

**JUSTICE
INSTITUTE**
of BRITISH COLUMBIA

Long-Range Facilities Plan

Executive Message

Justice Institute of British Columbia (JIBC) is pleased to unveil our new long-range facilities plan providing strategic direction on the development of our campuses over the next twenty-five years.

The plan is the culmination of more than two years of extensive consultation and analysis guided by our consultants, Thinkspace and RPG architects and planners to determine the strategic direction of the Institute's facilities. To provide input, we engaged stakeholders, including JIBC's Board of Governors, JIBC Foundation Board of Directors, staff, faculty, students, and community partners.

Thank you to everyone who participated in our virtual town halls, meetings and surveys and connected with us through social media. These consultations resulted in the development of a long-range facilities plan genuinely reflective of the education and training needs of the JIBC community.

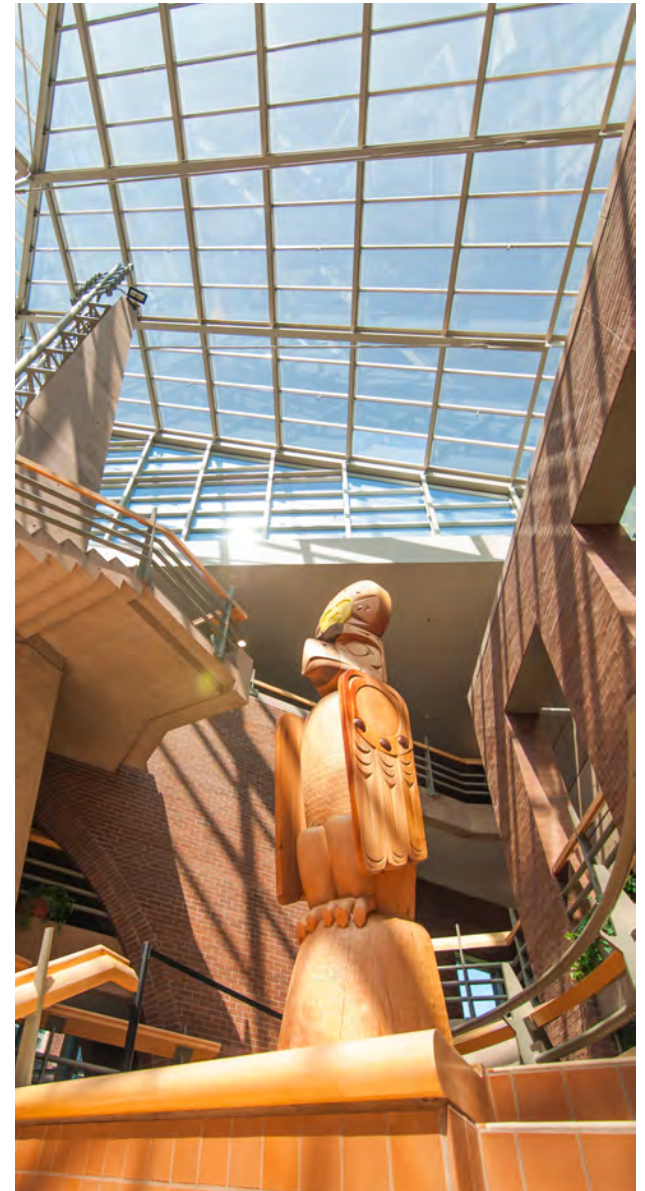
For over four decades, JIBC has educated and trained those in crucial public safety roles in communities across British Columbia. This plan provides us with a framework to ensure that campus planning meets our students' complex and evolving needs and our core clients' educational and training requirements now and, in the years, to come.



Dr. Michel Tarko
President & CEO



Dr. Stephen Gamble
Chair, Board of Governors



Land Acknowledgements

New Westminster Campus

We respectfully acknowledge that the Justice Institute of British Columbia's New Westminster campus is located on the unceded traditional territories of the Qayqayt, Musqueam, and Central Coast Salish peoples.

Chilliwack Campus

We respectfully acknowledge that the Justice Institute of British Columbia's Chilliwack campus is located on the unceded traditional territories of the Stó:lō peoples.

Maple Ridge & Pitt Meadows Campuses

We respectfully acknowledge that the Justice Institute of British Columbia's Maple Ridge and Pitt Meadows campuses are located on the unceded traditional territories of the Katzie and Kwantlen peoples.

Okanagan Campus

We respectfully acknowledge that the Justice Institute of British Columbia's Okanagan campus is located on the unceded traditional territories of the Syilx Okanagan peoples.

Victoria Campus

We respectfully acknowledge that the Justice Institute of British Columbia's Victoria campus is located on the traditional territories of the Songhees, Esquimalt, and WSÁNEC peoples.



Acknowledgements

JIBC Board of Governors

Thank you to the members of the JIBC Board of Governors for their support and endorsement of the Long-Range Facilities Plan.

JIBC Senior Leadership Team

Thank you to the JIBC Senior Leadership Team members for their input and guidance during the development of the Long-Range Facilities Plan.

Consulting Team

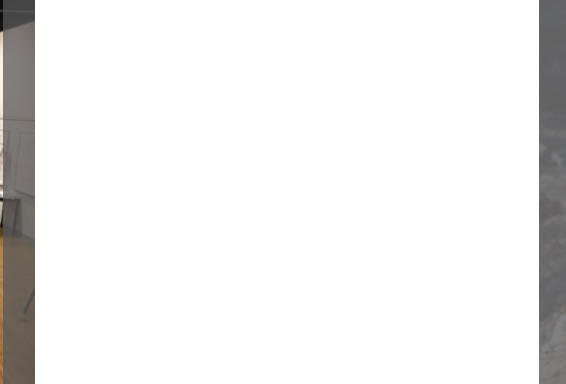
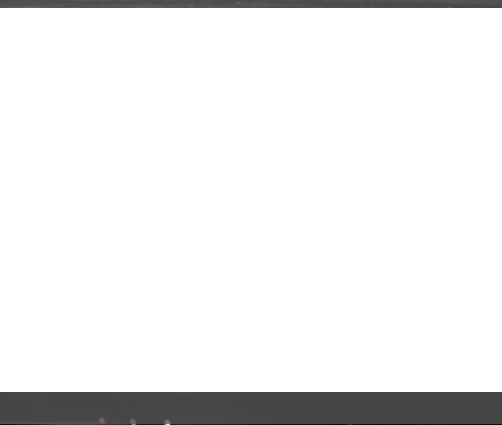
Thank you to Thinkspace and RPG for their work on the Long-Range Facilities Plan.

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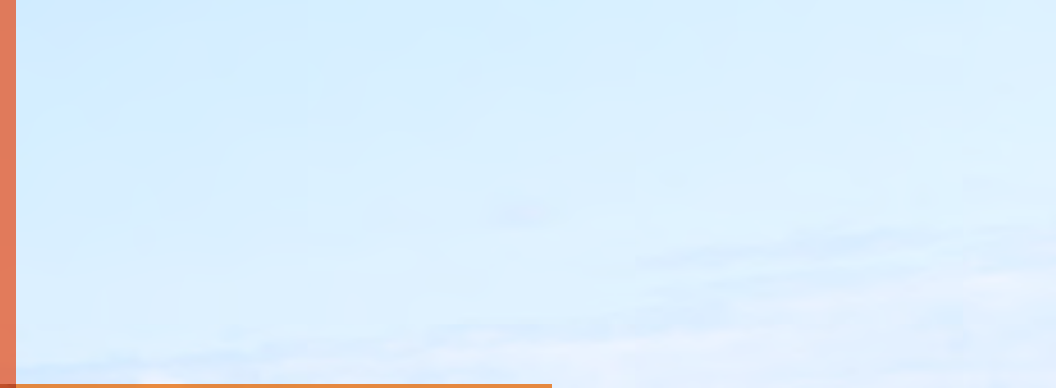
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1.0 Preamble

Post-secondary institutions undertake long-range planning related to their facilities for many reasons. These vary from public relations to key strategic decision-making connected to the core mission of the institution. In the case of the Justice Institute of British Columbia (JIBC), the intent is to utilize the core planning recommendations to manage the most optimum application of facilities to support JIBC’s mission. The objective is coherence with program delivery, facilities, operations, and community connection. This objective is strategic, and the plan becomes an indispensable tool that works in a coordinated way with the JIBC’s institution-wide Strategic, Education and Indigenization Plans.

As a result, the plan requires an approach that:

- arises from the Strategic Plan;
- is visionary;
- includes all stakeholders;
- is data driven; and
- is a living document guiding planning into the future.

This Long-Range Facilities Plan culminates over a year of consultations, background research, and plan development. Such an undertaking requires the close involvement of key people within the JIBC, working closely with the consulting team to develop the plan. The development of the plan is structured in four distinct stages:

Framework

This stage is the “housekeeping” set-up for the project, including lines of communication, schedules, scope confirmation, and other project management issues.

Discovery

This stage allows the consulting team to learn as much as possible about the JIBC. This stage includes background research, familiarity with the Strategic Plan and other key policy documents, consultations with stakeholders from all areas of the JIBC and its key communities, and programming needs for space over the planning horizon of 25 years.

Exploration

The function of this phase is for the exploration of the data gathered. The data from the previous phase allows the consulting team to assemble possible solutions and strategies. These strategies are an assessment and compared so that an optimum path forward can be identified.

Recommendations

The results of the previous stages are to provide the JIBC with a group of recommendations for moving forward, including recommendations for internal management of the plan.

<p>1 Framework</p>	<p>2 Discovery</p>	<p>3 Exploration</p>	<p>4 Recommendations</p>
			

The Plan Itself

The plan is organized in two broad sections: Background and The Campuses.

The first section includes elements that apply to all campuses and form the common underpinnings of the technical aspects of the content. The second section is a view of each campus. The reader will find recommendations in both areas of this structure appropriate to its context. All recommendations are summarized at the end of the plan document.



2.0 Background

2.1 The Planning Context

2.1.1 JIBC History

The Justice Institute of British Columbia (JIBC) is a very recent post-secondary educational institution. The Government of British Columbia (BC) established JIBC in 1978 as a provincial institute through an Order-In-Council with a mandate to:

- provide courses of instruction that are consistent with identified needs specifically for, but not limited to, police, corrections, courts, and sheriffs;
- identify the educational and specific training needs for all components of the British Columbia justice system, including fire services;
- develop a co-operative system of coordination between its own programs and those of the other institutes, colleges, universities, public schools, and community-based organizations; and
- provide a provincial forum for discussion and examination of justice and socially-related issues.

In 2006, the minister responsible for advanced education confirmed the JIBC's role as the justice and public safety institution for BC by providing courses of instruction in justice and public safety, including post-secondary education at the baccalaureate and applied master's degree levels. Additional government orders and legislation made the JIBC the provider of required training for BC's municipal police officers, family dispute resolution professionals (mediators, arbitrators, and parenting coordinators), security guards, and gaming security officers.





2.1.2 Preparing for a Dynamic Future

JIBC stands out among its BC college, institute, and university peers. JIBC's uniqueness is exemplified by both qualitative factors as well as quantitative factors, characterized as follows:

Wide Range of Program Delivery

JIBC offers a wide range of programs that require a range of space types for program delivery: classrooms, breakout rooms, courtrooms, cell blocks, simulation labs, indoor gun range, and virtual simulations.

In addition, there are extensive outdoor program delivery modes: a driving track, scenario pads for live fires, container ship fires, oil spills, derailments, etc.



Smaller Program Cohorts

JIBC programs have smaller cohorts overall. Face-to-face enrolments are 18 to 20 students per section for many JIBC programs. There are smaller sections of 8 students and larger sections of 48 students, but the mean average of enrolments for all course offerings is just over 19 students.

Older Students

Nearly 70 percent of students are 30 years or older, and many have prior post-secondary experience. Less than 7 percent of students are 21 years or younger. Many students are mid-career, with some taking courses required by their employers.



Gender Distribution

Another unique aspect of JIBC students is their gender distribution. Overall, approximately 70 percent of students are male, and 30 percent are female. In the School of Public Safety, the percentage of male students is even higher, at 85 percent. Only in the School of Health, Community & Social Justice is there a more even distribution of gender, with 55 percent male students and 45 percent female students.

Physique and Equipment

Many of JIBC's programs have high physical fitness requirements, attracting students with larger physiques. Some programs require the use of protective equipment, such as police and fire fighting, adding to personal bulk. These physical differences have an impact on space requirements.



Cohort-Based Programs

Many of JIBC's programs are cohort based, with groups of students taking multiple courses together. Often, student cohorts are booked all day for learning, based in a larger classroom, but moving to other spaces, including break-out rooms and specialized learning spaces.

Liaison with Industry

JIBC has a strong connection to industry, another unique quality for a BC post-secondary institution. There are many post-hire enrolments; thus, JIBC creates programs to meet the demands of industry. JIBC's Office of Institutional Research continuously researches and produces labour market reports to ensure training is relevant and programs have sufficient capacity to meet demands.

Experiential Focus

As evident from the range in programs, there is a high experiential focus. Simulations are used extensively in delivering programs, including live fires, gun range, driving track, and virtual simulators. Professional actors perform in many of these live training scenarios. There are already programs taking advantage of AR (augmented reality) and VR (virtual reality).

Student Headcount to Student Full-Time Equivalent (FTE) Ratios

JIBC delivered approximately 2,900 student full-time equivalents (FTE) to 29,800 students, a ratio of 1:10. This ratio is unusual in the BC colleges and institute system, where the headcount is usually no more than 1:3. This reflects more single-course offerings delivered to many unique individuals over a short time instead of fewer individuals taking several courses over a semester. This situation has implications for the administrative services related to admissions, records, and student services. Many students may be less familiar with JIBC campuses, placing greater importance on wayfinding and the ease with which students navigate through these campuses.

On-site and Off-site Learning

JIBC provides about 33 percent of its offerings off-site, based on 2018 / 2019 data. Off-site means online offerings and providing training courses at other institutions in BC, in Canada, or elsewhere – even the facilities and sites of industry partners.

This is perhaps one of the most distinguishing qualities of the JIBC experience. It is a real-world experience intended for real-world application. The level of simulation and immersive experiences integrated into the programs is well developed and more intensely applied than in any other post-secondary institution in BC. This is a unique quality of the education students receive at JIBC. Continued leading-edge development and expansions of this teaching mode are a vital element that drives the preparedness for a dynamic future.

2.1.3 Indigenous Education

JIBC's Office of Indigenization (OI) was created in 2012 to provide services that support and enhance Indigenous education across all facets of the Institute. The OI has been working to foster cross-cultural learning and knowledge exchange that promotes respect and understanding of Indigenous peoples' cultures, traditions, languages, and protocols. Accomplishments of the OI have included creating the Aboriginal Gathering Place and the Indigenous Garden at the New Westminster campus, a new curriculum for Indigenization courses, and ongoing support to individual programs wanting to integrate Indigenous perspectives into teaching and learning.

As of this writing, more than 6,300 Indigenous students have attended JIBC in the last five years, and 5 percent of the total domestic student body (counted as FTEs) were Indigenous in 2018 / 19 - close to the overall proportion of Indigenous adults living in the province. Indigenous students complete academic and professional programs, particularly paramedicine and fire fighting, and take courses to advance in their careers. JIBC consistently partners with over 30 Indigenous communities and organizations every year to provide training, research, and expertise to support community development and safety initiatives. Indigenous student headcounts vary year-to-year based on these contracts for skills training.

Overrepresentation of Indigenous peoples in the correctional system continues to increase, with Indigenous girls now making up 60 percent of female youth in custody in BC. The child welfare system is similarly imbalanced, where two-thirds of BC's children under 15 in foster care are Indigenous. Educational attainment is improving, and almost half of Indigenous people have a post-secondary qualification, compared to two-thirds of Canada's non-Indigenous population. Increasing post-secondary access and credential completion for Indigenous peoples and former youth in government care is one of BC's policy objectives and a priority for JIBC.

A specific objective for JIBC is providing pathways for young Indigenous learners to join justice and public safety professions. Since 2000, only 0.2 percent of BC's municipal police officers and 1.6 percent of BC's paramedics have self-declared as Indigenous while training at JIBC. Indigenous individuals may not view a career in justice or public safety as an attainable goal. With project funding from the Ministry of Advanced Education, and Skills Training, JIBC developed and delivered the second offering of the Justice and Public Safety Career Preparatory Certificate.

The JIBC Indigenous Youth Career Camp is another recruitment tool that introduces teens to various occupational possibilities in justice and public safety; planning is underway for future camp opportunities. Given its unique role, JIBC is responsible for answering the Truth and Reconciliation Commission of Canada's (TRC) Calls to Action in education, child welfare, health, justice, and training for public servants. The complex historical relationship between Indigenous peoples and policing, corrections, and other justice and public safety fields, JIBC has a significant opportunity to advance true and lasting reconciliation.

Trauma-informed practice is central to JIBC's Indigenization strategy and process. JIBC's Indigenization Plan (2015-2020) provides the vision for the ongoing development of Indigenous programs and services, ensuring culturally-appropriate education incorporating Indigenous culture, history, and knowledge with goals to increase student success and Indigenous community engagement.

The Indigenization Plan is being updated to strengthen and coordinate institutional response to the TRC Calls to Action and the United Nations Declaration on the Rights of Indigenous Peoples.

*Information from JIBC website - <https://www.jibc.ca/office-indigenization>

Strategies

This plan addresses strategies for the development of JIBC facilities. Facilities necessarily support an institution’s mission and form a seamless connection between what happens every day to the spaces that support that mission. The implication of this is the need to embed Indigenous inclusivity in every aspect of JIBC’s culture.

Making connections real and intimately a part of the culture will involve addressing all the issues pointed out here and creating an institution that infuses Indigenous culture, ways of seeing the world, and values into everything the JIBC provides. This approach could be similar to UBC’s Indigenous Strategic Plan; information can be found here: [UBC.ISP_StrategicPlan2020-SPREAD-Borderless-REDUCED.pdf](https://www.ubc.ca/indigenous-strategic-plan-2020-2025)

This plan can only address those elements directly related to facilities and ways that Indigenous content might be infused into the spaces used by everyone. The strategy is to create a system of Indigenous involvement in the management of space. This approach can begin with a commitment to incorporating Indigenous planning and design principles developed with Indigenous elders, traditional knowledge holders, and leaders. The University of Manitoba is a good example of such a starting point; information can be found here: https://umanitoba.ca/admin/vp_admin/media/IPDP_Handout.pdf



2.1.4 Engagement & Consultation

The Long-Range Facilities Plan is the result of numerous consultation and stakeholder engagement sessions. A key stage to developing the plan was developing a Stakeholder Engagement Plan that identified the strategies and actions required to promote productive involvement of the stakeholders in the decision-making and execution process. (See Technical Document for Stakeholder Engagement Plan.)

Not long after the plan development process was started, the world found itself in an unprecedented public health emergency that required a virtual lockdown and the end of most face-to-face activity. The substitution of online methodologies began to take the place of in-person consultations.

All engagement activities were relationship-driven, utilizing the following methodology:

Visioning Sessions

Visioning sessions provided overall direction to the consultant team regarding subsequent engagement and communication processes, and overall directions for the JIBC resources. The Visioning Session was initially planned as a single event in-person workshop, however, multiple sessions were conducted as online meetings with several groups due to the issues outlined. The sessions involved relatively small groups and allowed for discussion of the various values and directions that the Long-Range Facilities Plan should embody.

Following these meetings, the consulting team released a draft visioning document that summarized the methodology and outcomes of the sessions. (See Technical Document for the Visioning Session Summary.)

Strategic Direction and Space Needs of Academic Programs, Administrative / Infrastructure Areas

Based on the directions identified in the Visioning Sessions, this series of interviews identified the goals of each of the schools, offices, and divisions and included a review of the current state. The outcomes of these meetings were the overall goals and directions for each school, office, and division for program size, delivery, pedagogy, and understanding the differences from earlier visioning sessions to identify space needs to develop the Master Program. (See Technical Document for the complete Master Program.)

Stakeholder Survey

The survey allowed stakeholders to provide feedback and gather input on current conditions and the future vision of JIBC. Survey questions referenced the following:

- feedback on current conditions of learning, administrative and specialty spaces, props, etc;
- identifying and prioritizing needs in various spaces;
- feedback on student housing needs; and
- parking and transportation modes specific to the New Westminster campus.

(See Technical Document for Long-Range Facilities Plan Survey 2021.)

Virtual Open Houses

The open houses provided an interactive venue for receiving feedback on the Long-Range Facilities Plan draft. A presentation and presentation slides for drop-in format were utilized. This approach allowed the consultant team to have informal conversations and gather feedback.

Governance Updates

Throughout the development of the plan, progress was shared with the Board of Governors, the JIBC Foundation Board, and the Ministry to keep them up to date on the process.

2.1.5 Planning Principles

It is beneficial in developing any plan to establish some basic principles that will apply to considering all the data and recommendations that will arise. The principles arise from many sources, such as the objectives of the JIBC's strategic plan, its own culture, and the engagement of its communities both on and off campus. The principles below were developed from all those sources and helped guide the thinking in developing this plan. They are as follows:

1. *Draw on the Directions Established in the Institute's Strategic, Education, and Indigenization Plans*
 - Align and make the Long-Range Facilities Plan and strategic objectives of the institution consistent.
2. *Develop Campuses that Inspire*
 - Make the campuses welcoming and an inspiration to attend and become a part of.
3. *Develop Campuses that Complement One Another and All Exhibit Character and Culture*
 - The campuses shall be expressions of JIBC's unique mission and role in community safety and social justice, while celebrating its unique identity.
4. *Develop Campus Spaces that are Conducive to Partnerships, Innovation, and Collaboration*
 - JIBC fosters collaboration with other schools between JIBC and through integrated training in communities throughout BC.
5. *Recognize the Need to Support, Invest, and Provide Continuous Improvement in Simulation and Interactive Hands-on Instruction*
 - JIBC is a leader in simulation and interactive, hands-on instruction and will retain that lead by exploring and applying technology in props, simulation rooms, and other specialty spaces.
6. *Recognize that JIBC Programs are Specialized and Unique, and May Require Specific Facility Responses*
 - Because programs have unique needs, facilities will require specific solutions to those needs unique to a particular location.
7. *Pursue Campuses as Models of Sustainable Practice*
 - Sustainability is a crucial objective for building, grounds, and management practice.
8. *Develop Campuses that Integrate and Support Education, Student Needs, and Research*
 - Make the student experience responsive to needs and infused with education, collaborative thinking, and discovery.
9. *Support the Needs of a Diverse Institute Community*
 - JIBC is a diverse community of learners, faculty, and staff. The plan must support this diversity.
10. *Create Accessible Campuses*
 - JIBC campuses need to be easily available and accessible to all in terms of physical access, multiple modes of transportation, ease of facility access, clarity of location, and movement.
11. *Incorporate Indigenous Aspects Throughout all Campuses*
 - Indigenous elements need to be integrated into the fabric of all campuses and can include signage, art, specific locations for the community, and location names.

12. Ensuring Learning Spaces are Flexible to Accommodate JIBC's Varied Teaching Methods (Hands-On, Desk-Based, Lecture, Etc.)

- All learning spaces need to be changeable and have the ability to adapt to shifting pedagogical techniques where possible.

13. The Long-Range Facilities Plan is a Living Document

- The plan must have continuous annual review and adjustment mechanisms that allow the plan to respond to changing priorities and market conditions.



2.2 The Physical Context

2.2.1 Campuses and Surrounding Communities

JIBC currently operates six campuses:

- New Westminster;
- Chilliwack;
- Maple Ridge;
- Pitt Meadows;
- Okanagan; and
- Victoria.

The main campus and administrative hub of JIBC is the New Westminster campus.

Campus	Programs	Tenure
New Westminster	Community Safety Conflict Resolution Corrections & Youth Justice Counselling Driver Education & Road Safety Emergency Management Family Justice Fire fighting Intelligence Analysis Law Enforcement & Investigation Leadership Municipal Policing Paramedicine & Health Sciences Search & Rescue Security Sheriff Training	Owned
Chilliwack	Paramedicine	Owned
Maple Ridge	Fire fighting Municipal Policing Paramedicine Security	Leased
Pitt Meadows	Driver Education & Road Safety Municipal Policing Sheriff Training	Leased
Okanagan	Paramedicine	Leased
Victoria	Paramedicine Municipal Policing	Leased



2.2.2 Space Data Overview

Existing Facilities Data

JIBC currently has over 89,000 square metres of space across six campuses, with outdoor open-air instruction comprising 63,000 square metres of that area. The table to the right summarizes the existing space inventory from the February 2020 Facilities Inventory System (FIS) report provided by JIBC and sorted by the categories reported to the Ministry.

Below the Total Area and Assignable Area are numbers representing grossing multipliers, which in this case is Total Area divided by Assignable Area. Grossing includes allowances for building corridors, stairways, elevators, mechanical shafts, and bathrooms. The numbers shown in the table are summations and can be viewed in more detail in the appendix. The largest campuses shown are Maple Ridge and Pitt Meadows, which include large outdoor spaces, such as fire fighting simulation areas and a driving track.

Class / lab space use at each campus, extracted from the Restated 2018-19 Utilization Report submitted to the Ministry, shows that some campuses perform better than others. If the rates for the specialty campuses are ignored (i.e., Pitt Meadows' driver training track and Maple Ridge's outdoor simulations), then New Westminster and Okanagan have high class / lab space usage compared to Chilliwack and Victoria.

Summary Table – Existing Facilities Data

Area by Ministry Standards	New Westminster Existing Area m2	Chilliwack Existing Area m2	Okanagan Existing Area m2	Maple Ridge Existing Area m2	Pitt Meadows Existing Area m2	Victoria Existing Area m2	JIBC Total Existing Area m2
INSTRUCTIONAL STATION SPACE STANDARDS							
Classrooms/Lecture Theatres	3,830.4	479.3	118.2	651.9	87.5	290.7	5,458.0
Laboratories	1,069.0	402.7	153.8	53.0	-	348.7	2,027.2
Shops - Open Air Instruction Yard	260.0	-	-	30,752.0	32,345.1	-	63,357.1
ANCILLARY SUPPORT SPACE STANDARDS	Existing Area m2	Existing Area m2	Existing Area m2	Existing Area m2	Existing Area m2	Existing Area m2	Existing Area m2
Office - Administration and Faculty	3,006.4	106.6	69.6	139.3	35.7	107.6	3,465.1
Combined Library, Reading/Study, Lounge	643.7	-	-	-	-	-	643.7
Special Use Facilities	791.3	-	203.8	85.0	-	-	1,080.1
General Use Facilities - incl Food Services	782.5	35.0	33.0	423.4	-	27.0	1,301.0
Supporting Facilities	524.1	423.7	-	1,828.1	75.0	-	2,850.9
Health Care Facilities	9.3	-	-	-	-	-	9.3
Residential Facilities	-	3,282.0	-	-	-	-	3,282.0
Unclassified Facilities	-	-	-	-	-	-	-
Non-assignable Areas (ZZZ)	5,109.4	249.3	187.2	291.0	71.8	312.0	6,220.6
TOTAL AREA	16,026.1	4,978.6	765.5	34,223.6	32,615.1	1,086.0	89,694.9
ASSIGNABLE AREA (= TOTAL AREA minus ZZZ)	10,916.7	4,729.3	578.3	33,932.7	32,543.3	774.0	83,474.3
	1.47	1.05	1.32	1.01	1.00	1.40	1.07

* Note that Cafeteria /Food Services spaces are tracked under General Use Facilities

Summary Table for Class / Lab Utilization

EXISTING UTILIZATION	Class/Lab CHE	Notional Class/Lab ST ST	ASCH/ ST ST	2018-19	
				Standard ASCH/ ST ST	Class/Lab Utilization %
Offsite - listed as NW					under NW
New Westminster	1,321,663	1,839	719	800	89.8%
Chilliwack	64,297	282	228	650	35.1%
Okanagan	50,586	78	649	650	99.8%
Maple Ridge	53,455	330	162	650	24.9%
Pitt Meadows	529	35	15	650	2.3%
Victoria	69,232	194	357	650	54.9%
JIBC Total m2	1,559,762	2,758			

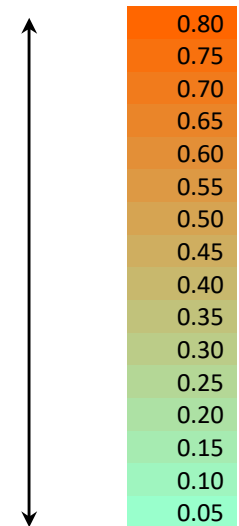
2.2.3 Existing Building Condition

The existing building conditions have been calculated as Facility Condition Indexes (FCIs) by using VFA, a web-based capital planning and management software system provided by the Ministry for use by post-secondary institutions. The FCI provides a calculation of the cost to renew building systems compared to the building replacement value. A higher number represents a greater relative cost to maintain the facility. As higher and higher numbers are recorded, there needs to be prudent consideration of replacing the facility entirely. Building condition is affected by maintenance and renovation history, material durability, and construction quality and detail.

Buildings with an FCI greater than 0.5 are candidates for replacement of the entire asset or extensive rebuilding. An FCI less than 0.5 is a candidate for maintenance / rehabilitation.

Extracted from VFA Report 2019 October 13

FACILITY CONDITION INDEX		
Report by VFA	Age Yrs	FCI
NEW WESTMINSTER		
New Westminster Campus Building	24	0.59
Rix Simulation Building	13	0.26
CHILLIWACK		
Chilliwack Campus Building	24	0.95
Residence	24	0.48
Chilliwack Garage	49	0.47
Chilliwack Quonset Hut	49	0.78
OKANAGAN		
Okanagan Campus Building	62	1.02
MAPLE RIDGE		
Water Treatment Plant A	24	0.69
Administration & Apparatus Storage	20	0.13
Fitness Trailer	12	0.15
Changeroom/Laundry	15	0.17
Classrooms	15	0.21
Equipment/Maintenance/SCBA	15	0.22
Water Treatment Plant B	36	0.76
Extinguisher Refill Building		0.47
PITT MEADOWS		
Pitt Meadows Campus	2	-
Pitt Meadows Driving Track	24	-
Quonset Hut	2	-
VICTORIA		
Victoria Campus Building	119	0.43



2.2.4 Enrolment, Utilization, and Optimization

Historical Enrolment

Enrolment is the measure of ongoing need for any institution. Space use can first be addressed in the trends observed in JIBC's enrolment. JIBC provided student Contact Hour Equivalents (CHE) from 2014-15 to 2018-19. The last year of data is considered the base year for future projections.

It should be noted that while a Student Contact Hour is often the best measure of actual utilization – representing the time a student is in a classroom or lab in scheduled instruction – other types of instruction, such as online and off-site instruction, are also translated to Contact Hours and attributed to a campus. New Westminster is identified as a Large-sized campus (see definition below summary table) but is, in fact, a Mid-sized campus. All JIBC online and off-site hours, which are more than a quarter of the total contact hours, are “collected” under New Westminster, forcing its utilization metrics to compete with larger campuses.

Summary Table – JIBC Historical Enrolment (Contact Hour Equivalent)

	Total CHE Year 2014-15	Total CHE Year 2015-16	Total CHE Year 2016-17	Total CHE Year 2017-18	Total CHE Year 2018-19
New Westminster	1,412,074	1,216,783	1,287,712	1,066,835	1,349,649
Chilliwack	46,159	24,780	33,626	48,059	64,297
Okanagan	47,443	28,518	33,360	35,844	50,586
Maple Ridge	59,124	33,818	33,424	36,629	53,455
Pitt Meadows	1,775	3,278	3,773	1,582	1,890
Victoria	76,889	48,882	51,682	48,515	69,232
JIBC Total CHE	1,643,464	1,356,059	1,443,577	1,237,464	1,589,107
Since 2014-15	0%	-17%	-12%	-25%	-3%
Annually	0%	-17%	6%	-14%	28%

The threshold for a Large-sized campus is >1,250,000 CHE. At 1,349,649 CHE, New Westminster appears to be a Large-sized campus. However, only 988,904 of those hours are on-site at New Westminster. The remaining CHE are off-site or online. (See breakdown under New Westminster Historical Enrolment.)

Enrolments Projected

Projections for future enrolments are not done as a matter of course at JIBC. Each program area creates its own annual plan during budgeting. The Master Program will still show increased enrolments into the next decades, however, based on historical growth, and to address the following changes:

New – Surrey Police

In the City of Surrey, which currently relies on the RCMP, the planning of their own police force is expected to create a surge for training by JIBC. This increase of enrolment cohorts is expected to continue for the foreseeable future and then stabilize.

Growth – Paramedicine

Significant growth in paramedicine is expected due to:

- a shift from a one-year certificate to a two-year diploma;
- a shift from 18-month advanced paramedic program to a two-year degree completion program;
- growth of community paramedicine, an emerging form of pre-hospital healthcare <http://www.apbc.ca/programs/cp/>; and
- The BC Emergency Health Service Action Plan to increase the workforce. <http://www.bcehs.ca/about/accountability/bcehs-action-plan>

Summary Table – JIBC Enrolments Projected (Contact Hour Equivalent)

STUDENT CONTACT HOURS	2019	2029	2044			2019
	CHE	CHE	CHE	Avg Annual		% Distrib'n
	Base Year	10 years	25 years	% Change	Additional	Base Year
Offsite - listed as NW	360,745	371,565	379,325	0.2%	18,580	22.7%
New Westminster	988,904	1,082,864	1,102,644	0.5%	113,740	62.2%
Chilliwack	64,297	-	-	-4.0%	(64,297)	4.0%
Okanagan	50,586	53,936	55,976	0.4%	5,390	3.2%
Maple Ridge	53,455	58,805	61,685	0.6%	8,230	3.4%
Pitt Meadows	1,890	1,980	2,030	0.3%	140	0.1%
Victoria	69,232	69,232	69,232	0.0%	-	4.4%
JIBC Total CHE	1,589,107	1,638,381	1,670,891	0.2%	81,784	100.0%

The key assumptions made to arrive at the 10-year and 25-year projections are as follows:

- modest enrolment growth annually, adding 81,784 CHE over 25 years, meaning all Small campuses remain small, and New Westminster inches towards a Large campus;
- Chilliwack contact hours transferred to New Westminster – as a placeholder – see Campus Analysis;
- Victoria campus, which has seen steady declines in enrolment, does not grow; and
- status quo would mean no additional enrolments and the same as 2019 data with Chilliwack CHE transferred to New Westminster.

Off-site/Online Enrolments Projected (Contact Hour Equivalent)

	5-Yr Historical				
Offsite - listed as NW	Year	Add'n'l CHE	Total CHE	% Change	% Change
Base Year	2019	-	360,745		-4%
10 years	2029	10,820	371,565	3%	
25 years	2044	18,580	379,325	5%	

- 3 percent and 5 percent changes represent modest growth of off-site / online offerings.

Area Calculated by BC Space Standards

The table to the right shows the existing space inventory compared to the calculated areas using BC Space Standards, excluding non-assignable areas (ZZZ). The calculations use Student Contact Hour Equivalent data (CHE) discussed earlier. Note that there should be significantly more laboratory-type space based on CHE and reduced office space. Note also that certain Ancillary Support categories do not have standards for area calculations because institutions vary in the need for these spaces. For example, a remote campus may be able to justify more space for food services than a campus in an urban core.

Master Program Area for Campuses

By campus, the same areas sort out on the second table for existing and calculated areas. The areas used for the Master Program are shown next to the calculated areas. The overall Master Program area is well within the envelope of the overall calculated areas. The Master Program square metres area allocations are being used for the Long-Range Facilities Plan because they consider mandate changes and anticipated strategies for campus redevelopment. Space needs were developed based on discussions with academic program and administrative area managers, directors, and deans.

Summary Table – Area by Ministry Standards

Area by Ministry Standards				
	JIBC Total	2019	2029	2044
	Existing	Calculated	Calculated	Calculated
INSTRUCTIONAL STATION SPACE STANDARDS	Area m2	Area m2	Area m2	Area m2
Classrooms/Lecture Theatres	5,458.0	5,132.4	5,207.0	5,307.0
Laboratories	2,027.2	7,868.6	7,492.0	7,631.8
Shops - Open Air Instruction Yard	63,357.1	63,357.1	63,357.1	63,357.1
ANCILLARY SUPPORT SPACE STANDARDS	Existing	Calculated	Calculated	Calculated
Office - Administration and Faculty	Area m2	Area m2	Area m2	Area m2
Office - Administration and Faculty	3,465.1	3,038.7	3,148.5	3,211.8
Combined Library, Reading/Study, Lounge	643.7	2,359.8	2,432.9	2,481.2
Special Use Facilities	1,080.1			
General Use Facilities - incl Food Services	1,301.0			
Supporting Facilities	2,850.9			
Health Care Facilities	9.3			
Residential Facilities	3,282.0	3,282.0	3,282.0	3,282.0
Unclassified Facilities	-			
Non-assignable Areas (ZZZ)	6,220.6	-	-	-
TOTAL AREA	89,694.9	86,749.8	86,712.0	87,100.4
ASSIGNABLE AREA (= TOTAL AREA minus ZZZ)	83,474.3	86,749.8	86,712.0	87,100.4
	1.07	1.00	1.00	1.00

Summary Table – Master Program Area for Facilities

MASTER PROGRAM AREAS	2018-19	2019	2029	2044	Master Program	Add'n'l Area Master Program
	Existing m2	Calculated m2	Calculated m2	Calculated m2		
Offsite - listed as NW	-	-	-	-	-	-
New Westminster	10,917	15,772	16,914	17,216	15,799	4,882
Chilliwack	4,729	4,596	3,282	3,282	-	-
Okanagan	578	1,119	1,191	1,247	854	276
Maple Ridge	33,933	31,393	31,454	31,485	36,510	2,577
Pitt Meadows	32,543	32,355	32,356	32,356	32,812	268
Victoria	774	1,515	1,515	1,515	1,050	276
JIBC Total m2	83,474	86,750	86,712	87,100	87,025	8,280

The overall additional area at New Westminster is approximately three floors of the classroom block, which implies a new building. The additional area at other campuses could be accommodated by reassigning space within existing campuses or building additions on campus.

