

Image courtesy of Simon Fraser University

The new 20,458 square-metre facility at Simon Fraser University's Surrey campus accommodates students, faculty and staff from SFU's new Sustainable Energy Engineering program as well as its School of Mechatronic Systems Engineering. The five-storey building features modern wet and dry teaching labs, classrooms, study spaces, a large central atrium and a 400-seat lecture hall. Funding was provided by the Government of Canada (\$45 million), the Province of B.C. (\$45 million), and SFU and donors (\$26 million). SFU also provided the land, valued at \$10 million.

BRITISH COLUMBIA MAJOR PROJECTS INVENTORY

FIRST QUARTER 2019



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British Columbia Major Projects Inventory

First Quarter 2019

Major Projects Inventory as of March 31, 2019.

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Report prepared by Workforce Innovation and Division Responsible for Skills Training staff.

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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.majorprojectsinventory.com

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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 (CAD) or greater (\$20 million or greater within the Lower Mainland–Vancouver area).

In 2019 Quarter 1, about 75% of all the existing projects received an update. 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.

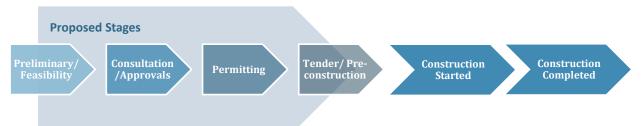
Start and Finish Dates

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.

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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).

Note that Liquefied Natural Gas (LNG) projects are classified under mining, oil and gas extraction. This is different from the North American Industry Classification System in which LNG is classified as being in the transportation industry.

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 – Q1 2019

The estimated capital cost of all 963 major projects in the first quarter of 2019, totaling \$355.30 billion (B), has decreased from \$408.99 B in the fourth 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 22 new proposed projects over \$15 million (M) with available capital cost estimates totaling \$2.50 B if all the projects were to proceed. The potential capital investment for new projects has increased compared to \$2.37 B in the fourth quarter of 2018.

There are 29 projects that have started construction in B.C., representing an estimated capital cost of \$1.45 B, down from the \$43.69 B reported in the fourth quarter of 2018 with the start of the \$36 B LNG Canada facility in Kitimat. Thirteen projects completed construction in the first quarter of 2019, with an estimated capital cost of \$2.39 B compared to \$2.21B in the fourth quarter of 2018.

There are 236 projects with public funding contributions with a total capital cost of \$47.81B. 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, 135 projects worth a total of \$24.92 B have provincial government funding contributions.

There are 66 projects with a total estimated cost of \$123.99 B involving Indigenous communities in capacities such as project owners, project partners or benefit agreements.

Major projects currently under construction in B.C. totaled \$114.83 B, down from the \$115.37 B in the fourth quarter of 2018. Proposed projects totaled \$205.77 B, down from \$260.34 B in the previous quarter. This decrease was primarily due to the cancellation of two LNG projects totaling \$55 B. 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 \$32.31 B of projects are judged to be 'on hold' for the time being, a decrease from the previous quarter value of \$32.72 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

963	Number of total major projects
\$355.30 B	Value of all projects
	Number of total proposed projects
\$205.77 B	Value of proposed projects
373	Number of projects under construction
	Value of projects under construction
	Number of projects completed
	Value of projects completed
	Number of new proposed projects
\$2.50	Value of newly proposed projects

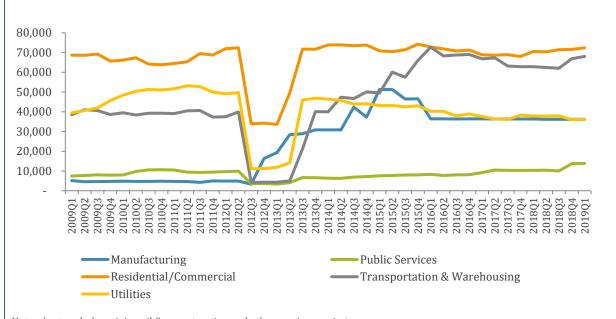
2. B.C. Major Projects Inventory – Q1 2019

By Project Category, Construction Type or Subtype

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

Project Category	2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	Change from the previous quarter	Change from the previous year
Mining & Oil & Gas Extraction	172,900	187,837	178,669	173,035	117,125	-32.3%	-32.3%
Residential/Commercial	70,550	70,377	71,478	71,581	72,382	1.1%	2.6%
Transportation & Warehousing	62,876	62,475	62,055	66,910	68,001	1.6%	8.2%
Manufacturing	36,365	36,155	36,155	36,195	36,195	0.0%	-0.5%
Utilities (incl sewage treatment)	37,839	37,799	37,958	36,005	36,237	0.6%	-4.2%
Public Services	10,334	10,408	9,970	13,721	13,818	0.7%	33.7%
Other Services	11,213	11,213	11,229	11,539	11,539	0.0%	2.9%
Grand Total	402,077	416,264	407,514	408,986	355,297	-13.1%	-11.6%

Note: Liquefied Natural Gas (LNG) projects are classified under mining, oil and gas extraction. This is different from the North American Industry Classification System in which LNG is classified as being in the transportation industry.



Note: chart excludes mining oil & gas extraction and other services projects

The total estimated capital cost of major projects in B.C was up slightly in the first quarter of 2019 (Q1), totalling \$355.30 B, representing a 13.1 percent decrease over the previous quarter and a 11.6 percent decrease compared to one year earlier.



- In the first quarter of 2019, Oil and Gas projects (including LNG) represent 36 percent of the total estimated capital cost in the MPI.
- Residential and Commercial development projects comprise 571 of the 963 projects listed in the first quarter of 2019, representing a total estimated capital cost of \$84.2 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 nearly \$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 Road and Highways (\$1.9 B), Primarily Residential Single Use (\$333 M), and Education (\$183 M).
- Public Infrastructure The value of public funding contributions was \$47.8 B for 236 projects across all levels of government. Of these, 135 projects worth a total of \$24.9 B have provincial government funding contributions. It is important to note that this figure reflects the total cost, not just the provincial contribution.

Exhibit 2.3 Estimated Cost of Regional Major Projects, by Construction Type and Subtype (\$ M)

Construction Type & Subtype	Vancouver Island/Coast	Mainland/ Southwest	Thompson- Okanagan	Kootenay	Cariboo	North Coast	Nechako	Northeast	Total
Residential Subtotal	12,270	28,287	9,485	80	0	0	100	0	50,222
Primarily residential - Single use	8,470	18,928	8,035	80	0	0	100	0	35,613
Residential Mixed Use	3,800	9,359	1,450	0	0	0	0	0	14,609
Commercial Subtotal	3,719	17,761	5,654	4,902	1,322	46	0	540	33,944
Commercial Mixed Use	200	2,690	0	0	0	0	0	0	2,890
Accommodation	2,266	4,851	3,299	2,302	940	0	0	0	13,658
Recreation	220	6,473	2,210	2,600	0	16	0	0	11,519
Retail	923	1,960	115	0	0	0	0	500	3,498
Office	70	492	0	0	0	0	0	0	562
Warehousing	0	265	0	0	0	0	0	0	265
Other Commercial	40	1,030	30	0	382	30	0	40	1,552
Industrial Subtotal	2,130	2,375	1,069	2,936	7,231	157,636	6,328	20,035	199,740
Mining	130	160	1,039	2,936	2,646	17,991	6,328	4,101	35,331
Oil & Gas	2,000	2,125	0	0	4,570	107,585	0	11,934	128,214
Manufacturing - Wood Products	0	0	30	0	0	60	0	0	90
Manufacturing - Petrochemical	0	0	0	0	0	32,000	0	4,000	36,000
Other Manufacturing	0	90	0	0	15	0	0	0	105
Institutional & Government Subtotal	3,414	8,687	1,432	58	44	0	79	124	13,838
Education	1,902	3,941	282	0	44	0	29	31	6,229
Health	34	4,493	1,110	58	0	0	50	50	5,795
Government buildings	1,458	253	40	0	0	0	0	43	1,794
Other Institutional & Government	20	0	0	0	0	0	0	0	20
Infrastructure Subtotal	9,600	20,917	2,920	974	1,560	4,543	551	16,488	57,553
Utilities	7,661	4,548	1,083	974	1,090	3,939	506	16,436	36,237
Roads & Highways	309	10,971	1,687	0	470	69	45	52	13,603
Other Transportation	1,630	5,398	150	0	0	535	0	0	7,713
Grand Total	31,133	78,027	20,560	8,950	10,157	162,225	7,058	37,187	355,297

By Project Status

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

Status	2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	Change from the previous quarter	Change from the previous year
Proposed	294,266	311,674	301,051	260,341	205,769	-21.0%	-30.1%
Construction started	75,185	73,672	74,406	115,366	114,825	-0.5%	52.7%
Completed	1,664	989	748	2,214	2393	8.1%	43.8%
On hold	30,962	29,929	31,309	31,065	32,310	4.0%	4.4%
Grand Total	402,077	416,264	407,514	408,986	355,297	-13.1%	-11.6%

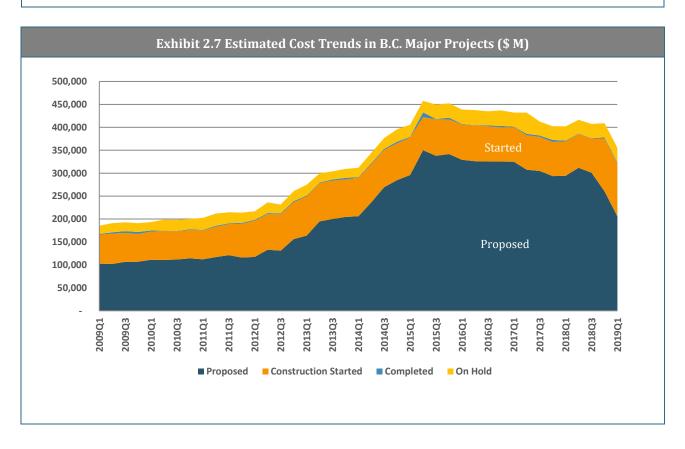
The value of completed projects increased by 8.1% to \$2.4 B in Q1 2019 over the previous quarter. Notable projects completed were John Hart Generating Station Replacement (\$985 M) in Campbell River and Ridley Island Propane Export Terminal (475 M) in Prince Rupert.

