provided to help readers form expectations of the construction activities into the next quarter. This report was prepared with the most current data from economic indicators.

Detailed project listings are available in a searchable Excel database: www.majorprojectsinventorv.com

Please address report feedback to Man Wang, Research, Information and Analysis at: Man.Wang@gov.bc.ca

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The B.C. Major Projects Inventory (MPI), published quarterly, provides summary information on major projects in the Province of British Columbia. The MPI includes a listing of private and public sector construction projects in B.C. with an estimated capital cost of \$15 million (Cdn.) or greater (\$20 million or greater within the Lower Mainland–Vancouver area).

Since 2018 Quarter 3, all the existing projects receive an update each quarter. New projects are added to the list every quarter. Projects on hold for longer than two years are removed from the publication. Completed projects are removed from the list in the following quarter.

Information collected in the MPI includes:

Project identification	Project name, description, specific and regional location, geographic coordinates, developer, contact information, project type, and project category
Project status	 Proposed, under construction, completed, or on hold Proposed stages Start and completion dates (if available) Update activity on project status Environmental assessment stage
Project size	Estimated capital cost (if available)
Other project characteristics	Construction type, construction subtype, public sector projects, clean energy projects and/or green (i.e. LEED) building projects, Indigenous people's agreements, the number of construction jobs and operating jobs.

While every effort is made to maintain a comprehensive project list that includes the most current publicly available information, it is important to note that projects are constantly added and re-evaluated by industry. Not all major projects are included in the MPI. Projects must be known to be included, and some project information is not published due to confidentiality requirements.

Sources of MPI Information

Information sources include print and electronic media, developers, architects, general contractors, and government agencies (provincial, regional, municipal) as well as occasional site visits. Projects that are under consideration or proposed to be funded by the provincial government may be listed where there is public information about such projects. The description may indicate the status of provincial funding applications if such information is publicly available.

Project Location

Projects are listed within the eight economic development regions: Vancouver Island/Coast, Mainland/Southwest (Vancouver area), Thompson-Okanagan, Kootenay, Cariboo, North Coast, Nechako, and Northeast. A map showing the location of the regions and main population centres is included in the regional sections of the MPI. Projects are also listed according to the nearest population centre, which could be an unincorporated centre or a local government (e.g., a municipality).

Estimated Cost

Cost estimates are general estimates from the information sources used and are not necessarily produced in a consistent manner. The estimated costs are revised when new information is available. All estimates are recorded in millions of dollars. All capital costs in this report are estimates and therefore subject to change. This is particularly applicable in the early stages of a project proposal. Some capital costs are not included because they were not available at press time or the developer or owner requested that no capital cost be shown.

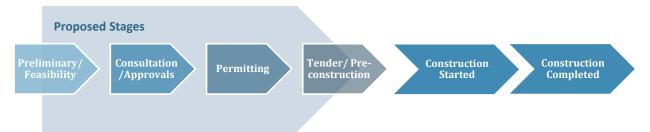
Start and Finish Dates

Start and finish dates for proposed projects are based on estimates from the sources used, or in some cases, reasonable assumptions. These dates are revised as new information becomes available.

Project Status

Projects are listed by status: proposed, under construction, completed, or on hold. Projects that are on hold for longer than two years are normally removed from the publication (although retained in our database). Cancelled projects are noted in the project description as "cancelled" and noted in a new field - Update Activity is identified as "cancelled-removing next issue". Cancelled projects and completed projects in this quarter will be removed from the next issue of the MPI. Changes to project status are based on public information releases and/or information supplied by project proponents. Cancelled projects are not included in reported totals in this report.

The following diagram illustrates the project stages listed in the database.



Technically, projects can have their status moved to "cancelled" at any stage except for construction completed.

Proposed

Any major projects in the public realm with an intention to proceed on the part of a credible proponent are added to the database. Often major projects with an official news release or funding confirmed are added to the inventory. Projects released on the official websites may be included but are subject to approval for inclusion by the proponent. A review process for public projects is obtained by the project manager where the respective ministry can decide to include or remove the proposed projects based on feasibility or funding available for the project.

Proposed projects usually go through the four stages prior to the construction.

At the **Preliminary/Feasibility** stage, the feasibility of the project has been reviewed and the project's design and planning are in process.

Consultation/Approvals stage includes approvals for the zoning, environmental assessment, Indigenous people and other public open house processes.

A proposed project will enter **Permitting** stage after obtaining the required approvals (i.e. environmental assessment certificate, if indicated). This stage includes development and building permits, mines, water licenses and other additional information required before moving into pre-construction stage.

Tender/Pre-construction stage includes construction tenders and building site preparation such as pre-loading, demolition, and excavation. The pre-construction work such as excavation or site work may begin in preparation for the construction permit.

Sustainable Building Design

Information on sustainable building design is identified as well as construction projects that are registered and certified under a recognized green building rating system (e.g., Leadership in Energy and Environmental Design (LEED®), Green Globes). LEED buildings provide an environmentally responsible standard for energy efficiency in the home and workplace. This designation has been added to the project description to promote awareness of the benefits of green buildings.

Indigenous Affiliation

Information related to Indigenous people's involvement in projects is based on news releases and published project information that is publicly available. The information is consistent with the information maintained in the Indigenous Business and Investment Council Database (BCIBIC; www.bcibic.ca).

Project Category

Project Category lists the seven industrial categories:

- a.) manufacturing;
- b.) mining, oil and gas extraction;
- c.) other services;
- d.) public services;
- e.) residential or commercial;
- f.) transportation and warehousing; and,
- g.) utilities (including sewage treatment).

Environmental Assessment Stage

The stages of environmental assessment for each project undergoing review under the *B.C. Environmental Assessment Act* are added to this issue.

Latitude and Longitude

Fields Latitude and longitude in the format of Degrees minutes seconds (DMS).

Telephone

Contact number of the project developer or representative.

Update Activity

Readers can search for and select projects based on the following seven criteria:

- a.) new proposed projects;
- b.) project started construction;
- c.) cancelled-removing next issue;
- d.) project added-under construction;
- e.) project completed-removing next issue;
- f.) project placed on hold; and,
- g.) project removed from hold.

1. B.C. Major Projects Highlights – Q4 2018

The estimated capital cost of all 977 major projects in the fourth quarter of 2018, totalling \$408.99 billion (B), has increased from \$407.51 B in the third quarter of 2018. Note that the total capital cost is the combined estimated value of projects identified as proposed, construction started, completed, and on hold excluding cancelled projects.

There are 28 new proposed projects over \$15 million (M) with available capital cost estimates totalling \$2.37 B if all the projects were to proceed. The potential capital investment for new projects has increased compared to \$2.31 B in the third quarter of 2018.

There are 33 projects that have started construction in B.C., representing an estimated capital cost of \$43.69 B, up from the \$1.64 B reported in the third quarter of 2018. This big increase is due to the start of the \$36 B LNG Canada facility in Kitimat. Thirty-four projects completed construction in the fourth quarter, with an estimated capital cost of \$2.21 B compared to \$748 M in the third quarter of 2018.

There are 238 projects with public funding contributions with a total capital cost of \$45.88 B. Funding for these projects is allocated through municipal, provincial and/or federal levels of government, crown corporations, public institutions and may include private partnerships. Of these, 141 projects worth a total of \$23.25 B have provincial government funding contributions.

There are 66 projects with a total estimated cost of \$153.67 B involving Indigenous communities in capacities such as project owners, project partners or benefit agreements.

Major projects currently under construction in B.C. totalled \$115.37 B, up from the \$74.41 B in the third quarter of 2018. Proposed projects totalled \$260.34 B, down from \$301.07 B in the previous quarter. This decrease was primarily due to the \$36 B LNG Canada facility changing status from proposed to started. Many major project proposals listed are in very preliminary stages and are not approved for construction, therefore capital cost estimates should be viewed with caution. Approximately \$32.72 B of projects are judged to be 'on hold' for the time being, an increase from the previous quarter value of \$31.31 B.

All capital costs in this report are estimates and therefore subject to change. Some capital costs are not included because they were not available at press time or the developer or owner requested that no capital cost be shown.

Figure 1 B.C. MPI Highlights

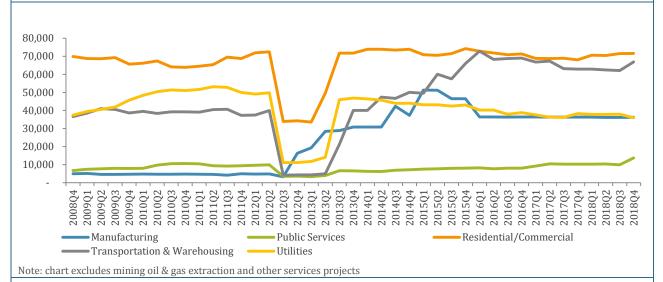
977	Number of total major projects
\$408.99 B	Value of all projects
532	Number of total proposed projects
\$260.34 B	Value of proposed projects
356	Number of projects under construction
\$115.37 B	Value of projects under construction
	Number of projects completed
\$2.21 B	Value of projects completed
28	Number of new proposed projects
\$2.37 B	Value of newly proposed projects

2. B.C. Major Projects Inventory – Q4 2018

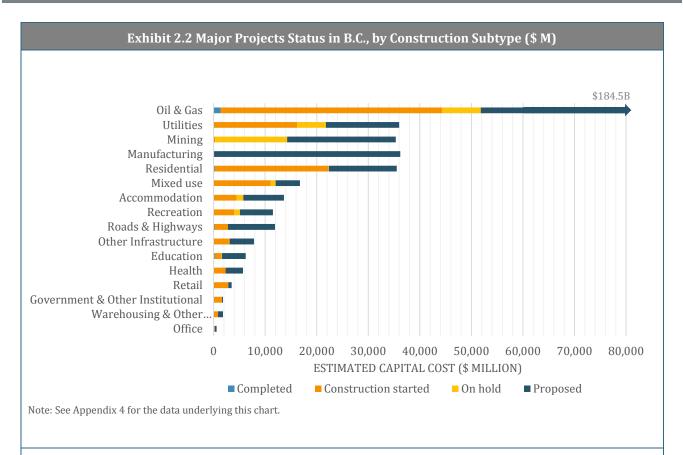
By Project Category, Construction Type or Subtype

Exhibit 2.1 Estimated Cost Trends in B.C. Major Projects, by Project Category (\$ M)

Exhibit 2.1 Estimated Cost Trends in BC Major Projects, by Project Category (\$ M)							
Project Category	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Change from the previous quarter	Change from the previous year
Mining, Oil & Gas Extraction	174,900	172,900	187,837	178,669	173,035	-3.2%	-1.1%
Residential/Commercial	67,995	70,550	70,377	71,478	71,581	0.1%	5.3%
Transportation & Warehousing	62,844	62,876	62,475	62,055	66,910	7.8%	6.5%
Manufacturing	36,365	36,365	36,155	36,155	36,195	0.1%	-0.5%
Utilities	38,300	37,839	37,799	37,958	36,005	-5.1%	-6.0%
Public Services	10,287	10,334	10,408	9,970	13,721	37.6%	33.4%
Other Services	11,859	11,213	11,213	11,229	11,539	2.8%	-2.7%
Grand Total	402,550	402,077	416,264	407,514	408,986	0.4%	1.6%



The total estimated capital cost of major projects in B.C was up slightly in the fourth quarter of 2018 (Q4), totalling \$408.99 B, representing a 0.4 percent increase over the previous quarter and a 1.6 percent increase compared to one year earlier.