Note that several key assumptions were made to arrive at calculated areas:

Key Assumption 1 – Student Contact Hours and Campuses

The area calculations using the BC Space Standards are intended to provide an overall envelope for planning. This ensures a level of accountability as JIBC explores options for future development and redevelopment of existing facilities with the Ministry and industry partners. Calculations are based on formulas by space type. Growth rates were roughly based on historical rates of enrolment growth, with the caveat that these need to be monitored and adjusted as part of ongoing institutional planning.

Key Assumption 2 – Classroom Calculations

As mentioned earlier, there were several notable differences between JIBC and other BC institutions and colleges. One difference is that due to larger physiques, uniforms, and gear (gun belts, helmets, etc.), classroom calculations are all run using 2.50 net square metres per student station, rather than the standards listed in the left column of the table below.

Classroom Category	Net m2 /ST	Net m2 /ST
110C	1.95	2.50
115C	1.65	2.50
120C	1.50	2.50
125C	1.80	2.50



Key Assumption 3 – New Westminster is a Mid-Sized Campus

The Ministry uses the space factors for a Large-sized campus for New Westminster, which reduces the areas calculated and lowers utilization rates. New Westminster is a Mid-sized campus, but all off-site and online hours are counted under New Westminster, skewing the numbers higher. The actual percentage of hours on-site is 77 percent. The calculations in this model are run using the correct size campus by the definition of BC Space Standards, that of a Mid-sized campus.

Summary Table – JIBC Staff Headcount and FTE (Full-time Equivalent)

EXISTING STAFFING	Head Count	FTE
New Westminster	242	236.3
Chilliwack	5	4.6
Okanagan	3	3.0
Maple Ridge	14	13.5
Pitt Meadows	-	-
Victoria	5	5.0

Data from Feb 06 2020

- report only captures full-time and part-time regular employees;
- employees on extended leave not included, temporary replacement assumed; and
- staffing numbers by campus based on JIBC Payroll analysis per working assignment and employee address.

2.2.5 Campus Structure and Quality

The approach used in this Long-Range Facilities Plan to analyze campus structure is based on Massachusetts Institute of Technology research from the 1960s. That research continues today and focuses on how people understand space. That understanding is embedded in the way people interpret their spatial surroundings. They structure that understanding as an image that helps organize the person's understanding of where they are and how to navigate to other locations, which is a complex mental process. The value of the research has been in giving insight into how that process works and what key features of the built world are used to create that image.

Ultimately, the key features are paths, nodes, landmarks, edges, and districts. These all have specific definitions.



Paths

These are the linear lines of movement that are used primarily to travel from one location to another.



Nodes

Areas of intense activity that feels a bit like entering a room.



Edges

Edges are physical assemblies that create a wall. This wall might sometimes not allow movement across the edge (as in the case of a highway, train track right of way, or other solid and real wall). Edges can also be permeable. In the example shown of Central Park in New York City, there are four obvious edges: two on the rivers and two defined by the park itself.



Landmarks

Landmarks are elements that can be viewed at varying distances and can act as anchor locations. Landmarks can be identified at different scales.



Districts

Districts are areas of a city (or campus) comprised of similar structures and seem like a contained and almost homogeneous pocket of the population (or business in the case of a downtown core). An example is the District of Old Quebec.

These elements define urban structure from the point of view of how people make sense of their environment. That understanding is never a map that exactly reflects the actual physical structure. Instead, it is a mental map representing an individual's sense of the elements are important to them and how they relate to one another. That sense of the relationships is key to understanding the difference between physical locations that are clearly understood and legible versus locations that are confusing and disjointed. The relationships between these elements of the path, node, landmark, edges, and districts define legibility or confusion. Legible places are normatively better than illegible ones and are perceived as such.

The consulting team toured and subsequently analyzed each campus using this schema to identify the basic underlying structure of the campuses. The diagrams under Section 3 - 'The Campuses' below describe the analysis and key features of each campus. It is followed by a gap analysis that identifies challenges to the legibility and structure of the campuses.

2.2.6 Development Potential and Parceling

The analysis of all campus sites included a broad examination of their content and potential. The contributing components of this potential included:

- site area;
- current condition of buildings on site;
- transportation connections;
- parking;
- utility servicing (including water, storm drainage, sanitary, power, and other underground services);
- distribution of program use across existing facilities;
- estimated future growth in all programs;
- development potential of the site from zoning and other civic controls; and
- capability of the site to handle anticipated growth as identified in the Master Program.

The capability of a site to accommodate growth well into the future is dependent on several elements. Allowable density of building is one such measure that is embedded in the zoning regulations applicable to the site. This constrains the bulk of what can be built as measured in floor area. Another constraint is the allowable site area that can be covered, typically expressed as a percentage. Together with the density measurement, these measures determine the limits of physical capacity available on any particular site.

Other constraints include parking requirements – both those required by city regulations and the practical needs of JIBC to accommodate students, faculty, and staff. Added to that are less obvious constraints such as the capacity to provide power, drainage, water, and sanitary waste removal. All these define the real limits of what is possible.

The final component is the application of program needs to the physical capacity and doing so in a manner that provides a well-functioning and exceptional environment for its users.

Methodology

The site analysis involved several components, the first of which was to determine the floor area potential under current zoning restrictions. This was a purely mathematical study based on the application of restrictions to the area of the site. This is done by showing the allowable area of building as a ratio of the site area – known as Floor Area Ratio (FAR). With the floor area allowable determined, the existing floor area of building on the site is subtracted. The resulting number is the available additional area that the site can accommodate.

The difficult constraint is the impact of allowable site coverage and how this number influences the ability to build the additional area. The issue here is ensuring a coherent and connected campus in an attempt to maximize both the density and the site coverage to determine the available space left, subtracting what has already been built on site. This involves pre-planning for a site that will have ramifications well into the future.

Parceling the Site and the Public Realm

The approach used to address this issue was to develop a physical framework for a campus that is contiguous throughout and identify that framework as reserved from building. The objective is to ensure coherence as development occurs around it. This is somewhat similar to having streets, parks, and other public spaces, although buildings continuously expand, contract, and change.

Once the framework is established, the “building sites” become “parcels” for which calculations can be used in such a fashion that the overall site coverage and site density remain within the city requirements.

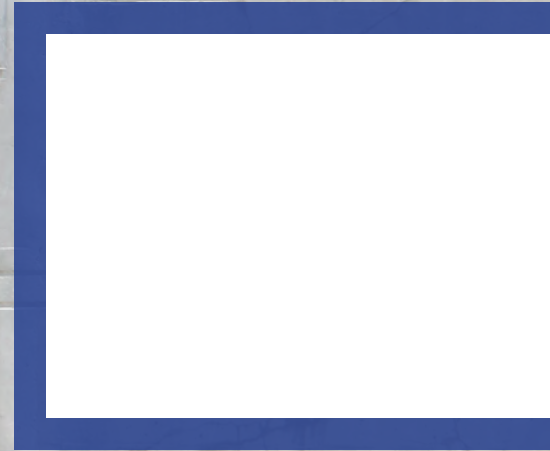
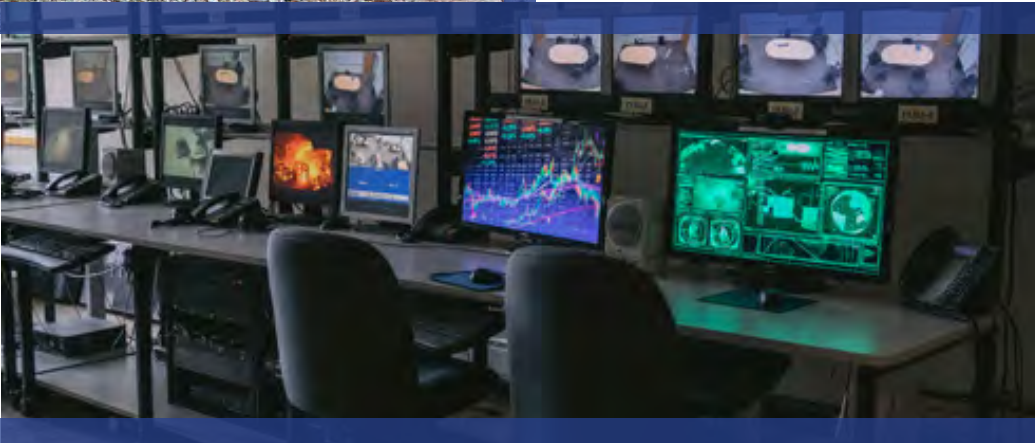
Site Analysis

The first look will be on the campuses in the Lower Mainland – New Westminster, Maple Ridge and Chilliwack in the Fraser Valley. Pitt Meadows will be excluded from the current discussion due to the very specific nature of that campus and its location between the runways of the Pitt Meadows airport.

Development Potential and Program Growth

The concept of parceling and its effects on the structure of possible development on the site is now introduced. This begins with the identification of the public realm, as described earlier. This becomes the backbone of campus structure and although this area might be modified in its detail, it is not an area into which buildings should be placed.





3.0 The Campuses

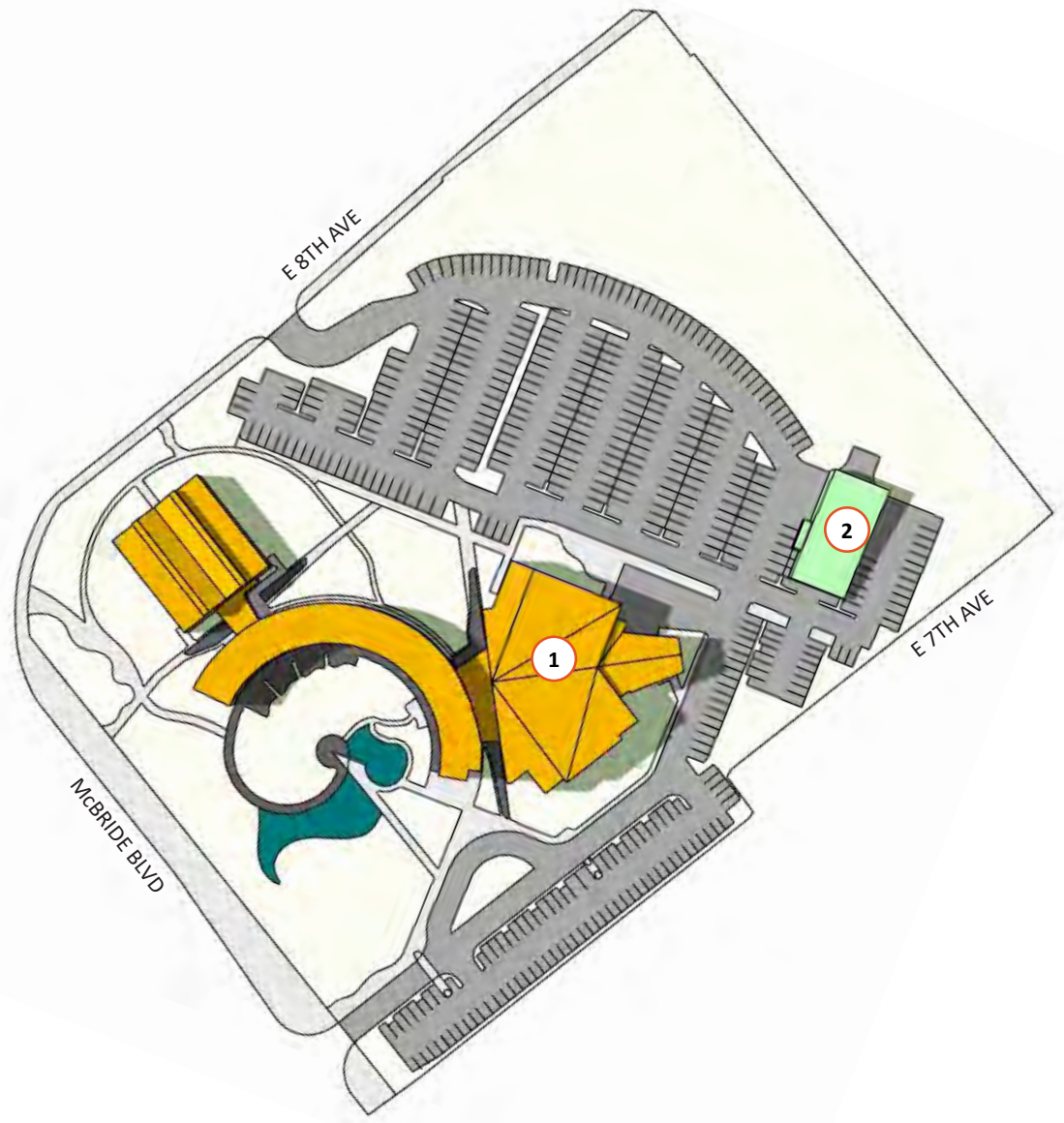
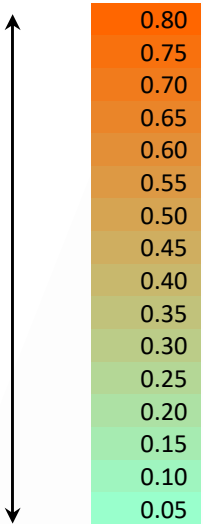
The following sections describe each campus today, starting with the campuses owned, followed by leased. Recommendations are summarized at the end of each section.

3.1 New Westminster

3.1.1 The Campus Today

Existing Building Condition

#	Building	FCI
1	New Westminster Campus Building	0.59
2	Rix Simulation Building	0.26



Land Use and Zoning

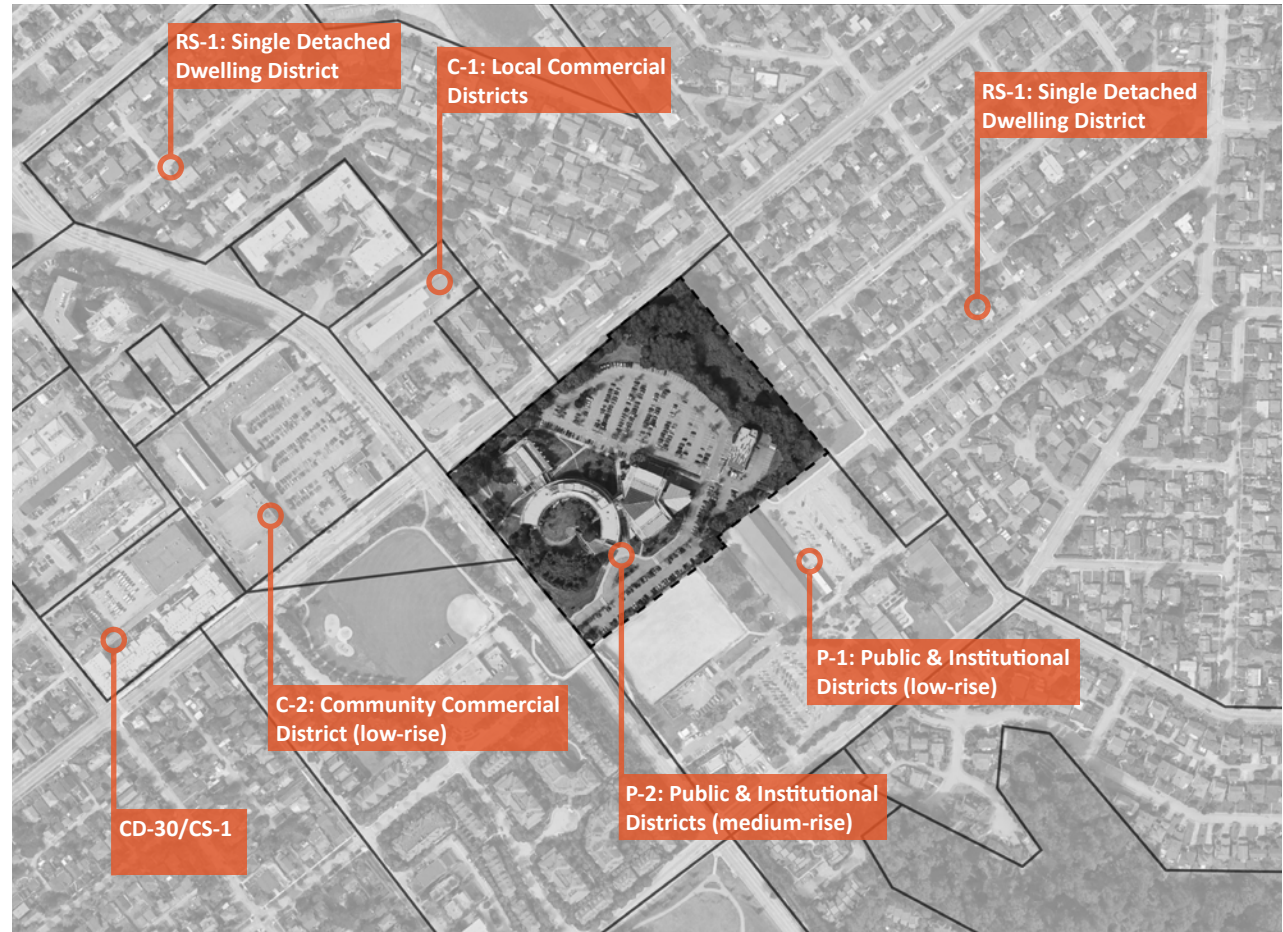
The New Westminster campus occupies a parcel of land designated P-2, which is a medium-rise public and institutional district. The Floor Area Ratio (FAR) and the height are the limiting factors of this zoning district. The district has the following constraints:

Floor Area Ratio (FAR): 1.0

Site Coverage: 40%

Height: Four Storeys (dimension not specified)

The site area is 49,100 square metres. At an FAR of 1.0, the total allowable area of development is the site area. By removing the total area of existing structures, the remaining development potential is 33,030 square metres.

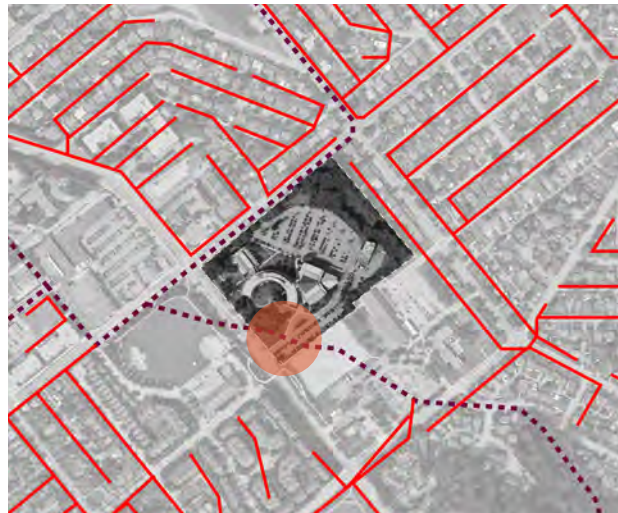


Services and Infrastructure

Services for the New Westminster campus were reviewed. The only service that stands in the way of any future development parcels indicated further in this plan is the sanitary right-of-way that runs through the southwest portion of the site (highlighted below) and has been identified in the Constraints and Opportunities Section of the plan. The utility services do not constitute a constraint on the proposed development found within the plan.



Water



Sanitary



Electrical

Access, Transportation, and Parking

The New Westminster campus is the main administrative hub of JIBC. Growth in student enrolment has highlighted several transportation issues on this campus, including inadequate parking availability, parking spillage, stagnant modal split, and car-dependency. A review of these issues was completed, and recommendations were provided to support future growth while addressing some of the issues identified above. This plan analyzed context, current and future parking demand on campus, provided Transportation Demand Management (TDM) recommendations to increase mode share on campus, and suggested measures to modernize the campus.

Physical Context

Located in the Glenbrook South neighbourhood of New Westminster, the JIBC campus in New Westminster is its largest campus and serves as its administrative hub. Set on a property that is 4.2 hectares, the campus currently comprises two buildings for classrooms with some office and administrative spaces that accommodate 1,349,649 Student Contact Hour Equivalent (CHE) and 242 staff and faculty over approximately 16,000 square metres of built space. There currently are 437 vehicle parking spaces available on campus.

The campus is located at the southeast corner of a major intersection of Eighth Avenue and McBride Boulevard. Both streets are high traffic volume streets, with McBride Boulevard being a major arterial and truck route. Access to the campus is possible using both streets with right-in / right-out access at McBride Boulevard and full movement access at Eighth Avenue.

Functional Context

The New Westminster campus supports a number of short-term courses, with an average duration of up to a maximum of three months. Classes are generally held between 7 am and 4 pm, with some night and weekend classes. Before the COVID-19 pandemic, a majority (almost 80%) of the classes were on-campus and in-person. While no formal travel survey has been conducted, anecdotal observations suggest that student, staff, and faculty travel from across the Metro Vancouver area to access this campus.

The predominant mode of travel to campus is via single-occupancy vehicles. (See Technical Document for Long-Range Facilities Plan Survey 2021.)

Accessing the Campus by Different Modes

The New Westminster campus is accessible by different modes of transportation. Its centralized location in the region, proximity to Highway 1, and a number of SkyTrain stations contribute to this ease of access.

The map on the right illustrates the campus' location relative to major regional access points on both the regional road and transit networks.




- The campus is about 2.75 kilometres from the Burnette Avenue exit off of Highway 1 and less than two kilometres from the Patullo Bridge. Both these access points help regional connectivity.
- There are five SkyTrain stations within a four-kilometre radius of the campus. SkyTrain runs at a frequency of two minutes in peak and four minutes in off-peak. Of the five stations, four have a bus connecting to stops directly adjacent to the campus. While travel to campus on public transit would require at least one transfer (depending on origin), the campus is still relatively accessible by public transit.
- Two bus routes stop in front of the New Westminster campus on Eighth Avenue.
 - Route 128 (stop # 52322 & 53580)
 - Route 105 (stop # 52322 & 53580)
 Both these routes connect to SkyTrain stations at varying frequencies throughout the day

- The Rotary Crosstown Greenway along Seventh Avenue is a traffic-calmed multi-use pathway for walking and biking connections. In addition to this greenway, both, McBride Boulevard and Eighth Avenue have sidewalks in good condition to enable biking and walking connections to campus, as illustrated below.



A review of travel times to campus using alternate modes of transportation suggests that biking and public transit are the most feasible alternate modes to access the New Westminster campus. This is further reinforced by proposed improvements to transit and biking networks in New Westminster, which are discussed below.

Although improvements to cycling connections and transit frequency to campus are needed to make both these modes more attractive to the JIBC community, the analysis suggests that the New Westminster campus has better than average connectivity to regional networks (road, cycling, and transit) and is well-placed to encourage and foster the use of sustainable modes of travel to campus.

Walk/bike/bus travel times to connect to neighbouring SkyTrain stations			
			
Comment	Hilly terrain	Long walk distances and might not be feasible	Rt 128 @ 20 min peak frequency Rt 105 @ 30 min frequency all day
22nd St Station to JIBC	18 mins	> 20 mins	16 mins
Sapperton Station to JIBC	7 mins	> 20 mins	No bus route
Braid Station to JIBC	11 mins	> 20 mins	12 mins
Columbia Station to JIBC	12 mins	> 20 mins	15 mins
New Westminster Station to JIBC	21 mins	> 20 mins	23 mins

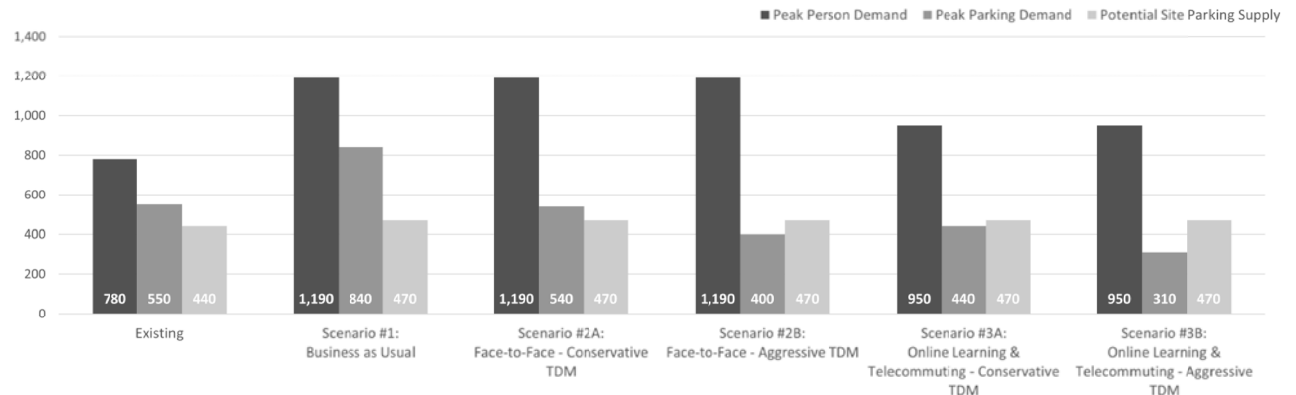
Parking

Existing transportation conditions were evaluated to understand current (baseline) travel and parking demand patterns among students, employees (faculty and staff), and visitors at the New Westminster campus as of the 2018-19 academic year.

The parking demand forecast provides a range of potential futures for parking demand at the New Westminster campus. In all scenarios where JIBC implements some form of Transportation Demand Management, parking demand is estimated to be less than the potential campus parking supply of 700 spaces in the future, ranging from a peak occupancy of 310 to 540 vehicles. However, if JIBC pursues a business-as-usual scenario and does not implement TDM, peak parking occupancy is estimated to be 840 vehicles and would exceed the future potential supply.

Demand forecast: projected people & parked vehicles at JIBC New Westminster Campus

Total number of people & vehicles during peak afternoon period during design day (October Wednesday) for 2044 horizon year



Note: Existing parking supply of 437 rounded to 440 as part of forecast.

It is worth highlighting that under both the conservative or aggressive TDM scenarios, assuming the projected student and staff population is realized by 2044, parking demand can be lower than what is currently happening in 2018-19. Peak occupancy in Scenario 2 ranges from 400 to 540 vehicles in 2044, compared to the existing peak occupancy of 550 vehicles in 2018-19.

Transportation Demand Management

TDM is the application of strategies and policies to influence individual travel choice, most commonly to reduce single-occupant vehicle travel. TDM measures typically aim to encourage sustainable travel, enhance travel options, and decrease parking demand. As concluded in the parking section above, maintaining status quo on campus is not a feasible option for the future. A number of TDM measures and recommendations have been reviewed for short, medium and long-term options for JIBC. Key strategies are highlighted on the right (See Technical Document for full JIBC Transportation & Parking Study.)



1. Campus Facilities

Campus facilities encompass everything from the development of student housing to investment in infrastructure upgrades to campus transit and bicycle infrastructure.

- bicycle parking (short / medium-term)
- end-of-trip cycling facilities (short / medium-term)
- infrastructure improvements: transit, cycling, and walking (long-term)



2. Services, Technologies and Emerging Mobility Solutions

Sustainable transportation is not limited to transit, cycling, walking, and carpooling. It also refers to other opportunities that provide options for those who do not own a vehicle including carsharing, electric vehicles, and e-bikes.

- carsharing (short / medium-term)
- carpooling (short / medium-term)



3. Pricing + Financial Incentives / disincentives

Pricing and financial incentives / disincentives refer to the tools that JIBC could use to disincentivize single occupant vehicle travel, and encourage greater uptake in sustainable modes including transit, carpooling, and cycling. Pricing parking is one such disincentive.

- parking pricing (short / medium-term)
- employee transit pass program (long-term)



4. Programs and Marketing

Programs and marketing are educational in nature, referring to strategic actions that the JIBC could pursue to both increase awareness and incentivize the use of sustainable transportation.

- promotion and information (Appendix A has more detailed information of all the programs that can be used to improve information sharing regarding TDM)



5. Class Schedule and Coordination and Partnerships

Internal coordination refers to scheduling of classes, which strongly influences travel demand to and from campuses. Coordination and partnerships also involve external actions to work with organizations such as TransLink, local municipalities, neighbouring institutions (New Westminster Aquatics and Community Centre - NWACC) and local transportation non-profits to facilitate improved transit service, and enhanced pedestrian infrastructure to help support behaviour change.

- online instruction (long-term)
- teleworking (long-term)

Site Planning, Circulation, and Access

As JIBC looks forward to growth and expansion, the recommendation is to be mindful of basic site planning and design guidelines. These strategies will reduce conflict between modes and allow for smoother circulation on campus. Recommendations have been coordinated with the physical planning in this document. This site plan is only a template, and changes to the final design could occur in the future. The recommendations below should be kept in mind as this site plan evolves.

Pedestrian and Bike Circulation

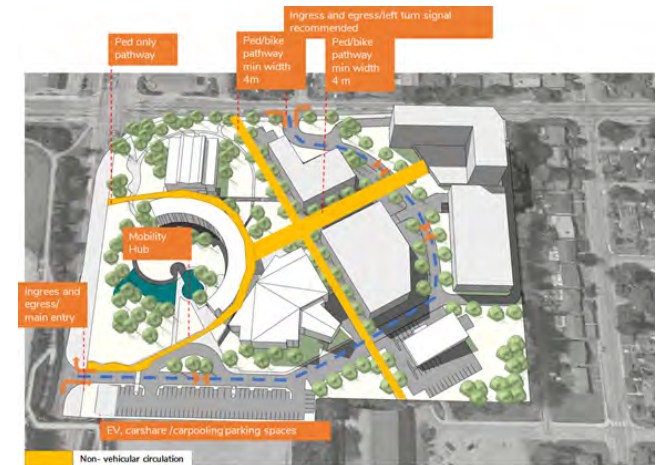
To ensure adequate and safe circulation for alternate modes on campus, recommendations are as follows:

- establish a central non-vehicular circulation spine that forms the main connector between buildings. This pathway should be at least 4 metres wide to allow unimpeded use for pedestrians and cyclists.
- include amenities along the spine like benches, bike racks, sufficient lighting, and signage to enhance the walking / biking environment.
- install crosswalks and lighting at strategic locations to avoid vehicular conflict and increase the safety of the circulation spine.

Vehicular Circulation

- The recommendation is to retain the current vehicle circulation pattern on site with ingress and egress on both Eighth Avenue and McBride Boulevard.
- Working with the City of New Westminster to install a left turn signal, mid-block on Eighth Avenue, adjacent to the campus entrance. This will support safe left turn movements out of the campus onto Eighth Avenue. Mid-block signals are not a common practice but can be installed if the situation warrants it; safety, traffic volumes, etc. are some factors that are taken into consideration while making this determination.

A mid-block signal is installed on Eighth Avenue, west of McBride Boulevard to facilitate traffic flow in and out of the Royal Square Mall, the shopping plaza at the northwest corner of McBride Boulevard and Eighth Avenue.



Connections

The New Westminster Aquatic and Community Centre (NWACC) shares the southern boundary with the campus. In the figure above, the main pedestrian path that cuts across the site plan at a diagonal extends down to connect into the NWACC site. Ensuring pedestrian connectivity with the NWACC is recommended in any future site planning.

Currently, most residents from this area use existing pedestrian paths to access the campus and the sidewalks on McBride Boulevard and Eighth Avenue. The neighbouring residential areas to the east of the site should also be able to use this pedestrian connection to connect to the campus as well as to the bus stop on Eighth Avenue. In consideration of this, it is important to maintain the pedestrian connection and accessibility, even if the access pathways are laid out differently than illustrated above.

Enrolment, Utilization, and Optimization

Historical Enrolment

The threshold for a Large-sized campus is a CHE greater than 1,250,000. At 1,349,649 CHE, New Westminster appears to be a Large-sized campus. Only 988,904 of those hours are on-site at New Westminster, however. The remaining CHE are off-site or online.

New Westminster Historical Enrolment (Contact Hour Equivalent)

New Westminster	Total CHE	Total CHE Class/Lab	Total CHE Shop	Onsite CHE Class/Lab	Onsite CHE Shop	Offsite CHE Class/Lab	Offsite CHE Shop
Year 2014-15	1,412,074	1,387,469	24,605				
Year 2015-16	1,216,783	1,192,362	24,421				
Year 2016-17	1,287,712	1,264,395	23,317				
Year 2017-18	1,066,835	1,044,556	22,279	73% Onsite		27% Offsite	
Year 2018-19	1,349,649	1,321,663	27,986	962,408	26,496	359,255	1,490

New Westminster Enrolments Projected (Contact Hour Equivalent)

New Westminster	Year	Add'l CHE	Total CHE	% Change	5-Yr Historical % Change
Base Year	2019	-	988,904		-4%
10 years	2029	93,960	1,082,864	10%	
25 years	2044	113,740	1,102,644	12%	

This table shows growth projections with 10 percent and 12 percent changes. This represents Chilliwack CHE transferred to New Westminster, along with modest growth of 3 percent over 10-years and 5 percent over 25 years.

New Westminster Existing Facilities Data

JIBC Area by Ministry Standards	NW Existing Area m2
INSTRUCTIONAL STATION SPACE STANDARDS	Existing Area m2
Classrooms/Lecture Theatres	3,830.4
Laboratories	1,069.0
Shops - Open Air Instruction Yard	260.0
ANCILLARY SUPPORT SPACE STANDARDS	Existing Area m2
Office - Administration and Faculty	3,006.4
Combined Library, Reading/Study, Lounge	643.7
Special Use Facilities	791.3
General Use Facilities - Incl Food Services	782.5
Supporting Facilities	524.1
Health Care Facilities	9.3
Residential Facilities	-
Unclassified Facilities	-
Non-assignable Areas (ZZZ)	5,109.4
TOTAL AREA	16,026.1
ASSIGNABLE AREA (= TOTAL AREA minus ZZZ)	10,916.7
	1.47

New Westminster Class / Lab Utilization

EXISTING UTILIZATION	Class/Lab CHE	Notional Class/Lab ST ST	ASCH/ ST ST	Standard ASCH/ ST ST	2018-19 Class/Lab Utilization %
Offsite - listed as NW					under NW
New Westminster	1,321,663	1,839	719	800	89.8%

At 89.8% New Westminster has high class / lab utilization, but this also includes off-site contact hours listed under New Westminster (approximately 360,000 contact hours).

New Westminster Master Program Area for Facilities

MASTER PROGRAM AREAS	2018-19 Existing m2	2019 Calculated m2	2029 Calculated m2	2044 Calculated m2	Master Program m2	Add'nl Area Master Program m2
Offsite - listed as NW	-	-	-	-	-	-
New Westminster	10,917	15,772	16,914	17,216	15,799	4,882

New Westminster Staff Headcount and FTE (Full-time Equivalent)

EXISTING STAFFING AREAS	Head Count	FTE
New Westminster	242	236.3

Campus Structure and Quality

The New Westminster campus is generally very legible. It would have been expected that the curved portion of the building would lead to disorientation, but the transparency to the courtyard and its very strong landmark quality in the deck and water feature continuously orients movement along the curve. In the upper levels of the curve, the circulation tends to be in the centre of the building's width. This does create issues compromising clear legibility.

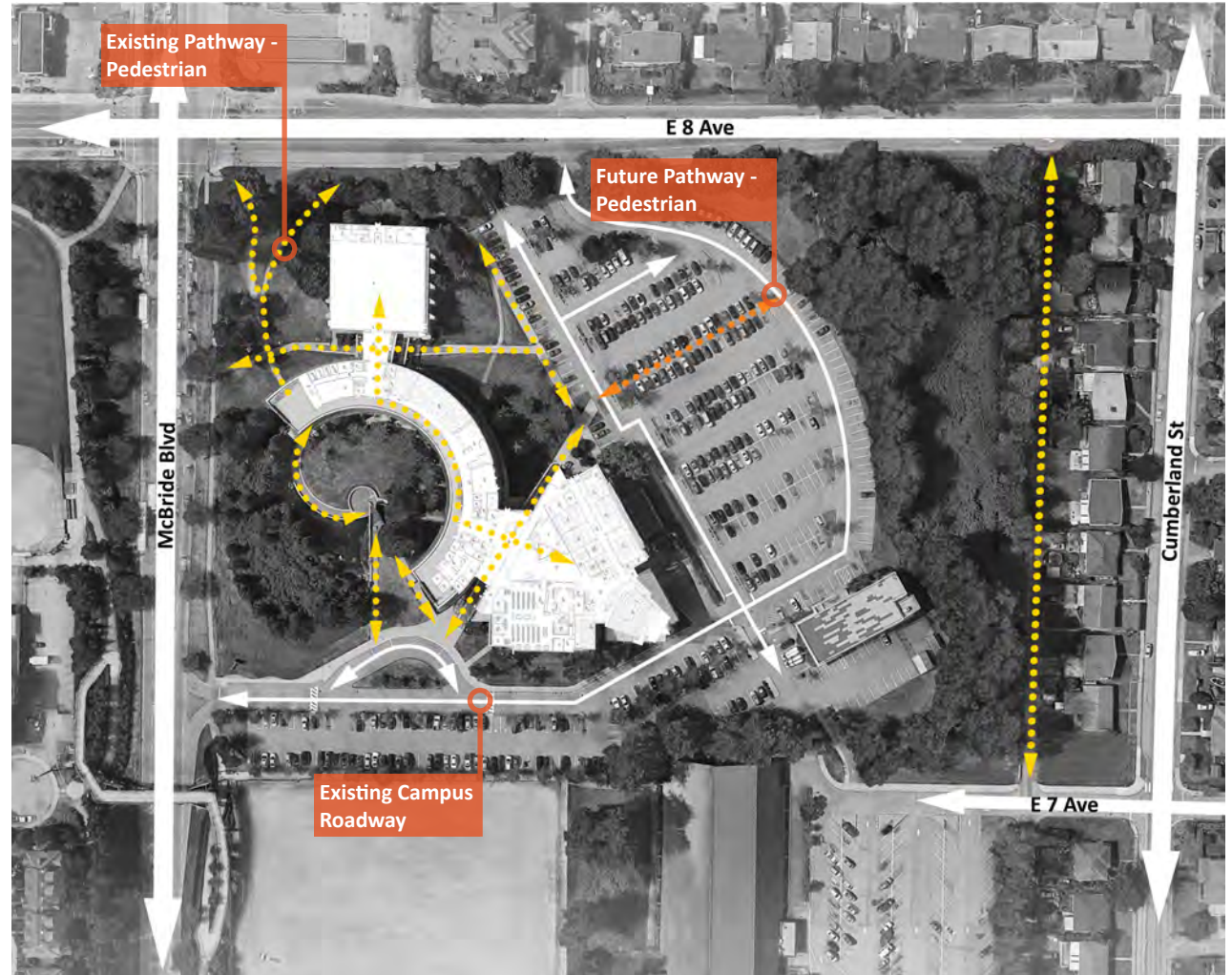
The specific office study that forms part of this plan examines this in further detail. (See Technical Document for the Office Space Study.)