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	205,769	58%	524	443	5.3
Preliminary/Feasibility	51,138	14%	127	501	4.4
Consultation/Approvals	72,986	21%	222	365	6.1
Permitting	51,366	14%	48	1223	4.4
Tender/Preconstruction	8,229	2%	77	110	3.0
Stage Unknown	22,050	6%	50	479	8.5
On hold	32,310	9%	53	646	11.7
Construction started	114,825	32%	373	315	6.3
Completed	2393	1%	13	184	5.6
Total	355,297	100%	963	398	6.0

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	Started	Completed	On Hold	Total	Change from the previous quarter	Chang from th previou yea
1. Vancouver Island/Coast	16,152	11,923	985	2,073	31,133	-48.6%	-48.69
2. Mainland/Southwest	47,607	29,415	643	362	78,027	2.5%	11.49
3. Thompson-Okanagan	4,581	14,641	0	1,338	20,560	0.0%	-3.1
4. Kootenay	2,629	3,901	0	2,420	8,950	3.7%	-1.09
5. Cariboo	4,843	514	0	4,800	10,157	-0.4%	-0.59
6. North Coast	113,548	36221	475	11,981	162,225	-13.4%	-13.3
7. Nechako	4,522	201	0	2,335	7,058	0.0%	1.6
8. Northeast	11,887	18,009	290	7,001	37,187	-3.5%	0.69
Total	205,769	114,825	2393	32,310	355,297	-13.1%	-11.69



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%

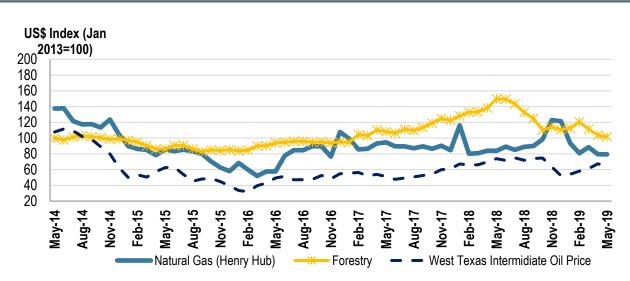
Source: B.C. Budget and Fiscal Plan 2019/20 – 2021/22

	Most Recent Period	Amount	Change from previous month	Change from previous year	Data Type
Retail trade (\$ M)	Apr-19	7,203	-0.5%	-1.0%	seasonally adjusted
Manufacturing sales (\$ M)	Apr-19	4,667	1.8%	3.7%	seasonally adjusted
Residential - building permits (\$ M)	Apr-19	2,202	138%	126.5%	seasonally adjusted
Residential - housing starts (units)	May-19	53,352	8.4%	31.4%	seasonally adjusted at annual rates
Non-Residential building permits (\$ M)	Apr-19	662	-13.6%	113.6%	seasonally adjusted
Exports - all merchandise (\$ M)	Apr-19	3,456	-17%	-9.5%	seasonally adjusted
		Prices			
B.C. Consumer price index (2002=100)	Apr-19	131.2	0.4%	2.7%	not seasonally adjusted
Exchange rate	May-19	US \$0.74	-0.4%	-4.4%	not seasonally adjusted
Average 5-year residential mortgage rate	May-19	4.3%	-0.03p.p.	+0.03 p.p.	not seasonally adjusted
	Labo	ur Market			
Employment	May-19	2,578,400	0.1%	+2.8%	seasonally adjusted
Unemployment rate	May-19	4.3%	-0.3 p.p.	-0.5p.p.	seasonally adjusted
Participation rate	May-19	66.0%	+0.2 p.p.	1.5p.p.	seasonally adjusted
Average weekly earnings	May-19	991.73	1.7%	1.3%	seasonally adjusted

Source: Statistics Canada & Bank of Canada

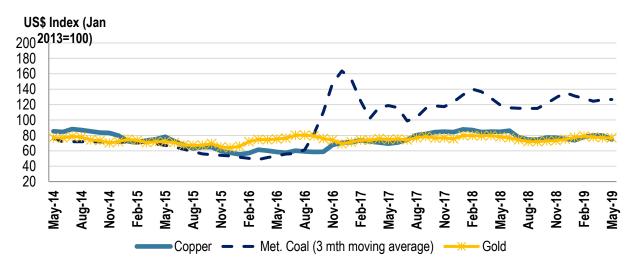
Note: p.p. is percentage point, used here to show the difference between two percentage rates.





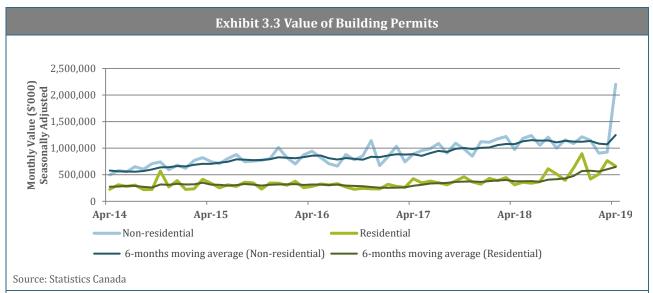
Source: Forestry from Bank of Canada, Natural Gas and Oil from U.S. Energy Information

- The forestry price index decreased by 2.1% in May, and it is much lower (48%) than a year ago.
- Natural gas dropped to US\$2.64/mm BTU, 5 percent decrease from the previous year.
- Oil (WTI) decreased 5% to US\$60.83/bbl in May, down by 13% from a year ago.

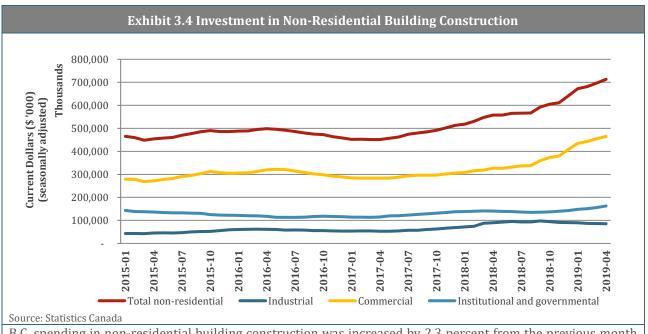


Source: B.C. Ministry of Energy and Mines, monthly average of daily values, Met. Coal: quarterly average to March 2016, 3month moving average after March 2016

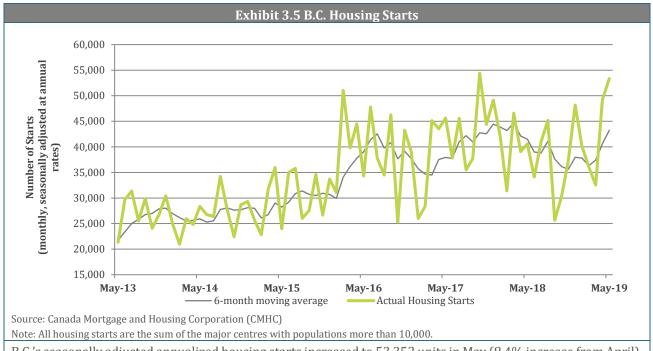
- Copper was down by 7% compared to April 2019 and down by 12% from a year ago.
- Gold slightly decreased by 0.2% in May compared to the previous month and is down by 1.2% from a year ago.
- Metallurgical coal (3 month moving average) increased by 0.4% in May, and up 7% from a year ago.



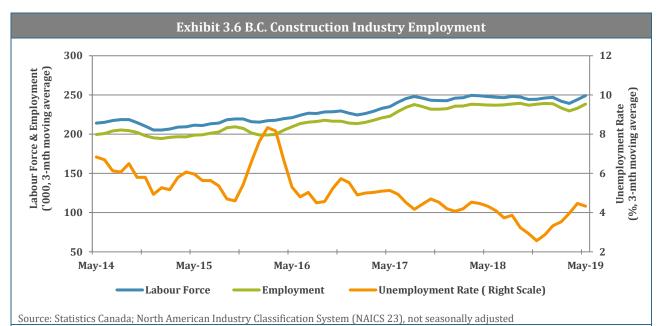
B.C.'s building permits value in April increased by 27.7% from the previous month. During April, there was an average of \$2 billion worth of building permits issued compared to \$1.5 billion in the same month of the previous year Residential building permits value increased by 35.4% from March 2019 and by 19.8% compared to the same month in the previous year. The data for April was much higher than normal due to builders in Metro Vancouver filing permits sooner than they would have normally done to avoid a big increase in development charges in May, the first change in these fees since 1997.



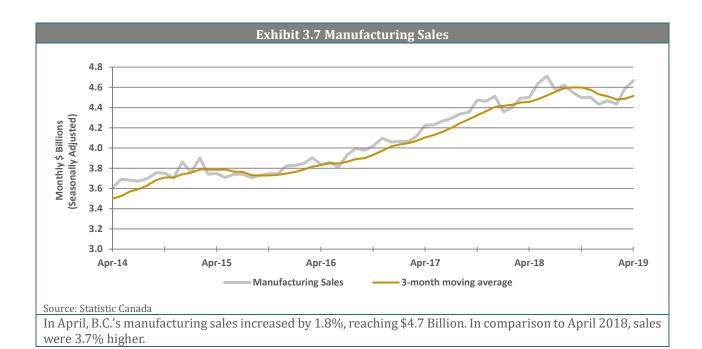
B.C. spending in non-residential building construction was increased by 2.3 percent from the previous month and up 27.9 percent from the previous year. The current level of non-residential building investment in April 2019 was \$712.9 M. Note that this is building investment only and does not include infrastructure investment.



B.C.'s seasonally adjusted annualized housing starts increased to 53,352 units in May (8.4% increase from April). This increase is driven by increase in apartments since housing starts declined for other types of residences. The 6-month moving average of the series increased by 6.6% from the previous month and by 4.3% from a year ago.