- Oil and Gas projects represent 45 percent of the total estimated capital cost in the MPI.
- Residential and Commercial development projects comprise 538 of the 977 projects listed in the fourth quarter of 2018, representing a total estimated capital cost of \$71.6 B.
- Residential projects are concentrated in the Mainland/Southwest region (72 percent), Vancouver Island (18.7 percent), and Thompson-Okanagan (8.9 percent).
- Utility projects continue to be a significant driver for the province. The total cost of utilities projects is nearly \$36 B while the total cost of projects which are currently underway is over \$16 B.
- There are 53 mining projects listed in the MPI with a total estimated value of \$35.3 B.
- The top categories for new projects added to the MPI are Education (\$974 M), Primarily Residential Single Use (\$380 M), and Recreation (\$340 M).
- Public Infrastructure The value of public funding contributions was \$45.9 B for 238 projects across all levels of government. Of these, 141 projects worth a total of \$23.3 B have provincial government funding contributions. It is important to note that this figure reflects the total cost, not just the provincial contribution.

Construction Type & Subtype	Vancouver Island/Coast	Mainland/ Southwest	Thompson -Okanagan	Kootenay	Cariboo	North Coast	Nechako	Northeast	Total
Residential	11,269	28,178	9,492	80			100		49,119
Mixed use	2,800	9,359	1,450						13,609
Primarily residential - Single use	8,469	18,819	8,042	80			100		35,510
Residential Mixed use									
Commercial	3,981	17,801	5,654	4,902	1,322	46		540	34,246
Mixed use	462	2,690							3,152
Accommodation	2,266	4,851	3,299	2,302	940				13,658
Recreation	220	6,473	2,210	2,600		16			11,519
Retail	923	1,960	115					500	3,498
Office	70	512							582
Warehousing		265							265
Other Commercial	40	1,050	30		382	30		40	1,57
Industrial	32,130	2,375	1,069	2,936	7,231	182,636	6,328	21,384	256,08
Mining	130	160	1,039	2,936	2,646	17,991	6,328	4,101	35,333
Oil & Gas	32,000	2,125			4,570	132,585		13,283	184,563
Manufacturing - Wood Products			30			60			90
Manufacturing - Petrochemical						32,000		4,000	36,00
Other Manufacturing		90			15				10
Institutional	3,442	8,541	1,433	41	63	18	79	124	13,74
Education	1,964	3,820	283	22	63	18	29	31	6,230
Health		4,468	1,110	19			50	50	5,697
Government buildings	1,458	253	40					43	1,79
Other Institutional & Government	20								20
Infrastructure	9,747	19,203	2,922	674	1,584	4,607	551	16,503	55,79
Utilities	7,701	4,520	1,139	674	1,090	3,939	506	16,436	36,00
Roads & Highways	266	9,285	1,632		494	133	45	67	11,92
Other Transportation	1,780	5,398	150			535			7,86
Grand Total	60,569	76,098	20,569	8,633	10,200	187,307	7,058	38,551	408,98

By Project Status

Exhibit 2.4 Estimated Cost Trends in B.C. Major Projects, by Project Status (\$ M)

Status	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Change from the previous quarter	Change from the previous year
Proposed	293,574	294,266	311,674	301,051	260,341	-13.5%	-11.3%
Construction started	74,877	75,185	73,672	74,406	115,366	55.0%	54.1%
Completed	4,133	1,664	989	748	2,214	196%	-46.4%
On hold	29,966	30,962	29,929	31,309	31,065	-0.8%	3.7%
Total	402,550	402,077	416,264	407,514	408,985	0.4%	1.6%

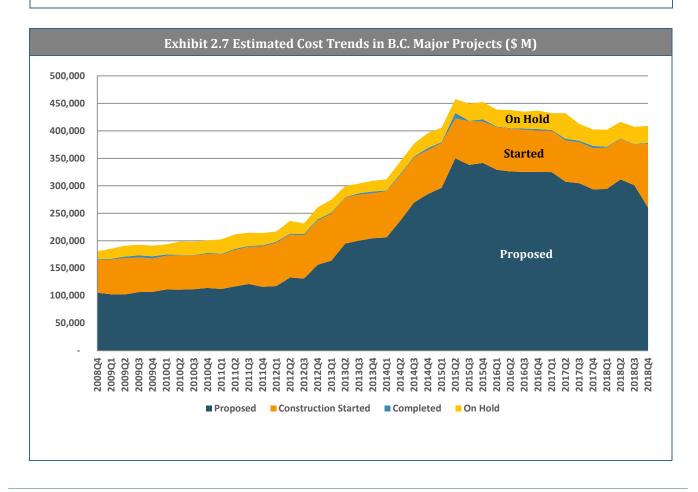
The value of completed projects increased by 196% to \$2.2 B in Q4 2018 over the previous quarter. Notable projects completed were Saturn Compressor Facility Expansion (\$930 M) and Towerbirch Expansion Project (439 M) in Dawson Creek. The LNG Canada project (\$36 B) represented a large in crease in construction starts.

Exhibit 2.5 Summary of B.C. Major Projects (by Project Status)

	Estimated Capital Cost (\$M)	Percentage of Total	Number of Projects	Average Project Value (\$ M)	Average Years in Inventory
Proposed	260,341	64%	532	550	5.1
Preliminary/Feasibility	51,217	13%	127	502	4.2
Consultation/Approvals	140,279	34%	221	712	6.1
Permitting	9,100	2%	40	253	3.6
Tender/Preconstruction	10,726	3%	94	118	2.4
Stage Unknown	49,019	12%	50	1043	8.9
On Hold	31,065	8%	55	621	11.1
Construction Started	115,366	28%	356	331	6.4
Completed	2214	1%	34	67	3.3
Total	408,986	100%	977	452	5.8

Note: Average project value is the average of those projects for which there is a cost estimate. An average year in inventory is the average time span between the projects as first recorded in the MPI and the current period. Regional detail is provided in Exhibit 2.6.

Development Region	Proposed	Construction started	Completed	On Hold		Total change from the previous quarter	Total change fror the previous yea
Vancouver Island/Coast	45,317	12,834	195	2,223	60,569	0.1%	3.3
Mainland/ Southwest	46,522	28,725	384	467	76,098	9.4%	9.1
Thompson- Okanagan	4,533	14,516	183	1,338	20,570	-3.8%	-4.0
Kootenay	2,590	3,601	22	2,420	8,633	-2.3%	-5.5
Cariboo	4,843	514	43	4,800	10,200	-1.0%	-0.2
North Coast	138,612	36,696	18	11,981	187,307	-2.8%	0.1
Nechako	4,522	201	0	2,335	7,058	0.0%	-1.7
Northeast	13,402	18,279	1,369	5,501	38,551	4.0%	-1.4
Total	260,341	115,366	2,214	31,065	408,985	0.4%	1.6



3. B.C. Economy

Exhibit 3.1 Economic Activity

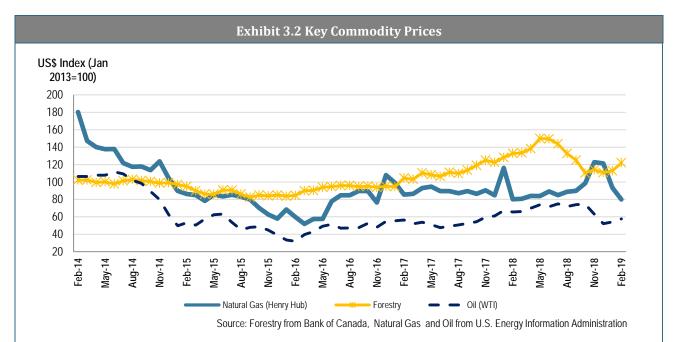
	2019	2020	2021	2022	2023
Real GDP	+2.4 %	+2.3 %	+2.1 %	+2.0 %	+2.0%

Source: B.C. Budget and Fiscal Plan 2019/20 – 2021/22

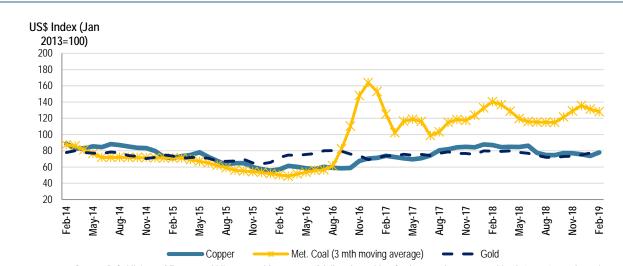
	Most Recent Period	Amount	Change from previous month	Change from previous year	Data Type
Retail trade (\$ M)	Dec-18	7,164	-0.2%	0.6%	seasonally adjusted
Manufacturing sales (\$ M)	Dec-18	4,476	-3.1%	0.6%	seasonally adjusted
Residential - building permits (\$ M)	Jan-19	1,192	-4.3%	4.5%	seasonally adjusted
Residential - housing starts (units)	Feb-19	36,547	-9.6%	16.4%	seasonally adjusted at annual rates
Non-Residential building permits (\$ M)	Jan-19	415	-52.7%	0.1%	seasonally adjusted
Exports - all merchandise (\$ M)	Dec-18	3,879	2.8%	4.0%	seasonally adjusted
		Prices			
B.C. Consumer price index (2002=100)	Jan-19	129.1	0.1%	+2.5%	not seasonally adjusted
Exchange rate	Feb-19	US \$0.76	0.8%	-4.7%	not seasonally adjusted
Average 5-year residential mortgage rate	Feb-19	4.5%	-0.1p.p.	+0.3 p.p.	not seasonally adjusted
	Labo	ur Market			
Employment	Feb-19	2,547,800	0.1%	+2.8%	seasonally adjusted
Unemployment rate	Feb-19	4.5%	-0.2 p.p.	-0.2p.p.	seasonally adjusted
Participation rate	Feb-19	65.6%	-0.1 p.p.	0.7p.p.	seasonally adjusted
Average weekly earnings	Feb-19	968.93	-0.6%	-0.1%	seasonally adjusted

Source: Statistics Canada & Bank of Canada

Note: p.p. is percentage point, used here to show the difference between two percentage rates.

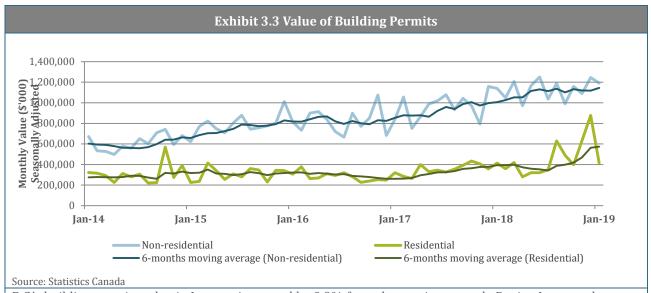


- The forestry price index increased 8% in February, but it is still 8% lower than a year ago.
- Natural gas dropped back 14% to US\$2.67/mmBTU, unchanged from the previous year.
- Oil (WTI) increased 6% to US\$54.66/bbl, down 12% from a year ago.