The diagram to the right maps out the structure of the New Westminster campus. The ground floor of the building itself is an integral part of the configuration.



Paths



Paths are very noticeable and clear, both from the pedestrian's point of view and for people arriving by car. The main circulation on the interior is also clear and surprisingly so for the curved portion of the building.



Nodes

There are two nodal points on campus: the atrium and the cafeteria.

Depending upon the expansion strategy for the campus, a third nodal point will be required to draw the user to the other locations on campus and is further discussed in the recommendations section.

-  Existing Major Node
-  Proposed Major Node



Landmarks

The structure consists of landmarks both inside the building and on the grounds. Most notable is the exterior water feature at the centre of the arched office area. The entry area on the parking lot side is somewhat less noticeable, and finally, when inside the building, the large atrium acts as a wayfinding element within.

As with nodal points, the expansion strategy will likely require a new landmark point to organize increased floor area on the other areas of campus.

-  Existing Major Landmark
-  Proposed Major Landmark



Edges

The most noticeable edge on site is the wooded area adjacent to the parking area. This forms a continuous wall against the curved portion of parking and the entire wooded area buffers the campus from the adjacent residential area.



Districts

Six districts have been shown; each is functionally distinct from the others.

District 1: Academic

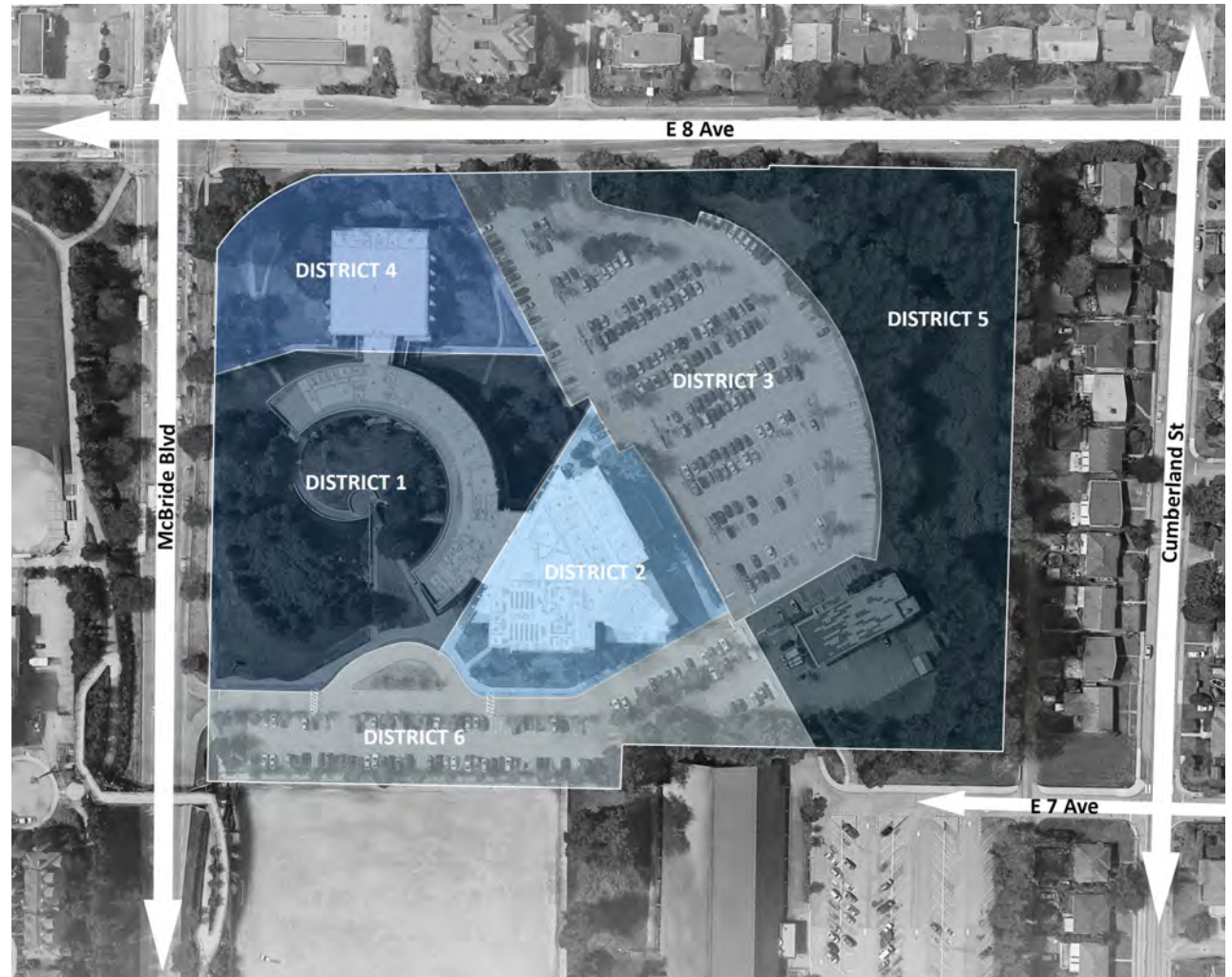
District 2: Academic

District 3: Parking (Future - Academic)

District 4: Academic

District 5: Forest and Simulation (Future - Student Housing, Parking)

District 6: Parking



Constraints and Opportunities

Constraints

There are few constraints on the New Westminster campus site. Shown here is a utility easement in the lower left of the picture and a road dedication lane that runs north to south on the site's eastern edge. The southwest and westerly portion of the site has extensive and thick random fill, where the original ravine was located.

Opportunities

With the basic structure being so clear, the suggestions below could further strengthen the campus structure and quality:

- strengthening nodal and landmark areas to improve wayfinding and the mental map of the campus; and
- reinforcing major lines of movement and establishing a major southwest to northeast pathway.



Development Potential and Program Growth

The site plan below identifies a suggested public realm for the New Westminster campus. This area in green is consistent with the campus structure diagrams presented earlier in this section. When the districts are combined as described with the public realm, parcels are identified that can be labelled as development areas – areas open to new building, renovations, expansions, etc.



The New Westminster campus has been divided into eight parcels. Of the eight parcels, parcel 5 will be maintained with no further development. This is a starting position that acknowledges the fact that it is a current office area shaped in a partial circle.

The next step is to calculate the density and site coverage for each parcel such that both FAR and site coverage of the overall site remains within required limits – in this case, a FAR of 1.0 and a site coverage of 40 percent. That calculation can be seen on the next page.

LOCATION		SITE PARAMETERS				COVERAGE	PROPOSED FAR	AGGREGATE
CAMPUS	PARCEL	AREA SM	AREA SM	SITE COVERAGE	FAR	SM	SM	
New Westminster								
	1	9,239.42	9,239.42	30%	1.48	2,771.83	13,674.34	
	2	3,717.61	3,717.61	40%	1.35	1,487.04	3,531.73	
	3	4,562.09	4,562.09	52%	1.95	2,372.29	6,523.79	
	4	1,130.83	1,130.83	68%	1.84	772.73	1,312.14	
	5	1,307.54	1,307.54	100%	1.00	1,307.54	-	
	6	3,083.73	3,083.73	45%	1.30	1,387.68	2,630.42	
	7	991.64	991.64	45%	1.00	446.24	545.40	
	8	4,617.47	4,617.47	62%	1.67	2,845.05	4,856.14	
Public Realm		20,449.67	20,449.67				33,073.97	Overall FAR 1.00
Site Area		49,100.00						Total Coverage 27.27%

Available Building Area	49,100.00	
Existing Building Area	16,026.00	
TOTAL	33,074.00	Additional Area Available

The floor area has been maximized and the resulting site coverage is over 12 percent below the maximum site coverage. The available building area in this scenario is 33,073.97 square metres. If the New Westminster campus' anticipated growth is compared over the next 25 years, a total need of 5,233 additional square metres is required. That leaves a reserve of approximately 27,840 square metres available for other projects – one of which could be student housing.

3.1.2 Recommendations

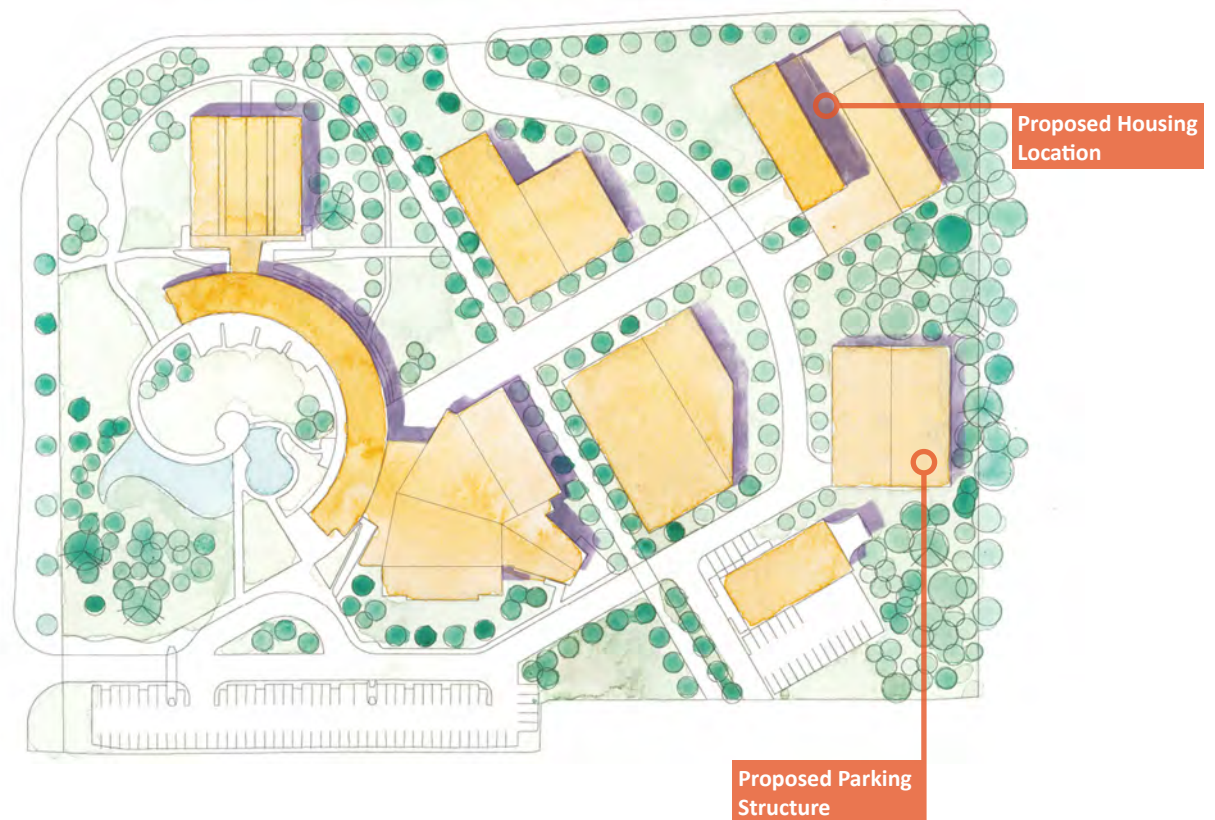
There are three conceptual approaches to accommodate coherent growth on the New Westminster campus. These approaches provide different typologies for campus development and would yield three distinctly different campus experiences:

1. Maintain the parking between the existing campus buildings and any new campus buildings.
2. Use the parking area for new campus buildings and place parking at the periphery.
3. Use both the parking area and the periphery for new campus buildings and building a parking structure as part of the infrastructure.

Approach 1 will isolate new buildings from the existing. This isolation is not a problem if the intent into the future is to maintain distinct boundaries among programs. If the intent is to create a more inter-disciplinary, inter-program relationship, however, this physical configuration will work against that goal.

Approach 2 creates a consolidated campus. The sense of JIBC being a campus is enhanced with this physical configuration although surface parking is more distant. Underground parking is likely in at least one of the new building areas or under its site to maintain parking numbers.

Approach 3 consolidates the buildings across the entire site as illustrated below and to the right. There would no longer be visible surface parking, but a parking structure placed in such a fashion as to minimize the disruption of traffic going in and out. The peripheral area is more suited to housing to allow closer proximity to the academic buildings.



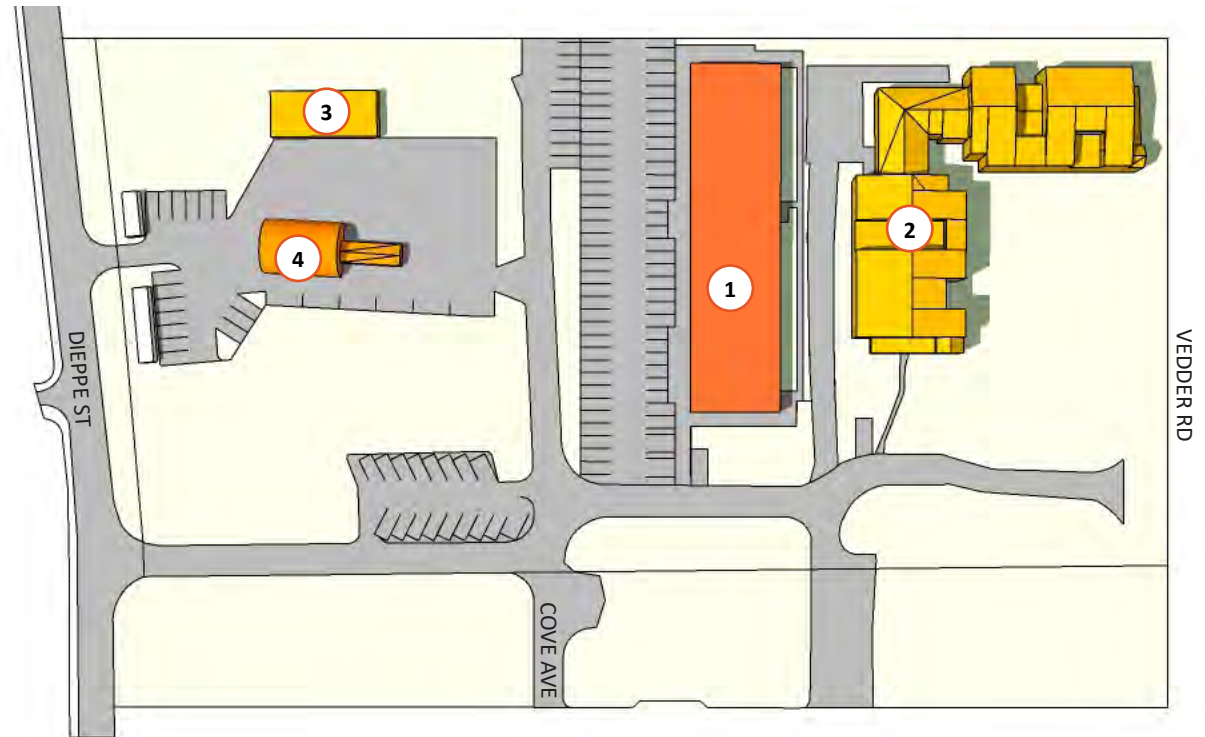
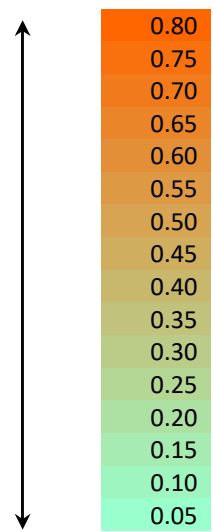


3.2 Chilliwack

3.2.1 The Campus Today

Existing Building Condition

#	Building	FCI
1	Chilliwack Campus Building	0.95
2	Residence	0.48
3	Chilliwack Garage	0.47
4	Chilliwack Quonset Hut	0.78

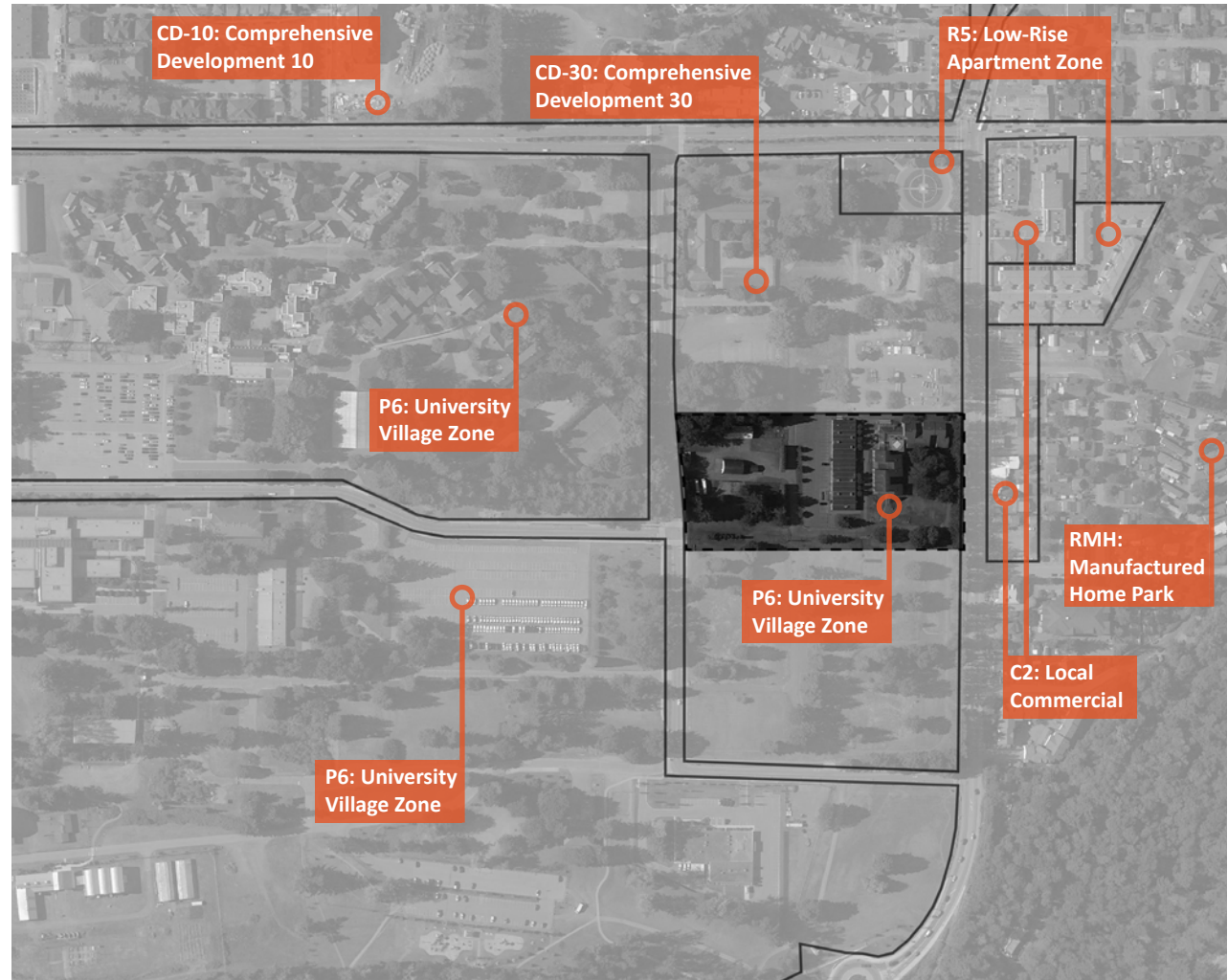


Land Use and Zoning

The zoning applicable to the JIBC site is found in the City of Chilliwack zoning bylaw section 12.06 “P6 (University Village) Zone”.

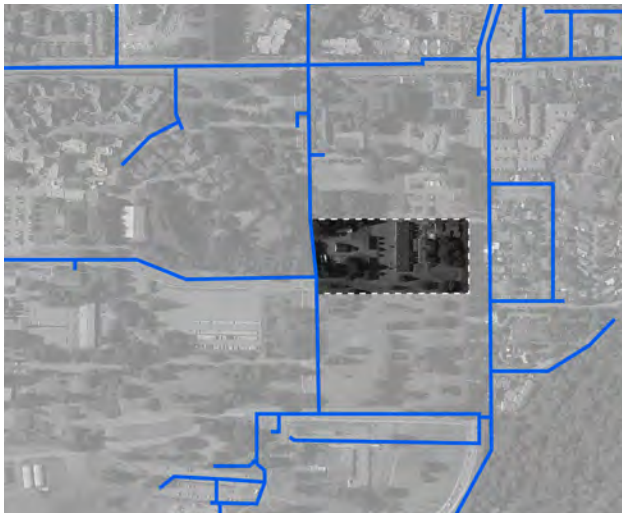
Floor Area Ratio (FAR): 1.5
 Site Coverage: 60%
 Height (Metres): 30

The total site area is 23,510.9 square metres, providing a total development potential of 35,266.35 square metres.



Services and Infrastructure

Services were reviewed for Chilliwack. In the case of Chilliwack, the existing vacant Residence building represents a needed decision on the future of that facility, and how that relates to the future of the JIBC campus itself.



Water



Sanitary



Storm

Enrolment, Utilization, and Optimization

Chilliwack Historical Enrolment (Contact Hour Equivalent)

Chilliwack	Total CHE	Total CHE Class/Lab	Total CHE Shop	Onsite CHE Class/Lab	Onsite CHE Shop	Offsite CHE Class/Lab	Offsite CHE Shop
Year 2014-15	46,159	46,159	-				
Year 2015-16	24,780	24,780	-				
Year 2016-17	33,626	33,626	-				
Year 2017-18	48,059	48,059	-	97% Onsite		3% Offsite	
Year 2018-19	64,297	64,297	-	62,449	-	1,848	-

Chilliwack Enrolments Projected (Contact Hour Equivalent)

Chilliwack	Year	Add'nl CHE	Total CHE	% Change	5-Yr Historical % Change
Base Year	2019		64,297		39%
10 years	2029	(64,297)	-	-100%	
25 years	2044	(64,297)	-	-100%	

-100 percent changes represent the transfer of Chilliwack CHE to New Westminster as a placeholder for paramedicine.

Chilliwack Existing Facilities Data

JIBC	CH
Area by Ministry Standards	
INSTRUCTIONAL STATION SPACE STANDARDS	Existing Area m2
Classrooms/Lecture Theatres	479.3
Laboratories	402.7
Shops - Open Air Instruction Yard	-
ANCILLARY SUPPORT SPACE STANDARDS	Existing Area m2
Office - Administration and Faculty	106.6
Combined Library, Reading/Study, Lounge	-
Special Use Facilities	-
General Use Facilities - Incl Food Services	35.0
Supporting Facilities	423.7
Health Care Facilities	-
Residential Facilities	3,282.0
Unclassified Facilities	-
Non-assignable Areas (ZZZ)	249.3
TOTAL AREA	4,978.6
ASSIGNABLE AREA (= TOTAL AREA minus ZZZ)	4,729.3
	1.05

Chilliwack Class/Lab Utilization

EXISTING UTILIZATION	Class/Lab CHE	Notional Class/Lab ST ST	ASCH/ST ST	Standard ASCH/ST ST		2018-19 Class/Lab Utilization %
				ST ST	ST ST	%
Chilliwack	64,297	282	228	650		35.1%

At 35.1%, Chilliwack has the lowest utilization compared to other class / lab type satellites in Okanagan and Victoria.

Chilliwack Master Program Area for Facilities

MASTER PROGRAM AREAS	2018-19	2019	2029	2044	Master Program m2	Add'nl Area Master Program m2
	Existing m2	Calculated m2	Calculated m2	Calculated m2		
Chilliwack	4,729	4,596	3,282	3,282	-	-

* Assume closure of campus

Chilliwack Staff Headcount and FTE (Full-time Equivalent)

EXISTING STAFFING AREAS	Head Count	FTE
Chilliwack	5	4.6

Campus Structure and Quality

The Chilliwack campus is a small campus with a relatively clear structure.



Paths

The modifications recommended to the existing paths would reinforce the entrance to the campus.



Nodes

One major node on the campus plays a vital role in the structure: the main entrance into the Classroom building off the parking lot.

The minor nodes are the back entry to the Classroom building and entrance into the Residence building.



- Existing Major Node
- Existing Minor Node



Landmarks

There are no existing landmarks on the campus. With any development on the Chilliwack campus, two landmarks have been identified: the first to anchor the proposed entrance to campus, and the second to clearly announce the entry to the Classroom building.

-  Proposed Major Landmark
-  Proposed Minor Landmark



Edges

The only real edges on the Chilliwack campus are experienced at the perimeter of the site.



Districts

Districts are areas of similar character, and are often bounded by edges that might be subtle or obvious. The following districts have been identified:

District 1: Support / Storage Area

District 2: Academic and Housing

District 3: Parking



3.2.2 Recommendations

For the Chilliwack campus, the growth is flat with only the paramedic program occurring on the site. The end result is there is little, or no, growth anticipated at the Chilliwack location.

Analysis and Conclusions

1. Chilliwack campus will not grow.

The projected change in the overall program workload at the Chilliwack campus is flat. The facility consists entirely of modular classrooms and office space used in the instruction of the paramedic program, as well as the student residence. There is also an ambulance garage and a storage Quonset building.

2. Existing Student Residence building is not viable.

The student residence located on the Chilliwack campus site is not occupied and does not meet any of the requirements of modern student housing. Survey analyses of student housing demand carried out by the JIBC and the BC Ministry of Advanced Education and Skills Training indicates two primary considerations that drive the demand for student housing:

- the right unit type; and
- the monthly rent.

(See Technical Document for the complete Student Housing Demand Survey Report.)

3. Campus buildings have high maintenance and renewal costs.

The VFA data indicates that a \$10.6 million total investment will be required to maintain and renew the campus within the next five years. Costs immediately attributable to the maintenance and renewal of the Student Residence building total \$6.5 million over the next five-year period.

4. Chilliwack campus has high allowable density and site coverage.

The Chilliwack campus has a high development potential (1.5 FAR) compared to New Westminster or Maple Ridge campuses. This FAR is somewhat at odds with institutional land use in this location. The density and site coverage implies a more intensive use such as multi-family housing, where these metrics better match what would be needed for such a development. JIBC would not need such potentials. The site itself is extremely valuable, however. The land and buildings have been assessed at \$11 million in 2020.

Recommendations

The intensity of use suggests that the Chilliwack campus is the least capable of supporting the mission of JIBC.

- Dispose of the Chilliwack site.

The value of land is high, and the JIBC will not realize its development potential. The site is slowly being surrounded by housing development. In this context, the land use seems more attuned to a multi-family housing, mixed-use development or other commercial uses.

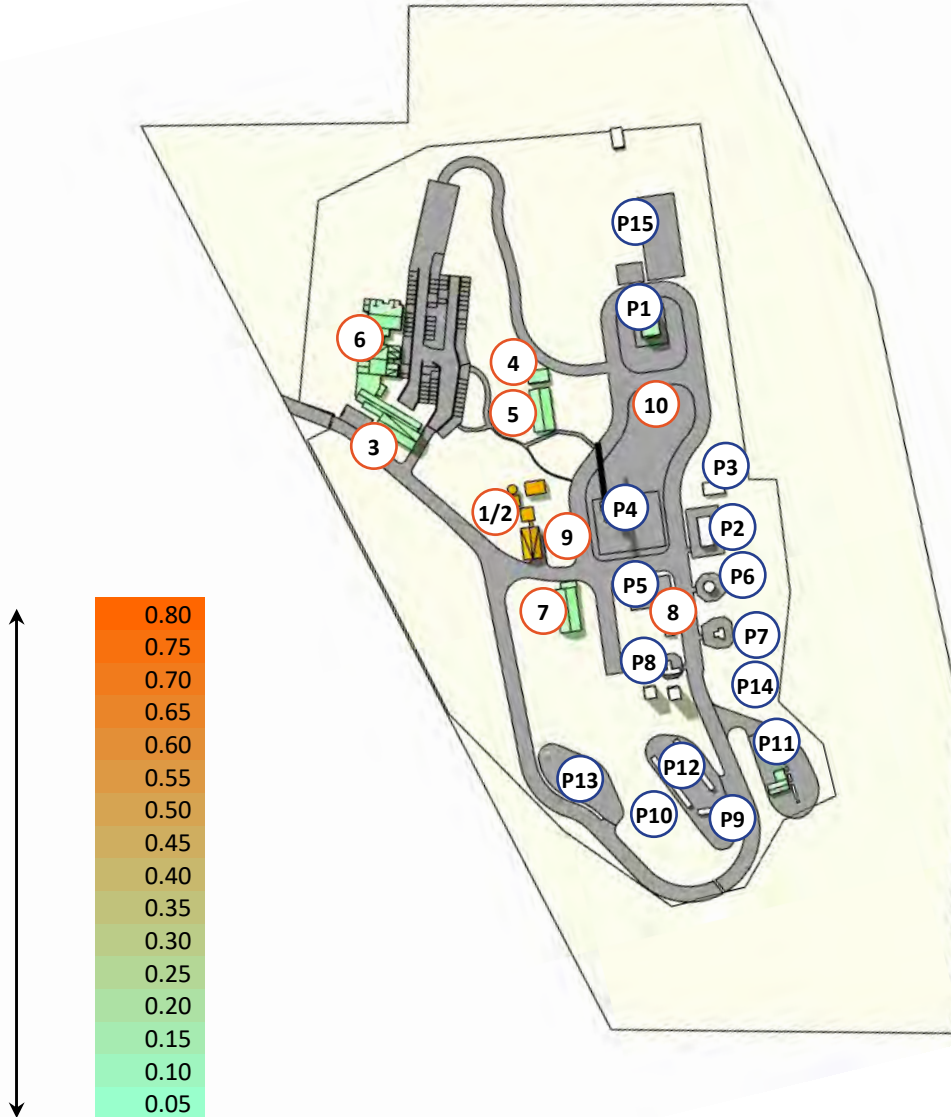


3.3 Maple Ridge

3.3.1 The Campus Today

Existing Building Condition

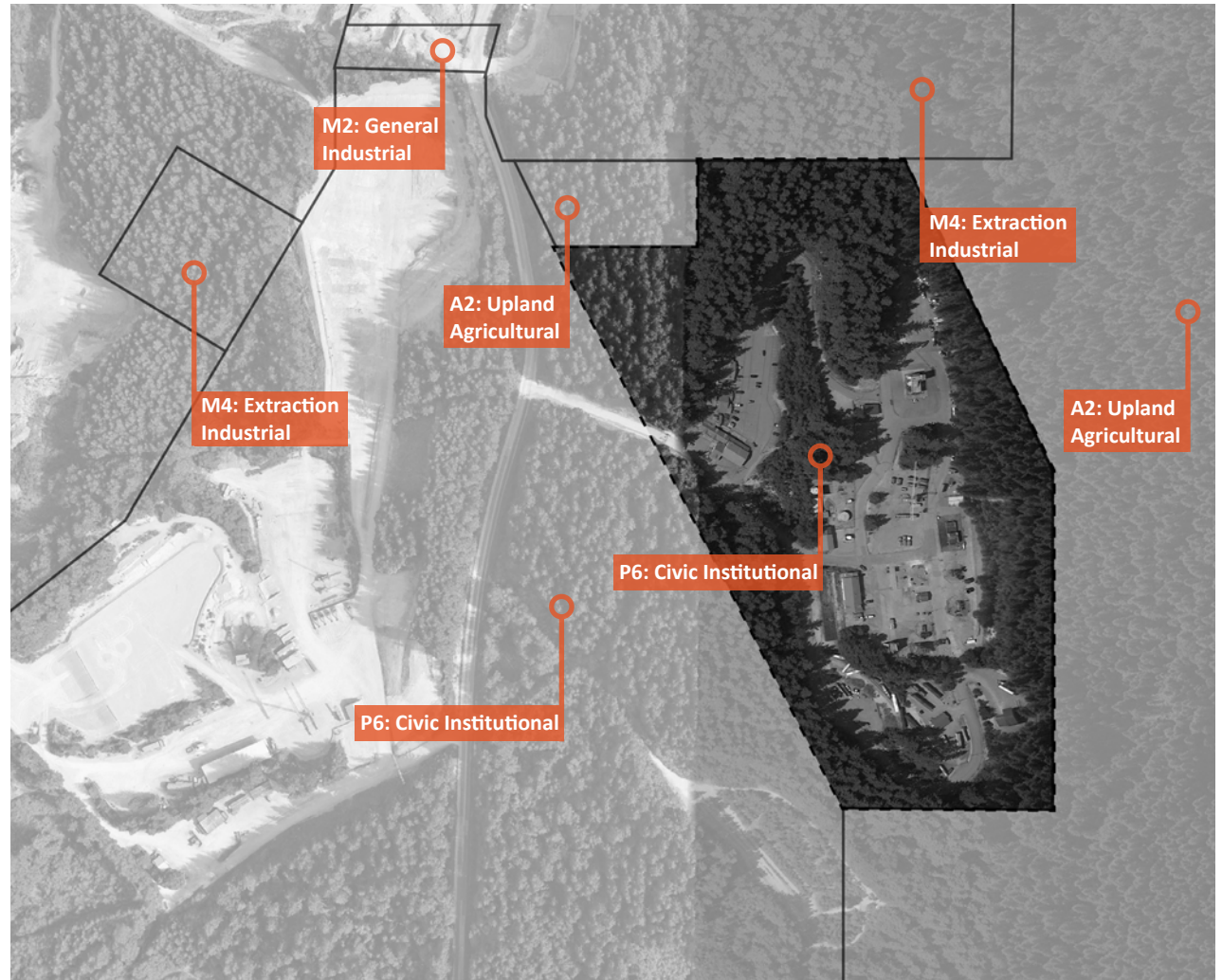
#	Building	FCI
1	Water Treatment Plant A	0.69
2	Water Treatment Plant B	0.76
3	Administration & Apparatus Storage	0.13
4	Fitness Trailer	0.15
5	Washrooms/Changerooms/Laundry	0.17
6	Classrooms	0.21
7	Equipment/Maintenance/Storage/ SCBA	0.22
8	Extinguisher Refill Building	0.47
9	Tec-Flame Fuel Tank	-
10	Auto Extraction Storage Building	-
P1	Burn Building	-
P2	Mock Ship	-
P3	Smoke House	-
P4	Tower Crane	-
P5	Extinguisher Pad	-
P6	Round Pad	-
P7	T-Pit	-
P8	Aircraft Prop	-
P9	Box Car	-
P10	Derailment Site	-
P11	Hazmat Pad 1	-
P12	Hazmat Pad 2	-
P13	Hazmat Pad 3	-
P14	Hazmat Pond	-
P15	Auto Extrication	-



Land Use and Zoning

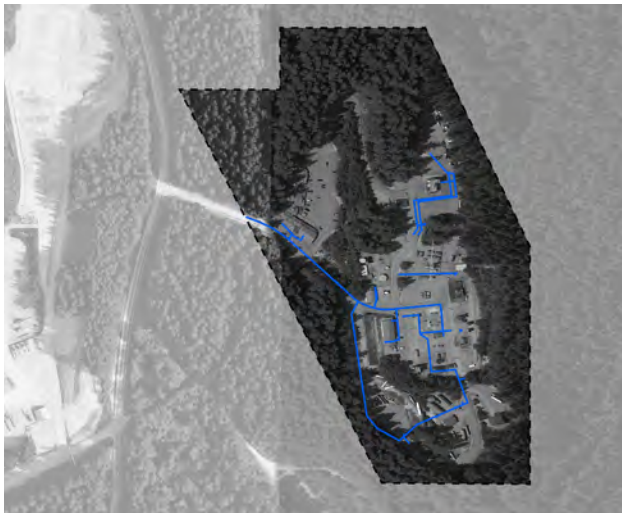
The Maple Ridge site is zoned P-6, which is “Civic Institutional”.

Floor Area Ratio (FAR): 0.75
Site Coverage: 40%
Height (Metres): 18



Services and Infrastructure

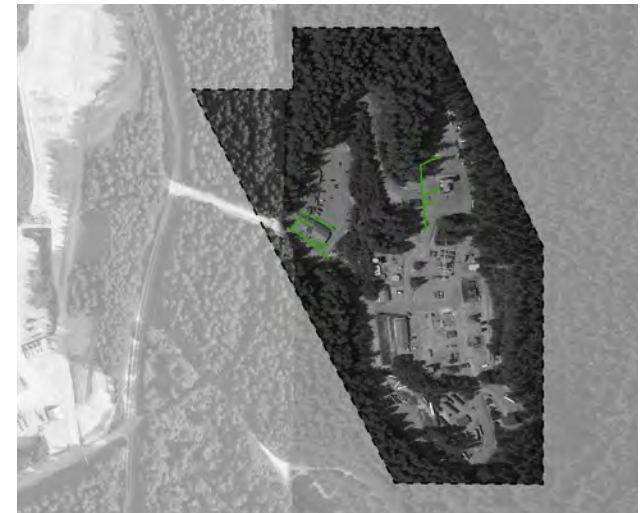
Civic utilities are minimal in this location. Water is supplied to the site, as is electrical. The drainage is largely controlled surface drainage and treatment. All sanitary sewer east of 256th Street is on its own private system.



Water



Sanitary



Storm

Enrolment, Utilization, and Optimization

Maple Ridge Historical Enrolment (Contact Hour Equivalent)

Maple Ridge	Total CHE	Total CHE Class/Lab	Total CHE Shop	Onsite CHE Class/Lab	Onsite CHE Shop	Offsite CHE Class/Lab	Offsite CHE Shop
Year 2014-15	59,124	31,839	27,285				
Year 2015-16	33,818	33,818	-				
Year 2016-17	33,424	33,402	22				
Year 2017-18	36,629	36,618	11	100% Onsite		0% Offsite	
Year 2018-19	53,455	53,455	-	53,455	-	-	-

Maple Ridge Enrolment Projected (Contact Hour Equivalent)

Maple Ridge	Year	Add'n'l CHE	Total CHE	% Change	5-Yr Historical % Change
Base Year	2019		53,455		-10%
10 years	2029	5,350	58,805	10%	
25 years	2044	8,230	61,685	15%	

10 percent and 15 percent changes represent anticipated upgrades to Maple Ridge site, programs, and student services. Provide student housing to attract students from outside local area.