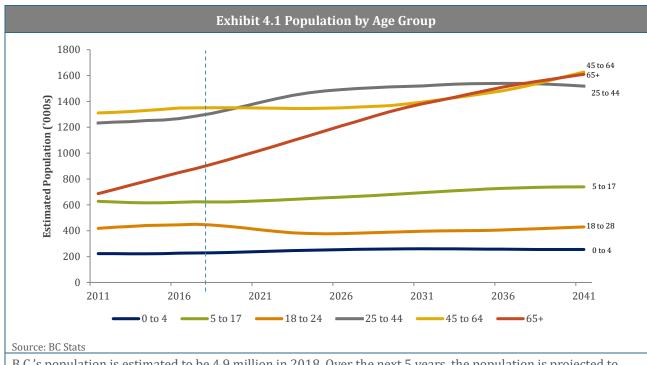
Employment levels in construction reached the lowest in March in the past 20 months, but rapidly recovered to the same level as previous year in May. The 3-month moving average employment was down with 1.9 percent in May from previous year. Employment month-over-month up 2.3 percent and labour force increased 2.1 percent. The unemployment rate in B.C.'s construction industry decreased 0.1 percentage points to 4.3 percent in May from previous month.



Q1 2019

B.C. DEMOGRAPHICS

4. B.C. Demographics

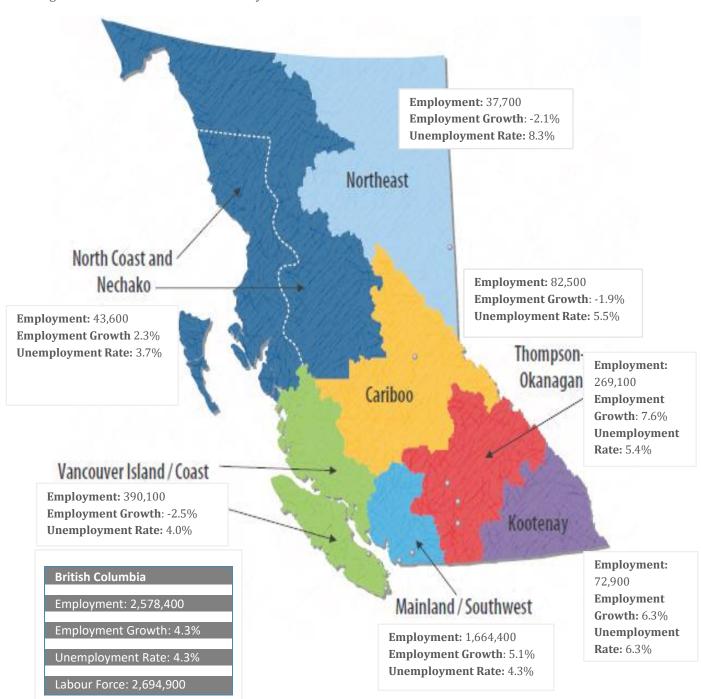


B.C.'s population is estimated to be 4.9 million in 2018. Over the next 5 years, the population is projected to grow 1.2% per year.

REGIONAL SUMMARIES

5. Regional Summaries

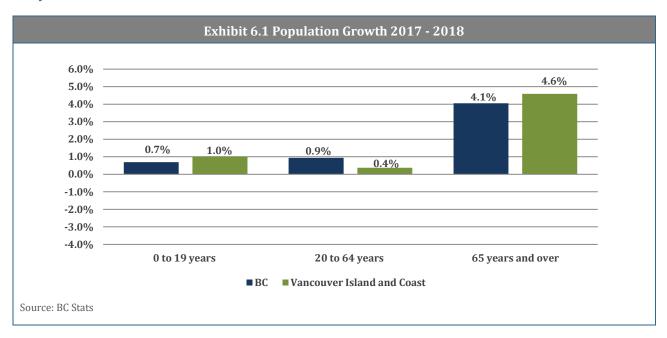
Regional Labour Market Statistics - May 2019

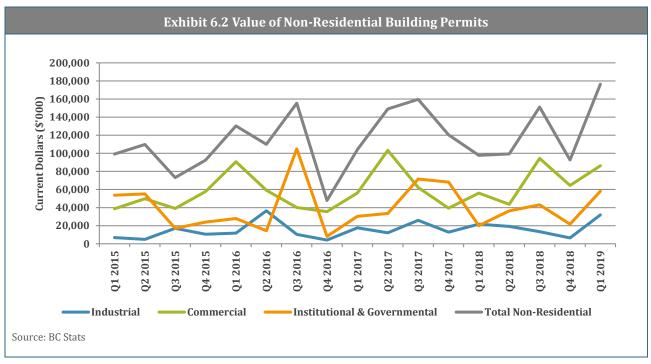


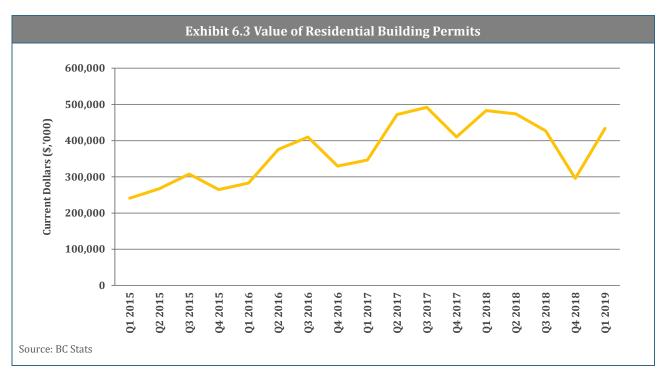
Note: Employment growth is over the previous 12 months. Data for B.C. at the provincial level are seasonally adjusted. Data for the regions are not seasonally adjusted and are 3-month moving averages. This means that the data at the provincial level are not directly comparable to the regional data, but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

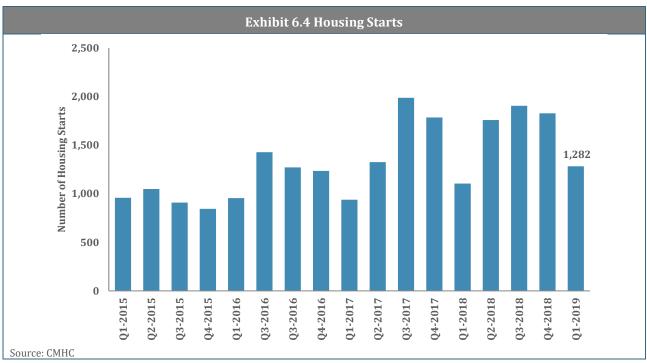
6. Vancouver Island/Coast Region

Key Economic Indicators

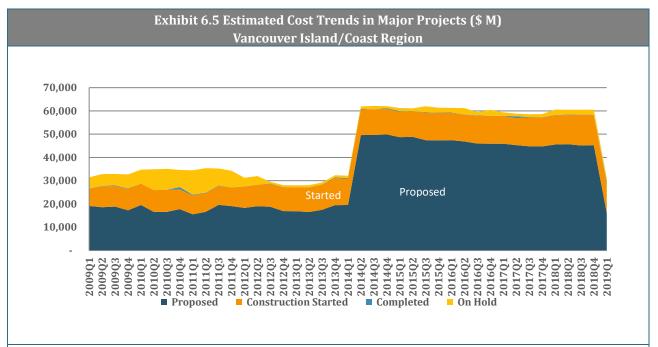








Trends in Major Projects



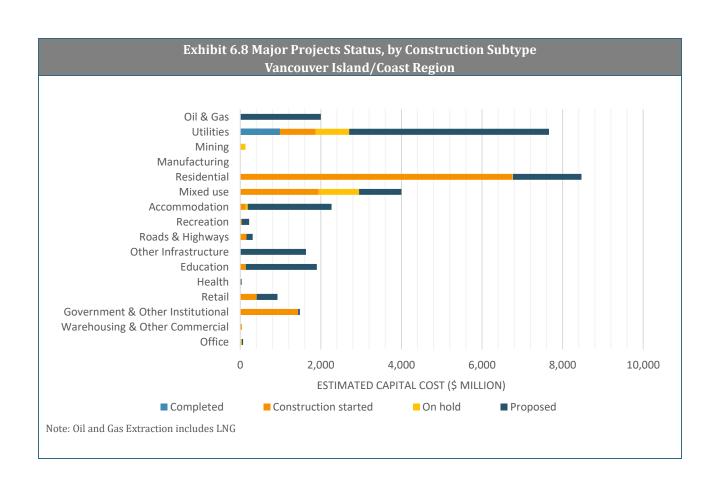
- In Q1 2019, the Vancouver Island/Coast region has a total of 149 major projects with a combined value of \$31.1 B. The cancellation of the Kwispaa (Sarita) LNG project (\$30 B) is the main reason for the almost 50 percent decrease compared to the previous quarter and last year.
- There are 3 newly proposed projects added to the MPI this quarter Highway 14 Corridor Improvements (\$86 M), Nanaimo Regional General Hospital Intensive Care Unit Replacement (\$34 M) and 1100 Yates Street Condominium (\$22 M).
- \$985 M John Hart Generating Station Replacement was completed in this quarter.
- Royal Bay Secondary School Expansion (\$30 M), Fifteen88 Condominium (\$15 M)) began construction in this quarter.

Exhibit 6.6 Estimated Cost Trends in Major Projects, by Project Status (\$M) Vancouver Island/Coast Region												
	2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	Change from the previous quarter	Change from the previous year					
Proposed	45,578	45,685	45,157	45,317	16,152	-64.4%	-64.6%					
Construction started	12,571	12,557	13,205	12,834	11,923	-7.1%	-5.2%					
Completed	144	204	68	195	985	405.1%	584.0%					
On hold	2,298	2,073	2,073	2,223	2,073	-6.7%	-9.8%					
Grand Total	60,591	60,519	60,503	60,569	31,133	-48.6%	-48.6%					

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

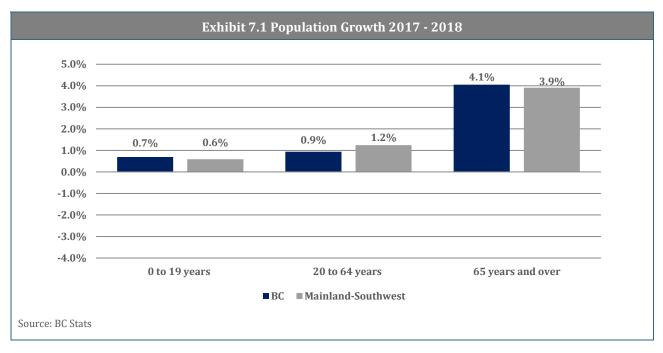
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	16,152	52%	79	224	6.3
Preliminary/Feasibility	3,443	11%	25	172	5.3
Consultation/Approvals	5,744	18%	33	185	6.7
Permitting	2643	8%	8	330	4.5
Tender/Preconstruction	156	1%	5	31	3.5
Stage Unknown	4166	13%	8	521	11.2
On hold	2,073	7%	10	230	11.8
Construction started	11,923	38%	59	206	7.5
Completed	985	3%	1	985	11.1
Total	31,133	100%	149	222	7.2

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.