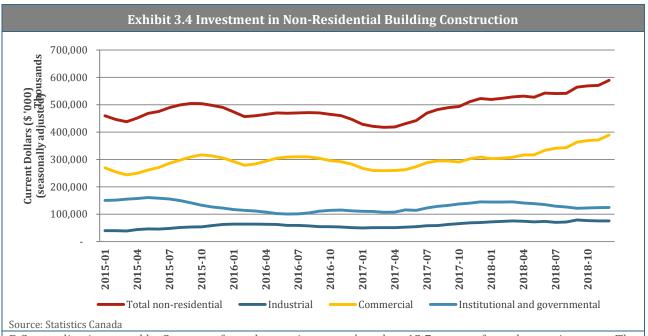


Source: B.C. Ministry of Energy and Mines, monthly average of daily values, Met. Coal: quarterly average to March 2016, 3-month moving average after March 2016

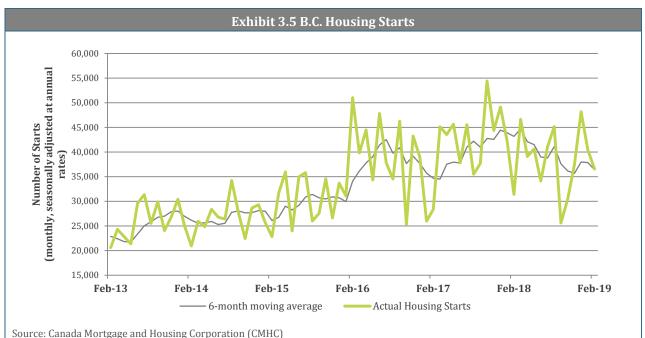
- Copper was up 6% and down 10% from a year ago.
- Gold increased 2% but is down 1% from a year ago.
- Metallurgical coal (3 month moving average) fell 2%, down 9% from a year ago.



B.C.'s building permits value in January increased by 0.9% from the previous month. During January, there was an average of \$1.8 billion worth of building permits issued compared to \$1.4 billion in the same month of the previous year Residential building permits value increased by 1% from December and by 14.1% compared to the same month in the previous year. These increases are driven by multiple dwellings.

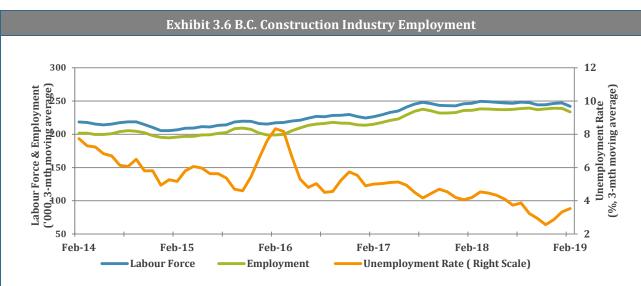


B.C. spending increased by 3 percent from the previous month and up 12.7 percent from the previous year. The current level of non-residential building investment in December 2018 was \$589.5 M. Note that this is building investment only and does not include infrastructure investment.



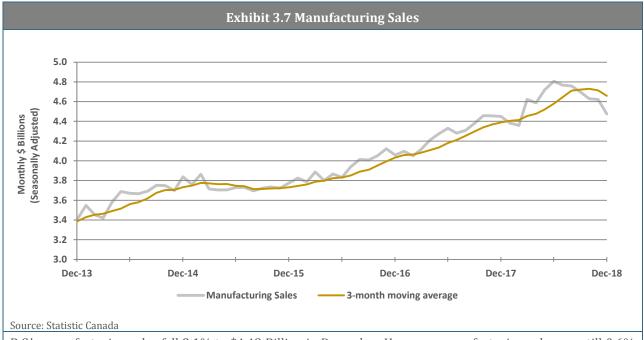
Note: All housing starts are the sum of the major centres with populations in excess of 10,000.

B.C.'s seasonally adjusted annualized housing starts decreased to 36,547 units in February 2019, a 9.6% decline from January. The 6-month moving average of the series declined by 3.8% from the previous month and by 15.7% from a year ago.



Source: Statistics Canada; North American Industry Classification System (NAICS 23), not seasonally adjusted

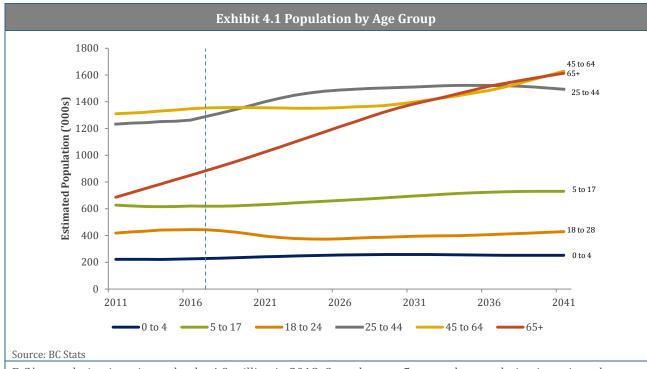
Employment levels in construction started to decrease as the response to the decline in the labour force since the end of 2018. The 3-month moving average employment was down with 1.9 percent in February from previous year. Employment month-over-month dropped 2 percent and labour force decreased 1.9 percent. The unemployment rate in B.C.'s construction industry increased 0.2 percentage points in February to 3.9 percent from January.



B.C.'s manufacturing sales fell 3.1% to \$4.48 Billion in December. However, manufacturing sales are still 0.6% higher compared to one year ago.

B.C. DEMOGRAPHICS

4. B.C. Demographics

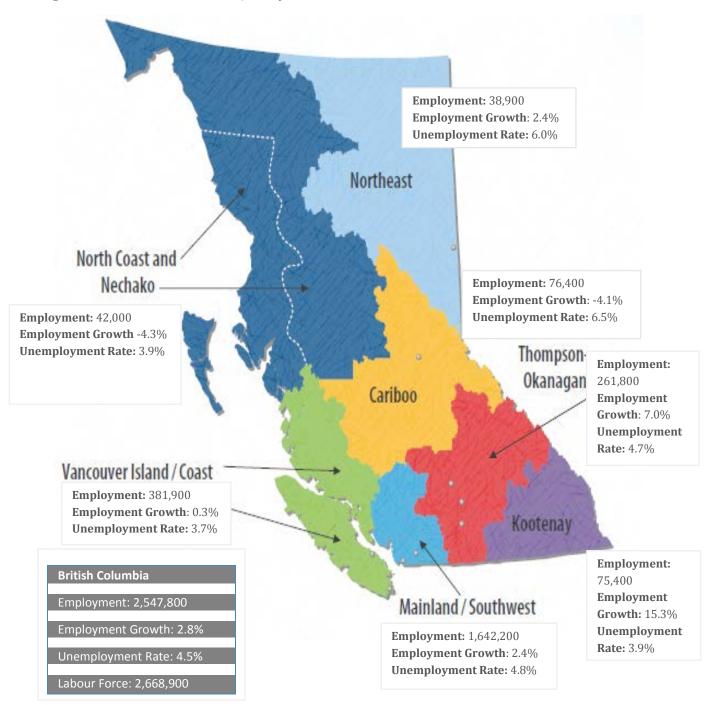


B.C.'s population is estimated to be 4.9 million in 2018. Over the next 5 years, the population is projected to grow 1.2 percent per year.

REGIONAL SUMMARIES

5. Regional Summaries

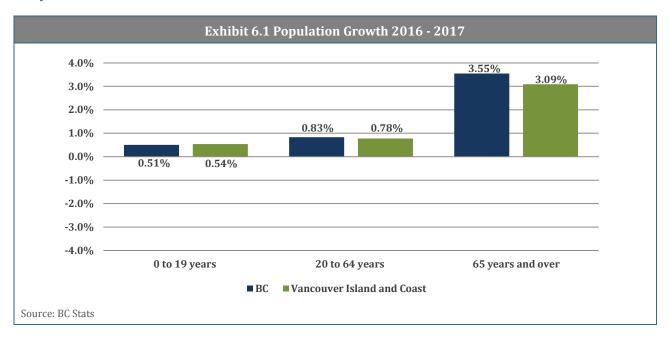
Regional Labour Market Statistics - January 2019

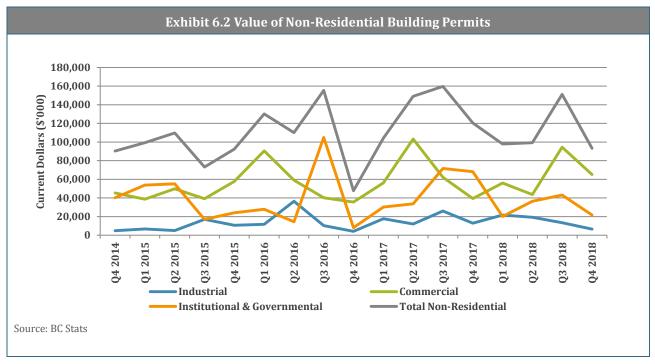


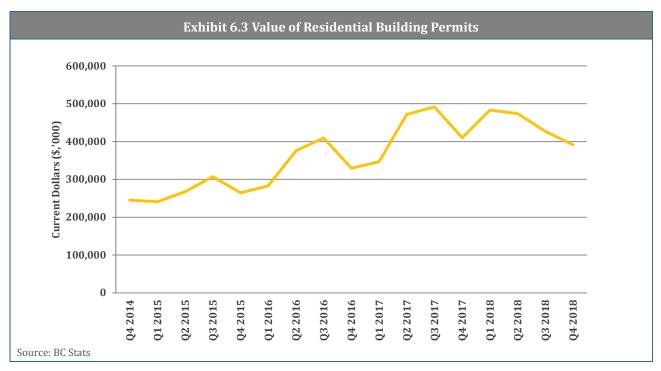
Note: Employment growth is over the previous 12 months. Data for B.C. at the provincial level are seasonally adjusted. Data for the regions are not seasonally adjusted and are 3-month moving averages. This means that the data at the provincial level are not directly comparable to the regional data, but the data for each region are directly comparable with the other regions. Source: Statistics Canada