Maple Ridge Existing Facilities Data

JIBC	MR
Area by Ministry Standards	Existing
INSTRUCTIONAL STATION SPACE STANDARDS	Area m2
Classrooms/Lecture Theatres	651.9
Laboratories	53.0
Shops - Open Air Instruction Yard	30,752.0
ANCILLARY SUPPORT SPACE STANDARDS	Existing Area m2
Office - Administration and Faculty	139.3
Combined Library, Reading/Study, Lounge	-
Special Use Facilities	85.0
General Use Facilities - Incl Food Services	423.4
Supporting Facilities	1,828.1
Health Care Facilities	-
Residential Facilities	-
Unclassified Facilities	-
Non-assignable Areas (ZZZ)	291.0
TOTAL AREA	34,223.6
ASSIGNABLE AREA (= TOTAL AREA minus ZZZ)	33,932.7
	1.01

Class / Lab utilization data is not relevant for this campus.

Maple Ridge Master Program Area for Facilities

	2018-19	2019	2029	2044	Master Program	Add'l Area Master Program
MASTER PROGRAM AREAS	Existing m2	Calculated m2	Calculated m2	Calculated m2	m2	m2
Maple Ridge	33,933	31,393	31,454	31,485	36,510	2,577

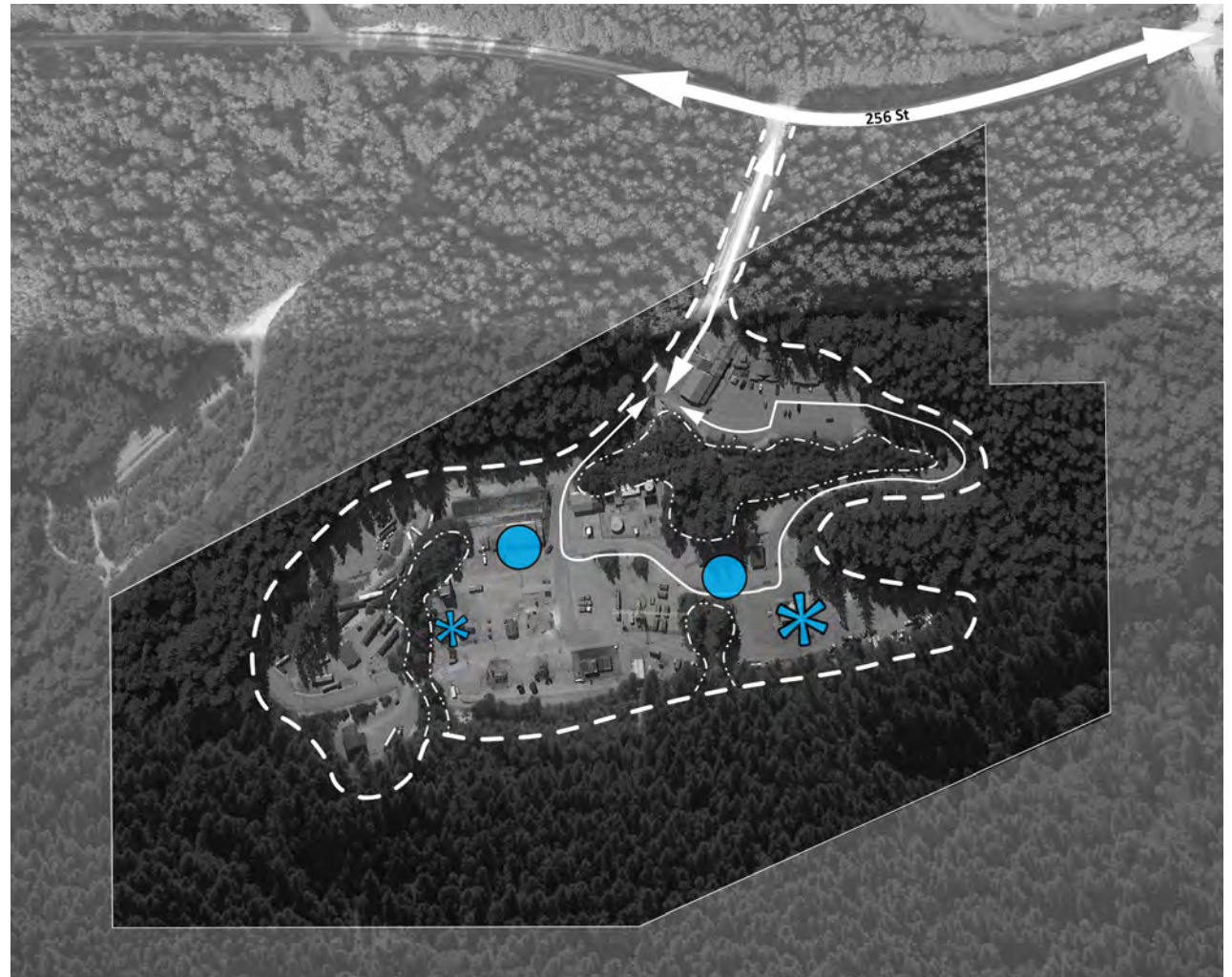
Maple Ridge Staff Headcount and FTE (Full-time Equivalent)

EXISTING STAFFING AREAS	Head Count	FTE
Maple Ridge	14	13.5

Campus Structure and Quality

The Maple Ridge campus is a secluded location northeast of the city core. Nestled in a heavily forested area, the campus is primarily dedicated to fire fighter training. The entry off the main access roadway is identified by signage. From that point, the entrance roadway winds up a hill. The building on the left is the administration area, but it is not the entry. Entry is off the parking lot, which cannot be seen from that vantage point.

This confusion in location is characteristic of the site. The topography and forested nature of the site present considerable challenges to ensuring legibility.



Paths

Most of the paths are external to the facilities that are located on the site. The classroom wing – once the entry is found – is very clearly organized. The remainder of the site, however, is more difficult to negotiate. The main roadway winds through the forest and brings one to the more open area used for training. A small path through the trees connects the classroom building to the open training area.



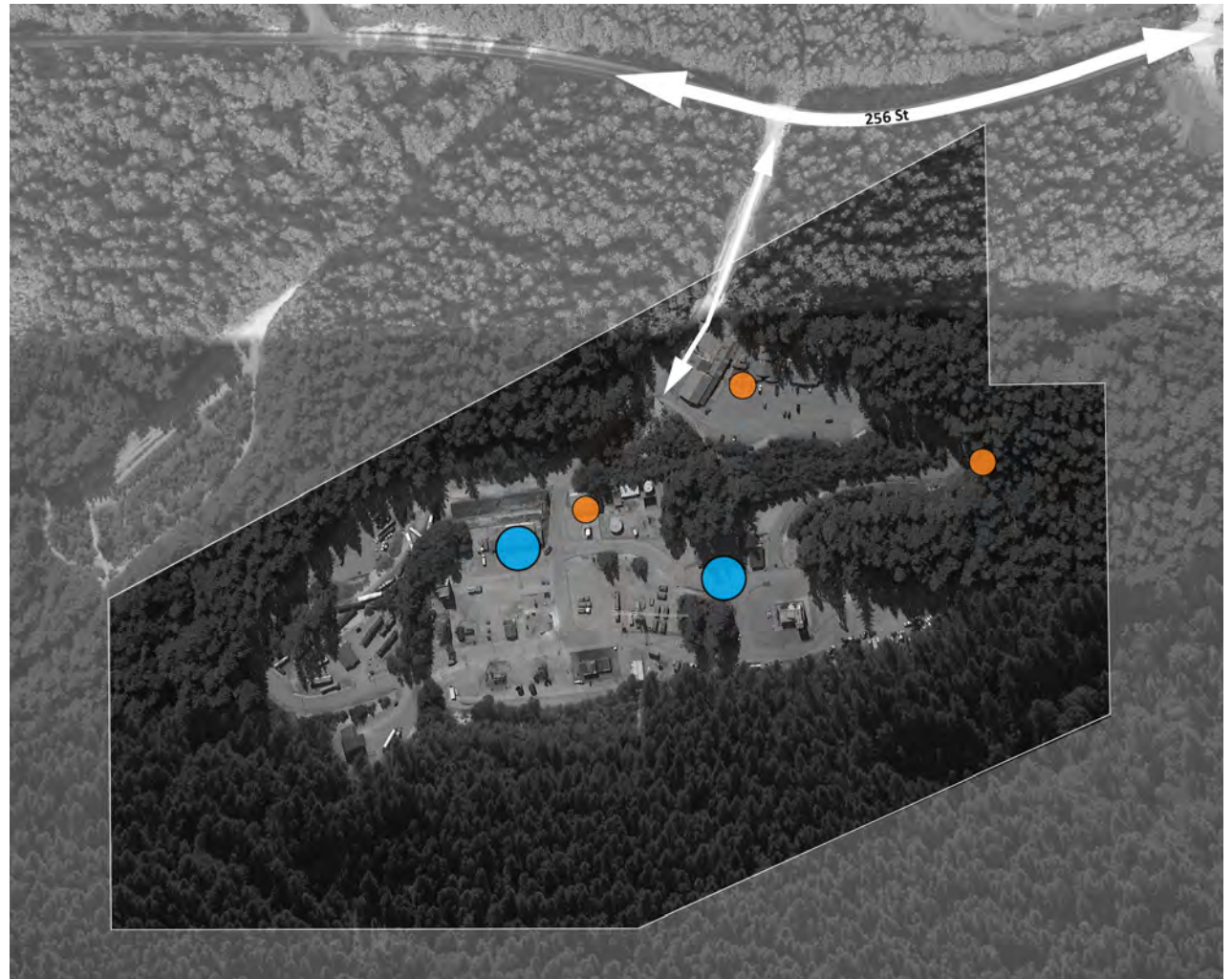
Nodes

The main nodal point is the gathering and food service area in the classroom building. There are also nodes in the area for trainees suiting up (shown to the right in blue).

From the analysis, three additional nodes would be required to assist in making the campus more legible. These would be:

- clearly identifying the assembly area at the entrance to the classroom space;
- a node that can be a congregating gazebo or similarly located at the point where the road makes a very tight bend; and
- a node at the arrival point to the simulation staging area and stores.

- Existing Major Node
- Proposed Minor Node



Landmarks

Landmarks are key to the legibility of the Maple Ridge campus. The need for additional landmarks is confined to the lower part of the site, beginning with the connection to 256th Street. A more prominent sign is needed to highlight the entry location.

Once entering the site, the entrance location is not obvious. The small parking area leads to the administration area, and this is not a route through to student spaces. A more prominent landmark is required to signal the true entry to the classroom area further up the hill. Once in that location, the user can orient themselves to the entrance and the gathering space immediately available just beyond the doorway.

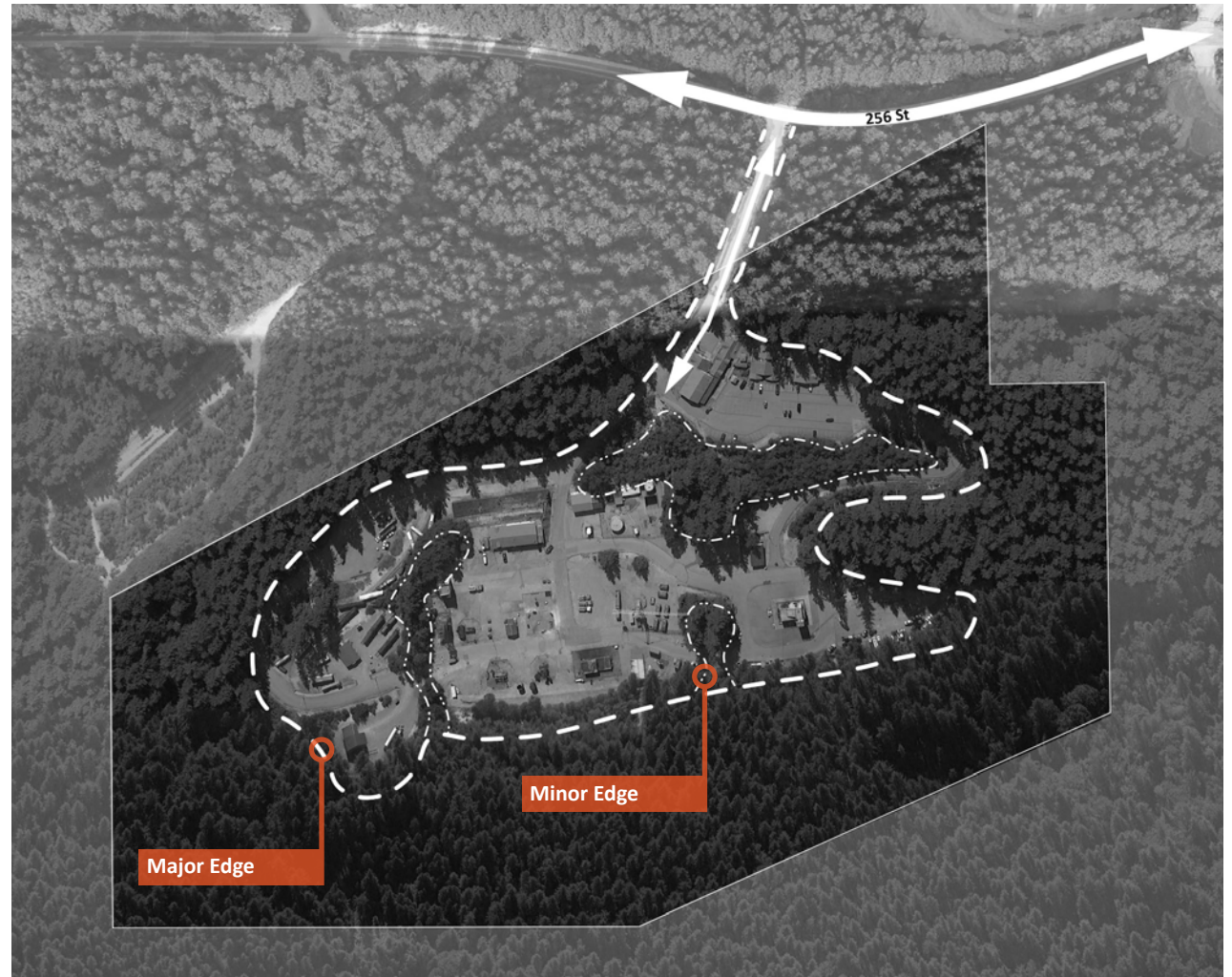
Moving beyond this location means moving through the parking lot and making an S turn to the route leading into the wooded area. Doing so, there is a very tight turn that takes one towards the simulation area further up the hill. A notable landmark needs to signal this abrupt change in direction.

-  Existing Major Landmark
-  Existing Minor Landmark
-  Proposed Major Landmark
-  Proposed Minor Landmark



Edges

The edges of the Maple Ridge site are essentially forested areas both surrounding the site and within the site. The areas are characterized within the site as secondary to the main edge, which contains most of the functions within its bounds.



Districts

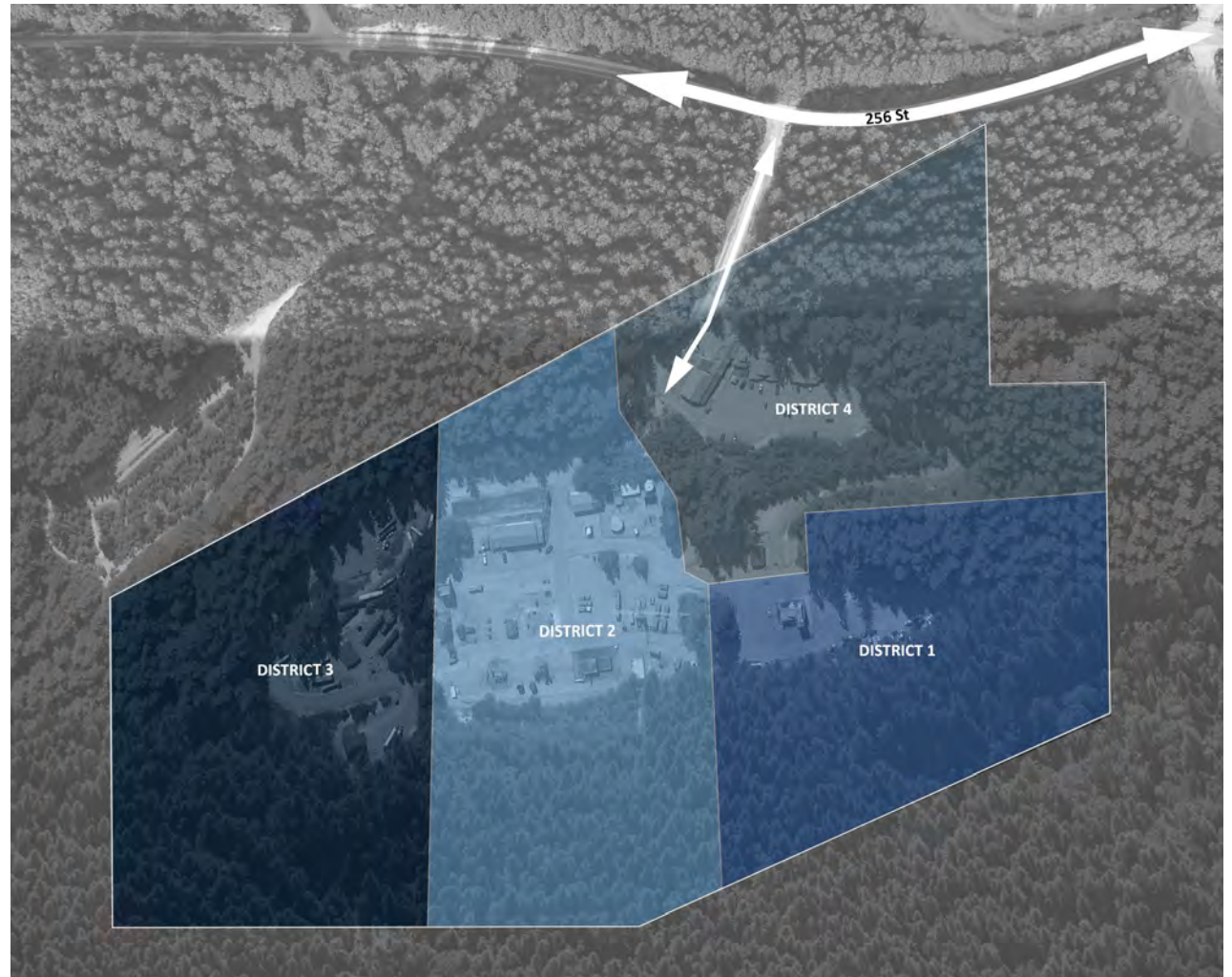
Districts within the Maple Ridge site are very distinct, made so by both topographic and natural boundaries as well as function.

District 1: Outdoor Simulation Space (Fire fighting)

District 2: Outdoor Simulation Space (Specialized Props), Maintenance, Water Treatment Plants

District 3: Outdoor Simulation Space (Specialized Props)

District 4: Academic and Support (Future - includes Student Housing)



Constraints and Opportunities

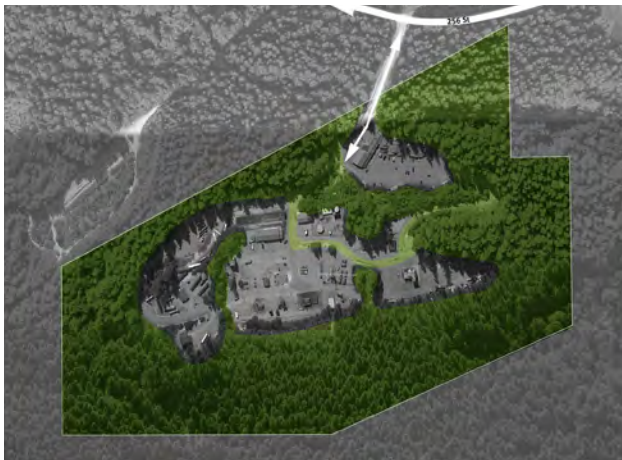
Constraints

The largest constraint on the Maple Ridge campus is its location and hilly topography. The campus is fairly secluded, with steep terrain across the site, surrounded by the forest beyond.



Development Potential and Program Growth

Applying the same approach to Maple Ridge yields a public realm, as shown below. There is great flexibility in determining the final recommended public realm, but the starting point for illustrative purposes is below. Holding the green area as a reserve, the site can be parceled as illustrated.



In this instance, there is no need to intensify development with the 40 percent site coverage and .75 FAR constraining the total. In fact, the way the site is used suggests much lower coverage and intensity. In this plan, the pad areas are shown as having a FAR of 1.0. Higher densities are reserved for the classroom / administration site and housing. The available floor area beyond current pad use at 1.0 is shown here as 28,517.96 square metres, but there is considerable latitude to increase that number, should the need arise. The final site coverage with these assumptions is 23.13 percent with an FAR of .33.

LOCATION		SITE PARAMETERS				PROPOSED SITE COVERAGE	PROPOSED FAR	AGGREGATE
CAMPUS	PARCEL	AREA SM	AREA SM	SITE COVERAGE	FAR	SM	SM	
Maple Ridge	1	9,087.76	9,087.76	91%	1.90	8,225.92	9,001.56	
	2	7,063.07	7,063.07	90%	1.38	6,385.11	3,352.50	
	3a	3,320.00	3,320.00	70%	2.12	2,327.79	4,700.73	
	3b	5,688.58	5,688.58	70%	2.48	3,993.13	10,086.42	
	4	11,658.27	11,658.27	91%	0.94	10,569.68	408.13	
	5	11,310.63	11,310.63	91%	0.99	10,252.27	968.61	
	Public Realm		127,123.04	127,123.04			28,517.96	Overall FAR
Site Area		188,700.00					Total Coverage	22.13%

Available Building Area	61,576.96	
Existing Building Area	33,059.00	
TOTAL	28,517.96	Additional Area Available*

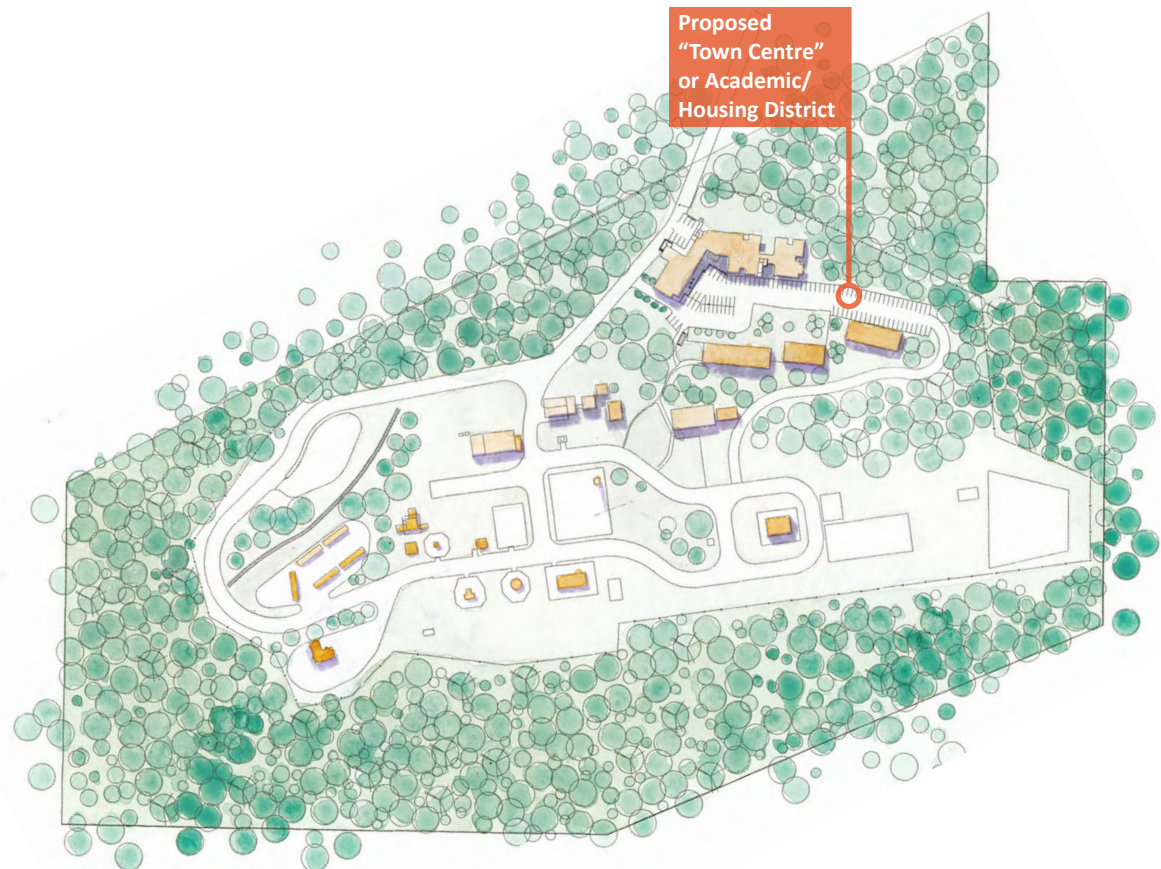
*There is exceptional flexibility available to JIBC by adjusting parcel sizes, in exchange for a lower public realm area.

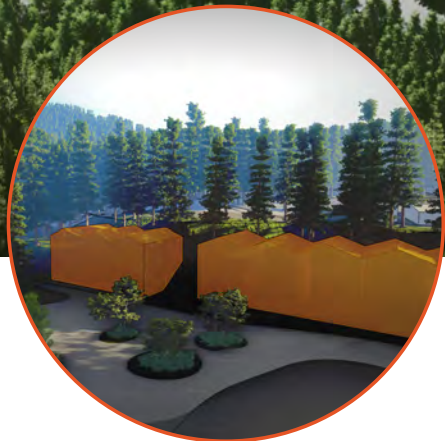
3.3.2 Recommendations

Maple Ridge is a bit more challenging to capture at a conceptual level. Starting at the point of the campus being largely a tactical training centre, much of the site would be configured to allow both flexibility and a great deal of durability. This would see those tactical areas evolving in their set-up, consistent with the evolution of the training programs themselves. The props used in tactical areas are considered equipment for programs. The exception to this is the classroom and administration buildings and parcels.

The topography of the site is aggressively hilly and heavily treed. This allows this location to have the screening it needs to adjacent properties, and allows differentiation of the various pads themselves separated by trees. Of particular note is the perception of the site when driving up from 256th Street. One sees the entire site only as the buildings encountered on the left. In the other areas of the site, driving over a rising portion of land is necessary in order to see. This feature of the site is a fortuitous but important asset. This allows the development of the site to be approached as two-part use:

1. Classroom, administrative, and student services space (and later housing as well).
2. The tactical training grounds.



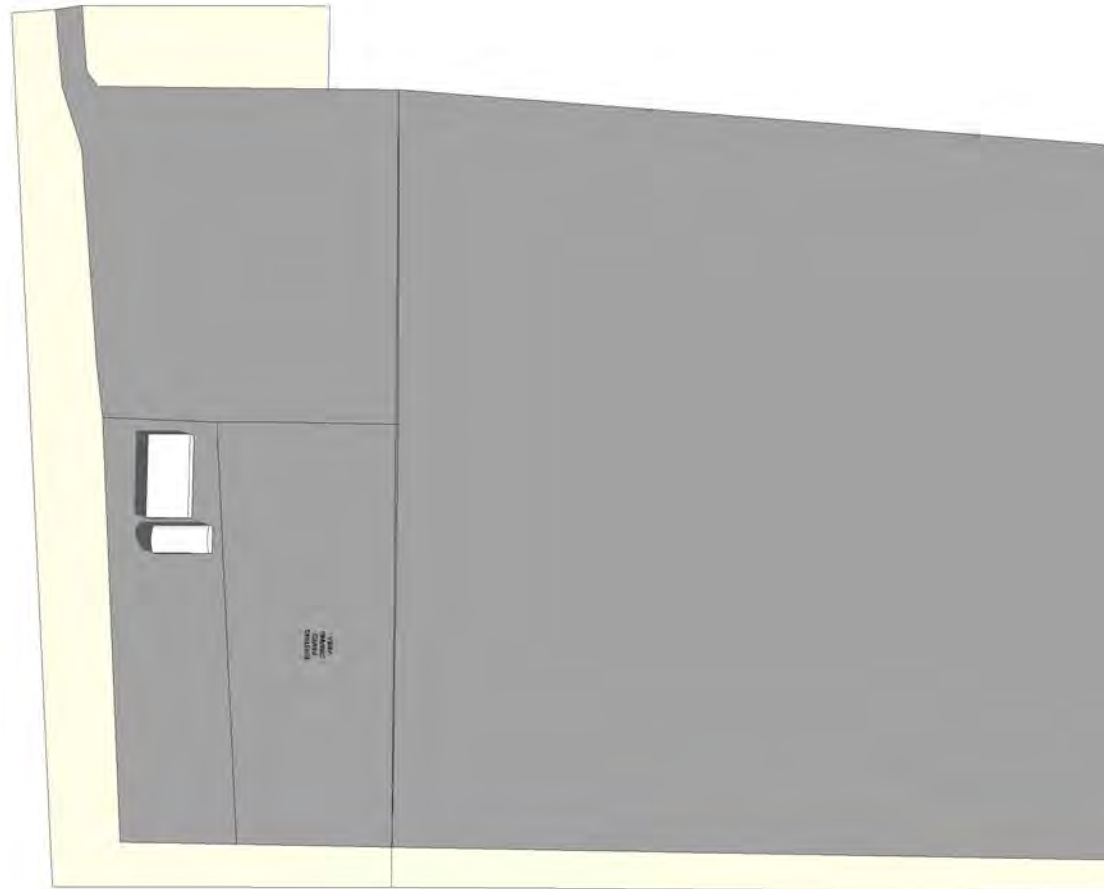
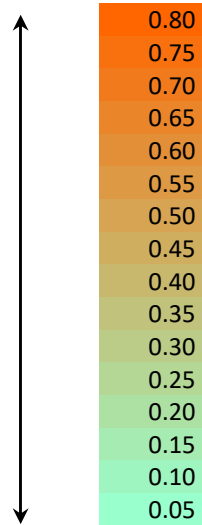


3.4 Pitt Meadows

3.4.1 The Campus Today

Existing Building Condition

#	Building	FCI
1	Pitt Meadows Campus Building	-
2	Pitt Meadows Driving Track	-
3	Quonset Hut	-



Land Use and Zoning

The Pitt Meadows facility is located between runways at the Pitt Meadows airport. Its zoning is specific to the airport property and defers to Transport Canada regulations pertaining to airports. The designation is under Industrial Use in section 13.5 of the City of Pitt Meadows zoning bylaw 2502, 2011. The specific airport zone is I-5. The specific airport zone is I-5.



Enrolment, Utilization, and Optimization

Pitt Meadows Historical Enrolment (Contact Hour Equivalent)

Pitt Meadows	Total CHE	Total CHE Class/Lab	Total CHE Shop	Onsite CHE Class/Lab	Onsite CHE Shop	Offsite CHE Class/Lab	Offsite CHE Shop
Year 2014-15	1,775	-	1,775				
Year 2015-16	3,278	2,134	1,144				
Year 2016-17	3,773	2,793	980				
Year 2017-18	1,582	384	1,198	100% Onsite		0% Offsite	
Year 2018-19	1,890	529	1,361	529	1,361	-	-

Pitt Meadows Enrolments Projected (Contact Hour Equivalent)

Pitt Meadows	Year	Add'nl CHE	Total CHE	% Change	5-Yr Historical % Change
Base Year	2019		1,890		6%
10 years	2029	90	1,980	5%	
25 years	2044	140	2,030	7%	

5 percent and 7 percent changes represent modest growth of Driver Education programs at Pitt Meadows, closely aligned to 5-year historical change.

Pitt Meadows Existing Facilities Data

JIBC	PM
Area by Ministry Standards	Existing
INSTRUCTIONAL STATION SPACE STANDARDS	Area m2
Classrooms/Lecture Theatres	87.5
Laboratories	-
Shops - Open Air Instruction Yard	32,345.1
ANCILLARY SUPPORT SPACE STANDARDS	Existing
	Area m2
Office - Administration and Faculty	35.7
Combined Library, Reading/Study, Lounge	-
Special Use Facilities	-
General Use Facilities - Incl Food Services	-
Supporting Facilities	75.0
Health Care Facilities	-
Residential Facilities	-
Unclassified Facilities	-
Non-assignable Areas (ZZZ)	71.8
TOTAL AREA	32,615.1
ASSIGNABLE AREA (= TOTAL AREA minus ZZZ)	32,543.3
	1.00

Pitt Meadows Master Program Area for Facilities

	2018-19	2019	2029	2044	Master Program	Add'l Area Master Program
MASTER PROGRAM AREAS	Existing m2	Calculated m2	Calculated m2	Calculated m2	Master Program m2	Master Program m2
Pitt Meadows	32,543	32,355	32,356	32,356	32,812	268

Class / Lab utilization data is not relevant for this campus.

3.4.2 Recommendations

The Pitt Meadows can be considered a mobile location. As this land is leased from the Pitt Meadows airport, it is possible that JIBC might be asked to relocate at some point. From a conceptual point of view, it is possible to relocate the classroom building if needed. Both the re-fueling system and the Quonset hut building used for vehicle maintenance are also portable.

The mobile option maintains JIBC's flexibility if the current lease arrangements should change. The issue of relocation would be to seek a parcel of land large enough for the required driver training unencumbered by the need to build facilities.

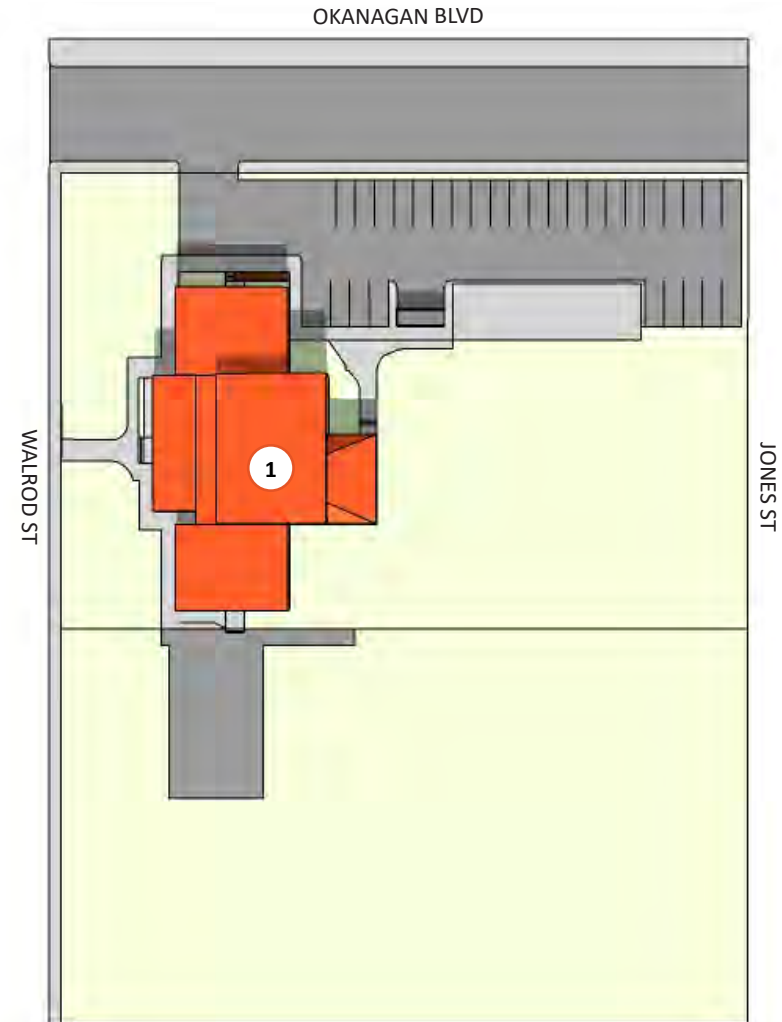
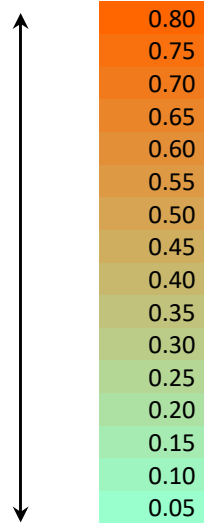


3.5 Okanagan

3.5.1 The Campus Today

Existing Building Condition

#	Building	FCI
1	Okanagan Campus Building	1.02



Land Use and Zoning

The zoning for the Okanagan facility is P-2, Education and Minor Institutional.

Floor Area Ratio (FAR): 1.0
 Site Coverage: 40%
 Height (Metres): 13.5

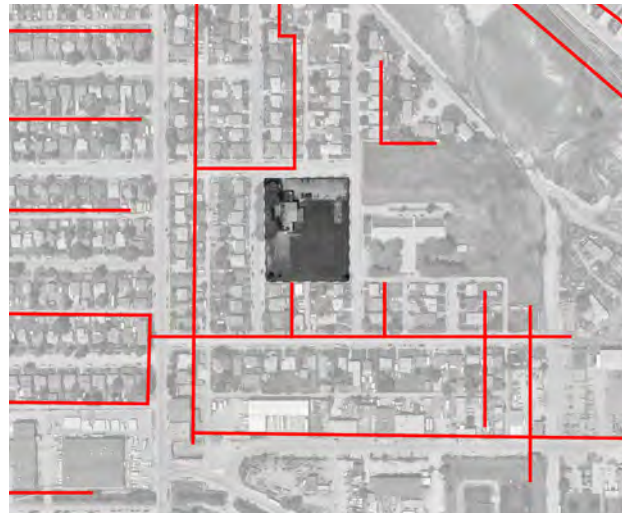


Services and Infrastructure

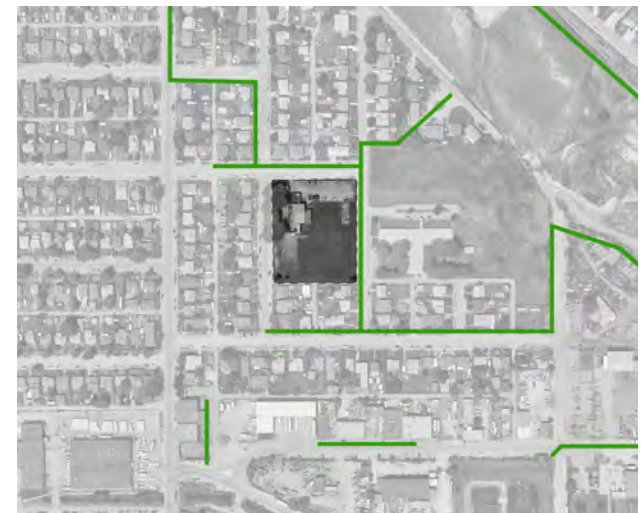
The servicing shown below is extensive as expected for an urban setting and allows expansion of facilities, if required. Thus, no practical constraints in servicing exist.