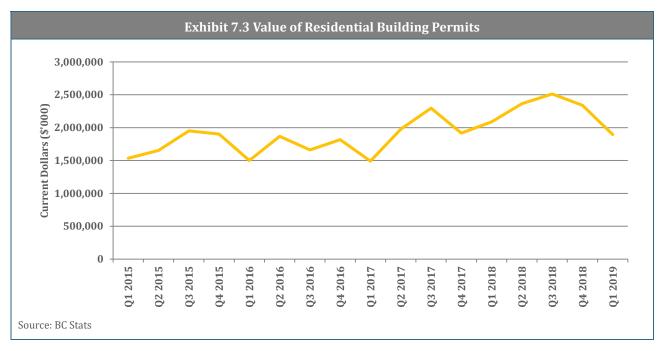


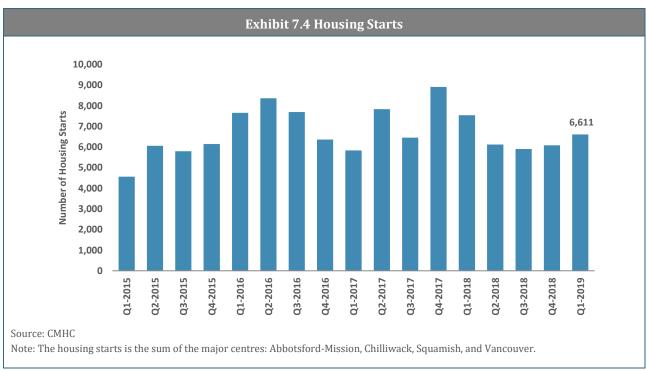
7. Mainland/Southwest Region

Key Economic Indicators

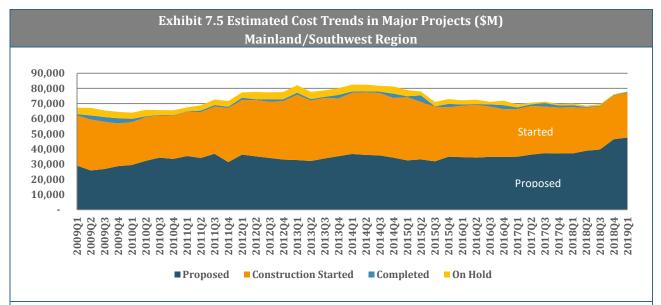








Trends in Major Projects



- In Q1 2019, the Mainland/Southwest region has a total of 534 major projects with a combined value of \$78 B, representing a 2.5% increase over the previous quarter as well as up 11.4% compared to one year earlier.
- There are 14 newly proposed projects added to the MPI this quarter. The top three largest projects are Expo/Millennium Line Upgrade Program (EMUP) (\$30 B) (\$1.47 B), Highway 1 Widening 216 Street to 264 Street (\$236 M), and Barclay x Thurlow Condominiums (\$60 M). See more new projects in Appendix 1.
- Nine major projects were completed in this quarter such as Windsor Gate Residential Development (\$180 M), Skytrain Expansion Expo Line (\$164 M) and Simon Fraser University Energy Systems Engineering Building (\$126 M). See more completed projects in Appendix 3.
- Twenty-five major projects began construction in this quarter with total capital costs of \$1.33 B. The top three largest projects are Second Narrows Water Supply Tunnel in Vancouver (\$400 M), Pacific Residence in Vancouver (\$160 M), and Bridge River 2 Units 7 and 8 Upgrade Project in Lillooet (\$86 M). See more projects underway in Appendix 2.

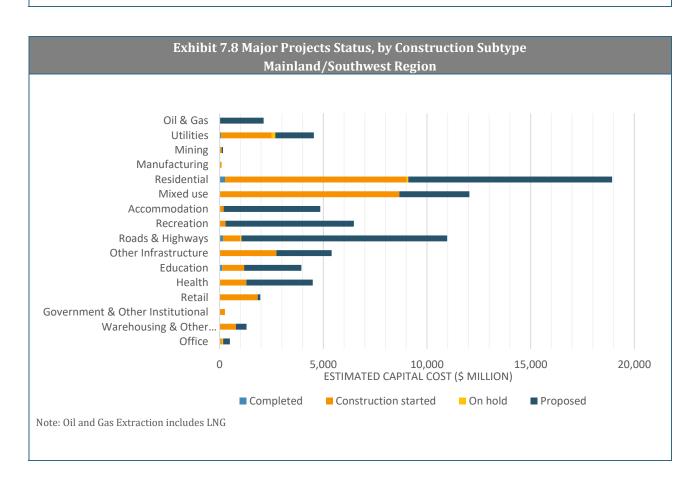
Status	2018Q1	2018Q2	201803	2018Q4	201901	Change from the previous	Change from the previous
	2010Q1				2013Q1	quarter	year
Proposed	37,070	38,912	39,725	46,522	47,607	2.3%	28.4%
Construction started	30,509	28,283	28,515	28,725	29,415	2.4%	-3.6%
Completed	1,424	600	451	384	643	67.4%	-54.8%
On hold	1,008	892	892	467	362	-22.5%	-64.1%
Grand Total	70,011	68,687	69,583	76,098	78,027	2.5%	11.4%

Exhibit 7.7 Summary of Major Projects (by Project Status)

Mainland/Southwest Region

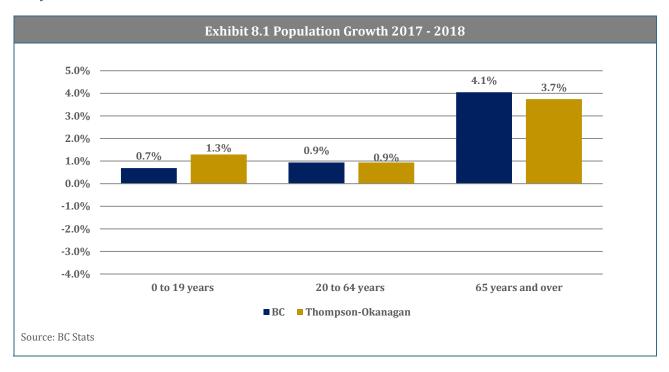
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	47,607	61%	294	180	4.2
Preliminary/Feasibility	10,466	13%	64	201	3.8
Consultation/Approvals	14,290	18%	118	137	4.8
Permitting	4,491	6%	26	187	3.1
Tender/Preconstruction	7,471	10%	63	121	2.6
Stage Unknown	10,889	14%	23	495	7.6
On Hold	362	0%	8	52	10.8
Construction Started	29,415	38%	223	136	4.8
Completed	643	1%	9	71	5.8
Total	78,027	100%	534	157	4.6

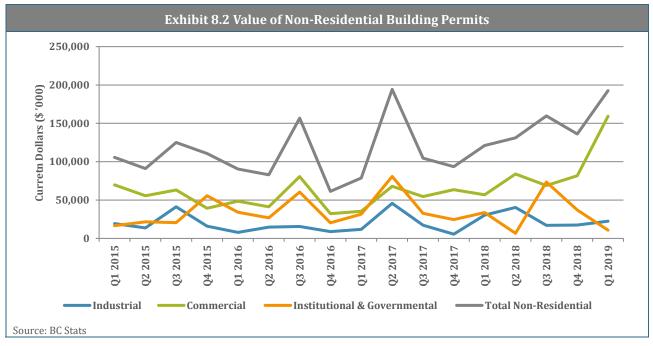
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