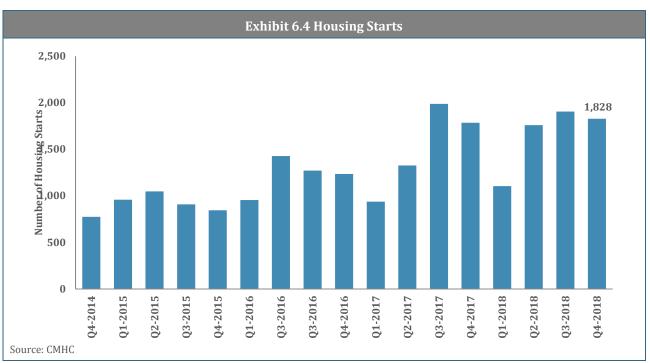
6. Vancouver Island/Coast Region

Key Economic Indicators

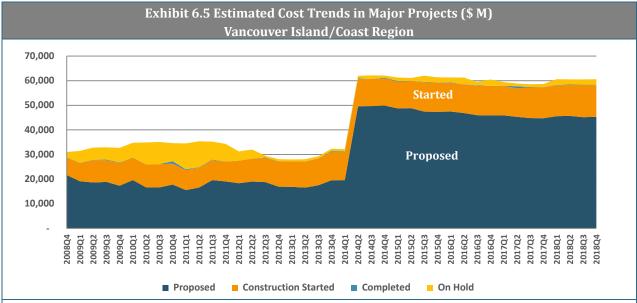








Trends in Major Projects



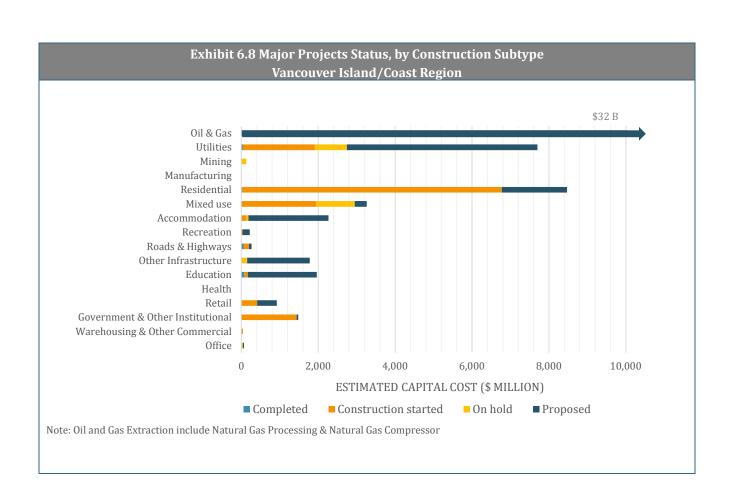
- In Q4 2018, the Vancouver Island/Coast region has a total of 156 major projects with a combined value of \$60.6 B, nearly remaining the same as last quarter and a 3.3 percent increase compared to one year earlier.
- There are 3 newly proposed projects added to the MPI this quarter: University of Victoria Student Housing (\$201 M), Langford Condominium Development (\$60 M) and Nanaimo Correctional Centre (cost not available).
- Seven major projects were completed in this quarter: the top 3 largest projects are Campbell River Substation Capacity Upgrade (\$40 M), Highway 1 Malahat Highway Upgrade (\$34 M) and Georges P. Vanier Secondary School seismic upgrades and partial replacement (\$34 M).
- Comox Area Puntledge Recoat Penstock Project (\$36 M), Harbour Plaza and Walkway (\$33 M), Ironworks Condominium (\$20 M), Bellewood Park Condominium Development (\$20 M) in Victoria, Langford McCallum Commercial Development (\$18 M), and Quadra Street Apartments (\$15 M) began construction in this quarter.

Exhibit 6.6 Estimated Cost Trends in Major Projects, by Project Status (\$M) Vancouver Island/Coast Region												
Status	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Change from the previous quarter	Change from the previous year					
Proposed	44,733	45,578	45,685	45,157	45,317	0.4%	1.3%					
Construction started	12,522	12,571	12,557	13,205	12,834	-2.8%	2.5%					
Completed	98	144	204	68	195	186.8%	99.0%					
On hold	1,298	2,298	2,073	2,073	2,223	7.2%	71.3%					
Total	58,651	60,591	60,519	60,503	60,569	0.1%	3.3%					

Exhibit 6.7 Summary of Major Projects (by Project Status)
Vancouver Island/Coast Region

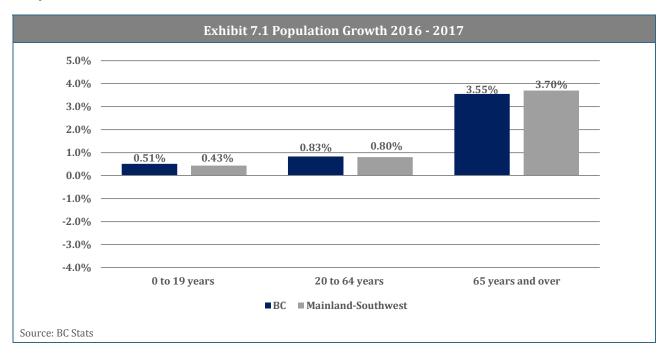
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	45,317	75%	79	629	6.1
Preliminary/Feasibility	2,443	5%	24	129	4.8
Consultation/Approvals	35,980	79%	34	1,124	6.8
Permitting	643	1%	7	92	4.1
Tender/Preconstruction	171	0%	6	29	2.8
Stage Unknown	6,080	13%	8	760	11.7
On Hold	2,223	4%	12	222	10.7
Construction Started	12,834	21%	58	225	7.5
Completed	195	0%	7	28	2.7
Total	60,569	100%	156	415	6.7

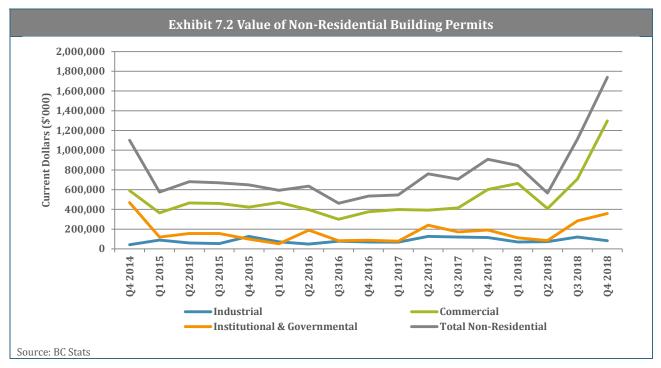
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

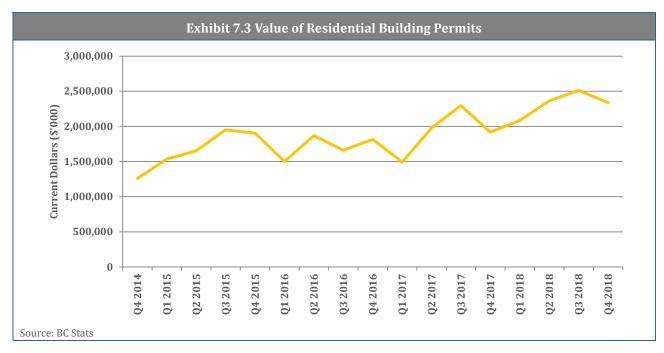


7. Mainland/Southwest Region

Key Economic Indicators

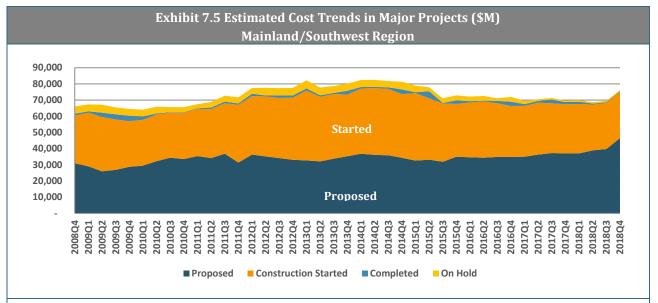








Trends in Major Projects



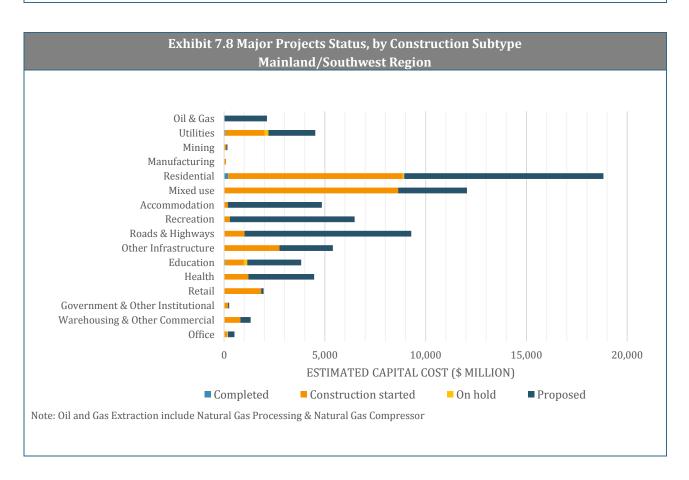
- In Q4 2018, the Mainland/Southwest region has a total of 533 major projects with a combined value of \$76.1 B, representing a 9.4 percent increase over the previous quarter as well as up 9.1 percent compared to one year earlier.
- There are 21 newly proposed projects added to the MPI this quarter. The top three largest projects are Harry Jerome Recreation Centre (\$237 M), UBC Community Health and Fitness Centre (\$210 M), and UBC Chemistry Laboratory Complex (\$196 M). See more new projects in Appendix 1.
- Sixteen major projects were completed in this quarter such as South Surrey Area Reinforcement Project (\$34 M), Vittorio Condominium in Burnaby (\$30 M) and Highway 91 at 72nd Avenue Grade Separation (\$28 M). See more completed projects in Appendix 3.
- Twenty-two major projects began construction in this quarter with total capital costs of \$821 M. The top three largest projects are SFU Student Residence Redevelopment (\$120 M), Village at Fraser Mills in Coquitlam(\$80 M), and Prime on the Plaza Condominium in Surrey(\$60 M). See more projects underway in Appendix 2.

Exhibit 7.6 Estimated Cost Trends in Major Projects, by Project Status (\$ M) Mainland/Southwest Region								
Status	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Change from the previous quarter	Change from the previous year	
Proposed	37,088	37,070	38,912	39,725	46,522	17.1%	25.4%	
Construction started	30,324	30,509	28,283	28,515	28,725	0.7%	-5.3%	
Completed	1,364	1,424	600	451	384	-14.9%	-71.8%	
On hold	952	1,008	892	892	467	-47.6%	-50.9%	
Total	69,728	70,011	68,687	69,583	76,098	9.4%	9.1%	

Exhibit 7.7 Summary of Major Projects (by Project Status)
Mainland/Southwest Region

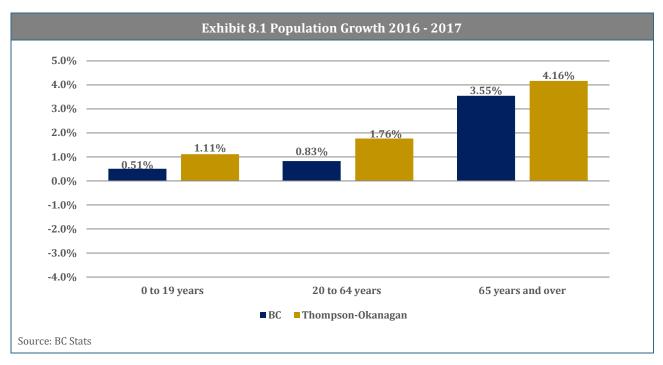
	Estimated Capital	Percentage of	Number of	Average Project	Average Year in
	Cost (\$ million)	Total	Projects	Value (\$ million)	Inventory
Proposed	46,522	61%	301	172	4.0
Preliminary/Feasibility	11,676	15%	66	216	3.8
Consultation/Approvals	12,651	17%	110	132	4.9
Permitting	2,893	4%	25	126	2.7
Tender/Preconstruction	9,903	13%	79	129	2.2
Stage Unknown	9,399	12%	21	470	8.1
On Hold	467	1%	9	67	9.3
Construction Started	28,725	38%	207	142	5.0
Completed	384	1%	16	24	3.3
Total	76,098	100%	533	154	4.4