Water



Sanitary



Storm

Enrolment, Utilization, and Optimization

Okanagan Historical Enrolment (Contact Hour Equivalent)

Okanagan	Total CHE	Total CHE Class/Lab	Total CHE Shop	Onsite CHE Class/Lab	Onsite CHE Shop	Offsite CHE Class/Lab	Offsite CHE Shop
Year 2014-15	47,443	47,443	-				
Year 2015-16	28,518	28,518	-				
Year 2016-17	33,360	33,360	-				
Year 2017-18	35,844	35,844	-	100% Onsite		0% Offsite	
Year 2018-19	50,586	50,586	-	50,586	-	-	-

Okanagan Enrolments Projected (Contact Hour Equivalent)

Okanagan	Year	Add'nl CHE	Total CHE	% Change	5-Yr Historical % Change
Base Year	2019		50,586		7%
10 years	2029	3,350	53,936	7%	
25 years	2044	5,390	55,976	11%	

7 percent and 11 percent changes represent modest growth of Okanagan programs, closely aligned to 5-year historical change.

Okanagan Existing Facilities Data

Area by Ministry Standards	Okanagan Existing Area m2
INSTRUCTIONAL STATION SPACE STANDARDS	
Classrooms/Lecture Theatres	118.2
Laboratories	153.8
Shops - Open Air Instruction Yard	-
ANCILLARY SUPPORT SPACE STANDARDS	Existing Area m2
Office - Administration and Faculty	69.6
Combined Library, Reading/Study, Lounge	-
Special Use Facilities	203.8
General Use Facilities - Incl Food Services	33.0
Supporting Facilities	-
Health Care Facilities	-
Residential Facilities	-
Unclassified Facilities	-
Non-assignable Areas (ZZZ)	187.2
TOTAL AREA	765.5
ASSIGNABLE AREA (= TOTAL AREA minus ZZZ)	578.3
	1.32

Okanagan Class / Lab Utilization

EXISTING UTILIZATION	Class/Lab CHE	Notional Class/Lab ST ST	ASCH/ST ST	Standard ASCH/ST ST	2018-19 Class/Lab Utilization %
Okanagan	50,586	78	649	650	99.8%

- At 99.8%, Okanagan has the highest class / lab utilization of all campuses, including the main campus of New Westminster.

Okanagan Master Program Area for Facilities

MASTER PROGRAM AREAS	2018-19 Existing m2	2019 Calculated m2	2029 Calculated m2	2044 Calculated m2	Master Program m2	Add'nl Area Master Program m2
Okanagan	578	1,119	1,191	1,247	854	276

Okanagan Staff Headcount and FTE (Full-time Equivalent)

EXISTING STAFFING	Head Count	FTE
Okanagan	3	3.0

3.5.2 Recommendations

Okanagan is a campus that can be viewed as a portal location for JIBC. It is one of two spokes that can connect the interior of British Columbia to the programs and services of JIBC. Consequently, local programs can be foundational, preparing students for more in-depth study that would occur at the core campuses of New Westminster and Maple Ridge. This becomes a practical approach if housing is available for students coming from outside the Lower Mainland.

Because the facility is leased from the City of Kelowna, there is some uncertainty for continued use of the site due to the City's plan to redevelop the park. Partnering with other institutions for shared or new space is recommended.

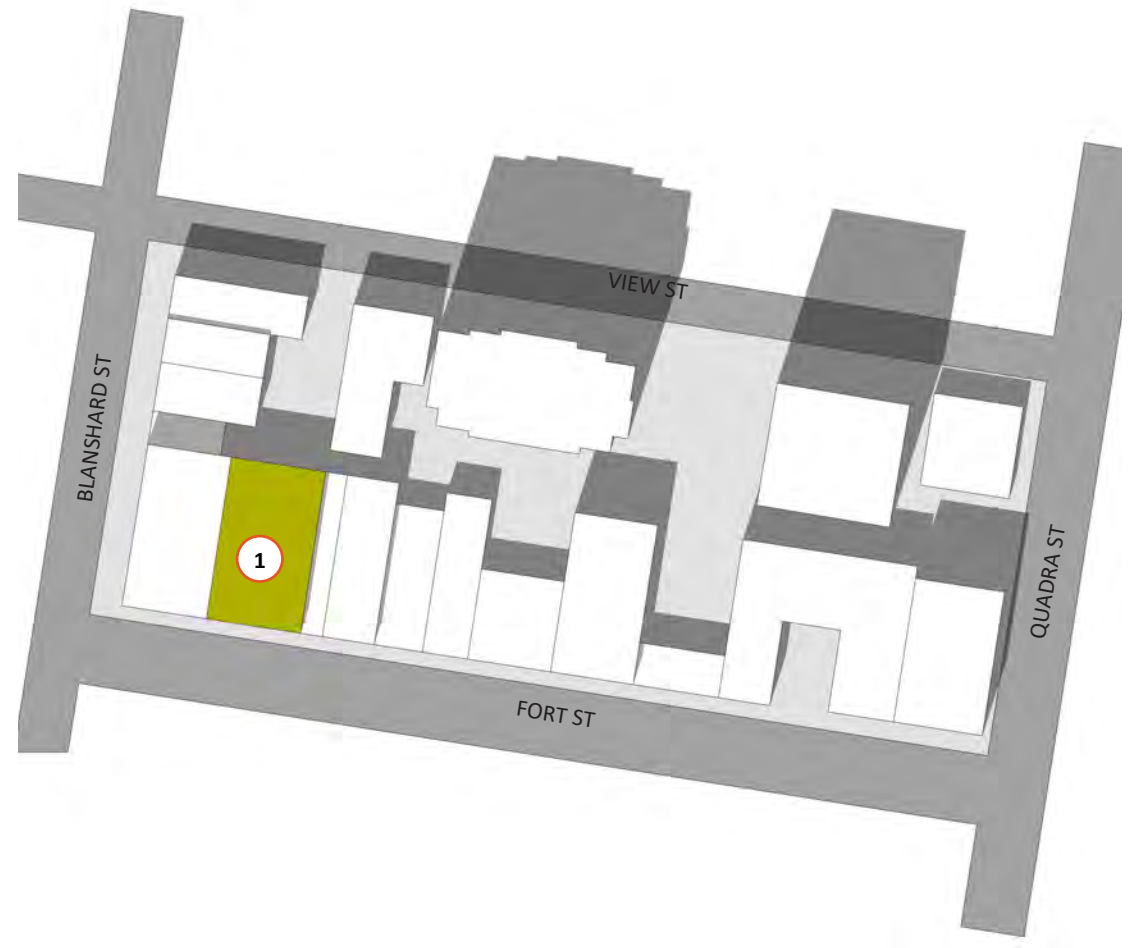
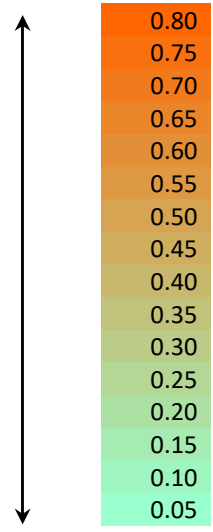


3.6 Victoria

3.6.1 The Campus Today

Existing Building Condition

#	Building	FCI
1	Victoria Campus Building	0.43



Land Use and Zoning

The map to the right shows the zoning as well as heritage-designed properties. The JIBC leased facility is in the downtown business district and is part of the area covered by the Downtown Plan. The specific district is CBD-2.

Floor Area Ratio (FAR): 4.0
 Site Coverage: Not Specified
 Height (Metres): 45.0 (HA-4)



Services and Infrastructure

Located in Victoria's downtown core, the campus building is well serviced.

Consequently, there are no practical utility constraints for this site.



Water



Sanitary



Storm

Enrolment, Utilization, and Optimization

Victoria Historical Enrolment (Contact Hour Equivalent)

Victoria	Total CHE	Total CHE Class/Lab	Total CHE Shop	Onsite CHE Class/Lab	Onsite CHE Shop	Offsite CHE Class/Lab	Offsite CHE Shop
Year 2014-15	76,889	76,889	-				
Year 2015-16	48,882	48,882	-				
Year 2016-17	51,682	51,682	-				
Year 2017-18	48,515	48,515	-	100% Onsite		0% Offsite	
Year 2018-19	69,232	69,232	-	69,232	-	-	-

Victoria Enrolments Projected (Contact Hour Equivalent)

Victoria	Year	Add'n'l CHE	Total CHE	% Change	5-Yr Historical % Change
Base Year	2019		69,232		-10%
10 years	2029	-	69,232	0%	
25 years	2044	-	69,232	0%	

No change to enrolment – although historically in decline – would be worth exploring a different location and building type.

Victoria Existing Facilities Data

JIBC	VI
Area by Ministry Standards	
INSTRUCTIONAL STATION SPACE STANDARDS	Existing Area m2
Classrooms/Lecture Theatres	290.7
Laboratories	348.7
Shops - Open Air Instruction Yard	-
ANCILLARY SUPPORT SPACE STANDARDS	
Office - Administration and Faculty	107.6
Combined Library, Reading/Study, Lounge	-
Special Use Facilities	-
General Use Facilities - Incl Food Services	27.0
Supporting Facilities	-
Health Care Facilities	-
Residential Facilities	-
Unclassified Facilities	-
Non-assignable Areas (ZZZ)	312.0
TOTAL AREA	1,086.0
ASSIGNABLE AREA (= TOTAL AREA minus ZZZ)	774.0
	1.40

Victoria Class / Lab Utilization

EXISTING UTILIZATION	Class/Lab CHE	Notional Class/Lab ST ST	ASCH/ST ST	Standard ASCH/ST ST	2018-19 Class/Lab Utilization %
Victoria	69,232	194	357	650	54.9%

At 54.9%, Victoria's class / lab utilization could definitely be improved.

Victoria Master Program Area for Facilities

MASTER PROGRAM AREAS	2018-19 Existing m2	2019 Calculated m2	2029 Calculated m2	2044 Calculated m2	Master Program m2	Add'l Area Master Program m2
Victoria	774	1,515	1,515	1,515	1,050	276

Victoria Staff Headcount and FTE (Full-time Equivalent)

EXISTING STAFFING AREAS	Head Count	FTE
Victoria	5	5.0

3.6.2 Recommendations

The Victoria campus can be viewed as a portal location for JIBC, drawing students from Vancouver Island to the core campuses and providing foundational training *in situ*. There is no growth seen over the planning horizon of the Long-Range Facilities Plan. The current location is leased. At the time of this writing, there have been discussions about partnering with other institutions to create a west Victoria facility. Partnering with other institutions for shared or new space is recommended.



3.7 Recommendations

3.7.1 Specialist versus General Campuses

Review and analysis of the JIBC campuses revealed a marked difference among their functions. Although there are mixtures of all elements within many of the campuses, one can make a broad characterization of two campuses, particularly complementary yet opposite. These are the New Westminster campus and the Maple Ridge campus. To better describe the implications of this observation, think of two broad categories: an academic campus for the first and tactical training campus for the second. This could be a useful distinction and presents the possibility of separating academic and tactical training across these different locations given the very different requirements of facilities associated with these categories. New Westminster has an urban setting with a more limited capability to provide tactical training mock-ups and simulations requiring complexity and large spaces. In Maple Ridge, however, there is more space and the capability of creating complex simulation environments in an outdoor or indoor locale depending on need. One example would be the desire for an outdoor range.

Recommendation

The characterization mentioned above provides an opportunity to create a model of campus placement and function. This has three categories:

- academic;
- tactical; and
- outreach.

Academic

Although all campuses have an academic presence in the form of classrooms, courses, and support, the New Westminster campus is the hub for all academic programs for online and face-to-face classroom instruction. This includes simulation labs that provide controlled learning with hands-on experiential opportunities.

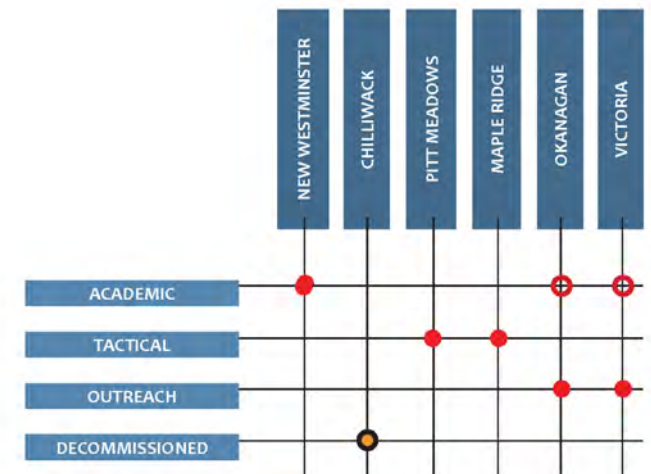
Tactical

Tactical essentially means an action-based event with a short-term objective. It has another meaning when applied to a police circumstance, such as hostage tactics or riot control. Both meanings are apropos when applied to the function of the Maple Ridge campus. This campus is about a whole-person experience aimed at developing skills required for fire fighting, use of police weapons, and other potential scenarios of action, cause, and effect. A second tactical location that requires very specific space for driver training is the Pitt Meadows campus. The tarmac area used to enhance driver skills for police and sheriff service is a special case of a tactical area.

Outreach

This leaves the two other campuses in Victoria and the Okanagan. These can be viewed in a very special way if one looks at the geography of the province. Think of these locations as portals into the core of JIBC's programs. JIBC's mandate is regional; therefore, JIBC has a presence in other parts of the province. JIBC can recruit on Vancouver Island as well as in the interior of BC, providing foundational courses and then drawing those students to the core locations for more specialized training.

Together these definitions allow a model for campus development as shown below.



Summary

Conceptually, the entire facility response to the JIBC programs can be summarized as:

- academic and theoretical instructional requirements; and
- hands-on simulation training and scenario episodes.

For the Lower Mainland, these needs break out roughly with one campus predominantly addressing the first, while a second campus predominantly addresses the second. These are New Westminster and Maple Ridge, respectively.

The requirements of a tactical location are very different from that of an academic location. In the first, the infrastructure is much more intense and specialized. The fire fighting apparatus and real fire fighting techniques, police, and sheriff tactical training currently at the Maple Ridge campus are very good examples of this.

The above-noted characterizations, however, do not create polar differences. There are simulation areas at the New Westminster campus entirely appropriate to this setting, such as those associated with the paramedic program's use of mannequins. The one anomaly to such a characterization would be the firing range. There is no need to move that facility. It can, however, clearly remain as the indoor range, while Maple Ridge would be a better location for live-fire training outdoors.

The other campuses fall into two categories:

- generalist campus, with a range of programs to meet regional mandate requirements; and
- totally dedicated campus, with one dominating function.

Partnering with other post-secondary institutions is a viable alternative to meet the mandate regarding owning / leasing a campus.

Victoria and the Okanagan fall into the first with the remaining campuses, while Pitt Meadows is in the second. The Chilliwack campus has been used for other programs in the past, however, for the past few years, only used by the paramedic program.

With these broad characterizations, one picture of an optimized facility response would be:

- New Westminster campus is an academic, research, and program classroom instructional location as well as the administrative hub. This includes student services / support.
- Maple Ridge campus is a tactical training location with hands-on simulation at various scales.
- Pitt Meadows campus is dedicated to driver training.
- Both the Victoria and Okanagan campuses are satellite locations connecting Vancouver Island and the BC Interior to the JIBC programs offering locally-based groupings of programs, that draw from the central institution.
- Chilliwack campus has flat program growth overall and has high-cost maintenance and renewal needs. The density and coverage of the site makes it suitable for more intensive development than JIBC would need. If the Chilliwack campus site is not needed, and there remains demand for paramedic training in the Chilliwack area, partnering for space with the University of Fraser Valley, or some other venue, is an option.

3.7.2 Sustainability and Resilience

Sustainability

To enable JIBC to achieve a reduction in energy consumption and its associated environmental impact, the institute produced a Strategic Energy Management Plan (SEMP) to aid in supporting its commitment to energy efficiency and conservation. The SEMP provides a framework for reducing energy consumption and includes a specific energy reduction target and an action plan for achieving that target. By implementing the actions detailed in the SEMP, JIBC demonstrates leadership through innovation and accountability for the resources it uses as an organization.

The Long-Range Facilities Plan will not recommend any particular green scoring methodology such as LEED or Green Globes. It will not set energy targets such as 100kwh / sm / year. The goals must be more ambitious than these metrics. They need to be viewed as interim targets with the ultimate goal aimed at a net zero / zero emissions outcome. It is quite clear to the world that sustainable development, energy consumption, and control of emissions are, at this point, urgent and existential matter facing all of us. There is an increase in the use of renewable energy sources and increasing innovations in building system design, particularly in electrical, and mechanical systems, and building envelope technologies.

The specific recommendation that this plan makes in this regard is to consistently seek out solutions that use the best current proven technology. This includes increased building performance, minimizing energy use and emissions as JIBC builds (renovates and refits), knowing that the outcome JIBC seeks is the net-zero / energy-zero emissions goal, and that JIBC will likely fall short. However, JIBC can continue to improve as funds and circumstances allow.

The Long-Range Facilities Plan looks out to 2045. There will be much more activity in developing new technology to address this pressing climate crisis during this period. Furthermore, these technologies will impact every aspect of the way people live and have profound implications for post-secondary institutions. There will be advances beyond Passive House performance, energy generation on-site to ways that buildings are heated, cooled, and ventilated. On the one hand, it is a pressing issue and on the other a time of potentially great innovation and opportunity. Campuses should be designed and upgraded for resilience.

JIBC's path to net zero will involve various projects in the following categories:

- energy efficiency and behavioural;
- fuel switching; and
- renewable energy.

Resilience

Resilience is the ability to recover from difficulties and to become adaptable. To build resilience, JIBC needs to keep in mind renovations and maintenance of current facilities and equipment. JIBC's campuses present themselves with opportunities for both renovations and new builds.

Renovations to existing spaces can be either minor or major changes / upgrades. These can include renovating learning environments by improving furniture and equipment to better suit a more flexible space, creating a one-stop-shop for students, and upgrading accessibility. This would also include the findings in the study conducted regarding office space at the New Westminster campus. (See Technical Document for Office Space Study.)

With the potential for development on the New Westminster campus, opportunities for building a multi-disciplinary scenario training facility that can house classrooms and specialized training is encouraged to adapt and respond to technology and learning trends (See the image on the next page for the Conceptual Design of the JIBC Simulation Centre.)

Resilience should also be thought of regarding training equipment. Currently, there is no strategy for maintaining, refurbishing, or replacing props used for simulations. It is recommended that JIBC needs to develop a strategic or innovative solution to address this gap.

3.7.3 Accessibility

To create an accessible campus, all types of physical access need to be addressed. This includes multiple modes of transportation, ease of facility access, and clarity and wayfinding of location and movement. If the intended users cannot get into or around the campus, it will not succeed. Good, accessible design is beneficial to more people than just those with ability differences – universal design is about the design of buildings and environments that are accessible to all people, regardless of age, ability, or other factors and allow for flexibility in use. Improving pathways, wayfinding, and reducing hazards are all ways to meet a universal design.

Seven principles for universal design were developed in 1997, and can be followed to guide design decisions:



Conceptual Design - JIBC Simulation Centre

Equitable Use

The design is useful and marketable to people with diverse abilities.

Flexibility in Use

The design accommodates a wide range of individual preferences and abilities.

Simple and Intuitive Use

The use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

Perceptible Information

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Tolerance for Error

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

Low Physical Effort

The design can be used efficiently and comfortably, and with a minimum of fatigue.

Size and Space for Approach and Use

Appropriate size and space are provided for reach, manipulation, and use regardless of the user's body size, posture, or mobility.

3.7.4 The WeatherMap - Campus Strategies and Phasing

The WeatherMap is a technique of illustrating the changes in place and movements of people, and supporting space on a campus through time. The presentation of this data can be a series of illustrations or an animation.

The following illustrations describe the movements over the 25-year planning horizon.

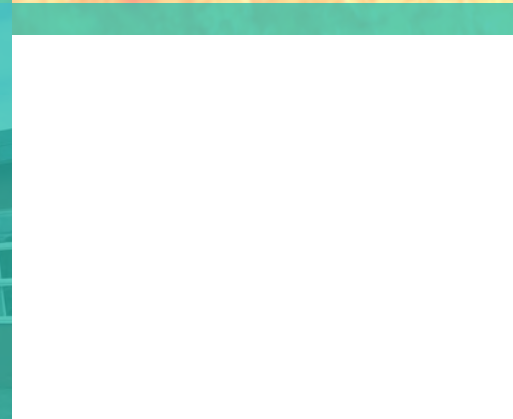
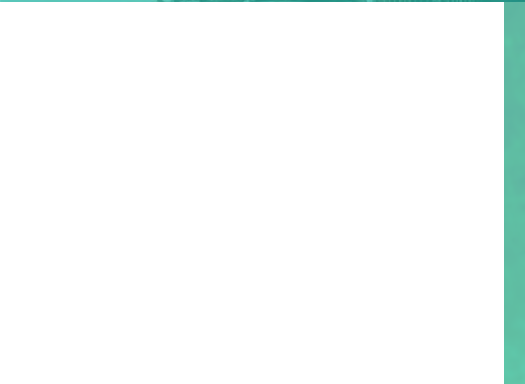
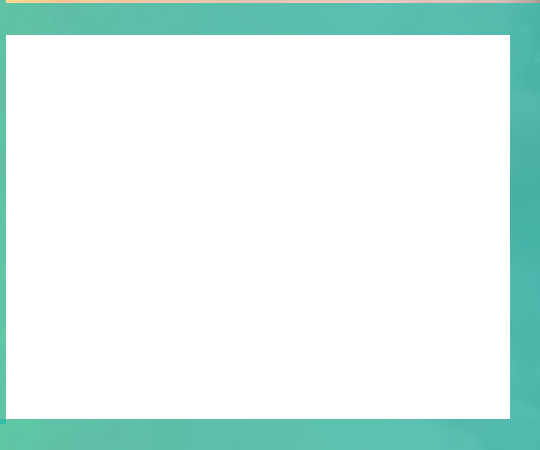
They are minimal. This is due to both the unique nature of JIBC and the role the campuses play in program delivery.



1. Growth at New Westminster campus



2. Growth at Maple Ridge campus, including outdoor training



4.0 Implementation

4.1 Using the Plan

4.1.1 A Living Document

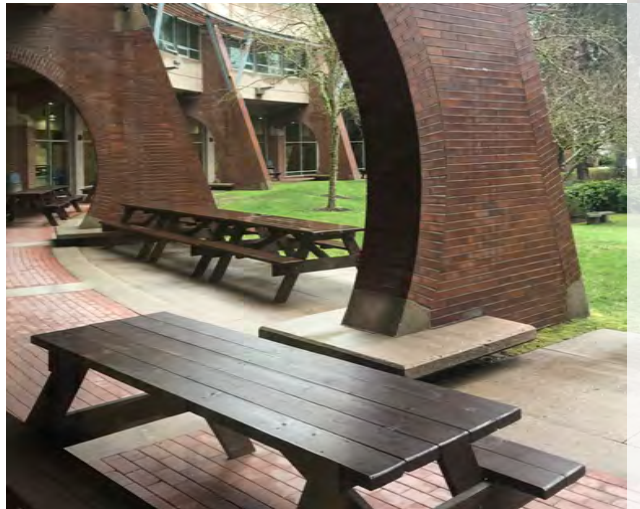
Facility plans that reach ahead on a time frame of decades have a history of being documents that remain unused as time wears on. That is almost always due to only having a planning document but no internal protocols to revisit the content, adjust that content every year, and continue to make the plan an evolving toolkit to assist strategic decision-making. It is suggested that two ingredients need to be part of the institutional framework for a living document to become a reality:

- an internal keeper of the content of the facilities plan and its implementation. This has traditionally been the institution's planning / facility management organ and exercised through campus planning committees or similar groups; and
- a champion for the plan at the senior administrative level of the institution.

JIBC has both the Campus Planning Council and the Facilities Division. The ingredients are certainly present to create the responsive and proactive stewardship of the plan over time. The Campus Planning Council and the Facilities Division should formalize a plan review protocol to regularly assess and suggest changes to the plan as required as part of core Institute policy.

4.1.2 Campus Infrastructure and the Public Realm

Campus infrastructure is often thought of as largely unseen systems. Campus infrastructure should be thought of as both what is above grade as well as what is below. The public realm referred to often in this plan should be considered infrastructure as important as drainage, sanitary, electrical, and other underground services. The public realm takes into account landscaping, lighting, wayfinding, paving, transportation, and parking. All these are items that must be maintained in much the same way.



4.1.3 Administering and Monitoring the Plan

The administration and monitoring of the Long-Range Facilities Plan should be done from the vantage point of the Facilities Division, in conjunction with the vice president whose portfolio includes campus planning. Monitoring is largely an assessment process addressing the efficacy of the policies derived from the plan. That efficiency can be measured in improvements in the utilization of teaching stations available, and lower land costs derived from optimized facility distribution. The more qualitative elements of a plan will also need assessment.

To accomplish this, a system should be developed that:

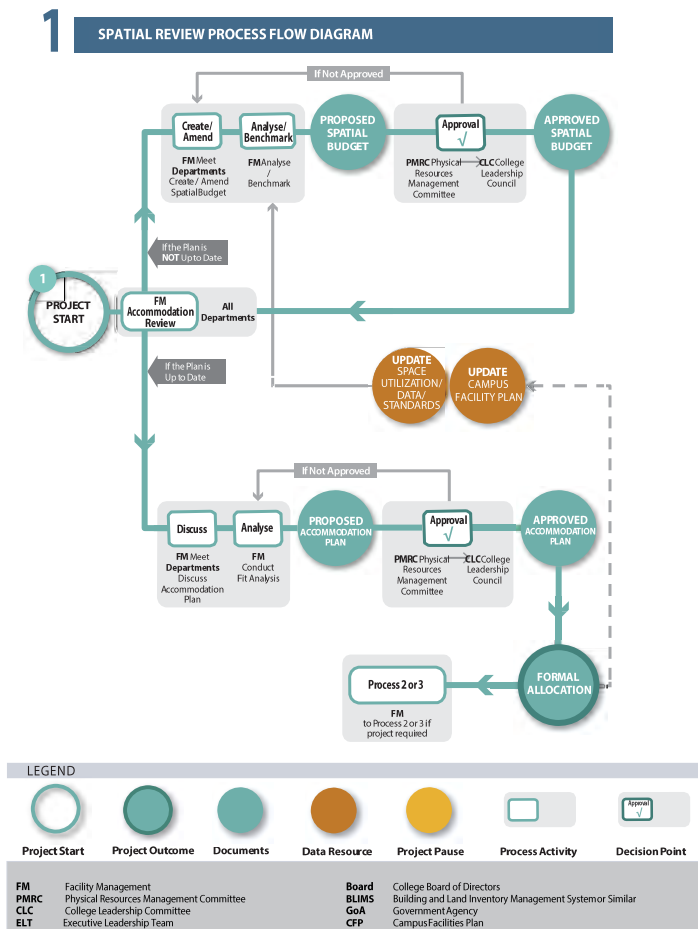
- manages all space centrally;
- makes space allocations based on needs data and condition;
- is transparent in its process flow;
- is easily understood by the campus community;
- has assessment tools that are used directly by Facilities personnel on an ongoing basis; and
- establishes a direct relationship between assessed need and facility initiatives.

The system will require a process flow that continuously assesses need, evaluates that need against current allocations, creates a new or revised allocation plan that addresses the needs and issues that arise from the assessments, and formalizes that allocation institutionally. The illustration below shows such a system of review and allocation.

Recommendation

Develop a space assessment and allocation process that is tailored to JIBC, and develop a baseline starting point.

The baseline is described in more detail in the next subsection.



4.1.4 Space Management Starting Point

The Master Program that is part of this plan establishes a baseline of need. The strategies in the plan establish an optimizing policy shown in the WeatherMap, providing additional information and reasoning for the reallocation of some spaces. A vital institution will always be changing.

Together with the Office Study, this is a foundational data source moving forward. A method of doing a quick checkup of the Master Program yearly, would be a benefit from keeping a critical eye on the spatial needs as they evolve.

Recommendation

Implement a space review tool that allows the Facilities Division to quickly and inexpensively update program requirements based on the Master Program and the performance of existing space measured on several criteria. One such system is illustrated below and measures several criteria for fit attributes aggregated on a mathematical score that includes a match to the required area.

SPATIAL														
AS FOUND		FIT ATTRIBUTES												
Area (SM)	Ratio	QUALITY OF FIT									WEIGHTED SCORE	Adjacency 1	Adjacency 2	Inter-Faculty Adjacency
		AREA FIT	FUNCTIONAL SUITABILITY	SECURITY	APPROPRIATE TECHNOLOGY	NOISE	LIGHTING	INFRASTRUCTURE	FLEXIBILITY	DEDICATED/ SHARED				
		1	0.4		0.2	0.2	0.2	0.2	0.6	0.5				
	0.0	1.0									1.0			
	0.0	1.0									1.0			
	0.0	1.0									1.0			
9.5	0.7	1.0	10.0	10.0	10.0	1.0	10.0	5.0	5.0	5.0	15.7	Social Sciences		
	0.0	1.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	23.0	Social Sciences		
7.7	0.8	1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	21.5	Social Sciences		SOME
6.1	0.6	1.0	10.0	10.0	5.0	5.0	1.0	1.0	10.0	5.0	15.9	Social Sciences		ALL OF
7.9	1.0	10.0	10.0	10.0	10.0	10.0	1.0	5.0	10.0	10.0	30.2	Social Sciences		
7.3	0.7	1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	21.5	Social Sciences		
10.4	0.7	1.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	23.0	Social Sciences		
8.2	0.8	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	24.5	Social Sciences		
10.2	0.6	1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	24.0	Social Sciences		
10.4	1.3	1.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	20.5	Social Sciences		
10.4	0.4	1.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	24.0	Social Sciences		
6.4	0.6	1.0	10.0	1.0	5.0	1.0	10.0	5.0	10.0	5.0	17.7	Social Sciences		
12.8	0.8	1.0	10.0	10.0	5.0	1.0	10.0	5.0	10.0	10.0	20.2	Social Sciences		
107.2	0.6	1.0												

4.2 Implementation Costs

4.2.1 Costing Methodology

The costing of the anticipated buildings that occupy the development parcels is shown in the table below. These costs are not based on specific building plans, but on the likely square metre cost of a building of the type contemplated. The broad categories are:

- academic classroom predominant;
- academic mix of classrooms and labs assumed to be 60 percent classrooms and 40 percent laboratories or simulation space;
- parking garages;
- housing – high-rise;
- housing – low-rise; and
- the costs are different if the building is new construction versus renovations within an existing building.

Added to the basic building cost based on area is an allowance for the following:

- demolition (if this is required to make the site available to development);
- site utility hookups for water, sanitary, power, etc.;
- soft costs such as professional fees, project management, permits, testing, etc.; and
- an allowance for furniture, fixtures, and equipment.

When adding together all the costs described above, a total project cost exclusive of land is determined. Next, an escalation factor is applied based on what point in time the project is undertaken. The further out in time, the more the escalation (barring any sudden upset in the economy of the construction industry). Such an impact is anticipated with the COVID-19 pandemic, but this has worked out somewhat differently than original assumptions suggested.

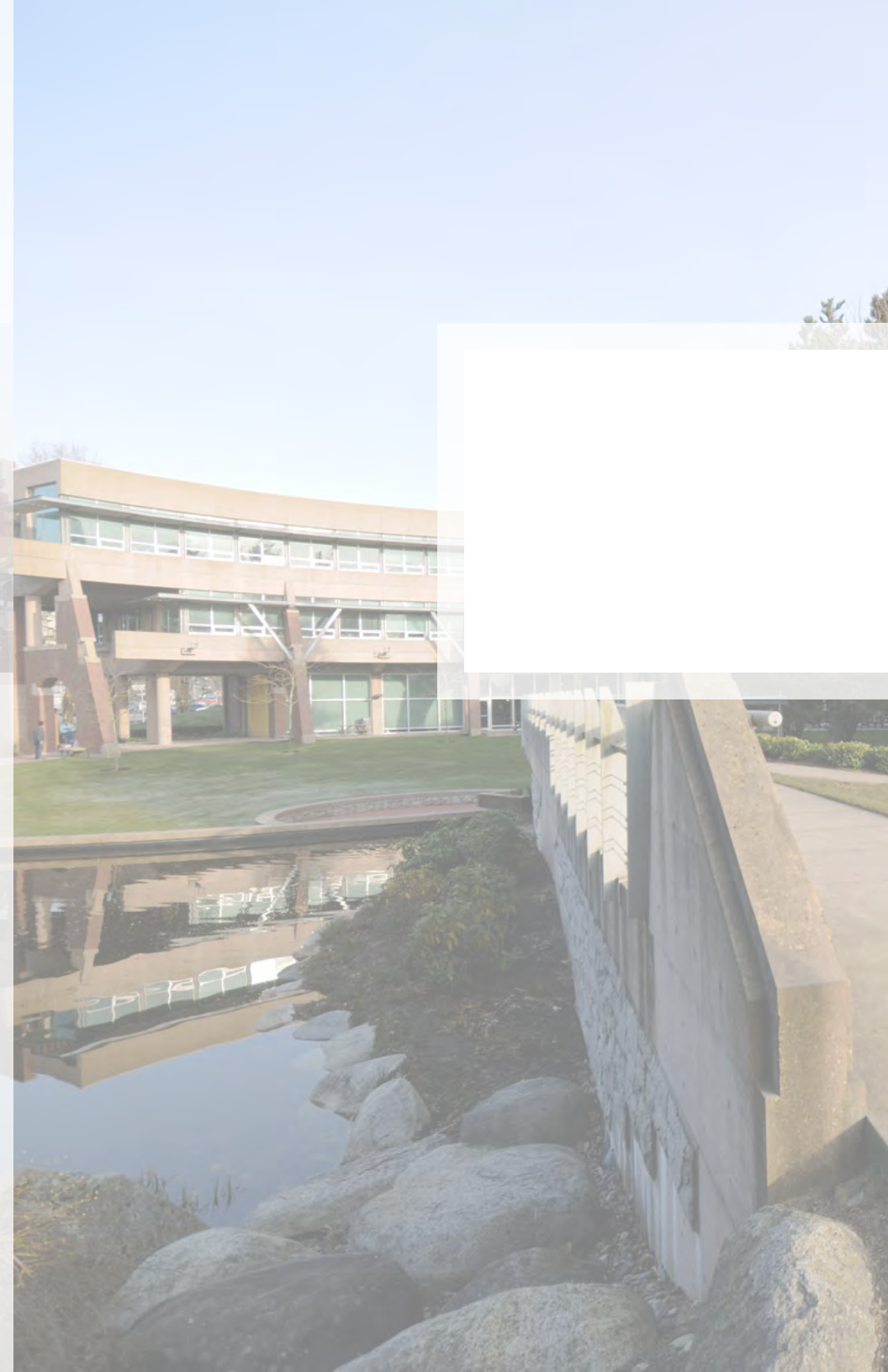
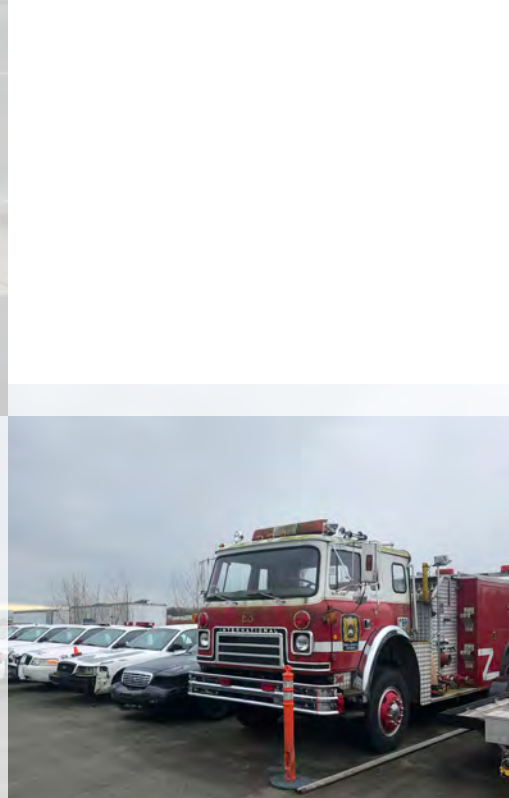
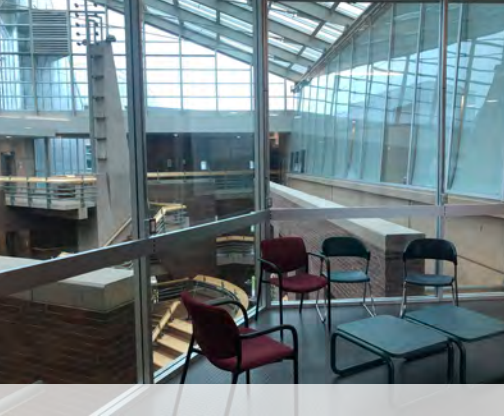
Construction has, in many jurisdictions, been designated an essential service. Consequently, construction continues, but the COVID-19 pandemic protocols for on-site work have reduced productivity and increased costs. What had been anticipated as a slowing in the rate of escalation due to shutdowns and enforced isolation has had the net effect of exhibiting a 3.5 percent annual rate of escalation when balanced with the productivity losses. The rate of escalation before the COVID-19 pandemic suggested escalations of between 3.5 to 4.5 percent. Therefore, that number is applied to escalate the project cost from the present to the mid point of the anticipated construction duration. The result can be seen in the table below.

The buildings included in the table are associated with the masses shown on the 3D models. The buildings are set out at intervals across the 25-year planning horizon of the plan and illustrate anticipated costs to meet program growth needs.