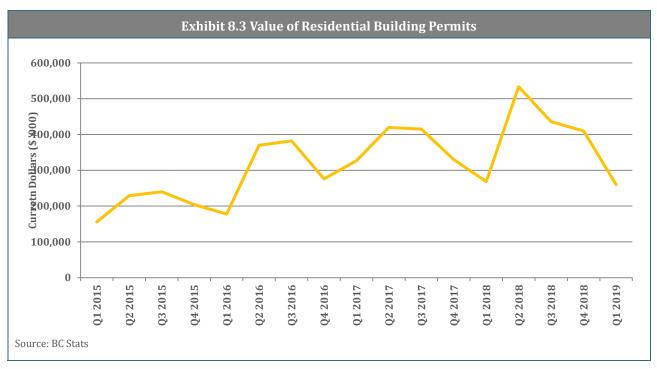


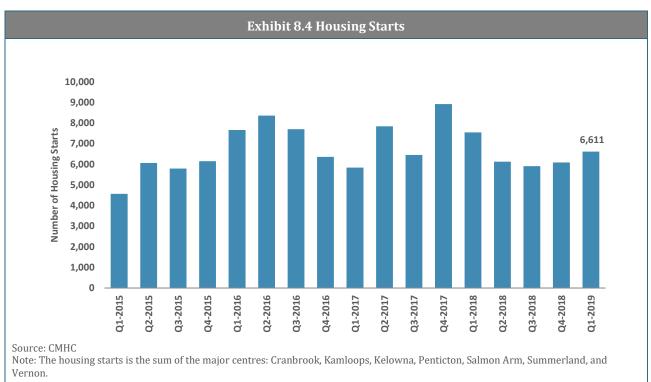
8. Thompson - Okanagan Region

Key Economic Indicators

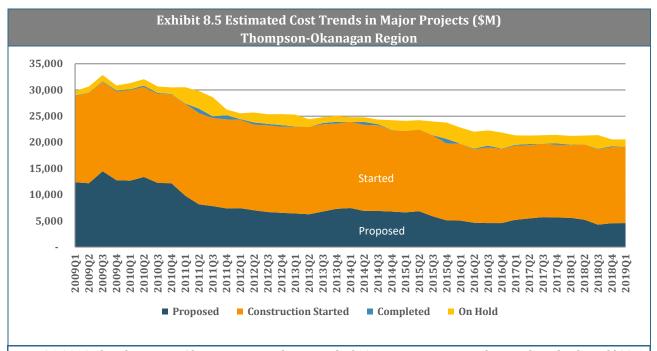








Trends in Major Projects



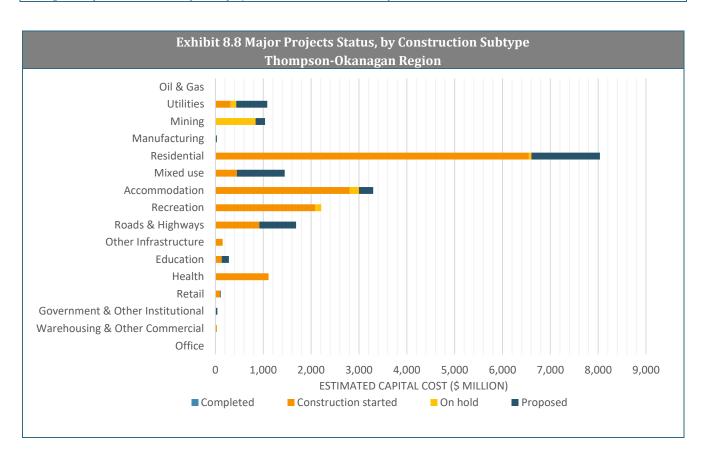
- In Q1 2019, the Thompson-Okanagan region has a total of 106 major projects with a combined value of \$20.6 B, remained the same as the previous quarter and 3.1% declined compared to one year earlier.
- There are 3 newly proposed projects added to the MPI this quarter: Highway 1 Quartz Creek Bridge in Golden (\$121 M), Valley View Secondary School Expansion in Kamloops (\$34 M) and Beverly Condominium in Kelowna (\$18 M)
- One Water Street Condominium (\$65 M) and IntraUrban Enterprise Industrial Park (\$15 M) in Kelowna began construction in this quarter.

Exhibit 8.6 Estimated Cost Trends in Major Projects, by Project Status (\$ M) Thompson-Okanagan Region								
2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	Change from the previous quarter	Change from the previous year		
5,574	5,210	4,276	4,533	4,581	1.1%	-17.8%		
13,892	14,438	14,387	14,516	14,641	0.9%	5.4%		
70	0	90	183	0	0.0%	0.0%		
1,677	1,638	2,621	1,338	1,338	0.0%	-20.2%		
21,213	21,286	21,374	20,570	20,560	0.0%	-3.1%		
	5,574 13,892 70 1,677	2018Q1 2018Q2 5,574 5,210 13,892 14,438 70 0 1,677 1,638	2018Q1 2018Q2 2018Q3 5,574 5,210 4,276 13,892 14,438 14,387 70 0 90 1,677 1,638 2,621	2018Q1 2018Q2 2018Q3 2018Q4 5,574 5,210 4,276 4,533 13,892 14,438 14,387 14,516 70 0 90 183 1,677 1,638 2,621 1,338	2018Q1 2018Q2 2018Q3 2018Q4 2019Q1 5,574 5,210 4,276 4,533 4,581 13,892 14,438 14,387 14,516 14,641 70 0 90 183 0 1,677 1,638 2,621 1,338 1,338	2018Q1 2018Q2 2018Q3 2018Q4 2019Q1 Change from the previous quarter 5,574 5,210 4,276 4,533 4,581 1.1% 13,892 14,438 14,387 14,516 14,641 0.9% 70 0 90 183 0 0.0% 1,677 1,638 2,621 1,338 1,338 0.0%		

Exhibit 8.7 Summary of Major Projects (by Project Status)
Thompson-Okanagan Region

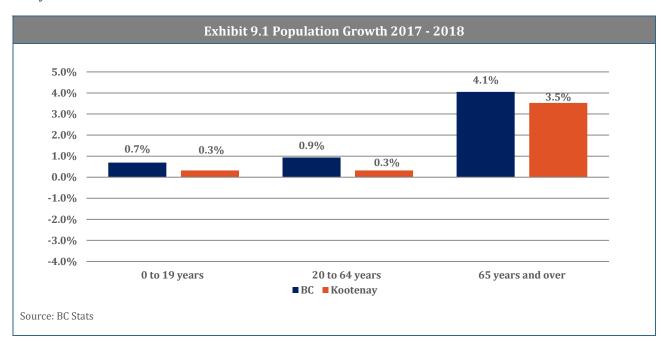
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	4,581	22%	43	115	6.5
Preliminary/Feasibility	715	3%	12	72	4.7
Consultation/Approvals	2,647	13%	15	176	8.1
Permitting	432	2%	5	86	7.2
Tender/Preconstruction	448	2%	4	112	2.0
Stage Unknown	339	2%	7	57	8.1
On hold	1,338	7%	6	223	12.3
Construction started	14,641	71%	57	261	9.2
Completed	0	0%	0	0	0.0
Total	20,560	100%	106	202	8.3

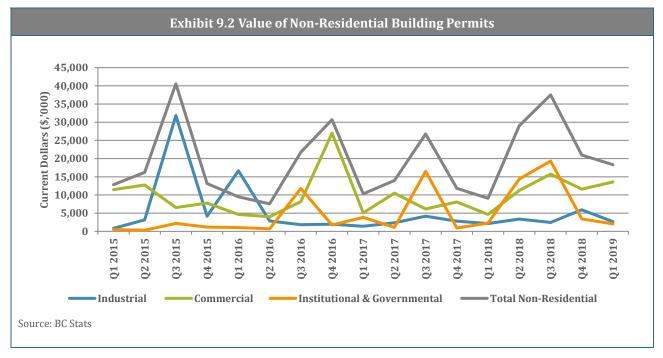
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

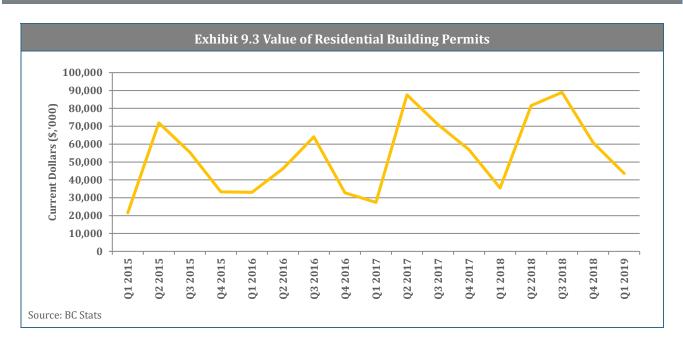


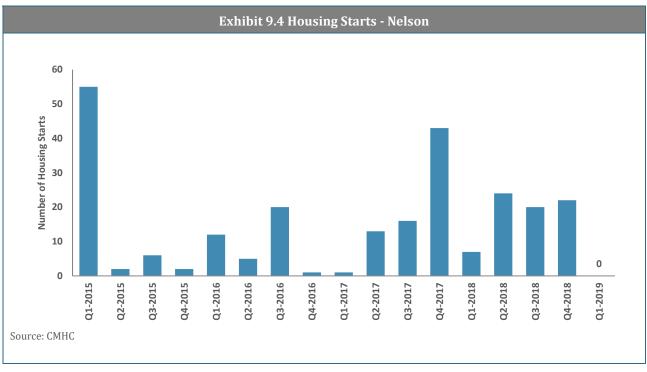
9. Kootenay Region

Key Economic Indicators

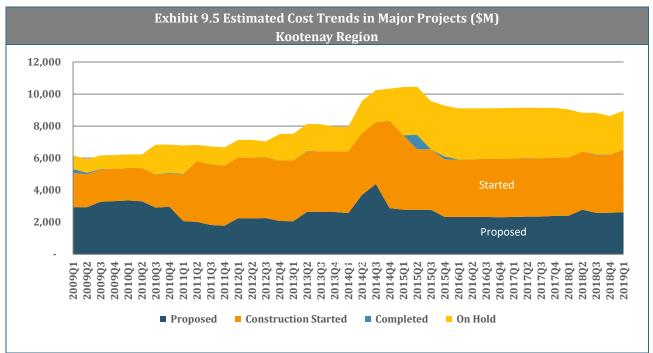








Trends in Major Projects



- In Q1 2019, the Kootenay region had a total of 28 major projects with a combined value of \$8.95 B, a 3.7% decrease compared to the previous quarter and representing a 1.0% decline compared to one year earlier.
- There are 2 newly proposed projects added to the MPI this quarter: Kootenay Boundary Regional Hospital Ambulatory Care (\$39 M) in Trail and Kootenay Lake Ferry Service Upgrade (estimated cost is not available) in Balfour.

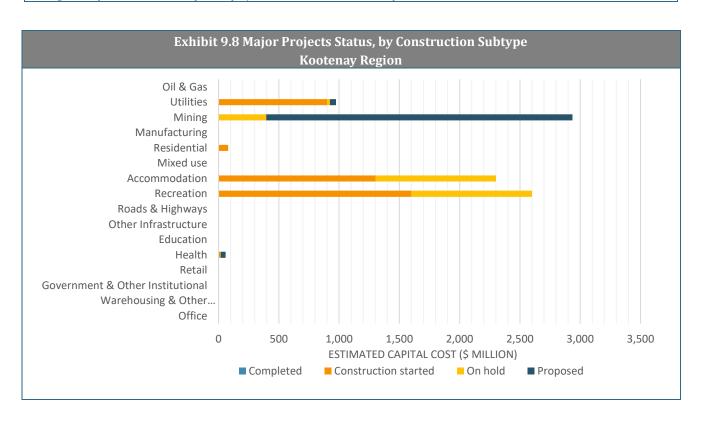
Kootenay Region								
	2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	Change from the previous quarter	Change from the previous yea	
Proposed	2,399	2,779	2,590	2,590	2,629	1.5%	9.6%	
Construction started	3,634	3,634	3,623	3,601	3,901	8.3%	7.3%	
Completed	-	-	28	22	-	0.0%	0.0%	
On hold	3,010	2,420	2,592	2,420	2,420	0.0%	-19.6%	
Grand Total	9,043	8,833	8,833	8,633	8,950	3.7%	-1.0%	

Exhibit 9.7 Summary of Major Projects (by Project Status)