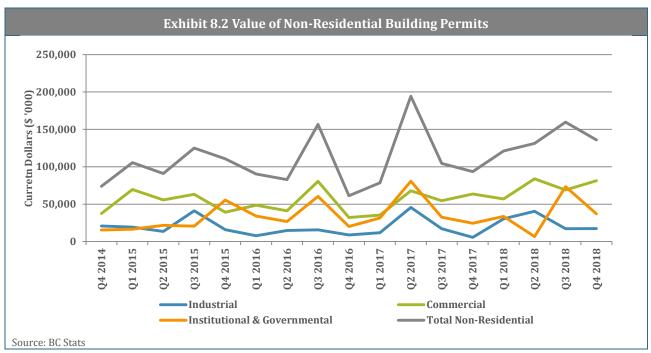
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

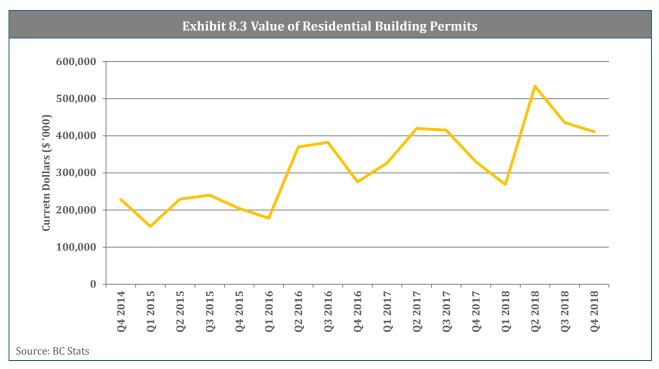


8. Thompson - Okanagan Region

Key Economic Indicators

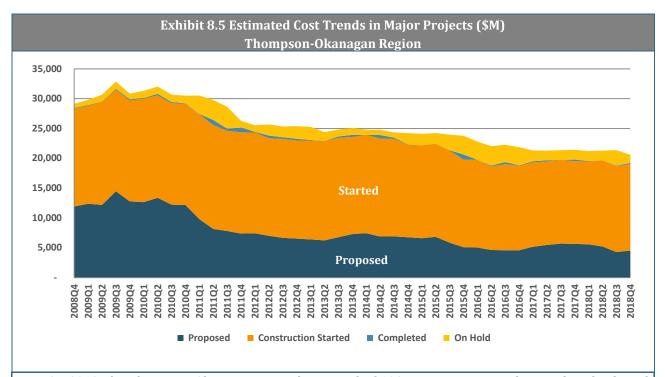








Trends in Major Projects

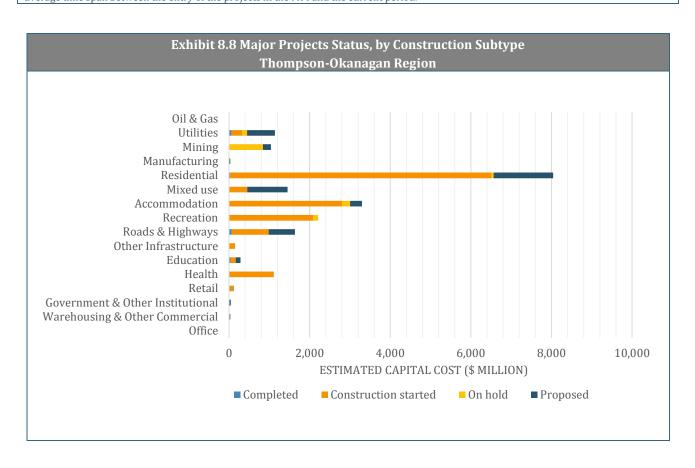


- In Q4 2018, the Thompson-Okanagan region has a total of 108 major projects with a combined value of \$20.6 B, representing a 3.8 percent decrease over the previous quarter and 4 percent declined compared to one year earlier.
- There are 2 newly proposed projects added to the MPI this quarter: RW Bruhn Bridge Replacement in Sicamous (\$225 M) and Glenmore Secondary School in Kelowna (\$59 M)
- Five major projects were completed in this quarter such as the Highway 97 Improvements Highway 33 to Edwards Road (\$67M), Kamloops Substation (\$56 M), UBC Okanagan Teaching and Learning Centre in Kelowna (\$35 M), Sopa Square Residential Development in Kelowna (\$25 M) and Okanagan Lake Second Crossing Planning Study.
- Royal Inland Hospital Patient Care Tower (\$417 M) in Kamloops began construction in this quarter.

Thompson-Okanagan Region									
Status	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018				
Proposed	5,653	5,574	5,210	4,276	4,533	6.0%	-19.8%		
Construction started	13,872	13,892	14,438	14,387	14,516	0.9%	4.6%		
Completed	260	70	0	90	182	102.2%	-30.0%		
On hold	1,637	1,677	1,638	2,621	1,338	-49.0%	-18.3%		
Total	21,422	21,213	21,286	21,374	20,570	-3.8%	-4.0%		

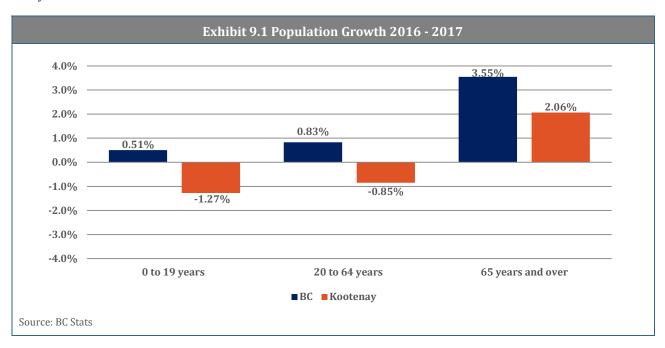
Exhibit 8.7 Summary of Major Projects (by Project Status) Thompson-Okanagan Region							
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory		
Proposed	4,533	22%	43	113	6.6		
Preliminary/Feasibility	594	3%	11	66	4.9		
Consultation/Approvals	2,843	14%	17	167	7.8		
Permitting	264	1%	3	88	7.0		
Tender/Preconstruction	448	2%	4	112	1.8		
Stage Unknown	384	2%	8	55	8.4		
On hold	1,338	7%	6	223	12.1		
Construction started	14,516	71%	54	274	9.2		
Completed	182	1%	5	46	5.1		
Total	20,570	100%	108	200	8.1		

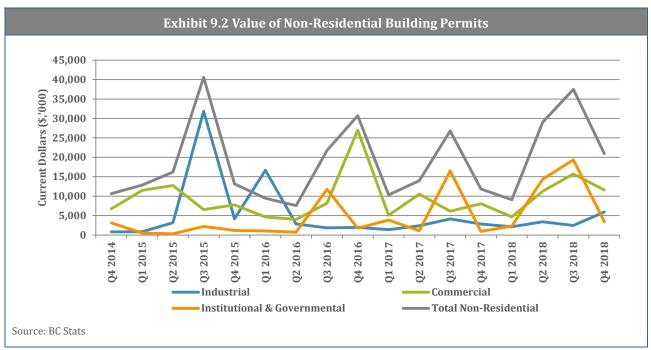
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

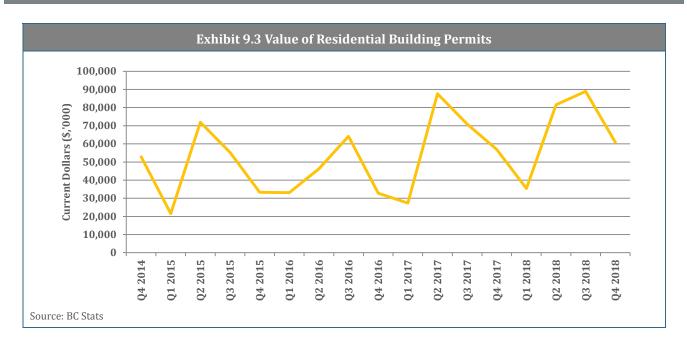


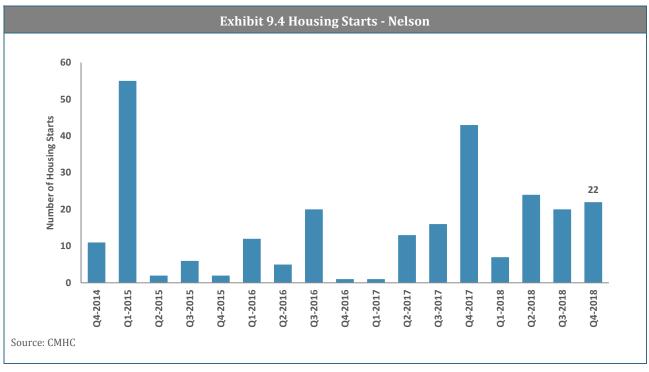
9. Kootenay Region

Key Economic Indicators

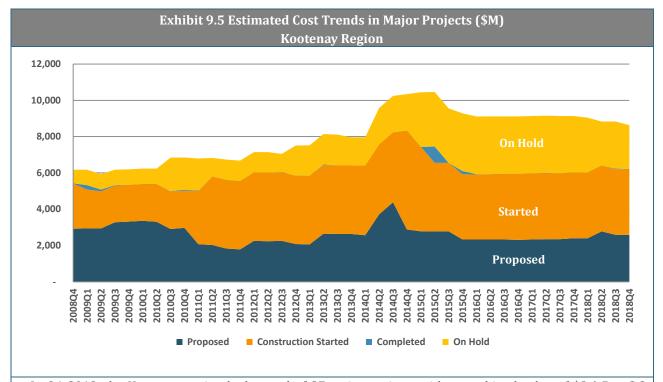








Trends in Major Projects



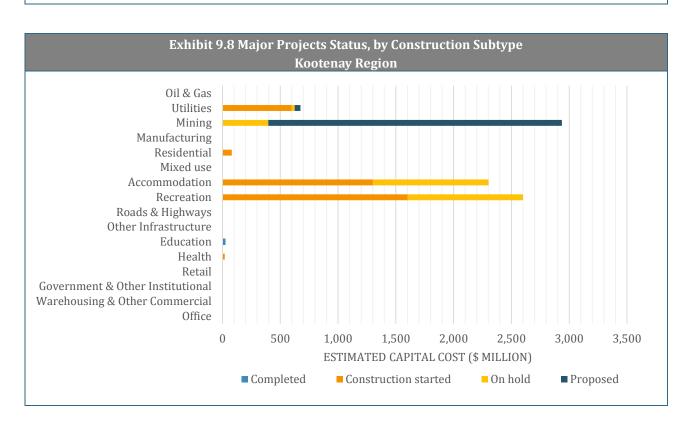
- In Q4 2018, the Kootenay region had a total of 27 major projects with a combined value of \$8.6 B, a 2.3 percent decrease compared to the previous quarter and representing a 5.5 percent decline compared to one year earlier.
- Silver King Renewal Trades Training Facility in Nelson (\$22 M) was completed in this quarter.