Effective Date 30-Apr-21

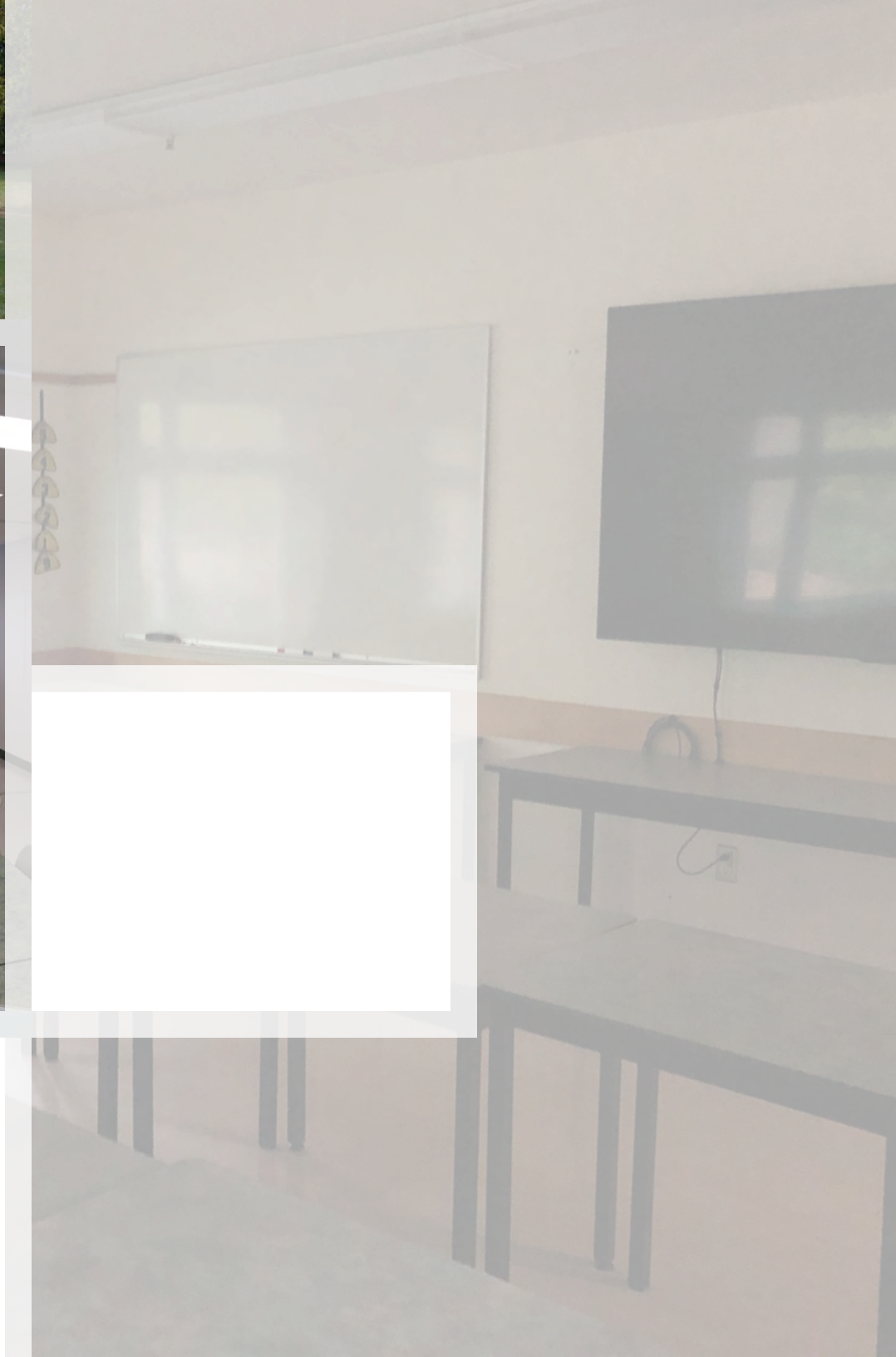
PROJECT	Area (GSM)	UNIT COST	RENO COST	NEW BUILDING/ ADDITION COST	SITE UTILITIES	DEMOLITION	2021 CONSTRUCTION COST	SOFT COSTS	FF&E 7.5%	2021 TOTAL PROJECT COST	ESTIMATED YEAR MID POINT CONSTRUCTION	ESCALATION	TOTAL PROJECT COST
New Westminster Campus												\$221,117,877.43	
Academic Building A	5,832.00	\$5,500.00	\$0.00	\$32,076,000.00	\$150,000.00	\$80,000.00	\$32,306,000.00	\$9,691,800.00	\$2,422,950.00	\$44,420,750.00	30-Apr-24	\$4,664,178.750	\$49,084,928.75
Parking Garage	4,164.00	\$3,800.00	\$0.00	\$15,823,200.00	\$150,000.00	\$150,000.00	\$16,123,200.00	\$4,836,960.00	\$0.00	\$20,960,160.00	30-Apr-24	\$2,200,816.800	\$23,160,976.80
Housing	9,840.00	\$3,700.00	\$0.00	\$36,408,000.00	\$150,000.00	\$45,000.00	\$36,603,000.00	\$10,980,900.00	\$2,745,225.00	\$50,329,125.00	30-Apr-26	\$8,807,596.88	\$59,136,721.88
Academic Building B	7,920.00	\$5,500.00	\$0.00	\$43,560,000.00	\$150,000.00	\$90,000.00	\$43,800,000.00	\$13,140,000.00	\$3,285,000.00	\$60,225,000.00	30-Apr-35	\$29,510,250.00	\$89,735,250.00
Maple Ridge Campus												\$73,285,045.25	
Housing	3,360.00	\$3,700.00		\$12,432,000.00	\$1,243,200.00	\$75,000.00	\$13,750,200.00	\$4,125,060.00	\$1,031,265.00	\$18,906,525.00	30-Apr-27	\$3,970,370.25	\$22,876,895.25
Town Centre	4,200.00	\$5,500.00		\$23,100,000.00	\$125,000.00	\$75,000.00	\$23,300,000.00	\$6,990,000.00	\$0.00	\$30,290,000.00	30-Apr-27	\$6,360,900.00	\$36,650,900.00
Outdoor Range	15,000.00	\$550.00		\$8,250,000.00	\$125,000.00	\$125,000.00	\$8,500,000.00	\$2,550,000.00	\$0.00	\$11,050,000.00	30-Apr-28	\$2,707,250.00	\$13,757,250.00

\$294,402,922.68





Long-Range Facilities Plan Technical Document



Contents

5.0 Technical Document

.1 Stakeholder Engagement Plan

.2 Visioning Session Summary

.3 Master Program

.4 Interim Recommendations for Chilliwack

.5 Office Space Study

.6 Administrative Space Management Guidelines

.7 Transportation and Parking Study

.8 Long-Range Facilities Plan Survey 2021

.9 Student Housing Demand Survey Report

.1 Stakeholder Engagement Plan



Campus Planning Council

Stakeholder Engagement Plan – Long-Range Facilities Plan (LRFP)

Updated June 21, 2021

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Introduction

At its September 26, 2019 meeting, the Board of Governors approved the development of a Long-Range Facilities Plan (LRFP) for the Institute. The LRFP is intended to provide a planning framework to accommodate and guide decision-making regarding the physical infrastructure of the Institute over the next 25 years. The LRFP will identify a set of strategic planning principles to form the basis for achieving the goals, objectives, and strategies expressed in the Strategic, Education and Indigenization Plans of the Institute. The LRFP will identify as well how Institute lands and facilities should be developed in response to these plans and will outline the operational planning initiatives and guidelines that will direct such developments.

The Campus Planning Council has the responsibility for overseeing the development of the LRFP with the support of the Executive Committee. The development of the LRFP requires extensive input from stakeholders, hence the need for a stakeholder engagement plan.

Identification of Stakeholders

A Stakeholder Consultation Matrix was developed and approved by the Campus Planning Council. Stakeholders are identified in the following categories:

- **Key Player:** input is highly influential, and the outcome is of high interest
- **Meet Special Interest Needs:** input involves a specific perspective included in the analysis.
- **Show Consideration:** inform as part of the development process and address questions as they arise.
- **Inform:** inform progress through normal JIBC communications channels and address questions as they arise.

Key Stakeholders

Stakeholder Group	Influence	Interest	Quadrant	Location
JIBC Board of Governors	10	10	Key Player	New Westminster
JIBC Executive Committee	10	10	Key Player	New Westminster
JIBC Senior Leadership Council	10	10	Key Player	New Westminster
JIBC Foundation Board of Directors	9	10	Key Player	New Westminster
JIBC Staff and Faculty	9	9	Key Player	All campuses/locations
Professional Clients (e.g. Municipal Police Departments, BC Ambulance Service)	8	7	Key Player	BC
Local Communities (e.g. Chilliwack Economic Partners Corporation, Centennial Community Centre, and Fitness New Westminster)	8	7	Key Player	BC
Lessors (e.g. Pitt Meadows Airport Authority)	10	5	Meet Special Interest Needs	BC
JIBC Students (current)	8	5	Meet Special Interest Needs	40% JIBC campuses 60% online or in their community (BC, Canada, offshore)
Local Authorities (e.g. City of Maple Ridge)	5	5	Show Consideration	BC
Main Funders (e.g. AEST Ministry Leaders)	5	5	Show Consideration	BC
JIBC Alumni	3	2	Least Important	Worldwide
Property Industry (e.g. Colliers)	3	1	Least Important	BC

Plan

1. Purpose

- Consult throughout the development of the Plan to gain stakeholder insights into the current state, priorities, and vision.
- Engage with stakeholders to ensure the analysis and resulting Plan reflects their input.

2. Principles

- Make engagements meaningful.
- Build trust through transparency and responsiveness.
- Encourage collaboration with the people affected by an issue.
- Create a safe environment to explore ideas and learn together.
- Reflect the diversity of stakeholders to benefit from the right mix of people and ideas.
- Set clear expectations with stakeholders and communicate the impact of their contributions.
- Make it easy to take part effectively.
- Honour the rights of Indigenous peoples to be consulted on issues affecting them.

3. Constraints

- The majority of individuals are not present at campus locations, except for staff, which predominate at the New Westminster location. An in-person engagement would not gain a good representation from other stakeholder groups, who would then need to be engaged through other means.

- JIBC students are in the process of joining the Canadian Federation of Students to form a student union. The student union may or may not be operational during the stakeholder engagement process.
- The Office of Indigenization plans to survey students regarding learning spaces soon, and audiences may overlap.
- Level of participation based on interests and choice.
- Method and degree of stakeholder engagement impacted by COVID-19 pandemic mitigation measures.
- Open space and self-guided; whoever comes are the right people.
- A secure branded website that is compliant with B.C. privacy legislation.
- Accessible by invitation, with demographic characteristics captured for each participant (survey or pre-populated data).

4. Stakeholder Invitations

All engagement activities should be relationship-driven, aimed at deepening engagement and never harming the relationship. Relationship managers must be involved in planning:

- Deans and directors identify the status of key contacts, regular channels of communication, motivations, anticipated opposition, etc.
- The Campus Planning Council will create a list of clients, including industry and community partners. The list will be sent to Deans/Directors to confirm inclusion and provide contact information.
- Institutional Research will create a list of students (past 18 months) and suggest inclusion criteria to ensure a rich cross-section and students have had enough engagement with JIBC to provide informed input.

5. Methodology

i. Visioning Sessions - March through May 2020

Activity Overview

Provide overall direction to the Consultant Team regarding subsequent engagement and communication processes and overall

directions for JIBC physical resources.

Participants

Board of Directors, Foundation Board of Directors, Executive Committee, Senior Management Council, Campus Planning Council.

Methodology

Discussion questions are provided in advance, depending on size, small break-out groups or one plenary group, to discuss and record the various values and directions that the Plan should embody.

Outcomes

Overall directions for the Plan, process and process outcomes and growth, program delivery, cost, etc.

Timing

60 – 90 minutes sessions for Participant Groups as required in informal virtual environments.

ii. [Strategic Direction & Space Needs of Academic Programs and Infrastructure Areas – June through September 2020](#)

Activity Overview

Based on the directions identified in the Visioning Session, this series of interviews identify each of the Schools, Offices and Divisions' goals and aspirations and includes a review of the current state. In addition, identify implications of goals on space needs and campus locations.

Participants

Deans, Directors, others as invited.

Methodology

Individual discussions with each Dean and Director (and any selected invitees the Dean or Director would like) on strategic direction.

Outcomes

Overall goals and directions for each School, Office, Division, Centre, and Academy for program size, delivery, pedagogy, and understanding any differences from earlier visioning sessions. Identification of space needs to develop Master Program.

Timing

60 – 90 minutes sessions for Participant Groups as required in informal virtual environments.

iii. [Stakeholder Survey – early February 2021](#)

Activity Overview

Provides a survey for stakeholders to comment on current conditions and future vision.

Participants

Stakeholders.

Methodology

An online survey designed to receive feedback/gather input. Survey questions reference the following areas: (1) Feedback on current conditions of learning, administrative and specialty spaces, props, etc. (2) Identifying and prioritizing needs in various spaces (3) Feedback on student housing needs (4) Parking and transportation modes specific to the New Westminster campus.

Outcomes

Provides direction on current conditions and future vision from all Stakeholders.

Timing

2 – 3 weeks, extended as required.

iv. [Preliminary Draft Plan Review Sessions – May & June 2021](#)

Activity Overview

Provides an opportunity to see and respond to the draft Plan.

Participants

Campus Planning Council, Senior Leadership Council, Foundation Board, Board of Governors

Methodology

Virtual presentation of all information gathered to this point, including developed planning principles, campus conditions, program and development growth opportunities and assessments, parking study findings, administrative space guidelines, preliminary recommendations, and implementation plan—a copy of draft plan made available to participants.

Outcomes

Collect feedback and provide direction for the final draft of the Plan.

Timing

May 13 – Campus Planning Council

May 25 – Senior Leadership Council

May 26 – Foundation Board

June 3 – Board of Governors

v. [Virtual Open Houses – July 2021](#)

Activity Overview

Provides an interactive venue for receiving feedback on the draft Plan—the level of participation based on interests.

Participants

Staff, faculty, students, and the public.

Methodology

Presentation and presentation boards for drop-in virtual format. Allows the project team to have informal conversations and to gather feedback. Presentation and associated graphics displayed with means for participant interaction (e.g. write-on).

Outcomes

Collects feedback and provides direction for the Plan.

Timing

July 8 – hourly sessions in an informal virtual environment.

vi. [Virtual Sessions – July & August 2021](#)

Activity Overview

Provides an interactive venue for receiving feedback on the draft Plan—the level of participation based on interests.

Participants

Program and administrative staff, professional clients, local communities, lessors, local authorities, main funders, and others.

Methodology

Presentation in scheduled virtual format. Allows Facilities to have informal conversations and to gather feedback for Project Team.

Outcomes

Collects feedback and provides direction for the Plan.

Timing

As scheduled - hourly sessions in an informal virtual environment.

vii. **Final Presentations – September 2021**

Activity Overview

Provides an opportunity to see and respond to the Plan.

Participants

Campus Planning Council, Senior Leadership Council, Executive Committee, Board of Governors.

Methodology

Presentation and presentation boards in a virtual format.

Outcomes

Key stakeholders to view, understand and have a final influence on Plan outcomes —project team to present final draft at Board of Governors meeting.

Timing

September 9 – Campus Planning Council

September 13 – Executive Committee

September 14 – Senior Leadership Council

September 23 – Board of Governors

Milestones

Stages	Initiate	Complete
FRAMEWORK	December 13, 2019	January 8, 2020
DISCOVERY I	January 2, 2020	June 15, 2020
DISCOVERY II	June 5, 2020	November 17, 2020
EXPLORATION	September 3, 2020	August 31, 2021
RECOMMENDATIONS	May 13, 2021	September 23, 2021

.2 Visioning Session Summary



LONG-RANGE FACILITIES PLAN

Visioning Session Summary

2021 February 08th



Thinkspace Architecture



Resource Planning Group



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The content of this document is the product of a collaborative effort of ThinkSpace Architecture, Resource Planning Group Inc, and the Justice Institute of British Columbia and requires the formal approval of these parties prior to its use.

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INTRODUCTION

INTRODUCTION

Established in 1978 with a provincial mandate under the College & Institute Act, Justice Institute of British Columbia (JIBC) delivers leading edge public safety and justice education and training in BC, Canada, and internationally at its six campuses.¹

PROJECT PURPOSE

The Board of Governors of the JIBC approved the development of a Long-Range Facilities Plan (LRFP) for the Institute. The LRFP is intended to provide a planning framework to accommodate and guide decision-making regarding the physical infrastructure of the Institute over the next 25 years. The LRFP will identify a set of strategic planning principles to form the basis for the achievement of the goals, objectives, and strategies expressed in the Strategic, Education, and Indigenization Plans of the Institute. The LRFP will identify as well how Institute lands and facilities should be developed in response to these plans and will outline the operational planning initiatives and guidelines that will direct such developments.

The LRFP encompasses all six of JIBC's campuses, including:

- New Westminster (main campus);
- Chilliwack;
- Kelowna (Okanagan);
- Maple Ridge;
- Pitt Meadows; and
- Victoria.

¹ JIBC Fast Facts June 2016.doc.

The intent is to provide a framework to guide decision making for physical infrastructure of the Institute over the next 25 years.

PURPOSE OF THIS DOCUMENT

In Spring 2020, JIBC leadership participated in online visioning sessions, discussing JIBC's unique features and possible future directions. This document summarizes the presentation content and comments from the Executive Committee, the Senior Management Council, and the Campus Planning Council. This information will be used to provide overall directions for the Long-Range Facilities Plan and inform strategic directions discussions with the Schools, Divisions, and Departments.

PARTICIPANTS

The following people are thanked for their contributions to this project:

JIBC Administration & Institutional Support

Michel Tarko, President and CEO

Dale Bradley, Facilities

Julie Brown, Director, Facilities

Tracy Campbell, Director, Office of Development

Tracey Carmichael, Director, Institutional Research

Jane Chen, Asset Management, Facilities

Derek Deacon, General Counsel

Janet Haberfield, Executive Assistant to Office of President /BOG

George Jones, Director, Information Technology

Jon Marks, VP Human Resources

Dave Mitchell, Chair of Foundation

Mike Proud, VP Finance & Operations

Eric Salmon, Manager Capital Projects, Facilities

Blake Smith, Facilities

Colleen Vaughan, VP Academic

ABOUT JIBC

ABOUT JIBC

An understanding of existing context is required to make informed planning projections for the future. This section is organized under:

- Unique Aspects of JIBC;
- Relevant Trends; and
- JIBC Planning Context.

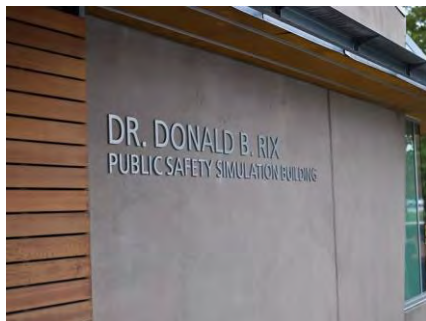
UNIQUE ASPECTS OF JIBC

JIBC stands out among BC colleges, institutes, and university colleges. Enrollment and utilization numbers reported to the Ministry are an indicator of JIBC's uniqueness. These were some of the preliminary findings when scanning JIBC numbers.

Wide Range of Program Delivery

There is a wide range of program types which require a wide range of space types for program delivery – classrooms, court rooms, clinics, indoor gun range, virtual simulation building.

Plus, there are extensive outdoor program delivery modes – a driving range, scenario pads for live fires, container ship, oil spills, derailments, et cetera.



DRIVING TRACK

Smaller Program Cohorts

Typically, face-to-face enrolments are 18 to 20 students per section. There are smaller sections of eight students and larger sections of 48 students but the mean average of enrolments for all course offerings is just over 19 students.

Older Students

Nearly 70% of students are 30 years or older, and many have prior post secondary experience. Less than 7% are 21 years or under. Many students are also post-hire enrolments, taking courses required by their employers.

Gender Distribution

Another unique aspect is gender distribution, which is approximately 70% male, 30% female/unidentified. In the School of Public Safety, this number is skewed even further with 85% male, 15% female/ unidentified. Only in the School of Health, Community & Social Justice is there a more balanced distribution of 55% male, 45% female/ unidentified.

Physique & Equipment

Programs with high physical requirements also tend to attract students with larger physiques. Some programs also require the use of protective equipment, adding to personal bulk. These physical differences have an impact on space planning.



Moving as a Cohort

Cohorts tend to move together. Often a group of learners are booked all day for learning, which could be from a larger classroom, but move among modalities. Smaller break-out rooms are in demand, and JIBC has tried to carve out spaces from within their existing footprint.

Liaison with Industry

Unique as a BC post-secondary institution, JIBC has a strong connection to industry. JIBC creates programs to meet the demands of industry as JIBC serves many post-hire enrolments Institutional Research ensures training is relevant and that programs are able to address demand.



2020-25 Strategic Plan



Experiential Focus

As evident from the range in programs, there is a high experiential focus. Simulations are used in program delivery, including live fires, gun range, driving range, as well as virtual simulators. Professional actors are also hired in many of these live training scenarios. There are already programs taking advantage of AR (augmented reality) and VR (virtual reality).

10 Headcount per FTE

2,900 student FTE represents a headcount of 29,800 – 10x the number of FTE. This is unusual in the British Columbia colleges and institute system, wherein headcount is usually no more than 3x FTE. This reflects more single course offerings delivered to many unique individuals over a short time, as opposed to fewer individuals taking several courses over a semester.

On-site and Off-site Learning

JIBC provides about 33% of its offerings off-site, based on 2017-18 data. Off-site means not only as online offerings, but also by going out to provide training courses at other institutions in BC, in Canada, or elsewhere.



RELEVANT TRENDS

To make informed decisions about future directions, it is also useful to identify trends that are relevant to JIBC. These include general trends in post-secondary, as well as more unique trends in peer fields of learning and training. Trends will be discussed in terms of:

- Teaching and Learning Trends;
- Workplace Trends; and
- Support Trends.

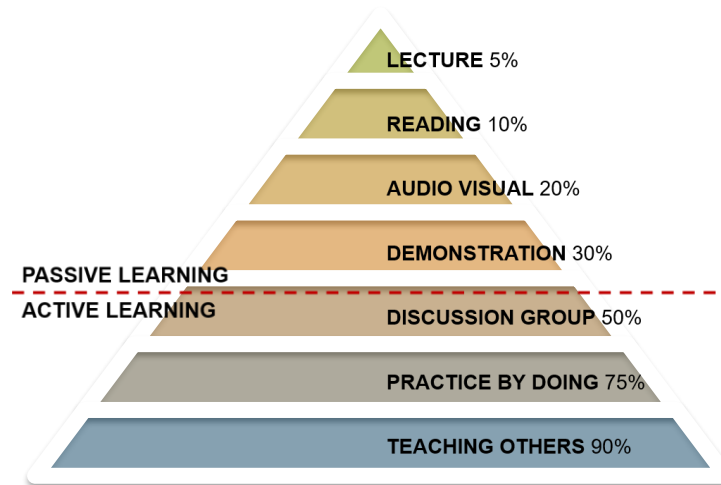
Teaching and Learning Trends

The main themes and concepts include:

- Active and Asynchronous Learning;
- Effective Use of Resources;
- Student Experience/Indigenization;
- Flexibility and Adaptability; and
- Inter-/Multi-Disciplinary.

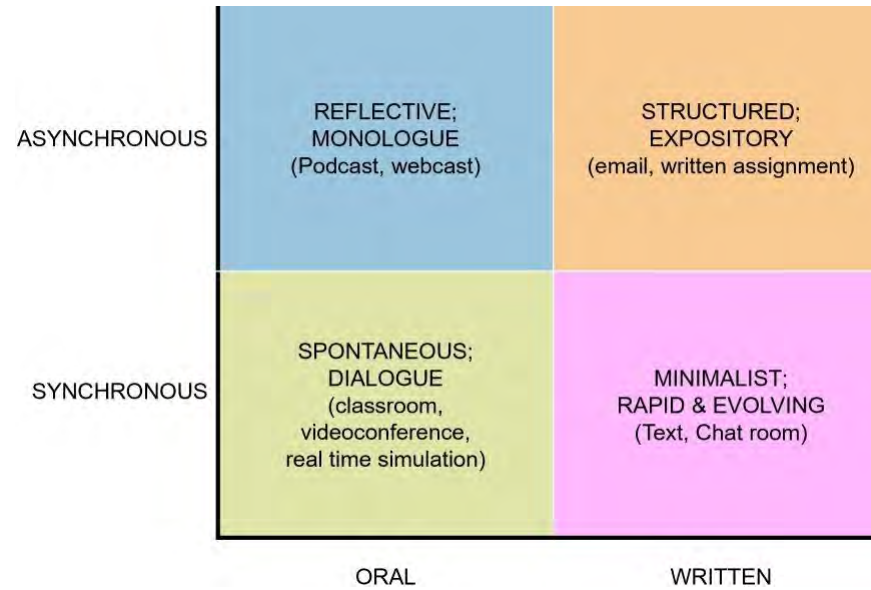
Active and Asynchronous Learning

Active Learning results in greater retention of information. There is a trend towards creating learning spaces that support active learning.



SCALE-UP – Student Centred Active Learning Environment for Upside-down Pedagogies is one expression of active learning. It is also known as the “flipped classroom” where students work in teams to discuss and investigate content that they learn prior to class. The instructor uses class time to clarify, answer questions, and facilitate hands-on activities.

Asynchronous and synchronous learning refers to when information is delivered and received.



Use of Simulation

There is a greater use of simulation throughout the post-secondary sector, a trend which JIBC, with its practical focus, is at the forefront and will continue to explore. Simulation takes a number of forms, including recreating physical workplace environments, computer-based applications, and providing virtual learning environments, through Augmented and Virtual Reality.



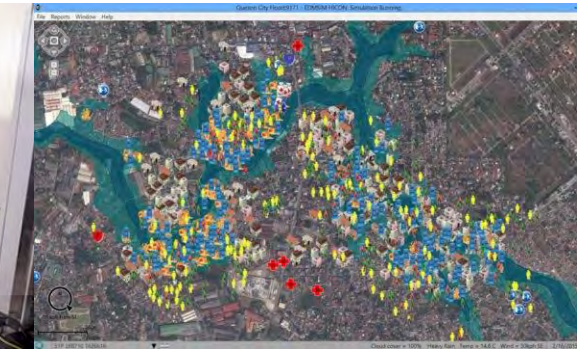
THE GEORGE WASHINGTON UNIVERSITY Nursing Skills & Simulation Lab



BROCK UNIVERSITY Anatomage Table



HUMBER COLLEGE Ambulance Simulation



EDMSIM – ER Response Simulation Software

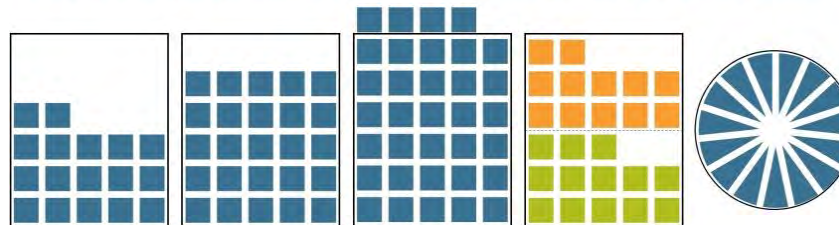


Live Fire Shoot House

Effective Use of Resources

The effective use of resources means that an organization can adapt to increasing or shifting enrolments, demands for space, capital and operating costs, and attention to sustainability.

Increased Requirement for Efficient Space Use & Management

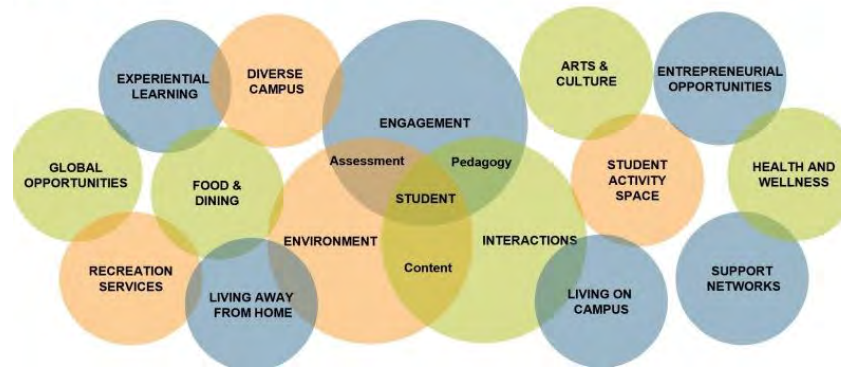


Student Experience/Indigenization

Student experience on campus and contributing to the nation’s efforts towards reconciliation are increasingly important for institutions.

Student-Centred Learning

“The wide variety of educational programs, learning experiences, instructional approaches, and academic-support strategies that are intended to address the distinct learning needs, interests, aspirations, or cultural backgrounds of individual students and groups of students.” - Great Schools Project – Glossary of Education Reform



Flexibility and Adaptability

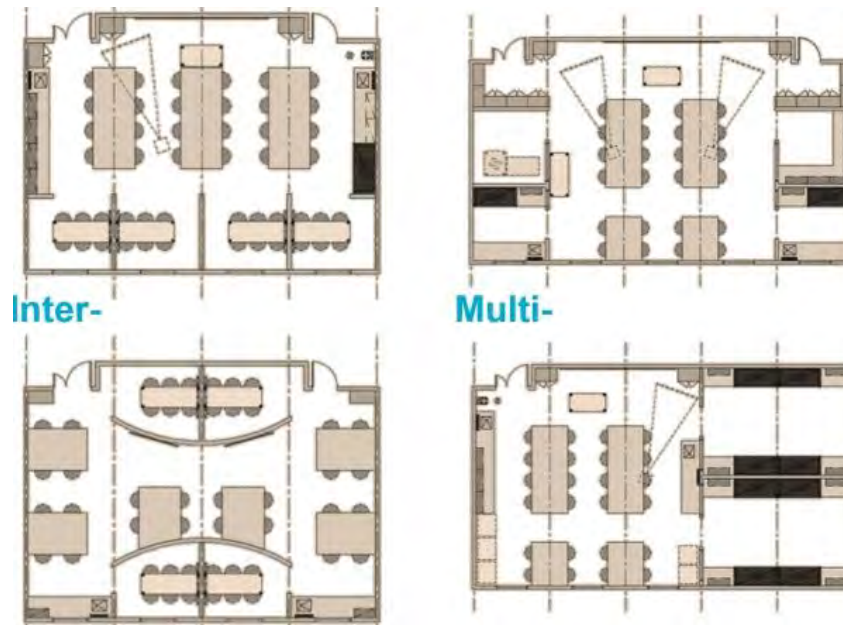
Flexibility within a learning space is possible if designed with change in mind. Even with larger tiered classrooms, a slight tweak allows for combination of lecture and small group discussions.



UNIVERSITY of WINDSOR – Ed Lumley Centre for Engineering Innovation

Inter-/Multi-Disciplinary

Interdisciplinary refers to integrating knowledge and methods from different disciplines. **Multidisciplinary** refers to people from different disciplines working together, each drawing on their disciplinary knowledge.



An example of interdisciplinary learning is evident at College La Cité where emergency responders across many disciplines work together during a simulated crisis. This type of learning can be transferred to the real world if industry liaisons buy in to the concept.

Interprofessional Exercises – College La Cité 911 Institute



Workplace Trends



***Blueprint – Transforming Office Space Design in British Columbia's Public Service,
BC Real Properties Division, March 2015***

Greater Range of Workplace Types

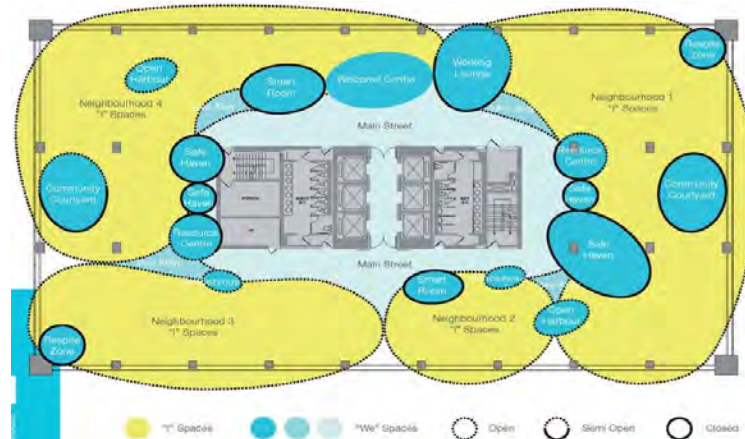
With current social and mobile technologies, people can work in a greater range of settings. In fact, flexibility in work styles is no longer merely a trend, but happening today, evolving globally.

The BC Real Properties Division² outlines some benchmarks to consider, which are still relevant when considering a changing workplace:



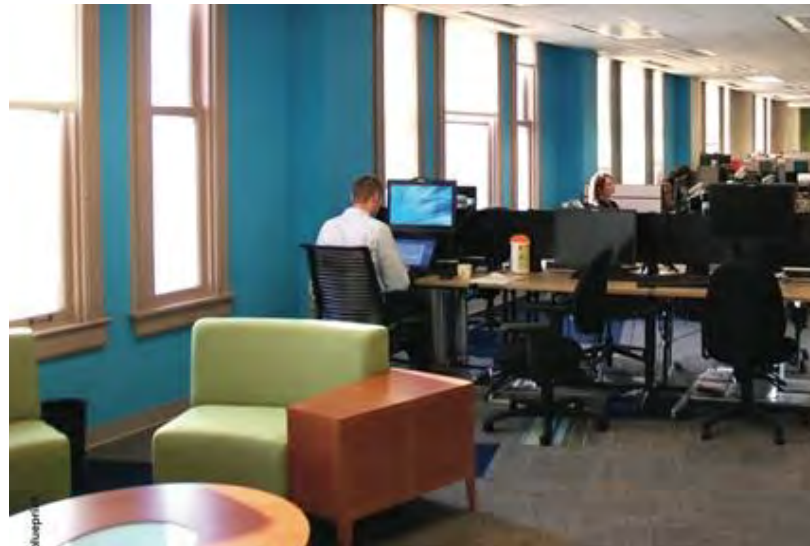
- **30%** as the target baseline for mobile worker uptake in an office of 20+ staff – reduce the number of dedicated workstations/ offices;
- **1:6** target one Quiet Room/Privacy Room for every six mobile workers; and
- **20%** of workspace should be devoted to collaborative functions.

In other words, this does not equate to less space, but a greater range of space types than the usual pattern of offices along the perimeter with open workstations in cubicles in the middle. The diagram below is an example of combining open and enclosed “I” and “We” spaces.



² *Blueprint – Transforming Office Space Design in British Columbia’s Public Service*, BC Real Properties Division, 1st Edition, March 2015, pp.42-43.

The layout also illustrates a strategy to provide natural light to more people in open spaces, and enclosed spaces clustered towards the interior of the building.



Support Trends

Spaces in support of academic activities, such as student registration services, food services, recreation, informal study spaces and core services such as media services or wellness are included under this umbrella. These are some noted trends:

One-Stop Student Services

Administratively, student services at post-secondary institutions can be a collection of departments – registrar, financial services, advising. However, a student does not care about these departmental distinctions. Students just want one place to go to have their needs met, and not be bounced from one place to another. In other words, One-Stop Student Services.





Gow-Hastings Architects - Ryerson University Student Service Hub

Indigenous Services

Nowadays, students can access cultural, social, academic, and financial support through Indigenous student services. Indigenous gathering places or learning centres are some of the types of spaces provided.



LAURENTIAN UNIVERSITY – Indigenous Learning Centre image by DSAI

VISION STATEMENTS

VISION STATEMENTS

Following a trends presentation, leadership was asked which of the trends discussed were applicable to JIBC, what other trends are applicable, and what are the challenges and opportunities that the LRF should address.

The information captured from those sessions is grouped under these categories:

- Visions for Academic Programs; and
- Visions for Support Functions

In terms of academic programs, JIBC has three schools, each supporting various Divisions, Centres and Academies:

School of Public Safety

- Emergency Management Division;
- Fire & Safety Division; and
- Public Traffic Education Centre.

School of Health, Community, and Social Justice

- Centre for Conflict Resolution;
- Centre for Counselling & Community Safety;
- Centre for Leadership; and
- Health Sciences Division – Paramedic Academy, Centre for Professional Health Education.

School of Criminal Justice & Security

- Corrections & Community Justice Division;
- Justice & Public Safety Division; and
- Police Academy.

Support functions, for the purposes of this project, are grouped under three categories:

Student & Academic Support

- Student Services – Registrar, Financial Aid & Awards, Advising, Records, Student Wellness, Writing Centre;
- International Programs;
- Applied Research & Graduate Studies;
- Office of Indigenization;
- Library/Learning Commons /Student Study;
- Ancillary Services – Bookstore, Food Services, Recreation, Print Shop; and
- Residential & Other.

Administration & Institutional Support

- Administrative Offices – President’s Office, Academic Affairs, Human Resources, Development Office, Finance & Administration, Facilities Services, Technology Services, Institutional Research, Communication & Marketing;
- Meeting & Shared Staff Resources;
- Staff Amenities; and
- JIBC Foundation Office.

Building Support

- Main Entry, Public Amenities; and
- Back of House Amenities.

VISIONS FOR ACADEMIC PROGRAMS

This section includes statements of vision for the academic programs which were discussed at the Visioning Sessions. They have been organized by themes.

All Academic Programs

Consider Reducing the Number of Campuses

Reduce the number of campuses operated by JIBC, consolidating programs to three or four campuses. Considerations include:

- Victoria: Consider space-sharing partnership with Royal Roads University;
- Chilliwack: Consider selling Chilliwack campus and use proceeds to purchase Maple Ridge campus;
- Maple Ridge: Modernize and create a Centre for Excellence for Fire and Safety;
- Pitt Meadows: Continue to build on success of this campus, renewing lease when it expires in 2021;
- Okanagan: Consider space-sharing with other institutions or look for alternate lease in the Okanagan; and
- New Westminster: maintain as the main campus with required expanded and new facilities.

Create Inviting Campuses

- Ensure all JIBC campuses are inviting; make attractive space a part of the equation for students attending JIBC.