Kootenay Region

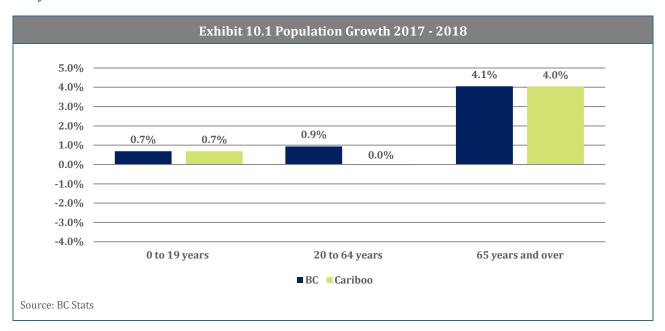
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	2,629	29%	10	376	5.3
Preliminary/Feasibility	39	0%	3	39	2.4
Consultation/Approvals	2,540	28%	5	508	7.2
Permitting	0	0%	0	0	0.0
Tender/Preconstruction	0	0%	0	0	0.0
Stage Unknown	50	1%	2	50	4.7
On hold	2,420	27%	4	605	14.9
Construction started	3,901	44%	14	279	15.0
Completed	0	0%	0	0	0.0
Total	8,950	100%	28	358	11.5

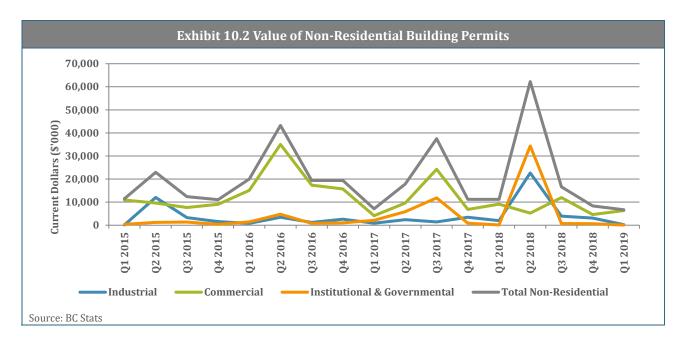
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

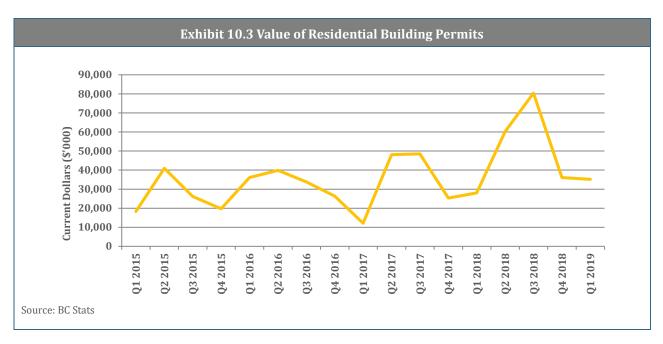


10. Cariboo Region

Key Economic Indicators

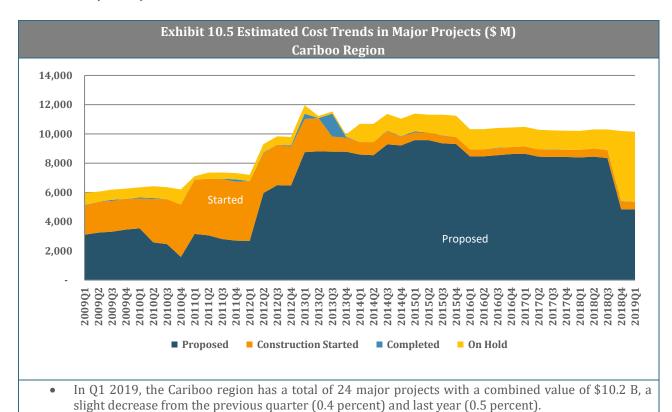








Trends in Major Projects



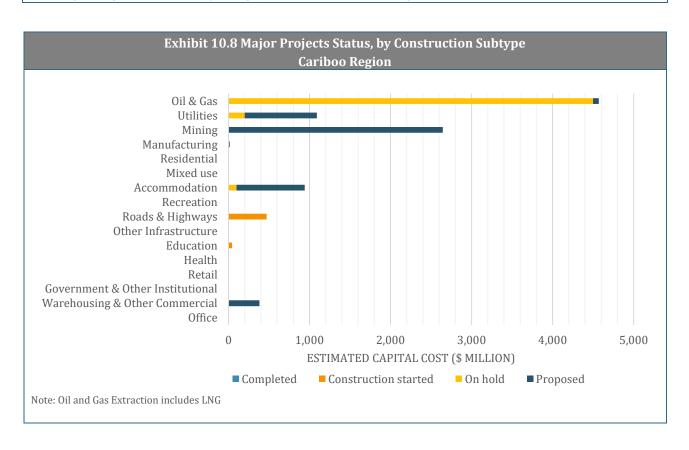
Cariboo Region								
	2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	Change from the previous quarter	Change from the previou yea	
Proposed	8,390	8,443	8,343	4,843	4,843	0.0%	-42.3%	
Construction started	515	559	559	514	514	0.0%	-0.29	
Completed	0	0	0	43	0	0.0%	0.09	
On hold	1,300	1,300	1,400	4,800	4,800	0.0%	269.2%	
Grand Total	10,205	10,302	10,302	10,200	10,157	-0.4%	-0.5%	

Exhibit 10.7 Summary of Major Projects (by Project Status)

Cariboo Region

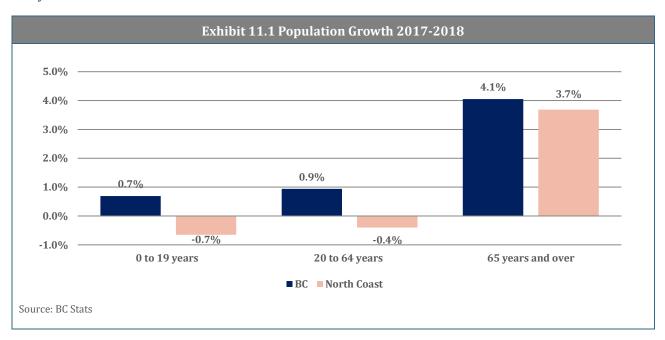
Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
4,843	48%	18	303	8.5
992	10%	5	248	5.5
3,721	37%	9	465	8.3
0	0%	0	0	0.0
60	1%	1	60	20.1
70	1%	3	23	10.0
4,800	47%	3	1600	14.9
514	5%	3	171	6.1
0	0%	0	0	0.0
10,157	100%	24	462	9.0
	4,843 992 3,721 0 60 70 4,800 514	Cost (\$ million) Total 4,843 48% 992 10% 3,721 37% 0 0% 60 1% 70 1% 4,800 47% 514 5% 0 0%	Cost (\$ million) Total Projects 4,843 48% 18 992 10% 5 3,721 37% 9 0 0% 0 60 1% 1 70 1% 3 4,800 47% 3 514 5% 3 0 0% 0	Cost (\$ million) Total Projects Value (\$ million) 4,843 48% 18 303 992 10% 5 248 3,721 37% 9 465 0 0% 0 0 60 1% 1 60 70 1% 3 23 4,800 47% 3 1600 514 5% 3 171 0 0% 0 0

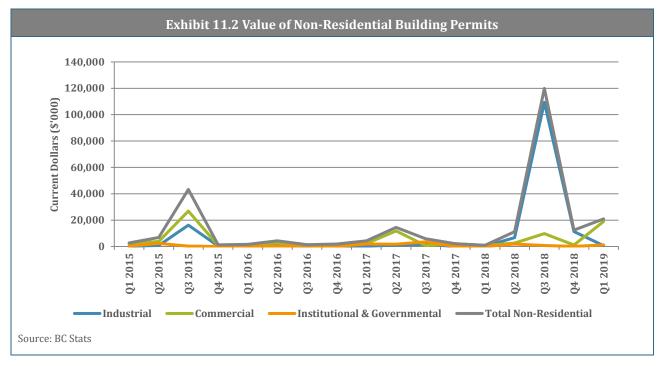
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

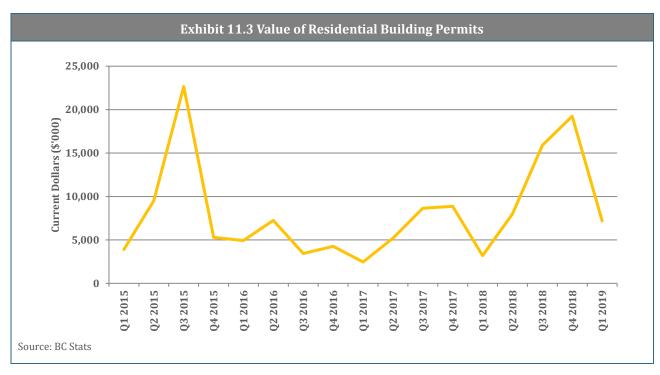


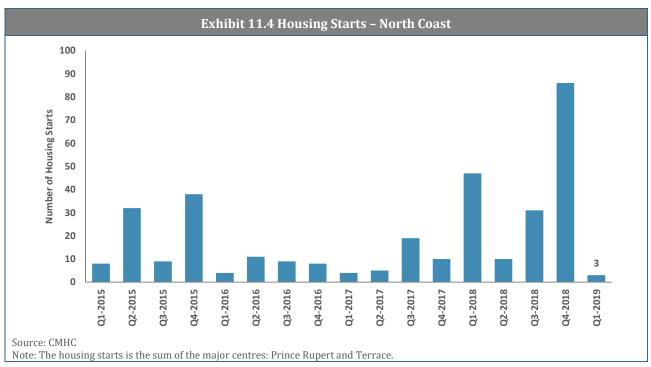
11. North Coast Region

Key Economic Indicators

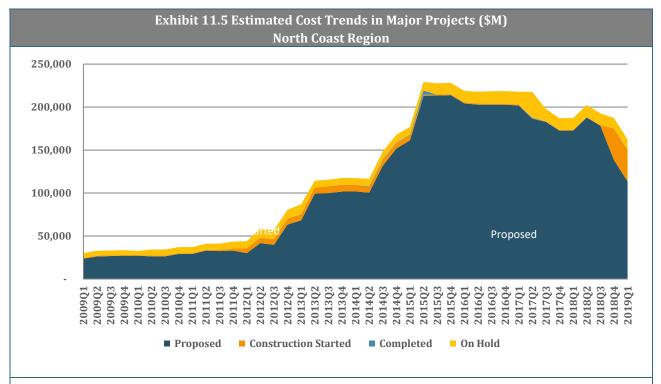








Trends in Major Projects



- In Q1 2019, the North Coast region has a total of 53 major projects with a combined value of \$162.2 B, representing a 13.4% decrease over the previous quarter and 13.3 percent declined compared to one year earlier, the changes are mainly due to cancellation of WCC LNG project with a \$25 B estimated cost.
- Ridley Island Propane Export Terminal in Prince Rupert (\$475 M) was completed in this quarter.