		Koote	nay Regio	n			
Status	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Change from the previous quarter	Change fron the previou yea
Proposed	2,399	2,399	2,779	2,590	2,590	0.0%	8.09
Construction started	3,626	3,634	3,634	3,623	3,601	-0.6%	-0.79
Completed	0	0	0	28	22	-21.4%	n.
On hold	3,110	3,010	2,420	2,592	2,420	-6.6%	-22.29
Total	9,135	9,043	8,833	8,833	8,633	-2.3%	-5.59

Exhibit 9.7 Summary of Major Projects (by Project Status)
Kootenay Region

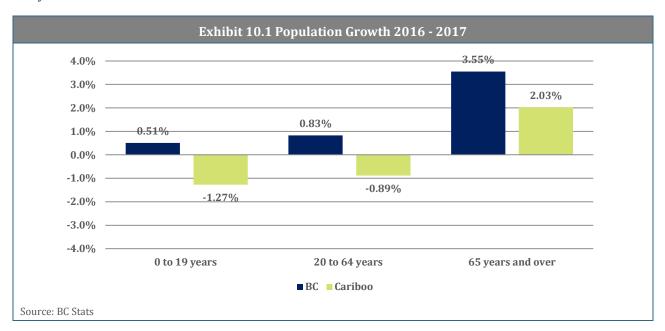
			- 0		
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	2,590	30%	8	432	6.3
Preliminary/Feasibility	0	0%	2	0	3.3
Consultation/Approvals	2,540	29%	5	508	7.0
Permitting	0	0%	0	0	0.0
Tender/Preconstruction	0	0%	0	0	0.0
Stage Unknown	50	1%	1	50	9.1
On hold	2,420	28%	4	605	14.7
Construction started	3,601	42%	14	257	14.7
Completed	22	0%	1	22	3.1
Total	8,633	100%	27	345	11.8

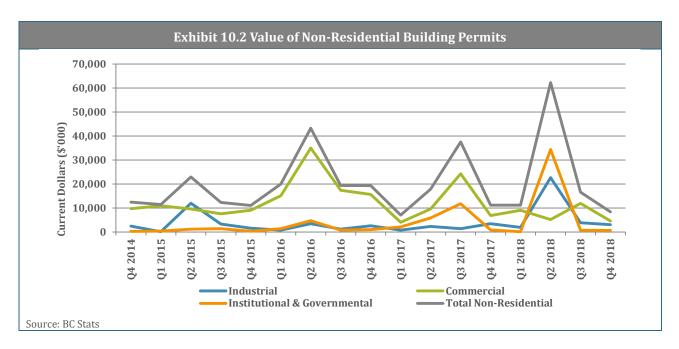
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

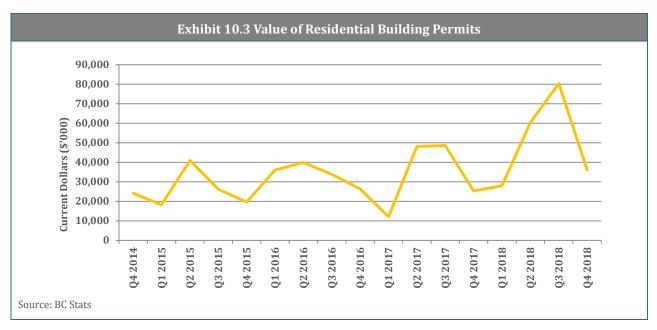


10. Cariboo Region

Key Economic Indicators

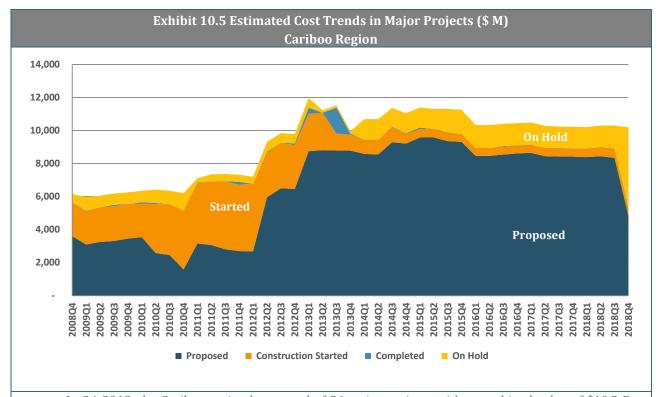








Trends in Major Projects



- In Q4 2018, the Cariboo region has a total of 26 major projects with a combined value of \$10.2 B, a slight decrease from the previous quarter (1 percent) and last year (0.2 percent).
- Highway 16 Bunce to Blackwater Widening in Prince George (\$24 M) and College of New Caledonia -Heavy Mechanical Trades Centre in Quesnel (\$19 M) were completed in this quarter.

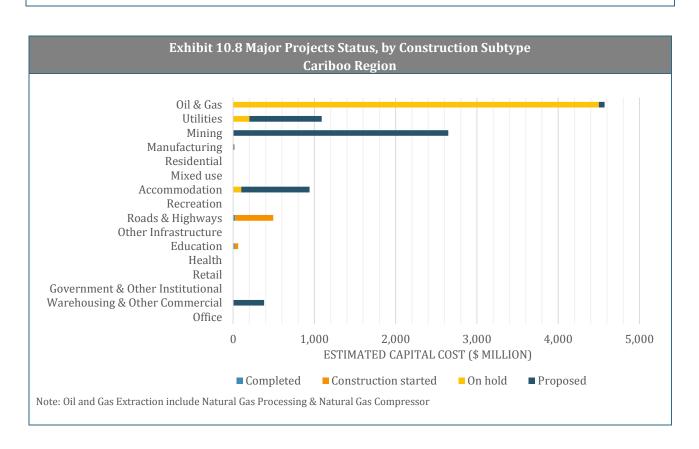
Exhibit 10.6 Estimated Cost Trends in Major Projects, by Project Status (\$M) Cariboo Region											
	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Change from the previous quarter	Change from the previous year				
Proposed	8,422	8,390	8,443	8,343	4,843	-42.0%	-42.5%				
Construction started	479	515	559	559	514	-8.1%	7.3%				
Completed	21	0	0	0	43	n.a	104.8%				
On hold	1,300	1,300	1,300	1,400	4,800	242.9%	269.2%				
Total	10,222	10,205	10,302	10,302	10,200	-1.0%	-0.2%				

Exhibit 10.7 Summary of Major Projects (by Project Status)

Cariboo Region

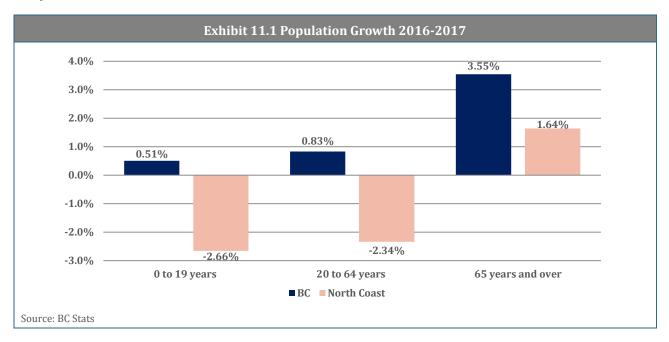
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	4,843	47%	18	303	8.2
Preliminary/Feasibility	992	10%	5	248	5.3
Consultation/Approvals	3,721	36%	9	465	8.1
Permitting	0	0%	0	0	0.0
Tender/Preconstruction	60	1%	1	60	19.8
Stage Unknown	70	1%	3	23	9.8
On hold	4,800	47%	3	1600	14.7
Construction started	514	5%	3	171	5.8
Completed	43	0%	2	22	2.1
Total	10,200	100%	26	425	8.2

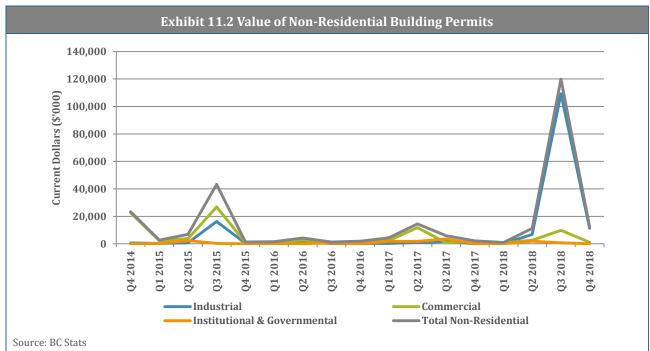
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

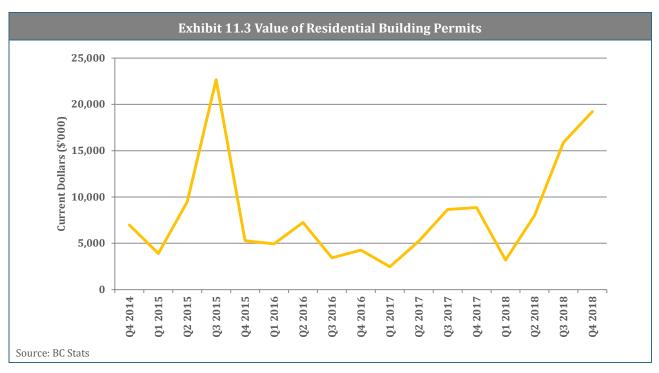


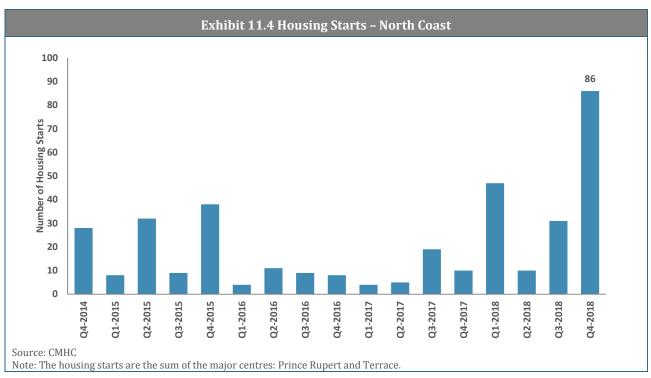
11. North Coast Region

Key Economic Indicators

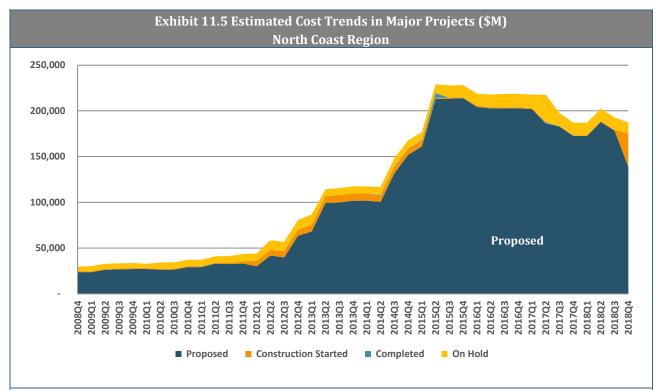








Trends in Major Projects



- In Q4 2018, the North Coast region has a total of 56 major projects with a combined value of \$187.3 B, representing a 2.8 percent decrease over the previous quarter and a slight increase (0.1 percent) compared to one year earlier.
- Fairview Container Terminal Expansion Phase 2B in Prince Rupert (\$200 M) is added to the MPI in this quarter.
- Trades Training Facility Renewal in Terrace (\$18 M) was completed in this quarter
- LNG Canada Load Interconnection Project (\$82 M) and LNG Canada Facility (\$36 B) began construction in this quarter.