Develop More Defined Campus Zones

- Provide a wing or building zone specifically to support Paramedic program offerings at the New Westminster campus.
- Provide a secure zone with limited student and public access for key Police Academy functions; provide open zones that are available to all.

Classrooms and Learning Spaces

- Develop classroom and Instructional Labs that match the curriculum and learning needs of students, including increased flexibility, and that have sufficient storage to accommodate anticipated training equipment.
- Provide a flexible learning environment that allows students to move from large spaces that accommodate the full cohort to smaller spaces for group work.

Modernize & Expand Simulation Space

- Expand simulation beyond that provided in the RIX building for tactical training. Develop modern simulation spaces – current spaces are outdated and do not attract students;
- Anticipate increasing use of artificial intelligence (AI) to supplement AR and VR;
- Provide dedicated interior multipurpose space for ambulance simulation training;
- Locate firearms training and live shoot simulations away from public areas, including traffic areas; and
- Support the 5-Year Capital Plan proposal for new Simulation Building to be submitted to Ministry.

Interdisciplinary Training

- Avoid silos among first responders by providing strategies for interdisciplinary programs, and training;
- Provide a shared simulation training facility that supports interdisciplinary training; and
- Coordinate and schedule interdisciplinary events two to three years in advance, building these into the curriculum.

Provide Program Supports

- Provide secure gun and uniform locker areas to support the programs of the School of Criminal Justice and Security.

Meeting Rooms that Support Remote Program Delivery

- Provide meeting spaces at campuses with the technology to support remote attendance enabling students to participate in programs from multiple campuses.

Computer Labs

- Review needs for computer labs and repurpose the computer labs as appropriate.

Update Enrolment Tables

- Amend scheduling protocols and policies to create a clearer image of actual use; move away from block booking of instructional space.

Online Delivery Post Covid-19

- Review opportunities for permanent transition to online delivery of portions of curriculum where appropriate and based on JIBC's COVID-19 experience; and
- Review expanding Praxis software already in use – useful but proprietary.

VISION FOR SUPPORT FUNCTIONS

The academic programs above are supported by student services, administration, and building support functions. Vision statements for support functions include:

Student & Academic Support

Indigenization of Campus

- Incorporate Indigenous concepts throughout the campuses, and not just in the Aboriginal Gathering Places; and
- Better utilize outdoor space for multipurpose activities and for ceremonies.

Library and Learning Commons

- Expand the Learning Commons from Library so that there is more flow into main lobby;
- Include a Writing Centre, Research, Peer Tutoring, Technical Support in a one-stop student success centre; and
- Expand study space, with a variety of study environments including areas for collaboration and areas for quiet study.

Open Space & Place to Plug-in

- Continue to open up spaces, create more flexible space, provide places to plug in; and
- Make a “selling” impression when people arrive on campus.

Bookstore

- Improve access and inventory at the Bookstore.

Administration & Institutional Support

Faculty

- Provide more opportunities for sessional instructors to integrate into campus life; and
- Provide interaction spaces to help build collegiality.

Administration

- JIBC needs to build sufficient capital to rely less on Ministry funding for projects; and
- Administration spaces need to be reconfigured.

.3 Master Program

MASTER PROGRAM AREA SUMMARY

Master Program Areas are derived from program-based direction from Deans and Directors and representatives for support components. These area allocations are used for the Long Range Facilities Plan.

Summary Table

The first four columns of this table are now supplemented by the column **Master Program** areas by campus. As adjustments are made to the program, as long as the overall Master Program area is in the ballpark of calculated areas, then there is reassurance that requests for space are justifiable.

MASTER PROGRAM AREAS	2018-19 Existing m2	2019 Calculated m2	2029 Calculated m2	2044 Calculated m2	Master Program m2	Add'nl Area Master Program m2
New Westminster	10,917	15,772	16,914	17,209	15,799	4,882
Chilliwack	4,729	4,596	3,282	3,282	-	-
Kelowna	578	1,119	1,191	1,247	854	276
Maple Ridge	33,933	31,393	31,454	31,485	36,510	2,577
Pitt Meadows	32,543	32,355	32,356	32,356	32,812	268
Victoria	774	1,515	1,515	1,515	1,050	276
JIBC Total m2	83,474	86,750	86,712	87,093	87,025	8,280



Overall additional area at New Westminster is approximately three floors of the classroom block, which implies a new building. Additional area at other campuses could be accommodated by reassigning space within existing facilities or building additions on campus, possibly the case for Maple Ridge.

Summary by Components

The table below follows the component structure presented in *JIBC Program Based Directions.pdf*, as well as information from staffing and inventory lists provided by JIBC.

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2
ACADEMIC PROGRAMS														
OFFICE OF APPLIED RESEARCH & GRADUATE STUDIES														
Office of Applied Research, Graduate Studies, CRIS, CLGS	42	87	-	-	-	-	-	-	-	-	-	-	42	87
Centre for Teaching, Learning & Innovation	124	233	-	-	-	-	-	-	-	-	-	-	124	233
SCHOOL OF PUBLIC SAFETY														
Driver Education Centre	53	53	-	-	-	-	-	-	32,468	32,518	-	-	32,521	32,572
Emergency Management Division	221	244	-	-	-	-	-	-	-	-	-	-	221	244
Fire & Safety Division	123	134	-	-	-	-	23,416	23,926	-	-	-	-	23,538	24,059
SCHOOL OF HEALTH, COMMUNITY, AND SOCIAL JUSTICE														
Centre for Counselling & Community Safety	893	959	-	-	-	-	-	-	-	-	-	-	893	959
Centre for Conflict Resolution	107	107	-	-	-	-	-	-	-	-	-	-	107	107
Centre for Leadership	34	34	-	-	-	-	-	-	-	-	-	-	34	34
Health Sciences Division - Paramedic Academy	896	907	969	-	545	649	156	1,125	-	-	711	815	3,276	3,496
Health Sciences Division - Centre for Professional Health Ec	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SCHOOL OF CRIMINAL JUSTICE AND SECURITY														
Corrections & Courts Division - Corrections Academy	957	968	-	-	-	-	-	-	-	-	-	-	957	968
Corrections & Courts Division - Sheriff Academy	474	480	-	-	-	-	-	-	-	-	-	-	474	480
Police Academy	2,281	2,292	-	-	-	-	8,000	8,418	-	-	-	-	10,281	10,711
Justice & Public Safety Division	-	-	-	-	-	-	301	435	-	-	-	-	301	435
OFFICE OF INDIGENIZATION														
Office of Indigenization	110	124	-	-	-	-	-	-	-	-	-	-	110	124
JIBC GENERAL SUPPORT SERVICES														
TIERED & SHARED CLASSROOMS														
Lecture Theatre	251	251	-	-	-	-	-	-	-	-	-	-	251	251
Classroom & Break-out	546	546	-	-	-	-	-	134	-	-	-	-	546	680
Special Use & Simulation	726	726	-	-	-	-	-	-	-	-	-	-	726	726

Continued next page >>>

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2	Existing Net m2	Future Net m2
STUDENT SERVICES														
Registration Office	192	221	20	-	-	4	-	4	-	4	36	40	249	272
Student Affairs	186	244	-	-	-	-	85	85	-	-	-	-	271	329
Communications & Marketing	55	55	-	-	-	-	-	-	-	-	-	-	55	55
LIBRARY & LEARNING COMMONS														
Library & Learning Commons	566	1,293	-	-	-	-	-	-	-	-	-	-	566	1,293
OFFICE OF INTERNATIONAL AFFAIRS														
Office of International Affairs	51	68	-	-	-	6	-	6	-	6	-	6	51	90
OFFICE OF DEVELOPMENT & JIBC FOUNDATION														
Office of Development	36	42	-	-	-	-	-	-	-	-	-	-	36	42
JIBC Foundation	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TECHNOLOGY SERVICES														
Technology Services	346	374	-	-	-	-	-	-	-	-	-	-	346	374
FACILITIES OPERATIONS														
Food Services	564	564	35	-	33	33	165	211	-	46	27	27	823	881
Bookstore	47	13	-	-	-	-	-	-	-	-	-	-	47	13
Printshop Services	86	86	-	-	-	-	-	-	-	-	-	-	86	86
Student Study	70	395	-	-	-	46	-	46	-	46	-	46	70	581
Info, Security & First Aid	35	35	-	-	-	-	-	-	-	-	-	-	35	35
Maintenance	88	134	29	-	-	23	163	186	75	98	-	23	355	465
Central Stores	245	314	-	-	-	-	-	46	-	-	-	-	245	361
RESIDENTIAL														
Residences	-	3,211	3,282	-	-	-	-	-	-	-	-	-	3,282	3,211
ADMINISTRATIVE OFFICES														
President's Office & VP Academic	144	144	-	-	-	-	-	-	-	-	-	-	144	144
Finance & Administration	152	152	-	-	-	-	-	-	-	-	-	-	152	152
Human Resources	97	97	-	-	-	-	-	-	-	-	-	-	97	97
Institutional Research	17	17	-	-	-	-	-	-	-	-	-	-	17	17
Campus Planning & Facilities	103	103	-	-	-	-	-	-	-	-	-	-	103	103
OUTDOOR														
Unheated Storage	-	93	395	-	-	93	1,647	1,833	-	93	-	93	2,042	2,205
Heated Covered Training	-	-	-	-	-	-	-	56	-	-	-	-	-	56
BUILDING GROSS														
ZZZ	5,109	7,556	249	-	187	339	291	1,065	72	147	312	503	6,221	9,611
TOTAL AREA	16,026	23,355	4,979	-	765	1,194	34,224	37,575	32,615	32,958	1,086	1,553	89,695	96,635
ASSIGNABLE AREA (= TOTAL AREA minus ZZZ)	10,917	15,799	4,729	-	578	854	33,933	36,510	32,543	32,812	774	1,050	83,474	87,025
Net to Gross	1.47	1.48	1.05		1.32	1.40	1.01	1.03	1.00	1.00	1.40	1.48		

STAFFING SUMMARY

The staffing summary below was based on data provided by JIBC in 2020 February. Assumptions about additional FTE were a modest 12.5 FTE and shown without campus designation. Only full-time and part-time regular employees are included. Workspace for contract positions or positions requiring travel between campus are accommodated in drop-down workspace. See detailed Component Areas.

>> COMPONENT STAFFING	Existing		Add'l	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI
	Head Count	FTE	FTE	Head Count	FTE	Head Count	FTE	Head Count	FTE	Head Count	FTE	Head Count	FTE	Head Count	FTE
ACADEMIC PROGRAMS															
OFFICE OF APPLIED RESEARCH & GRADUATE STUDIES															
Office of Applied Research, Graduate Studies, CRIS, CLGS	8	7.5		8	7.5	-	-	-	-	-	-	-	-	-	-
Centre for Teaching, Learning & Innovation	8	8.0		8	8.0	-	-	-	-	-	-	-	-	-	-
SCHOOL OF PUBLIC SAFETY															
Driver Education Centre	5	4.6		5	4.6	-	-	-	-	-	-	-	-	-	-
Emergency Management Division	18	17.8		18	17.8	-	-	-	-	-	-	-	-	-	-
Fire & Safety Division	23	22.5		12	12.0	-	-	-	-	11	10.5	-	-	-	-
SCHOOL OF HEALTH, COMMUNITY, AND SOCIAL JUSTICE															
Centre for Counselling & Community Safety	10	9.6		10	9.6	-	-	-	-	-	-	-	-	-	-
Centre for Conflict Resolution	9	8.8		9	8.8	-	-	-	-	-	-	-	-	-	-
Centre for Leadership	4	4.0		4	4.0	-	-	-	-	-	-	-	-	-	-
Health Sciences Division - Paramedic Academy	21	20.6		11	11.0	4	3.6	2	2.0	-	-	-	-	4	4.0
Health Sciences Division - Centre for Professional Health Ed	8	7.1		8	7.1	-	-	-	-	-	-	-	-	-	-
SCHOOL OF CRIMINAL JUSTICE AND SECURITY															
Corrections & Courts Division - Corrections Academy	22	22.0		22	22.0	-	-	-	-	-	-	-	-	-	-
Corrections & Courts Division - Sheriff Academy	3	3.0		3	3.0	-	-	-	-	-	-	-	-	-	-
Police Academy	10	10.0		10	10.0	-	-	-	-	-	-	-	-	-	-
Justice & Public Safety Division	8	8.0		7	7.0	-	-	-	-	1	1.0	-	-	-	-
OFFICE OF INDIGENIZATION															
Office of Indigenization	2	2.0	3.0	2	2.0	-	-	-	-	-	-	-	-	-	-
JIBC GENERAL SUPPORT SERVICES															
TIERED & SHARED CLASSROOMS															
Lecture Theatre	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Classroom & Break-out	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Special Use & Simulation	-	-		-	-	-	-	-	-	-	-	-	-	-	-

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>> COMPONENT STAFFING	Existing			NW New Westminster		CH Chilliwack		KE Okanagan		MR Maple Ridge		PM Pitt Meadows		VI Victoria	
	Head Count	FTE	Add'l FTE	Head Count	FTE	Head Count	FTE	Head Count	FTE	Head Count	FTE	Head Count	FTE	Head Count	FTE
STUDENT SERVICES															
Registration Office	22	21.8	2.5	20	19.8	1	1.0	-	-	-	-	-	-	1	1.0
Student Affairs	2	1.0		2	1.0	-	-	-	-	-	-	-	-	-	-
Communications & Marketing	7	6.8		7	6.8	-	-	-	-	-	-	-	-	-	-
* LIBRARY & LEARNING COMMONS															
Library & Learning Commons	7	7.0		7	7.0	-	-	-	-	-	-	-	-	-	-
OFFICE OF INTERNATIONAL AFFAIRS															
Office of International Affairs	1	1.0	2.0	1	1.0	-	-	-	-	-	-	-	-	-	-
OFFICE OF DEVELOPMENT & JIBC FOUNDATION															
Office of Development	3	3.0	1.0	3	3.0	-	-	-	-	-	-	-	-	-	-
JIBC Foundation	-	-		-	-	-	-	-	-	-	-	-	-	-	-
TECHNOLOGY SERVICES															
Technology Services	19	18.8	4.0	19	18.8	-	-	-	-	-	-	-	-	-	-
FACILITIES OPERATIONS															
Food Services	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Bookstore	1	1.0		1	1.0	-	-	-	-	-	-	-	-	-	-
Printshop Services	3	2.5		3	2.5	-	-	-	-	-	-	-	-	-	-
Student Study	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Info, Security & First Aid	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Maintenance	2	2.0		2	2.0	-	-	-	-	-	-	-	-	-	-
Central Stores	-	-		-	-	-	-	-	-	-	-	-	-	-	-
RESIDENTIAL															
Residences	-	-		-	-	-	-	-	-	-	-	-	-	-	-
ADMINISTRATIVE OFFICES															
President's Office & VP Academic	6	6.0		6	6.0	-	-	-	-	-	-	-	-	-	-
Finance & Administration	20	19.0		20	19.0	-	-	-	-	-	-	-	-	-	-
Human Resources	5	5.0		5	5.0	-	-	-	-	-	-	-	-	-	-
Institutional Research	2	2.0		2	2.0	-	-	-	-	-	-	-	-	-	-
Campus Planning & Facilities	10	10.0		7	7.0	-	-	-	-	2	2.0	-	-	-	-
OUTDOOR															
Unheated Storage	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Heated Covered Training	-	-		-	-	-	-	-	-	-	-	-	-	-	-
BUILDING GROSS															
ZZZ	-	-		-	-	-	-	-	-	-	-	-	-	-	-
	269	262.4	12.5	242	236.3	5	4.6	-	-	14	13.5	-	-	5	5.0



*additional staff requirements under review

Note that using the same rate of Student CHE to Staff FTE, 13.4 additional staff are calculated. Therefore, 12.5 to 13.4 additional staff can be used for master planning purposes.

COMPONENT AREAS Master Program areas are shown in more detail and corresponding to *JIBC Program Based Directions.pdf*.

Office of Applied Research & Graduate Studies

COMPONENTS /SUBCOMPONENTS	NW		CH		KE		MR		PM		VI		TOTAL		
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	
OFFICE OF APPLIED RESEARCH & GRADUATE STUDIES															
Office of Applied Research, Graduate Studies, CRIS, CLGS	42	45	-	-	-	-	-	-	-	-	-	-	-	42	45
Office & Office Support	42		-		-		-		-		-				
<u>Future Space:</u>															
Project Room, 7-8p		22													
Research Workstation (1 or 2 per School)		22													
Centre for Teaching, Learning & Innovation	124	109	-	-	-	-	-	-	-	-	-	-	124	109	
Classroom, Break-out, Classlab	8		-		-		-		-		-				
Office & Office Support	117		-		-		-		-		-				
<u>Future Space:</u>															
Simulation Space, 6 HF Mannequins		53													
Multipurpose Technology Room (3 @18.6m2)		56													

School of Public Safety

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
SCHOOL OF PUBLIC SAFETY														
Driver Education Centre	53	-	-	-	-	-	-	-	32,468	50	-	-	32,521	50
Classroom, Break-out, Classlab	-	-	-	-	-	-	-	-	87	-	-	-	-	-
Open Air Instruction	-	-	-	-	-	-	-	-	32,345	-	-	-	-	-
Office & Office Support	53	-	-	-	-	-	-	-	36	-	-	-	-	-
<u>Future Space:</u>														
Mudroom w Drying Closet										11				
Instructor Drop-down Station (2)										11				
Student Lunch /Social Area, 10-12p										28				
Emergency Management Division	221	22	-	-	-	-	-	-	-	-	-	-	221	22
Classroom, Break-out, Classlab	14	-	-	-	-	-	-	-	-	-	-	-	-	-
Office & Office Support	207	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Future Space:</u>														
AR /VR Multipurpose Room		22												
Fire & Safety Division	123	11	-	-	-	-	23,416	510	-	-	-	-	23,538	521
Classroom, Break-out, Classlab	-	-	-	-	-	-	705	-	-	-	-	-	-	-
Open Air Instruction	-	-	-	-	-	-	22,295	-	-	-	-	-	-	-
Office & Office Support	123	-	-	-	-	-	127	-	-	-	-	-	-	-
Ancillary Support	-	-	-	-	-	-	289	-	-	-	-	-	-	-
<u>Future Space:</u>														
Instructor Drop-down Station (2)		11												
Classroom, 24 seat (4)								268						
Classroom, 40 seat (1)								111						
Classroom Storage								38						
Atrium, Info Desk, Learning Commons								93						

School of Health, Community, and Social Justice

COMPONENTS /SUBCOMPONENTS	NW		CH		KE		MR		PM		VI		TOTAL		
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	
SCHOOL OF HEALTH, COMMUNITY, AND SOCIAL JUSTICE															
Centre for Counselling & Community Safety	893	67	-	-	-	-	-	-	-	-	-	-	-	893	67
Classroom, Break-out, Classlab	714		-		-		-		-		-		-		
Office & Office Support	148		-		-		-		-		-		-		
Ancillary Support	30		-		-		-		-		-		-		
<u>Future Space:</u>															
Staff Meeting, 20-24p		56													
Instructor Drop-down Station (2)		11													
Centre for Conflict Resolution	107	-	-	-	-	-	-	-	-	-	-	-	-	107	-
Office & Office Support	107		-		-		-		-		-		-		
Centre for Leadership	34	-	-	-	-	-	-	-	-	-	-	-	-	34	-
Office & Office Support	34		-		-		-		-		-		-		
Health Sciences Division - Paramedic Academy	896	11	969	(969)	545	104	156	969	-	-	711	104	3,276	219	
Classroom, Break-out, Classlab	500		882		272		-		-		639				
Open Air Instruction	-		-		-		156		-		-				
Office & Office Support	250		87		70		-		-		71				
Ancillary Support	146		-		204		-		-		-				
<u>Future Space:</u>															
Close CH Campus, transfer to MR				(969)				969							
New partner programs placeholder, KE, VI							93					93			
Instructor Drop-down Station (2 NW), (2KE), (2 VI)		11					11					11			
Health Sciences Division - Centre for Professional He	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

School of Criminal Justice and Security

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
SCHOOL OF CRIMINAL JUSTICE AND SECURITY														
Corrections & Courts Division - Corrections Academy	957	11	-	-	-	-	-	-	-	-	-	-	957	11
Classroom, Break-out, Classlab	446		-		-		-		-		-			
Office & Office Support	386		-		-		-		-		-			
Ancillary Support (214 Courtroom Sim)	125		-		-		-		-		-			
<u>Future Space:</u>														
Instructor Drop-down Station (2)		11												
Corrections & Courts Division - Sheriff Academy	474	6	-	-	-	-	-	-	-	-	-	-	474	6
Classroom, Break-out, Classlab	436		-		-		-		-		-			
Office & Office Support	38		-		-		-		-		-			
<u>Future Space:</u>														
Instructor Drop-down Station (1)		6												
Access to Court Room														
Police Academy	2,281	11	-	-	-	-	8,000	418	-	-	-	-	10,281	429
Classroom, Break-out, Classlab	1,478		-		-		-		-		-			
Open Air Instruction	-		-		-		8,000		-		-			
Office & Office Support	317		-		-		-		-		-			
Ancillary Support	486		-		-		-		-		-			
<u>Future Space:</u>														
Instructor Drop-down Station (2)		11												
PRIME Lab CL 232, separate network														
Gymnasium /Fitness Training								418						
MR Open Air Instruction - Gun Range							see above 8,000							
Justice & Public Safety Division	-	-	-	-	-	-	301	134	-	-	-	-	301	134
Classroom, Break-out, Classlab	-		-		-		-		-		-			
Open Air Instruction	-		-		-		301		-		-			
Office & Office Support	-		-		-		-		-		-			
Ancillary Support	-		-		-		-		-		-			
<u>Future Space:</u>														
Instructor Drop-down Station (2)								11						
Simulation - Cell Block								11						
Simulation - Correctional Admitting								19						
Simulation - Sallyport, 2 vehicles								93						

Office of Indigenization

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
OFFICE OF INDIGENIZATION														
Office of Indigenization	110	14	-	-	-	-	-	-	-	-	-	-	110	14
Classroom, Break-out, Classlab	79		-		-		-		-		-			
Office & Office Support	31		-		-		-		-		-			
<u>Future Space:</u>														
Additional 2.5 FTE		14												
Link Interior to Indigenous Garden														

Tiered & Shared Classrooms

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
TIERED & SHARED CLASSROOMS														
Lecture Theatre	251	-	-	-	-	-	-	-	-	-	-	-	251	-
Classroom, Break-out, Classlab	251		-		-		-		-		-			
Classroom & Break-out	546	-	-	-	-	-	-	134	-	-	-	-	546	134
Classroom, Break-out, Classlab	454		-		-		-		-		-			
Ancillary Support	92		-		-		-		-		-			
<u>Future Space:</u>														
Classroom, 24 seat (2) - Program Growth							134							
Special Use & Simulation	726	-	-	-	-	-	-	-	-	-	-	-	726	-
Classroom, Break-out, Classlab	466		-		-		-		-		-			
Open Air Instruction	260		-		-		-		-		-			
<u>Future Space:</u>														
Classroom, Break-out, Classlab, Offices			Relocate Add'nl Here											
Simulation -Paramedic Academy			TBD											
Simulation -Police Academy			TBD											

Student Services

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
STUDENT SERVICES														
Registration Office	192	29	20	(20)	-	4	-	4	-	4	36	4	249	24
Office & Office Support	192		20		-		-		-		36			
<u>Future Space:</u>														
Close CH Campus				(20)										
Additional 2.5 FTE		14												
Self-help Kiosk, 1 per campus		4				4		4		4		4		
Counselling Advising Room		11												
Student Affairs	186	58	-	-	-	-	85	-	-	-	-	-	271	58
Classroom, Break-out, Classlab	-		-		-		-		-		-			
Office & Office Support	110		-		-		-		-		-			
Ancillary Support	76		-		-		85		-		-			
<u>Future Space:</u>														
Quiet Room		11												
Fitness Room Expansion		46												
Communications & Marketing	55	-	-	-	-	-	-	-	-	-	-	-	55	-
Office & Office Support	55		-		-		-		-		-			

Library & Learning Commons

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
LIBRARY & LEARNING COMMONS														
Library & Learning Commons	566	727	-	-	-	-	-	-	-	-	-	-	566	727
Classroom, Break-out, Classlab	20		-		-		-		-		-			
Office & Office Support	83		-		-		-		-		-			
Ancillary Support	464		-		-		-		-		-			
<u>Future Space:</u>														
Expand Stacks /Reading Areas 100%		352												
*Library Instruction Room, 6-8p		22												
Research Commons Service		11												
Research Commons		111												
Stand-up Computer Station (10)		28												
Technology Help Desk		11												
Storage Room		23												
Study Room, 4-5p (10)		111												
Drop-in Station, Video Conference Booths, (10)		56												

*area size requirements under review

Office of International Affairs

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
OFFICE OF INTERNATIONAL AFFAIRS														
Office of International Affairs	51	17	-	-	-	6	-	6	-	6	-	6	51	39
Office & Office Support	51		-		-		-		-		-			
<u>Future Space:</u>														
Drop-down Station, 1 per campus		6				6		6		6		6		
Additional 2.0 FTE (guess on "growth")		11												

Office of Development & JIBC Foundation

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
OFFICE OF DEVELOPMENT & JIBC FOUNDATION														
Office of Development	36	6	-	-	-	-	-	-	-	-	-	-	36	6
Office & Office Support	36		-		-		-		-		-			
<u>Future Space:</u>														
Additional 1.0 FTE		6												
Locate near Board/Meeting Room														
Donor Wall /Centre for Excellence (MR)														
JIBC Foundation	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Technology Services

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
TECHNOLOGY SERVICES														
Technology Services	346	28	-	-	-	-	-	-	-	-	-	-	346	28
Office & Office Support	89		-		-		-		-		-			
Ancillary Support	257		-		-		-		-		-			
<u>Future Space:</u>														
New Server Room Off-site (reduced footprint of 335)		(17)												
Additional 4.0 FTE		22												
Project Design /Configuration Space		22												
Relocate to natural light														

Facilities Operations

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
FACILITIES OPERATIONS														
Food Services	564	-	35	(35)	33	-	165	46	-	46	27	-	823	58
Office & Office Support	3		-		-		-		-		-			
Ancillary Support	561		35		33		165		-		27			
<u>Future Space:</u>														
Expand Hours for NW Campus														
Close CH Campus				(35)										
Lunch Room -redevelop existing space (KE) (PM) (VI)										46				
Food Trucks, Vending Machines (MR)							46							
Bookstore	47	(34)	-	-	-	-	-	-	-	-	-	-	47	(34)
Classroom, Break-out, Classlab	34		-		-		-		-		-			
Ancillary Support	13		-		-		-		-		-			
<u>Future Space:</u>														
Just-in-time Orders - reclaim Class Support Space		(34)												
Printshop Services	86	-	-	-	-	-	-	-	-	-	-	-	86	-
Ancillary Support	86		-		-		-		-		-			
Student Study	70	325	-	-	-	46	-	46	-	46	-	46	70	511
Ancillary Support	70		-		-		-		-		-			
<u>Future Space:</u>														
Student Study /Lounge Space, (80-100 seats)		325			46		46		46		46			
Info, Security & First Aid	35	-	-	-	-	-	-	-	-	-	-	-	35	-
Office & Office Support	26		-		-		-		-		-			
Ancillary Support	9		-		-		-		-		-			
<u>Future Space:</u>														
See Fire & Safety - Atrium Learning Commons														

Facilities Operations, continued

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
Maintenance	88	46	29	(29)	-	23	163	23	75	23	-	23	355	110
Office & Office Support	88		-		-		12		-		-			
Ancillary Support	-		29		-		151		75		-			
<u>Future Space:</u>														
Close CH Campus				(29)										
Program Equipment Storage Placeholder		23												
Tool Crib and Workbench (1 per campus)		23				23		23		23		23		
Central Stores	245	70	-	-	-	-	-	46	-	-	-	-	245	116
Ancillary Support	245		-		-		-		-		-			
<u>Future Space:</u>														
Additional Storage		23												
Shipping/Receiving/Recycle Placeholder		46						46						

Residential

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
RESIDENTIAL														
Residences	-	3,211	3,282	(3,282)	-	-	-	-	-	-	-	-	3,282	(71)
Ancillary Support	-		3,282		-		-		-		-			
<u>Future Space:</u>														
Close CH Campus				(3,282)										
Build New Residences NW, 96 Units		3,211												
Partnership for Residences MR														

Residence calculations using Living on Campus reporting – but may need to be revised to reflect short-term hotel arrangements akin to:

<https://suitesatubc.com/accommodations/west-coast-suites/> or <https://www.nativeplaces.com/property/native-bank/>

Administrative Offices

COMPONENTS /SUBCOMPONENTS	NW	NW	CH	CH	KE	KE	MR	MR	PM	PM	VI	VI	TOTAL	TOTAL
	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition	Existing Net m2	Addition
ADMINISTRATIVE OFFICES														
President's Office & VP Academic	144	-	-	-	-	-	-	-	-	-	-	-	144	-
Office & Office Support	72		-		-		-		-		-			
Ancillary Support	72		-		-		-		-		-			
Finance & Administration	152	-	-	-	-	-	-	-	-	-	-	-	152	-
Office & Office Support	152		-		-		-		-		-			
Human Resources	97	-	-	-	-	-	-	-	-	-	-	-	97	-
Office & Office Support	97		-		-		-		-		-			
Institutional Research	17	-	-	-	-	-	-	-	-	-	-	-	17	-
Office & Office Support	17		-		-		-		-		-			
Campus Planning & Facilities	103	-	-	-	-	-	-	-	-	-	-	-	103	-
Office & Office Support	83		-		-		-		-		-			
Ancillary Support	20		-		-		-		-		-			

Outdoor

COMPONENTS /SUBCOMPONENTS	NW		CH		KE		MR		PM		VI		TOTAL	
	Existing Net m2	NW Addition	Existing Net m2	CH Addition	Existing Net m2	KE Addition	Existing Net m2	MR Addition	Existing Net m2	PM Addition	Existing Net m2	VI Addition	Existing Net m2	TOTAL Addition
OUTDOOR														
Unheated Storage	-	93	395	(395)	-	93	1,647	186	-	93	-	93	2,042	163
Ancillary Support	-		395		-		1,647		-		-			
<u>Future Space:</u>														
Close CH Campus Warehouse				(395)										
Ambulance Training Garage, 2 stalls per campus		93				93		93		93		93		
Heated Covered Training	-	-	-	-	-	-	-	56	-	-	-	-	-	56
<u>Future Space:</u>														
Outdoor Learning Structure, 20p								56						

Building Gross

COMPONENTS /SUBCOMPONENTS	NW		CH		KE		MR		PM		VI		TOTAL	
	Existing Net m2	NW Addition	Existing Net m2	CH Addition	Existing Net m2	KE Addition	Existing Net m2	MR Addition	Existing Net m2	PM Addition	Existing Net m2	VI Addition	Existing Net m2	TOTAL Addition
BUILDING GROSS														
ZZZ	5,109	2,447	249	(249)	187	152	291	774	72	75	312	191	6,221	3,390
Ancillary Support	5,109		249		187		291		72		312			
<u>Future Space:</u>														
Close CH Campus				(249)										
Add 20% to Future Additional Indoor Space		2,447				152		774		75		191		

.4 Interim Recommendations for Chilliwack



LONG-RANGE FACILITIES PLAN

INTERIM RECOMMENDATIONS FOR CHILLIWACK

November 6, 2020

Prepared by RPG Group
and
Thinkspace Architecture Planning Interior Design



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This document provides initial findings specifically with regard to the options that apply to the Chilliwack Campus of the Justice Institute of British Columbia. These findings are part of a larger Long-Range Facilities Plan addressing the facility assets of the Institute and providing planning direction on a 25-year planning horizon. The analysis of the campuses in the Lower Mainland has played a part in the observations made of the Chilliwack Campus in particular, and those findings are presented here in a preliminary form.

Analytical Objectives

The analysis of all campus sites included a broad examination of their content and potential. The contributing components of this potential included:

- Site area
- Current condition of buildings on site
- Transportation connections
- Parking
- Utility servicing (including water, storm drainage, sanitary, power, and other underground services)
- Distribution of programme use across existing facilities
- Estimated future growth in all programmes
- Development potential of the site
- Capability of the site to handle anticipated growth as identified by RPG's master programme

The capability of a site to accommodate growth well into the future is dependent on several elements. Allowable density of building is one such measure that is embedded in the zoning regulations applicable to the site. This constrains the bulk of what can be built as measured in floor area. Another constraint is the allowable site area that can be covered, typically expressed as a percentage. Together with the density measurement, these measures determine the limits of physical capacity available on any particular site.

Other constraints include parking requirements – both those required by city regulations as well as the practical needs of the Institute to accommodate students, faculty, and staff. Added to that are less obvious constraints such as capacity to provide power, drainage, water, and sanitary waste removal. All these define the real limits of what is possible.

The final component is the application of programme needs to the physical capacity and doing so in a manner that provides a well functioning and exceptional environment for its users.

Methodology

The site analysis involved several areas, the first of which was to determine the floor area potential under current zoning restrictions. This was a purely mathematical study based on the application of restrictions to the area of the site. This is done by showing the allowable area of building as a ratio of the site area – known as Floor Area Ratio or “FAR.” With the floor area allowable determined, we then subtract the existing floor area of building on the site. The resulting number is the available additional area that the site can accommodate.

The difficult constraint is the impact of allowable site coverage and how this number influences the ability to actually build the additional area. The issue here is ensuring a coherent and connected campus as we attempt to maximize both the density and the site coverage to determine the available space left to us after we take out what has already been built on site. This involves a bit of preplanning for a site that has ramifications well into the future.

Parcelling the Site and the Public Realm

Our approach to this issue is to develop a physical framework for a campus that is contiguous throughout the campus and identify that framework as reserved from building. The objective is to ensure coherence as development occurs around it. This is somewhat similar to having streets, parks, and other public space, although buildings continuously expand, contract, and change.

Once the framework is established, the “building sites” become parcels for which we can do calculations in such a fashion that the overall site coverage and site density remain within the city requirements.

Site Analysis

We will look at two campuses in the Lower Mainland – New Westminster and Maple Ridge and compare these to Chilliwack in the Fraser Valley. We will start with the characteristics of the Chilliwack Campus.

Areas and Potential	(All areas in square metres)	Chilliwack Campus
Floor Area Ratio (FAR)		1.5
Site Coverage		60%
Height		30
Site Area		23,511
Development Potential		35,266
Current Gross Area		4,979
Residual Area		30,288
Program Growth Result*		4,979
Net Growth		0
Reserve		30,287

**From Master Program*

With a site area of 23,511 square metres, the development potential is 35,266 square metres. This is a large number. In addition, the site coverage is 60%. The zoning on this site is for institutional. The current building area on the site is somewhat less than 5,000 square metres (4,979), so the residual area is quite considerable.

Let us now look at the other two locations beginning with the New Westminster Campus.

Areas and Potential	<i>(All areas in square metres)</i>	New Westminster Campus
Floor Area Ratio (FAR)		1
Site Coverage		40%
Height	4 Storeys (dimension not specified)	
Site Area		49,100
Development Potential		49,100
Current Gross Area		16,026
Residual Area		33,074
Program Growth Result*		21,259
Net Change		5,233
Reserve		27,841

*From Master Program

The New Westminster Campus is a much different situation. The FAR is 1.0, and the allowable site coverage is over 30% lower, although the campus is in a central part of the City of New Westminster. Of the 49,100 square metres allowable, there is currently 16,026 square metres of building floor area on site. This still allows 27,841 square metres of floor area available.

For the Maple Ridge Campus, we have yet another scenario. This site is leased. The development constraints are as follows:

Areas and Potential	<i>(All areas in square metres)</i>	Maple Ridge Campus
Floor Area Ratio (FAR)		0.75
Site Coverage		40%
Height		18
Site Area		188,700
Development Potential		141,525
Current Gross Area		33,059
Residual Area		108,466
Program Growth Result*		36,413
Net Growth		3,354
Reserve		105,112

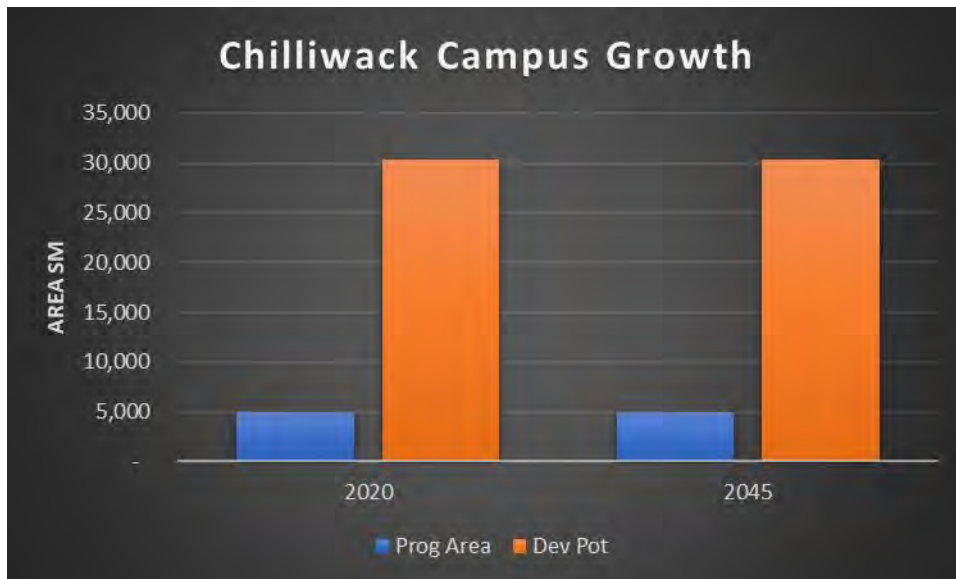
**From Master Program*

The coverage is the same as New Westminster, but the FAR is 25% lower at 0.75. However, the site is large at 188,700 square metres. The current gross area is 33,059 square metres mostly comprised of pads for firefighting scenarios, the classroom building and the other outbuildings for equipment and safety wear, maintenance, storage, and drying. The allowable residual area is 108,466 square metres as a result.