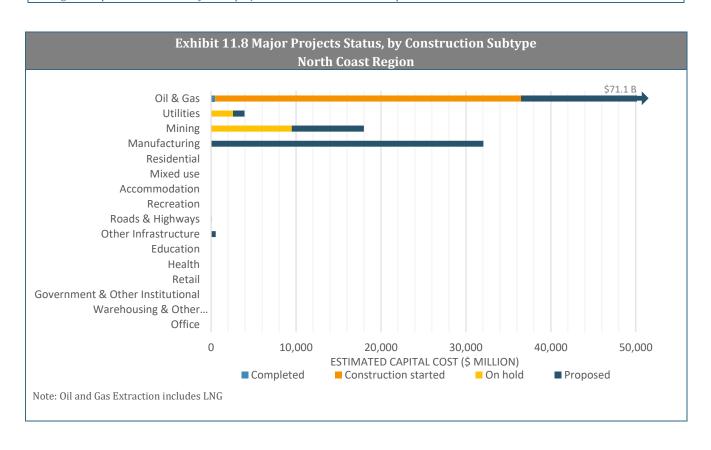
North Coast Region								
	2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	Change from the previous quarter	Change from the previou yea	
Proposed	172,660	187,963	178,348	138,612	113,548	-18.1%	-34.2	
Construction started	647	669	669	36696	36221	-1.3%	5498.3	
Completed	0	15	0	18	475	2538.9%	0.0	
On hold	13,797	13,770	13,770	11,981	11,981	0.0%	-13.2	
Grand Total	187,104	202,417	192,787	187,307	162,225	-13.4%	-13.3	

Exhibit 11.7 Summary of Major Projects (by Project Status)

North Coast Region

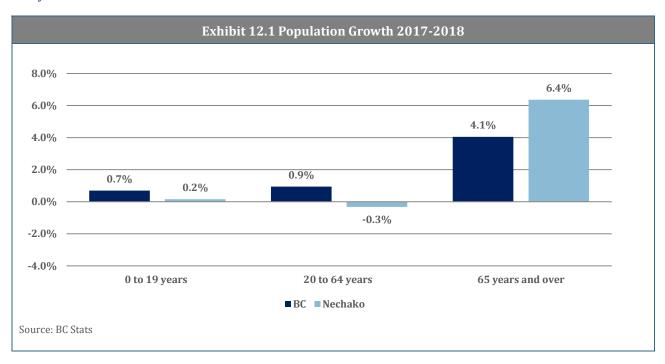
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	113,548	70%	39	3,785	6.9
Preliminary/Feasibility	34,415	21%	12	3,824	5.0
Consultation/Approvals	34,112	21%	17	2,437	7.0
Permitting	39,800	25%	5	13,267	8.7
Tender/Preconstruction	0	0%	1	0	7.3
Stage Unknown	5,221	3%	4	1,305	9.6
On hold	11,981	7%	8	1,712	11.7
Construction started	36221	22%	5	7244.2	3.7
Completed	475	0%	1	475	3.3
Total	162,225	100%	53	3,773	7.2

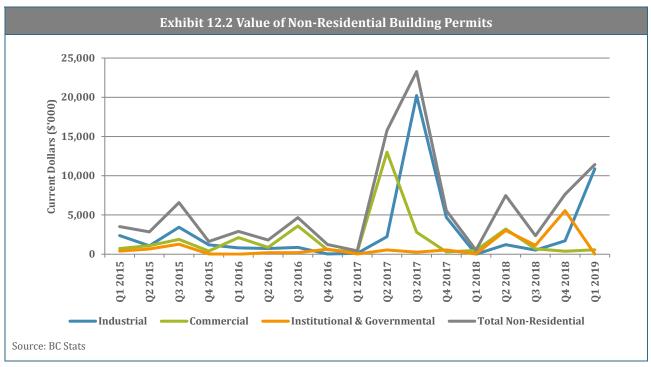
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

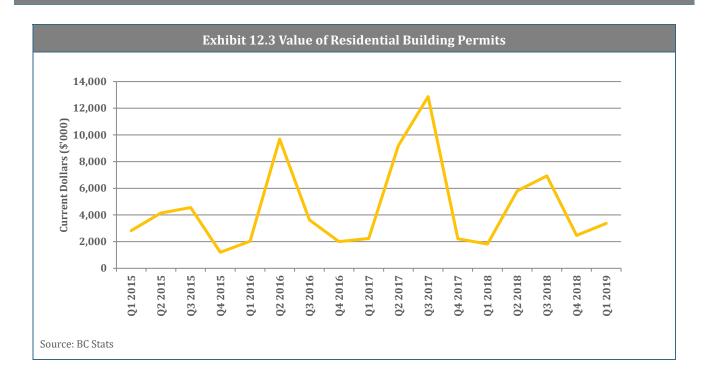


12. Nechako Region

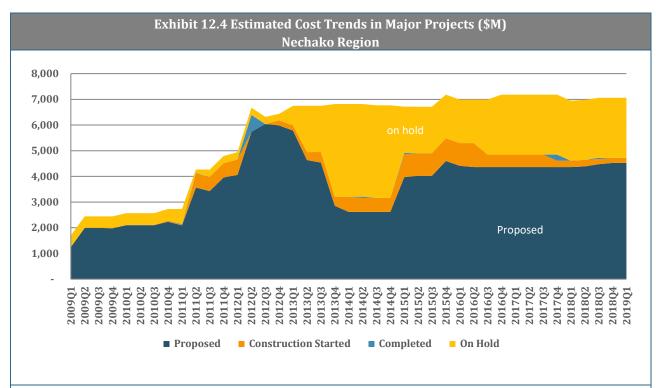
Key Economic Indicators







Trends in Major Projects



In Q1 2019, 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 1.6% decrease from the previous year.

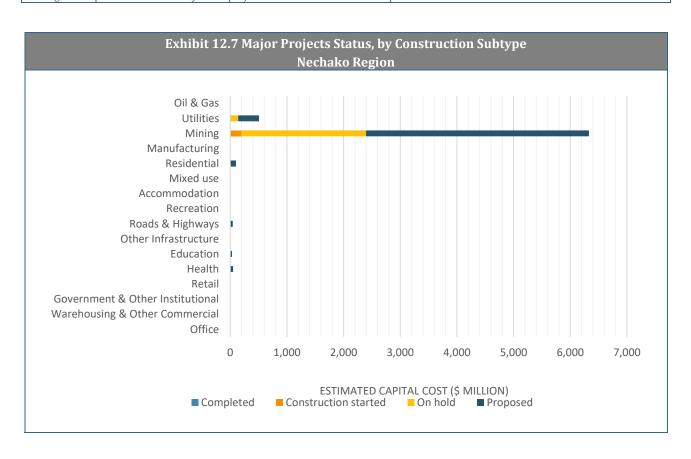
Exhibit 12.5 Estimated Cost Trends in Major Projects, by Project Status (\$M) Nechako Region								
Status	2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	Change from the previous quarter	Change from the previous year	
Proposed	4,361	4,390	4,472	4,522	4,522	0.0%	3.7%	
Construction started	251	251	201	201	201	0.0%	-19.9%	
Completed	0	0	50	0	0	0.0%	0.0%	
On hold	2,335	2,335	2,335	2,335	2,335	0.0%	0.0%	
Grand Total	6,947	6,976	7,058	7,058	7,058	0.0%	1.6%	

Exhibit 12.6 Summary of Major Projects (by Project Status)

Nechako Region

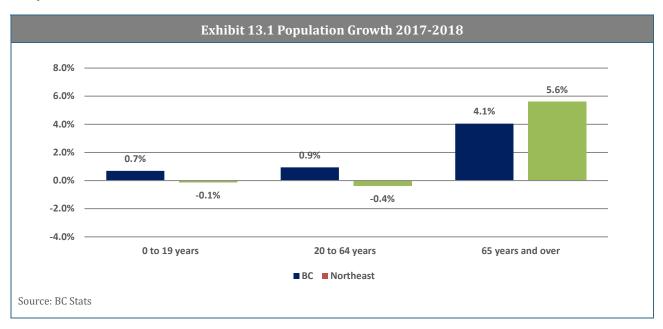
	Estimated Capital Cost (\$ million)	Percentage of Total	Number of Projects	Average Project Value (\$ million)	Average Year in Inventory
Proposed	4,522	64%	14	348	8.9
Preliminary/Feasibility	925	13%	3	308	8.4
Consultation/Approvals	2,268	32%	8	284	9.8
Permitting	0	0%	0	0	0.0
Tender/Preconstruction	29	0%	1	29	0.8
Stage Unknown	1,300	18%	2	1300	9.6
On hold	2,335	33%	5	467	13.4
Construction started	201	3%	1	201	7.3
Completed	0	0%	0	0	0.0
Total	7,058	100%	20	371	9.9

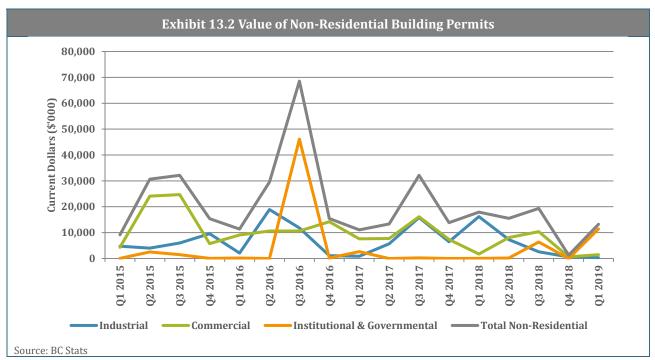
Notes: Average project value is the average of those projects for which there is a cost estimate. Average number of years in inventory is the average time span between the entry of the projects in the MPI and the current period.