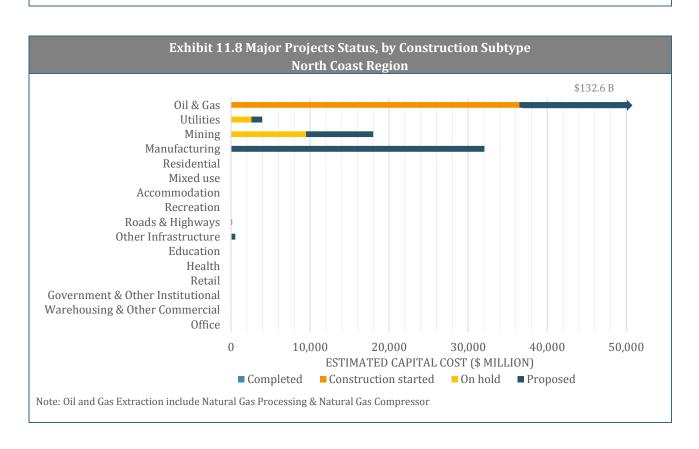
Exhibit 11.6 Estimated Cost Trends in Major Projects, by Project Status (\$M) North Coast Region										
Status	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Change from the previous quarter	Change from the previous year			
Proposed	172,684	172,660	187,963	178,348	138,612	-22.3%	-19.7%			
Construction started	616	647	669	669	36,696	5385.2%	5857.1%			
Completed	0	0	15	0	18	n.a	n.a			
On hold	13,797	13,797	13,770	13,770	11,981	-13.0%	-13.2%			
Total	187,097	187,104	202,417	192,787	187,307	-2.8%	0.1%			

Exhibit 11.7 Summary of Major Projects (by Project Status)

North Coast Region

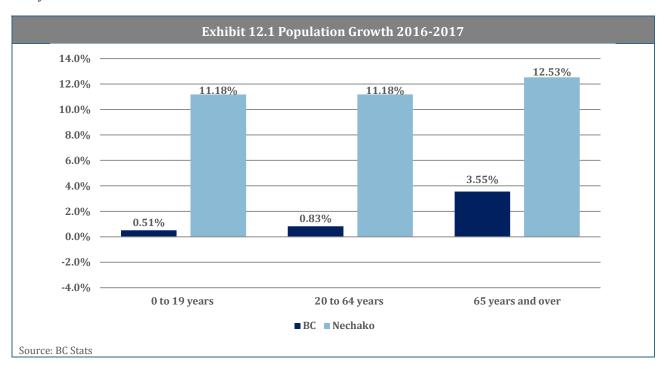
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	138,612	74%	41	4,332	6.5
Preliminary/Feasibility	34,415	18%	12	3,824	4.8
Consultation/Approvals	72,612	39%	21	4,538	6.8
Permitting	1,300	1%	1	1,300	14.6
Tender/Preconstruction	64	0%	2	64	4.7
Stage Unknown	30,221	16%	5	6,044	8.6
On hold	11,981	6%	8	1,712	11.5
Construction started	36,696	20%	6	6116	3.4
Completed	18	0%	1	18	2.3
Total	187,307	100%	56	4,072	6.8

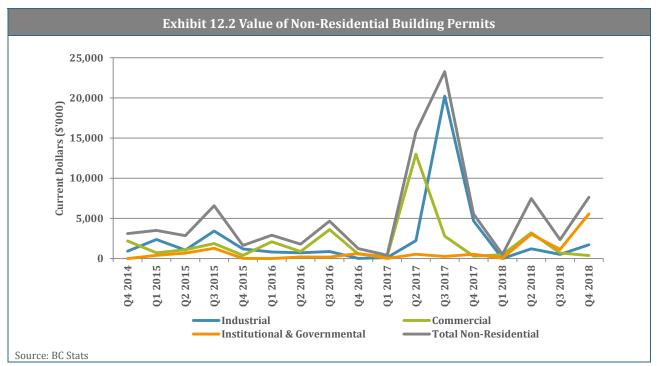
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

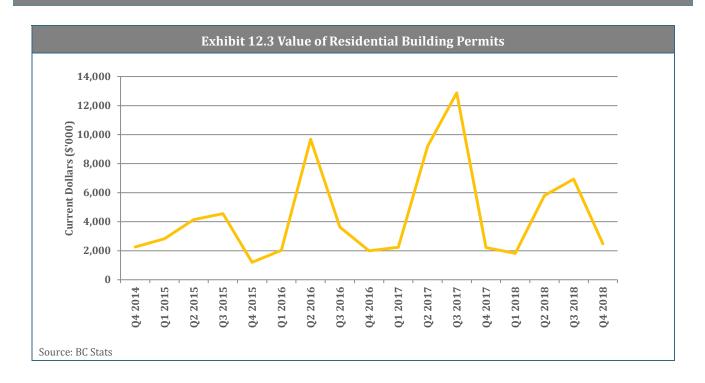


12. Nechako Region

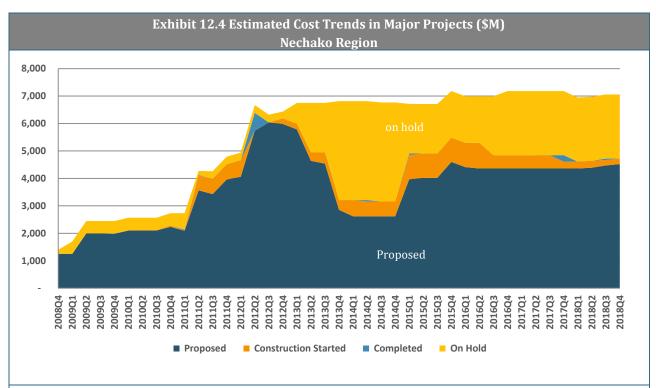
Key Economic Indicators







Trends in Major Projects

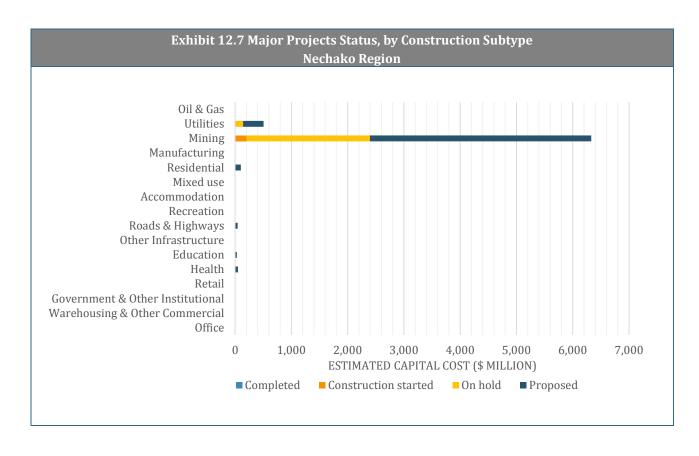


In Q4 2018, the Nechako region has a total of 20 major projects with a combined value of \$7.1 B, remained the same level as the previous quarter and a 1.7 percent decrease from the previous year.

Exhibit 12.5 Estimated Cost Trends in Major Projects, by Project Status (\$M) Nechako Region											
Change from Status Q4 2017 Q1 2018 Q2 2018 Q3 2018 Q4 2018 the previou quarte											
Proposed	4,361	4,361	4,390	4,472	4,522	1.1%	3.7%				
Construction started	251	251	251	201	201	0.0%	-19.9%				
Completed	235	0	0	50	0	n.a	n.a				
On hold	2,335	2,335	2,335	2,335	2,335	0.0%	0.0%				
Total	7,182	6,947	6,976	7,058	7,058	0.0%	-1.7%				

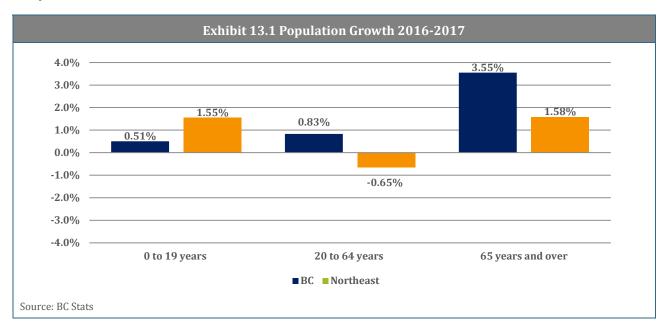
Exhibit 12.6 Summary of Major Projects (by Project Status) **Nechako Region Proposed** 4,522 64% 14 348 8.6 Preliminary/Feasibility 954 14% 4 239 6.3 Consultation/Approvals 2,268 32% 8 284 9.6 Permitting 0 0% 0 0 0.0 Tender/Preconstruction 0 0 0 0.0 0% Stage Unknown 1,300 18% 2 1300 9.3 On hold 2,335 33% 5 467 13.2 **Construction started** 201 3% 1 201 7.1 Completed 0 0% 0 0 0.0 Total 7,058 100% 20 371 9.7

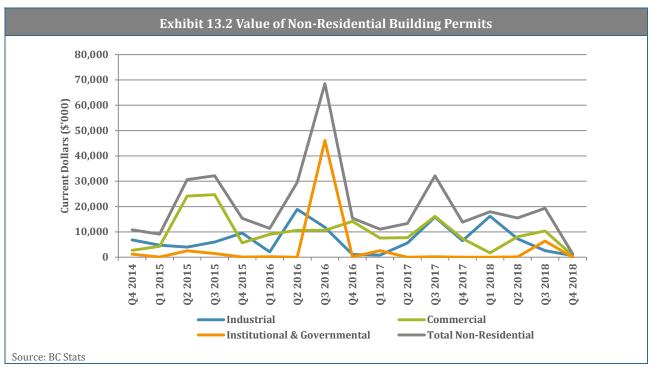
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

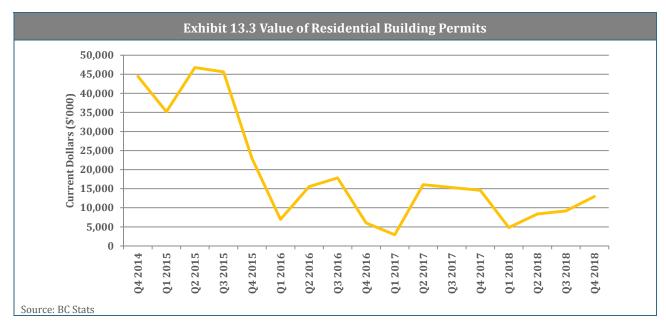


13. Northeast Region

Key Economic Indicators









Trends in Major Projects



- In Q4 2018, the Northeast region has a total of 51 major projects with a combined value of \$38.6 B, representing a 4 percent decrease over the previous quarter and a 1.4 percent decrease compared to one year earlier.
- RCMP Detachment Building in Fort St. John (\$43 M) is added to the MPI in this quarter.
- Three major projects were completed in this quarter: Saturn Compressor Facility Expansion (\$930 M) and Towerbirch Expansion Project (\$439 M), both in Dawson Creek,
- Coastal GasLink Pipeline Project (\$6.2 B) and North East Elementary School in Fort St. John (\$31 M) started construction in this quarter.

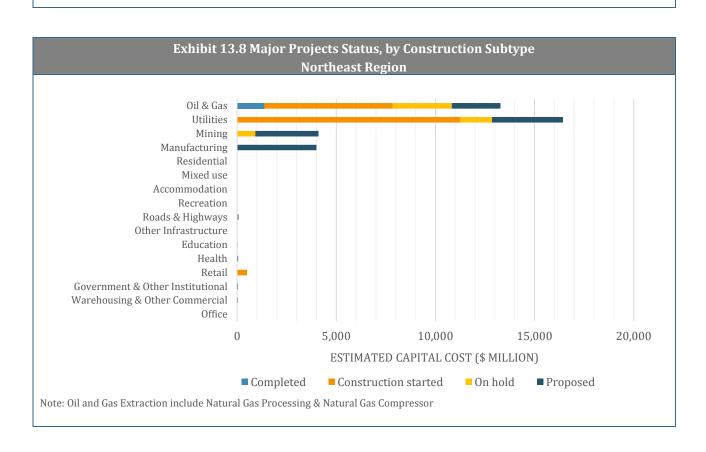
Exh	Exhibit 13.6 Estimated Cost Trends in Major Projects, by Project Status (\$M) Northeast Region										
Status	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Change from the previous quarter	Change from the previous year				
Proposed	18,234	18,234	18,292	18,140	13,402	-26.1%	-26.5%				
Construction started	13,187	13,166	13,281	13,247	18,279	38.0%	38.6%				
Completed	2,155	26	170	61	1,369	2144.3%	-36.5%				
On hold	5,537	5,537	5,501	5,626	5,501	-2.2%	-0.7%				
Total	39,113	36,963	37,244	37,074	38,551	4.0%	-1.4%				

Exhibit 13.7 Summary of Major Projects (by Project Status)

Northeast Region

	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	13,402	35%	28	558	6.1
Preliminary/Feasibility	143	1%	3	48	0.5
Consultation/Approvals	7,664	57%	17	511	7.7
Permitting	4,000	30%	4	2,000	3.3
Tender/Preconstruction	80	1%	2	40	3.5
Stage Unknown	1,515	11%	2	758	8.6
On Hold	5,501	14%	8	688	8.2
Construction Started	18,279	47%	13	1,406	3.9
Completed	1,369	4%	2	685	3.0
Total	38,551	100%	51	820	5.7

Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.



Appendices

Appendix 1

	New Propo	sed Projects (October - December 2018)	
Region	Municipality	Project	Estimated Cost (\$ million)
	Langford	Condominium Development	60
1. Vancouver Island/Coast	Nanaimo	Nanaimo Correctional Centre	
	Victoria	Student Housing	201
	Coquitlam	Coquitlam Transfer Station	62
		The Sydney Condominium Tower	42
	Delta	Annacis Island Wastewater Treatment Plant Upgrades	50
	Langley	Gala Lowrise Condominium	20
	New Westminster	New Westminster Aquatics and Community Centre	103
		Harry Jerome Recreation Centre	237
	North Vancouver	Mountainside Secondary School Seismic Upgrade	24
		Belle Isle Townhomes	20
	Squamish	Scott Crescent Condominium	70
		Breeze Townhomes	20
2. Mainland/Southwest		The Lauren Condominium	20
		Central City 2 Office Building	80
	Surrey	Centra Condominium Tower	28
		Headwaters Club Condominium	20
		UBC - Community Health and Fitness Centre	210
		UBC - Chemistry Laboratory Complex	196
		Brock Commons Student Residence - Phase 2	108
	Vancouver	UBC - Mathematics Building	106
		Highrise Mixed-use Development - 1780 East Broadway	80
		UBC - School of Biomedical Engineering Building	70
		IntraUrban Evolution Industrial Park	20
3. Thompson-Okanagan	Kelowna	Glenmore Secondary School	59
5. Inompson-Okanagan	Sicamous	RW Bruhn Bridge Replacement	225
6. North Coast	Prince Rupert	Fairview Container Terminal Expansion - Phase 2B	200
8. Northeast	Fort St. John	RCMP Detachment Building	43
Grand Total			2,374

Appendix 2

Construction Started (October - December 2018) Comox Area Puntledge Recoat Penstock Project 2022-Q1 36 2020-Q4 18 Langford McCallum Commercial Development Victoria 2019-Q4 Harbour Plaza and Walkway 33 1. Vancouver Island/Coast 2020-Q4 15 **Quadra Street Apartments** 2019-Q4 Ironworks Condominium 20 Bellewood Park Condominium Development 2019-Q4 20 Abbotsford **Roundhouse Townhouses** 2019-Q2 21 Burnaby SFU - Student Residence Redevelopment 2020-Q4 120 2020-Q3 26 **Bordeaux Condominium** Coquitlam Village at Fraser Mills 2020-Q4 80 2020-Q4 **Hensley Condominiums** 35 Langley 2019-Q4 20 **Denby Townhomes** Yorkson Park West 2019-Q4 40 The Georgia Lowrise Condominiums 2021-Q1 28 The Landing at Langley City 2019-Q3 20 **Hudson & Singer Condominium** 2020-Q4 30 New Westminster Pier One West Condominiums 2022-Q4 2. Mainland/Southwest 2019-Q4 20 North Vancouver Marine + Fell Lowrise Condominium Squamish Sirocco Development 2019-Q4 26 Cheakamus Recoat Units 1 & 2 Penstock Project 2023-Q1 23 Surrey Maddaugh Road Elementary (former Clayton North #1) (Site 184) 2021-Q1 34 Prime on the Plaza Condominium 2019-Q4 60 Vancouver Second + Main Condominiums 2020-Q3 40 50 Avalon 3 Condominium 2021-Q4 Davie & Nicola Condominium 2019-Q4 20 White Rock Miramar Village Phase 2 2020-Q3 45 2021-Q4 Foster Martin Condominiums 60 Altus White Rock Condominiums 2020-Q4 23 3. Thompson-Okanagan Royal Inland Hospital Patient Care Tower 2024-Q4 417 Kamloops Kitimat LNG Canada Load Interconnection Project 2021-Q1 82 6. North Coast 2025-Q4 36,000 LNG Canada Facility Fort St. John North East Elementary School 2020-Q4 31 8. Northeast Dawson Creek Coastal GasLink Pipeline Project 2023-Q4 6,200 **Grand Total** 43,693

Appendix 3

Construction Completed (October - December 2018)

Region	Municipality	Project	Estimated Cost (\$ million)		
1. Vancouver	Campbell River	Campbell River Substation Capacity Upgrade	(\$ mmon)		
Island/Coast		Campbell River Trades Facility Replacement and Campus Consolidation	1		
	Courtenay	Georges P. Vanier Secondary School	3		
	Langford	Westshore Parkway Extension			
	Saanich		2		
	Victoria	Amica at the Gorge Senior Care Complex Brookes Westshore Private School	2		
Mainland/Southwest	Malahat Village Burnaby	Highway 1 - Malahat Highway Upgrade	3		
	,	Alpha Secondary School Seismic Upgrade	2		
		Savile Row Townhouses	2		
		Vittorio Condominium	3		
	Coquitlam Delta	Banting Middle School Replacement	2		
	Delta	Highway 91 at 72nd Avenue Grade Separation	2		
		Delta Link Business Centre	2		
	Lillooet	· · · · · · · · · · · · · · · · · · ·			
	North Vancouver	2			
	Surrey	Fleetwood Rise Townhomes	2		
		South Ridge Club Condominiums	2		
	Surrey Area	South Surrey Area Reinforcement Project	3		
	Vancouver	34 W7 Office Building	2		
		Parc Elise Apartment Condominium	2		
		The Charleson Condominium	2		
		The Grayson Townhouses	2		
	West Vancouver	Ambleside Condominium Development	2		
3. Thompson-Okanagan	Kamloops	Kamloops Substation	5		
	Kelowna	Highway 97 Improvements - Highway 33 to Edwards Road	6		
		Sopa Square Residential Development	2		
		UBC - Okanagan Teaching and Learning Centre	3		
		Okanagan Lake Second Crossing - Planning Study			
4. Kootenay	Nelson	Silver King Renewal - Trades Training Facility	2		
5. Cariboo	Prince George	Highway 16 Bunce to Blackwater Widening	2		
	Quesnel	College of New Caledonia - Heavy Mechanical Trades Centre	1		
5. North Coast	Terrace	Trades Training Facility Renewal	1		
8. Northeast	Dawson Creek	Saturn Compressor Facility Expansion	93		
		Towerbirch Expansion Project	43		

Appendix 4

Project Value and Proj	ect Status for each I	ndustry Sector - (Octo	ber – Decer	nber 2018)					
	Proposed	Construction started	Completed	On hold						
Oil and Gas	132,765	42,945	1,369	7,484	184,563					
Utilities	14,229	16,026	156	5,594	36,005					
Mining	21,063	301	-	13,967	35,331					
Manufacturing	36,105	90	-	-	36,195					
Residential	13,160	21,956	250	144	35,510					
Mixed Use	4,723	11,038	-	1,000	16,761					
Accommodation	7,878	4,424	-	1,356	13,658					
Recreation	6,391	4,003	-	1,125	11,519					
Roads & Highways	9,143	2,604	176	-	11,922					
Other Infrastructure	4,750	2,963	-	150	7,863					
Education	4,613	1,229	223	165	6,230					
Health	3,363	2,334	-	-	5,697					
Retail	650	2,848	-	-	3,498					
Government & Other Institutional	179	1,635	-	-	1,814					
Warehousing & Other Commercial	977	840	20	-	1,837					
Office	352	130	20	80	582					
Total	260,341	115,366	2,214	31,065	408,986					

Appendix 5

Number	Number of Regional Major Projects Excluding Completed Projects (by Project Category)												
Development Region	Residential/ Commercial	Transportation & Warehousing	Mining, Oil & Gas Extraction	Utilities	Manufacturing	Public Services	Other Services	Total					
Vancouver Island/Coast	98	9	5	17	0	12	8	149					
Mainland/South west	353	44	4	33	3	67	13	517					
Thompson- Okanagan	54	10	3	19	1	11	5	103					
Kootenay	10	0	7	3	0	1	5	20					
Cariboo	5	3	6	7	1	2	0	2					
North Coast	2	12	24	10	5	1	1	5					
Nechako	1	1	12	4	0	2	0	2					
Northeast	2	8	16	18	2	3	0	4					
Total	525	87	77	111	12	99	32	94					

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