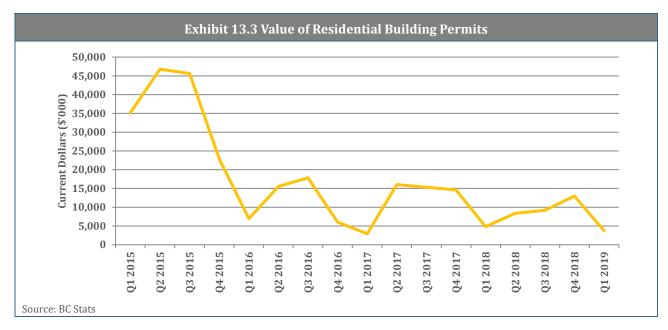


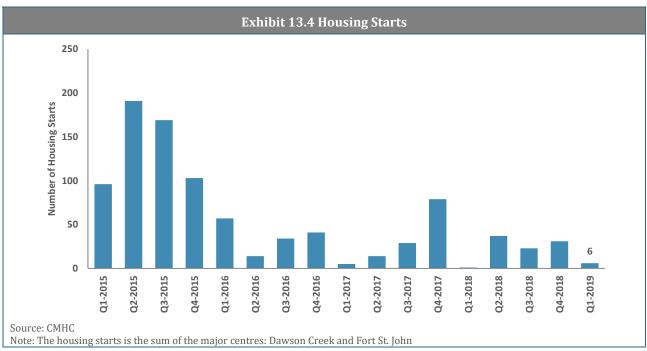
13. Northeast Region

Key Economic Indicators



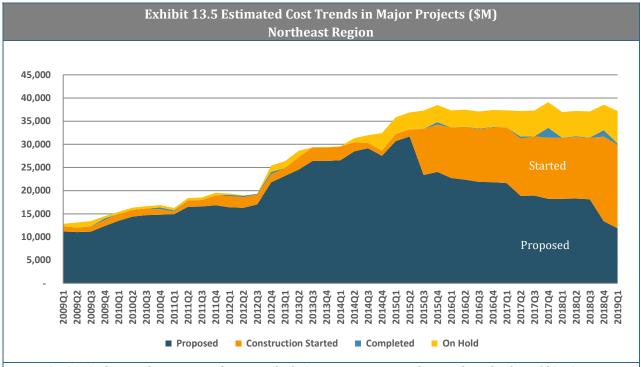






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Trends in Major Projects



- In Q1 2019, the Northeast region has a total of 49 major projects with a combined value of \$37.2 B, representing a 3.5% decrease over the previous quarter and a 0.6% increase compared to one year earlier.
- Two major projects were completed in this quarter: Wyndwood Pipeline Looping Project in Chetwynd (\$170 M) and North Pine Liquids Facility Project (\$120 M).

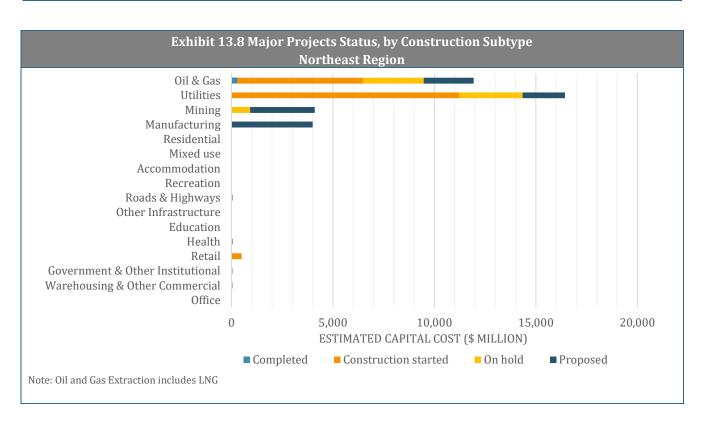
Status	2018Q1	2018Q2	2018Q3	2018Q4	2019Q1	Change from the previous quarter	Change from the previous year
Proposed	18,234	18,292	18,140	13,402	11,887	-11.3%	-34.8%
Construction started	13,166	13,281	13,247	18,279	18,009	-1.5%	36.8%
Completed	26	170	61	1,369	290	-78.8%	1015.4%
On hold	5,537	5,501	5,626	5,501	7,001	27.3%	26.4%
Grand Total	36,963	37,244	37,074	38,551	37,187	-3.5%	0.6%

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	11,887	32%	27	517	6.2
Preliminary/Feasibility	143	0%	3	48	0.7
Consultation/Approvals	7,664	21%	17	511	8.0
Permitting	4,000	11%	4	2000	3.5
Tender/Preconstruction	65	0%	2	33	3.7
Stage Unknown	15	0%	1	15	8.3
On hold	7,001	19%	9	778	8.6
Construction started	18,009	48%	11	1637	4.3
Completed	290	1%	2	145	3.3
Total	37,187	100%	49	826	6.1

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.



Appendices

Appendix 1

New Proposed Projects (January - March 2019) Langford Highway 14 Corridor Improvements 86 1. Vancouver Nanaimo Regional General Hospital Intensive Care Unit Nanaimo Island/Coast Replacement 34 1100 Yates Street Condominium Victoria 22 Vancouver Barclay x Thurlow Condominiums 60 Coquitlam Sheffield Elementary 52 Langley Highway 1 Widening - 216 Street to 264 Street 236 Abbotsford Eagle Mountain Elementary 27 Vancouver And Surrey Expo/Millennium Line Upgrade Program (EMUP) 1,470 Vancouver **UBC Farm Centre** 20 Vancouver Geography Building Replacement 50 5740 Cambie Condominiums Vancouver 40 Avani Centre Condominium Surrey 35 2. Mainland/Southwest Langley Latimer Heights Community 50 Vancouver 1818 Alberni Highrise Condominium 30 Coquitlam Kira Condominium 20 Atrium Condominium Langley 20 Delta Scott & Nicholson Lowrise Condominium 38 Kamloops Valley View Secondary School Expansion 34 Golden Highway 1 Quartz Creek Bridge 121 Kelowna **Beverly Condominium** 18 Balfour Kootenay Lake Ferry Service Upgrade Trail Kootenay Boundary Regional Hospital Ambulatory Care 39 **Total** 2.502

Appendix 2

Region	Municipality	Project	Completion Date	Estimat Cost (\$ millio
1. Vancouver	Colwood	Royal Bay Secondary School Expansion	202003	(,
Island/Coast	Saanich	Fifteen88 Condominium	2020Q4	
	Burnaby	Laurel Street Works Yard	2022Q4	
		Etoile Condominium	2021Q4	
		Alpha at Lumina Brentwood	2020Q4	
	Chilliwack	Wahleach Generating Station (WAH) Penstock Recoating Project	2021Q2	
	Coquitlam	Coquitlam Transfer Station	2020Q2	
	Langley	Langley Memorial Hospital Emergency Expansion	2020Q4	
		Township Commons	2020Q1	
	Lillooet	Bridge River 2 Units 7 and 8 Upgrade Project	2021Q1	
	Port Moody Eagle Ridge Hospital Emergency Expansion		2020Q4	
	Richmond	Cascade City	2022Q4	
	Squamish	Jumar Condominium Development	2020Q3	
	Surrey	Edgewood Drive Elementary (Grandview Heights South #2) (Site 206)	2021Q1	
. Mainland/Southwest		Linea Condominium	2021Q4	
		Maverick Lowrise Condominium	2020Q2	
		Panorama Drive Development	2020Q3	
		Yorkton Place	2020Q3	
		Camellia Seniors Complex	2020Q4	
	Vancouver	Maple Grove Elementary School Replacement	2020Q3	
		Chelsea Condominiums	2020Q4	N
		Second Narrows Water Supply Tunnel	2023Q4	4
		The Creek by Concert	2020Q4	
		Seniors Apartments	2020Q4	
		The Link Condominiums	2020Q2	
		Pacific Residence	2021Q3	1
		Hebb Building Renewal	2019Q3	
. Thompson-Okanagan	Kelowna	One Water Street Condominium	2021Q3	
		IntraUrban Enterprise Industrial Park	2019Q4	

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Appendix 3

Construction Completed (January - March 2019)							
Region	Municipality	Project	Estimated Cost (\$ million)				
1. Vancouver Island/Coast	Campbell River	John Hart Generating Station Replacement	985				
2. Mainland/Southwest	Burnaby Coquitlam Mission North Vancouver Port Moody Squamish Surrey	Horne Payne Substation Upgrade Project Windsor Gate Residential Development Silver Creek Business Park Connaught Condominium The Strand Condominium Seven Peaks Townhomes Prescott Commons Simon Fraser University - Energy Systems	73 180 20 20 20 20 20 20				
	Surrey And Vancouver Area	Engineering Building Skytrain Expansion - Expo Line	126 164				
6. North Coast	Prince Rupert	Ridley Island Propane Export Terminal	475				
8. Northeast	Chetwynd	Wyndwood Pipeline Looping Project	170				
o. Northeast	Fort St. John	North Pine Liquids Facility	120				
Total			2,393				

Appendix 4

Project Value and Pro	ject Status	for each Industry Se	ctor - (January	- March 2019))
	Proposed	Construction started	Completed	On hold	Total
Oil & Gas	77,765	42,200	765	7,484	128,214
Utilities	12,222	15,863	1,058	7,094	36,237
Manufacturing - Petrochemical	36,000				36,000
Primarily residential - Single use	13,067	22,142	260	144	35,613
Mining	21,063	301		13,967	35,331
Mixed use	5,436	11,063		1,000	17,499
Accommodation	7,878	4,424		1,356	13,658
Roads & Highways	10,917	2,462	164	60	13,603
Recreation	6,391	4,003		1,125	11,519
Other Transportation	4,750	2,963			7,713
Education	4,709	1,394	126		6,229
Health	3,378	2,417			5,795
Retail	650	2,848			3,498
Government buildings	104	1,690			1,794
Other Commercial	862	690			1,552
Office	352	110	20	80	562
Warehousing	100	165			265
Other Manufacturing	15	90			105
Manufacturing - Wood Products	90				90
Other Institutional & Government	20				20
Total	205,769	114,825	2,393	32,310	355,297

Appendix 5

Number of Regional Major Projects Excluding Completed Projects (by Project Category) Mining & Oil 1. Vancouver Island/Coast 2. Mainland/Southwest 3. Thompson-Okanagan 4. Kootenay 5. Cariboo 6. North Coast 7. Nechako 8. Northeast Total

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