Impact of Programme Growth

The programme growth impacts the three locations in much different ways. RPG developed a master programme after many interviews of user groups across all campuses. The detailed outcome of that programme development will be part of the Long-Range Facilities Plan. For this assessment, we have summarized the end result with projected growth from 2020 to 2045.

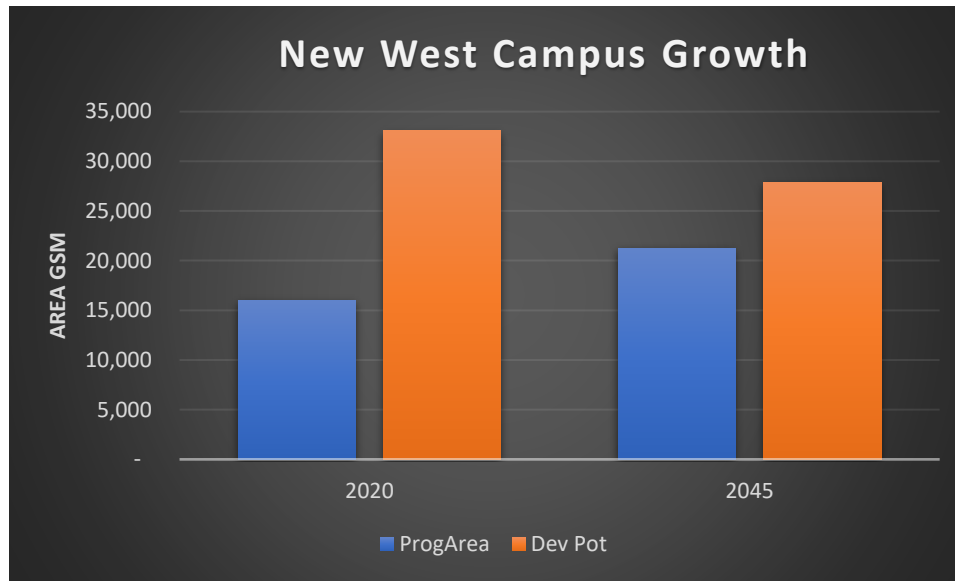
For the Chilliwack Campus, the growth is flat, with only the paramedic programme occurring on the site. The end result is that there is little or no growth anticipated at the Chilliwack location.



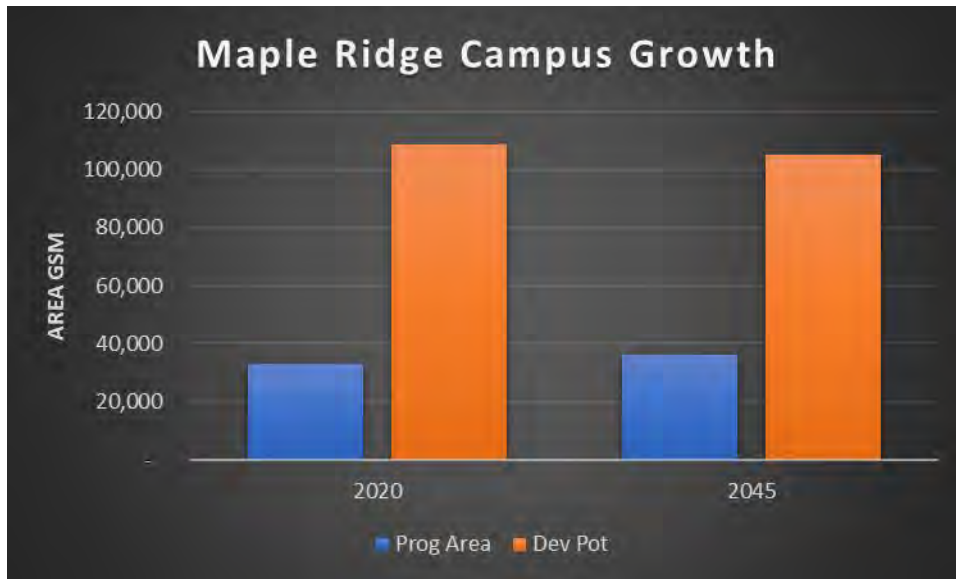
Chilliwack Campus currently offers paramedicine programs, including Emergency Medical Responder (EMR), Primary Care Paramedic (PCP) and Advanced Care Paramedic (ACP). The area requirement for the campus, including labs for the EMR, PCP and ACP programs and four general classrooms, is as follows:

Space	Number	Area (NSM)	Total Area (NSM)
<u>Campus Administration and Support</u>			
Reception and Offices	1		80.0
Classrooms	4	70.0	280.0
Student Lounge	1		60.0
Instructor Drop-Down and Lounge	1		40.0
Facilities	1		20.0
Ambulance Garage	1		100.0
Subtotal			580.0
<u>Paramedic Program</u>			
PCP/ACP Lab	2	90.0	180.0
Practice Room	2	140.4	280.8
Testing Room	3	16.0	48.0
Storage	2	27.0	54.0
EMR Lab	1		120.0
Storage	2	30.0	60.0
Program Coordinator	1		12.0
General Program Inventory	1		40.0
Subtotal			794.8
Total – Net Area			1,374.8
Grossing Area – 60%			825
Gross Area (BGSM)			2,200

The New Westminster Campus presents a much different picture. The anticipated growth consumes a greater amount of the residual area leading to a different balance of available development potential and program area by 2045. There still remains a significant residual; however, projecting further growth is yet undetermined.



The Maple Ridge Campus is similar to the New Westminister Campus. Here we see a rebalancing in 2045 with the development potential as slightly reduced.



In both the Maple Ridge and the New Westminister campuses, the residual areas at the end of the planning horizon leave considerable room for further growth.

Analysis and Conclusions

The analysis above leads us to consider the long term use of all three sites in light of the growth indicated in the master programme.

1. *Chilliwack Campus will not grow*

The projected change in program workload at the Chilliwack Campus is flat. The facility consists entirely of modular classrooms and office space used in the instruction of the paramedic program as well as the Student Residence. There is also an ambulance garage and a storage quonset building.

2. **Existing Student Residence building at Chilliwack is not viable**

The Student Residence located on the Chilliwack Campus site is not occupied and does not meet any of the requirements of modern student housing. We provide a bit more substance here in regard to student housing based on survey analyses of student housing demand carried out by JIBC and the BC Ministry of Advanced Education Skills and Training.

In both of the survey analyses mentioned above, the demand for student housing is driven by two primary considerations:

- The right unit type
- The monthly rent

Want to live on campus?	Kootenay	Lower Mainland	North	Thompson-Okanagan	Vancouver Island / Coast	Total
	N = 707	N = 8,895	N = 1,760	N = 2,348	N = 2,577	16,287 *
I want to stay on campus until I complete my studies	11%	5%	13%	8%	4%	6%
I would definitely move into on-campus housing	6%	7%	4%	4%	5%	6%
I would like to move into student housing if the right combination of unit & rent were offered	26%	41%	24%	30%	34%	36%
Total interest in on-campus housing	43%	53%	41%	41%	44%	48%

Following these primary considerations, the amenities offered in well designed student housing is another determinant in student decisions to live on campus.

Amenities	Likely Move On-Campus	Definitely Move On-Campus
In-house laundry facilities	76%	24%
Exercise room	78%	22%
Furnished room	81%	19%
Entrance pass-card security	82%	19%
Paid parking spaces for vehicle	79%	21%

Cost has always been a huge issue in the development of student housing. Student housing is a much different situation than market housing. Rents must be low in order to attract students. All higher education ministries in Canada have student housing categorized as an ancillary to the core mission of the institution, with residences expected to be self-supporting economically. This has resulted in significant challenges to institutions that want to provide student housing.

The Ministry of Advanced Education Skills and Training has undertaken a program to assist institutions in their objective of meeting the need for student housing. JIBC is no exception. However, JIBC has a much different student profile than the Provincial survey. JIBC academic programs have shorter durations, evidenced by the student FTE to headcount ratio for the Institute being 1:10, which is the highest ratio in British Columbia. It describes a much more fluid situation where student housing needs to be much more like hotel accommodations than traditional residences on a university campus.

3. Campus Building Conditions

The data presented in the Ministry’s condition assessment indicates that \$10.6m worth of significant investments will be required within the next five years to maintain and renew the campus. Costs immediately attributable to the maintenance and renewal of the Student Residence building total \$6.5m over the next five year period.

Campus Condition – All Assets

Campus: Chilliwack Campus

Asset: All

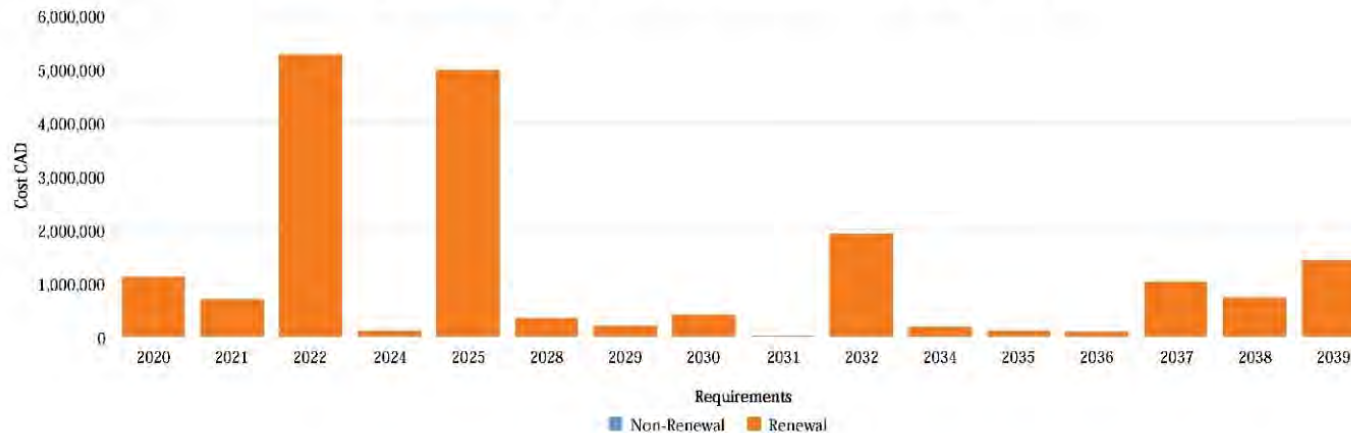
Currency: CAD

Period: 20 years

Inflation: %

The current year is always the Period start date. If “Include past due Action Dates/Renewals” is selected, the cost of those past due Requirements is included in the current year cost.

Summary of Funding Needed by Requirement Type and Year





View of classroom block from parking area



View of Ambulance garage and Quonset hut

Student Residence Condition

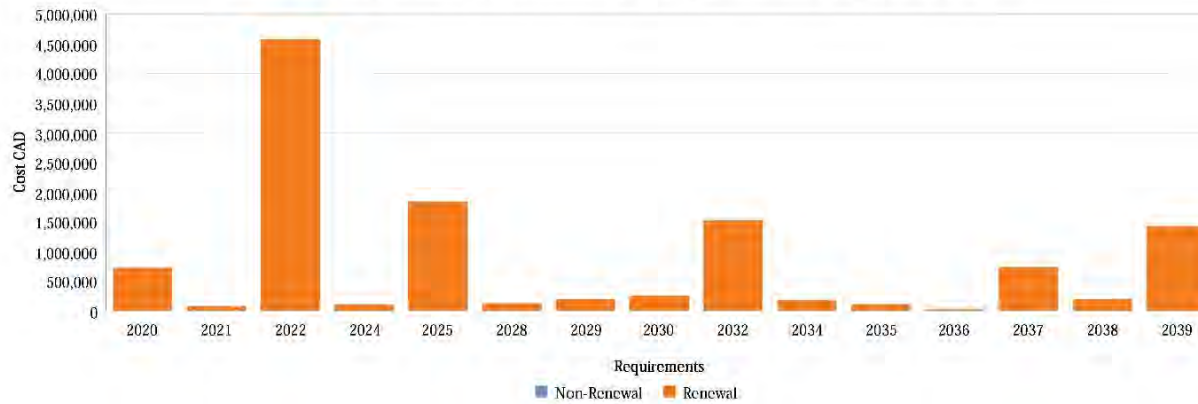
Post Secondary Institution: Justice Institute of British Columbia
 Asset: Residence
 Campus: Chilliwack Campus
 Asset Number: C

Report is grouped by Year
 Currency: CAD

Address 1	Building C 5470 Dieppe Street	Address 2	-
City	Chilliwack	State/Province/Region	British Columbia
Country	CANADA	ZIP	-

Current Replacement Value 13,463,718 Size 3,816 SM

Summary of Funding Needed by Requirement Type and Year





View of Student Residence building and classroom block



Wider view of Student Residence building and classroom block

4. *Chilliwack Campus has high allowable density and site coverage*

The Chilliwack Campus has a high development potential, and of the three sites, it has the highest FAR at 1.5, which is somewhat at odds with institutional land use in this location. The density and site coverage implies a more intensive use, such as multi-family housing, where these metrics better match what would be needed for such a development. The Institute would not need such potentials. However, the site itself is extremely valuable. The land and buildings have been assessed at \$8 million.

5. *Both New Westminster and Maple Ridge Campuses have good development potential*

Both campuses - together, can accommodate the program requirements of the Institute well into the future with the exception of driver training, which requires a specific flat area for police and other driving scenarios. (This will be covered further in the Long-Range Facilities Plan narrative). To make this point, we will review the parcelling and development calculations referred to earlier in this report.

Parcelling New Westminster

To define the realistic development options available, we must first identify what we referred to as the “Public Realm.” Simply put, this is the area of campus that is both contiguous and protected from further construction. It forms the open space and connective “tissue” of the campus environment. The suggested public realm for the New Westminster Campus is shown below.



Suggested “Public Realm”

Preliminary Parcelling

We can then identify specific parcels to which further development will be allowed.

In this preliminary view, we are showing eight (8) parcels. Three (3) of these parcels cover the existing buildings and would be seen as renovation or slight expansion opportunities. Parcels 2 and 3 will remain parking and will, therefore, have a development potential of zero (0). (Refer to the illustration presented on the next page).



The calculations below are the result of a mathematical iteration that balances both FAR and site coverage. As density is the key metric related to future floor plate potential, the calculation maximizes the density to the allowable FAR while keeping the site coverage at or below the required percentage in the city regulations.

The outcome here is the capability of building the full allowable floor area within a site coverage of 34.14% - well below the allowable 40% coverage. In addition, using the current master programme, we see those needs met and a reserve of 27,038.83 square metres for future possibilities.

LOCATION		SITE PARAMETERS			PROPOSED SITE COVERAGE	PROPOSED FAR	AGGREGATE
CAMPUS	PARCEL	AREA SM	SITE COVERAGE	FAR	SM	SM	
New Westminster							
	1	8,676.98	90%	3.68	7,809.28	24,165.14	
	2	4,420.78	0%	0.00	-	-	
	3	6,334.13	0%	0.00	-	-	
	4	1,130.83	90%	1.23	1,017.75	376.39	
	5	1,307.54	100%	1.00	1,307.54	-	
	6	3,562.05	90%	1.77	3,205.85	3,110.75	
	7	1,529.75	90%	1.35	1,376.78	695.35	
	8	4,547.03	45%	1.33	2,046.16	3,989.01	
	Public Realm	17,590.91				Overall FAR	1.00
	Site Area	49,100.00				Total Cover	34.14%
			<i>Available Building Area</i>		43,064.83		
			<i>Existing Building Area</i>		16,026.00		
			TOTAL		27,038.83	Additional Area Available	

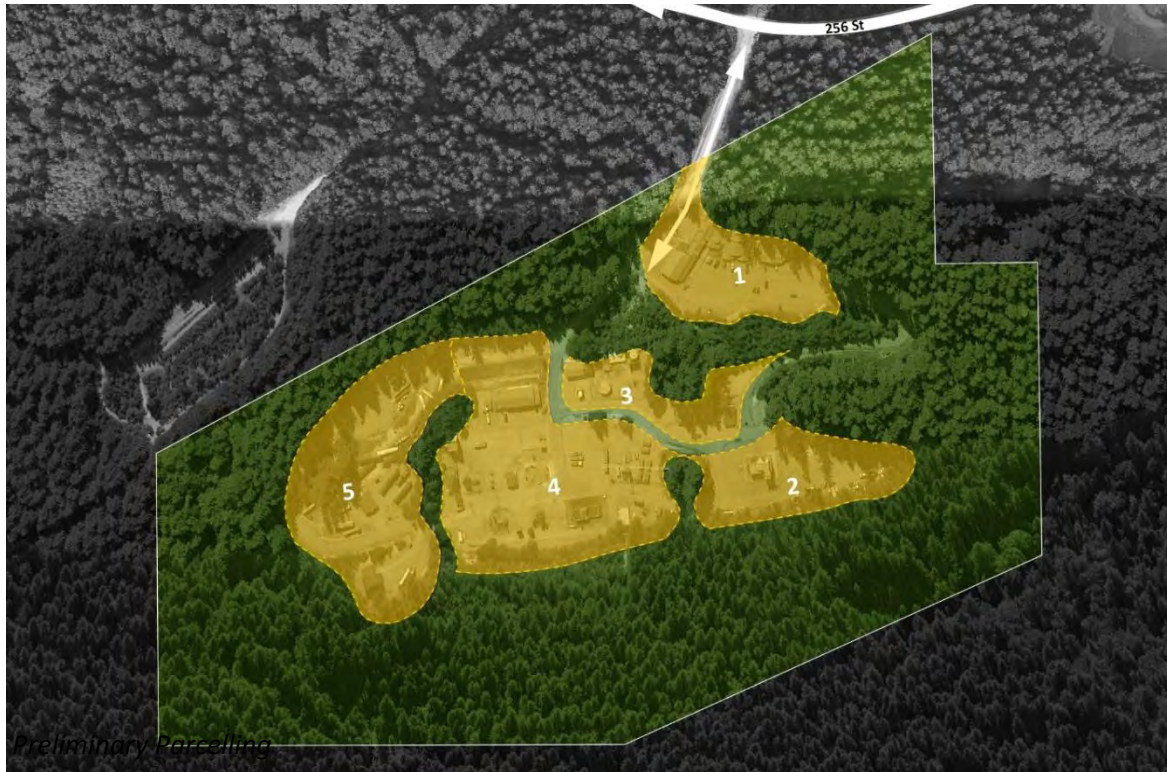
Parcelling Maple Ridge

Applying the same approach to Maple Ridge yields a “public realm,” as shown below. There is a great deal of flexibility here in determining the final recommended public realm, but we start here for illustrative purposes.



Suggested “Public Realm”

Holding the green area as a reserve, we can parcel the site as follows:



Developing a similar calculation for the New Westminster Campus above, we see the following results:

LOCATION		SITE PARAMETERS			PROPOSED SITE COVERAGE	PROPOSED FAR	AGGREGATE	
CAMPUS	PARCEL	AREA SM	SITE COVERAGE	FAR	SM	SM		
Maple Ridge								
	1	7,441.59	90%	1.30	6,697.43	2,943.11		
	2	6,586.10	90%	1.23	5,927.49	2,191.75		
	3	4,244.57	70%	1.06	2,971.20	1,532.89		
	4	16,673.51	90%	1.97	15,006.16	17,877.81		
	5	12,931.19	90%	1.70	11,638.07	10,317.83		
	Public Realm	127,123.04					Overall FAR	0.41
	Site Area	188,700.00					Total Cover	22.38%
			Available Building Area		77,103.75			
			Existing Building Area		33,059.00			
			TOTAL		44,044.75		Additional Area Available*	

**There is exceptional flexibility available to the Institute by adjusting parcel sizes in exchange for a lower public realm area.*

In this instance, there is no need to intensify development with the 40% site coverage and .75 FAR constraining the total. The available floor area beyond the requirements of the master programme is shown here as 44,044.75 square metres, but there is considerable latitude to increase that number.

Preliminary Recommendations

We argued earlier that the three locations must be viewed together. The intensity of use suggests that Chilliwack is the least capable of supporting the mission of the Justice Institute of British Columbia, while the New Westminister Campus and the Maple Ridge Campus are much better suited to that mission for the foreseeable planning horizon. We, therefore, recommend the following actions:

- ***Sell the Chilliwack site***

The value of the land is high, and its development potential will not be realized by the JIBC. The site is slowly being surrounded by housing development. In this context, the land use seems more attuned to multi-family housing, mixed use development, or other commercial uses.

- ***Secure ownership of the Maple Ridge lands***

It is clear to the consulting team that the consolidation of all programs across the New Westminister and Maple Ridge campuses can be seen as a defensible approach to have separate functional models whereby the New Westminister Campus is favouring strategic and academic programmes while the Maple Ridge Campus would be favouring applied training for facility development moving forward.

.5 Office Space Study



OFFICE SPACE STUDY

OFFICE SPACE ALLOCATIONS & PHYSICAL PLANNING OPTIONS

2021 April 6



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INTRODUCTION

PURPOSE OF THE PROJECT

The purpose of this study is to:

- Develop space requirements, physical planning strategies and schematic design layouts for the administrative spaces of the Administration Block at JIBC's New Westminster campus;
- Address COVID-19 mitigation strategies, including WorkSafeBC and Provincial Health Officer requirements and recommendations as well as strategies and policies related to operations;
- Review and revise, as required, policies related to Administrative Space Management Guidelines to reflect any changed requirements due to COVID-19 (and other communicable diseases) and use as a basis for planning.

PLANNING PARAMETERS

Planning parameters are outlined in terms of:

- Guiding Principles
- Campus Context and Standards

GUIDING PRINCIPLES

There are a number of principles that should guide the process and outcome for the JIBC Office Space Plan.

Current Staffing + Growth

Planning is be based on current staffing and the existing organizational structure, with consideration of how JIBC may provide office accommodation in the future.

Extent of Change and Cost

Changes to the Administration Block should not trigger Code-mandated renovations. This means that the **extent of changes will likely fall under the category of “moderate”** renovations, where:

- Low = painting and refurnishing
- Moderate = removing or adding some walls, upgrading fixtures, furnishings, and equipment
- High = gutting the entire space, affecting building envelope or mechanical systems, and triggering any Building Code changes

High levels of renovation can trigger costs that are more than the cost to replace existing construction with a new build (up to 1.6x new construction cost). Unless there is a compelling rationale, the Space Plan should proceed with low and moderate renovations to the extent possible.

Professionalism

As a public institution, fiscal responsibility is critical. At the same time, the offices should reflect a level of professionalism and finish befitting the appointment. Current issues include:

- Confidentiality is compromised as staff are located to key circulation corridors and as wall assemblies provide little acoustic isolation;
- Reduced security of staff as visitors **travel through “back-of-house” office areas.**

Workplace Design

Workplace design concepts are explored as part of this project. The following design strategies have been considered:

- Create privacy rooms for calls and small meetings;
- Provide systems furnishings for teams in an open office environment.

CAMPUS CONTEXT AND STANDARDS

In addition to guiding principles, planning needs to consider JIBC in a broader campus context and in relation to Ministry standards.

Office Space Standards

Current Ministry of Advanced Education and Skills Training standards are very high level and are calculated across an institution based on the total Annual Student Contact Hours (ASCH), at a rate of 1.8 metres squared per 1,000 ASCHs. This is intended to cover both administrative and faculty office requirements.

The BC Real Properties Division¹ has identified a target baseline of:

- 17.4 component gross m²/FTE, which equals
13.9 net m²/FTE, if a 25% gross up is assumed

¹ *Blueprint - Transforming Office Space Design in British Columbia's Public Service*, BC Real Properties Division, 1st Edition, March 2015, pp.42-43. 17.4 component gross m²/FTE is equivalent to 14.5 useable m²/work point +20% support.

Office and Workstation Types

JIBC currently has office and workstation guidelines which are included in *JIBC Administrative Space Management Guidelines*. The guidelines for offices and shared offices are based on multiples of a base module. However, the base module size is not defined.

Position	Private Office Size
President	2.0
Vice President	2.0
Dean/Director	2.0 or 1.5
Executive Assistant	1.0
Manager/Program Director	1.0
Supervisor	1.0

Shared office sizes based on office modules is also identified, although the number of positions sharing the office is not identified.

Position	Shared Office Size
Instructional Designer/ Coordinator	1.5
Instructors	2.0 or 1.5

Provision for staff in workstations and cubicles is also identified. However, workstations and cubicles are not defined, and no sizes or modules are identified for each.

Position	Space Type
Administrative Assistants	Work Station or Cubicle
Technicians	Cubicle
Other academic and administrative staff	Work Station or Cubicle

The Changing Workplace and Impact of COVID-19

In the last decade, increased connectivity and higher performing videoconferencing applications have resulted in people being able to work beyond their primary workstation or office. Even prior to COVID-19, the BC Real Properties Division² outlined some benchmarks to consider in a changing workplace:

- 30% as the target baseline for mobile worker uptake in an office of 20+ staff - reduce the number of dedicated workstations/offices;
- 1:6 target 1 Quiet Room/Privacy Room for every 6 mobile worker;
- 20% of workspace should be devoted to collaborative functions.

COVID-19 illustrated that employees could work productively and successfully from home although the inequities of individual employee's **home situation, in terms of space and distraction, also became more** evident. Based on the experience that working from home when circumstances are ideal and disruptions are minimized bolsters productivity, but that creativity and innovation is fostered by face-to-face collaboration and serendipitous collision, the following strategies can be expected moving forward:

- Greater opportunity for employees, particularly those conducting administrative tasks, to work from home more than was typical pre-COVID;
- Requirement for employees to spend some working time at the office, connecting with other team members personally.

The correct balance between these two has been the subject of several articles³ and requires consideration of the following:

- Personal circumstances of employee including whether they have the space and environment to allow them to best work from home;

² *Blueprint - Transforming Office Space Design in British Columbia's Public Service*, BC Real Properties Division, 1st Edition, March 2015, pp.42-43.

³ https://www.hermanmiller.com/content/dam/hermanmiller/documents/covid_19/embracing_a_new_reality.pdf; <https://www.mckinsey.com/business-functions/organization/our-insights/reimagining-the-office-and-work-life-after-covid-19>; <https://www.mercer.com/content/dam/mercer/attachments/global/gl-2020-return-to-work-article-5-18-2020-qrd20113-mercer.pdf>; https://info.steelcase.com/hubfs/Steelcase_ThePostCovidWorkplace_Edition1_July.pdf

- The type of work each employee does - is it inherently collaborative? Is it inherently task focussed or about execution of more rote tasks;
- Where each employee is in their professional development path including needing more day-to-day oversight and collaboration at the outset of their work path and less as they become more seasoned;
- Whether, for project work, face-to-face collaboration is required at the outset, as the project is initiated, goals set, and a workplan developed, whereas the execution can be achieved working remotely.

Several factors support this transition including:

- Providing space for collaboration so that employees who primarily work at home can meet and work with others when on site;
- Providing access to hotelling or touchdown space for employees who primarily work remotely while at the office;
- Providing a flexible and adaptable office environment that allows variations in the numbers of employees working remotely and working on site.

COVID Immediate Response Strategies

The longer-term office strategies outlined above are in many ways contrary to the principles of working in an environment in which COVID (or other infectious agent) is an active concern. For this, JIBC must comply with the requirements set out by the Provincial Health Officer and WorkSafeBC, in effect at the time.

Other Office Strategies to Consider

The following strategies should be considered priorities for redevelopment of JIBC Office spaces:

Clear Navigation

The JIBC Office Space Plan needs to examine wayfinding to ensure that cues are intuitive and do not rely only on signage.

Acoustic Isolation and Confidentiality

Not only is there a concern about noise affecting concentration and productivity, but there are serious issues of maintaining confidentiality. Workstations are currently open and very close to primary circulation corridors.

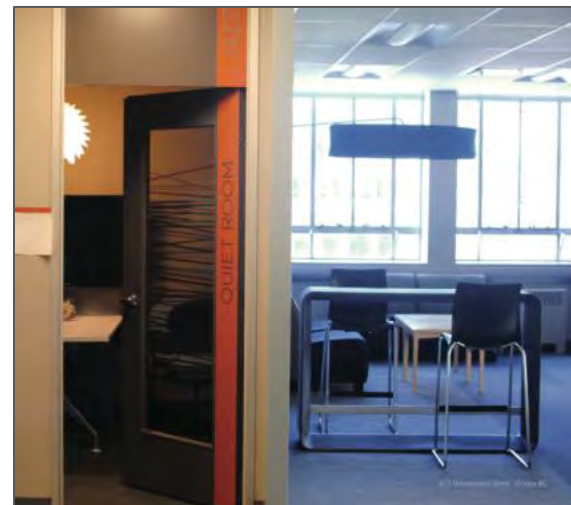
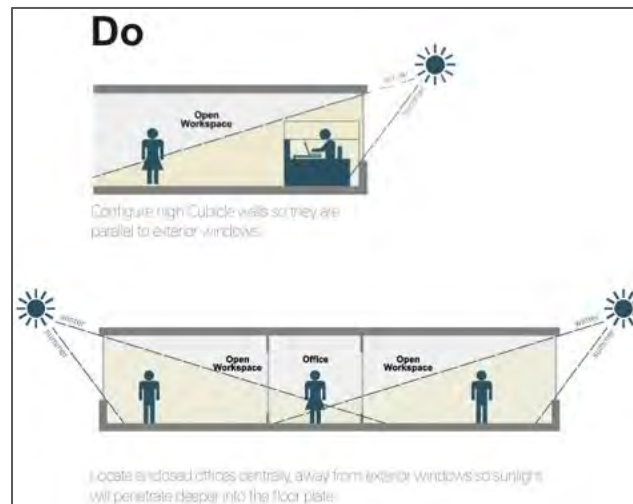
A Range of Accommodation within the Workplace

Build in flexibility for staff who move between campuses or even for staff who are mostly in the office to have the option to move around in the workplace - provide accommodations beyond offices and workstations that include:

- Meeting Room - more formal for groups in conversation or video conference
- Informal Team Space - people casually meeting and talking - such as in break rooms
- Quiet Rooms - individuals requiring privacy to make phone calls or to do work requiring concentration
- Drop-in Workspace - for mobile workers and visitors or new projects

Natural Light for More People

People working in open workstations should have access to natural light. Where reasonable, relocate open workstations closer to windows. A semi-open solution is to create pods of four workstations inside the area of two offices.



Blueprint - **Transforming Office Space Design in British Columbia's Public Service**, BC Real Properties Division, March 2015

Office walls are glass assembly to allow light through

Workstation dividers have glass to allow light through



External Relations Level 2000

[Natural Light for More People, continued](#)

If open workstations are not located close to perimeter walls, where there is access to natural light, renovate enclosed offices located on the perimeter with glazed walls to allow natural light into work areas.



A variation of this may be frosted glass on the bottom half to allow light across the room and to avoid the fishbowl effect.

ALLOCATION SUMMARY

Allocations are generated using a planning module for both offices and workstations, building on the existing *Administrative Space Management Guideline*. This was coupled with existing sizes of offices to provide a reasonable range of office sizes based on a multiple of the 7.4 m² module as summarized below: Note that positions with an asterisk (*) may be accommodated in an office or a workstation.

TABLE 1: OFFICE ALLOCATION BY POSITION

Position	Current Size (m ²)	Planned Size (m ²)	Module
Coordinator *	8.4	7.4	1
Curriculum Developer *	8.4	7.4	1
Curriculum and Scheduling Officer *	8.4	7.4	1
Executive Assistant	8.4	7.4	1
Graphic Designer *	8.4	7.4	1
Institutional Research Analyst	8.4	7.4	1
Library Technician *	8.4	7.4	1
Payroll Supervisor *	8.4	7.4	1
Supervisor, Administrative Services & Assistant to Dean	9.2	7.4	1
Program Manager	11.2	9.2	1.25
Senior Human Resources Consultant	9.2	9.2	1.25
Supervisor, Administrative Services	9.2	9.2	1.25
Admissions & Registration Officer	11.2	11.1	1.5
Admissions Officer	11.2	11.1	1.5
Assistant Controller	11.2	11.1	1.5
Associate Librarian	11.2	11.1	1.5
Associate Registrar	11.2	11.1	1.5
Deputy Financial Officer	11.2	11.1	1.5
HR Advisor	11.2	11.1	1.5
Librarian	11.2	11.1	1.5
Manager/Senior Manager	11.2	11.1	1.5
Program Director	11.2	11.1	1.5

Position	Current Size (m2)	Planned Size (m2)	Module
Registration Officer	11.2	11.1	1.5
Registration Services Advisor	11.2	11.1	1.5
Student Awards & Financial Aid Advisor	11.2	11.1	1.5
Student Recruitment & Advising Officer	11.2	11.2	1.5
Director	13.2	13.0	1.75
General Counsel	13.2	13.0	1.75
Controller	14.5	13.0	1.75
Dean	14.5	14.8	2
Vice-President	17.5	18.5	2.5
President	22.5	22.2	3

Workstations are allocated by position as follows, based on a module of 4.2 square metres. A workstation module of 8.4 is approximately equal to an office module of 7.4 square metres due to the need for walls around the office. Note that positions with an asterisk (*) are also found in the Office Allocation.

TABLE 2: WORKSTATION ALLOCATION BY POSITION

Position	Dedicated Workstation	Shared Workstation	Current Size (m2)	Planned Size (m2)	Module
Administrative Assistant	Yes		4.5	4.2	1
Building Maintenance Worker		Yes	4.5	4.2	1
Cashier and Student Accounts Officer	Yes		4.5	4.2	1
Financial Services Clerk	Yes		4.5	4.2	1
Instructor	Yes		5.9	4.2	1
Account Clerk/Reporting Clerk	Yes		5.9	6.3	1.5
Applied Research Administrator	Yes		5.9	6.3	1.5
Asset Management Specialist	Yes		5.9	6.3	1.5
Custody Training and Development Officer	Yes		5.9	6.3	1.5

Position	Dedicated Workstation	Shared Workstation	Current Size (m2)	Planned Size (m2)	Module
Development Officer	Yes		5.9	6.3	1.5
Human Resources Associate	Yes		5.9	6.3	1.5
Instructional Designer	Yes		5.9	6.3	1.5
Instructional Designer/Coordinator	Yes		5.9	6.3	1.5
Library Assistant	Yes		5.9	6.3	1.5
Marketing & Special Events Advisor	Yes		5.9	6.3	1.5
Media Producer/Technician	Yes		5.9	6.3	1.5
Multimedia & Blackboard Technical Specialist	Yes		5.9	6.3	1.5
Multimedia, Blackboard & SharePoint Design Assistant	Yes		5.9	6.3	1.5
Payroll Representative	Yes		5.9	6.3	1.5
Program Administrator	Yes		5.9	6.3	1.5
Program Assistant	Yes		4.5	6.3	1.5
Program Planner	Yes		5.9	6.3	1.5
Program Representative	Yes		5.9	6.3	1.5
Program Support Administrator	Yes		5.9	6.3	1.5
Program Support Specialist	Yes		5.9	6.3	1.5
Records Officer	Yes		5.9	6.3	1.5
Research Faculty	Yes		5.9	6.3	1.5
Senior Accounting Supervisor	Yes		5.9	6.3	1.5
Senior Financial Analyst	Yes		5.9	6.3	1.5
Senior Financial Services Clerk	Yes		5.9	6.3	1.5
Senior Financial Services Supervisor	Yes		5.9	6.3	1.5
Senior Web Specialist	Yes		5.9	6.3	1.5
Stores Clerk	Yes		5.9	6.3	1.5
Student Records Analyst	Yes		5.9	6.3	1.5
Team Leader	Yes		5.9	6.3	1.5

Position	Dedicated Workstation	Shared Workstation	Current Size (m2)	Planned Size (m2)	Module
Web & Marketing Administrator	Yes		5.9	6.3	1.5
Web Communications Administrator	Yes		5.9	6.3	1.5
Writer/Content Specialist	Yes		5.9	6.3	1.5
Writing Centre Facilitator/Instructor	Yes		5.9	6.3	1.5
Coordinator *	Yes		8.4	8.4	2
Curriculum and Scheduling Officer *	Yes		8.4	8.4	2
Graphic Designer *	Yes		8.4	8.4	2
Library Technician *	Yes		8.4	8.4	2
Payroll Supervisor *	Yes		8.4	8.4	2
Receptionist/Program Assistant	Yes		5.9	8.4	2
Records Governance & FIPPA Specialist	Yes		5.9	8.4	2

**FUTURE OFFICE SPACES
PROGRAM**

The following space list is organized by School, Academy and Department followed by Support spaces that should be distributed as required.

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
School of Criminal Justice and Security					
01	Office, Dean, School of Criminal Justice and Security	1		14.8	
<u>Corrections and Community Justice</u>					
02	Office, Director, Corrections Branch Programs	2	13.0	26.0	
03	Office, Program Director, Corrections	1		11.1	
04	Office, Program Manager, Corrections	4	9.2	36.8	
05	Workstation, Program Assistant	5	6.3	31.5	
06	Workstation, Custody Training and Development Officer	2	6.3	12.6	
07	Workstation, Supervisor, Administrative Services	1		8.4	
08	Office, Coordinator/Instructor/ Curriculum Development	1		7.4	
09	Workstation/Shared Office, Technical Specialist	2	7.4	14.8	
<i>CCJ FFS/Contract Programs</i>					
10	Office, Program Manager, CCJ FFS/ Contract Programs	2	9.2	18.4	
11	Workstation, Program Assistant	2	6.3	12.6	
12	Office, Account Reporting Clerk (CCJ FFS)	1		7.4	
<i>Law Enforcement Training Services</i>					
13	Office, Program Manager	3	9.2	27.6	
14	Workstation, Program Assistant	2	6.3	12.6	

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
15	Workstation, Instructor	9	4.2	37.8	
	Subtotal			279.8	
	<u>Police Academy</u>				
16	Office, Director, Police Academy	1		13.0	
17	Office, Accounting Clerk	1		7.4	
18	Office, Program Director	1		11.1	
19	Office, Program Manager	2	9.2	18.4	
20	Workstation, Program Assistant	2	6.3	12.6	
21	Workstation, Program Representative	1		6.3	
22	Workstation, Instructional Designer	1		6.3	
23	Workstation, Supervisor, Administrative Services	1		8.4	
24	Workstation, Instructor	19	4.2	79.8	
	Subtotal			163.6	
	<u>Sheriff Academy</u>				
25	Office, Program Manager	1		9.2	
26	Workstation, Program Assistant, Centre for Court Administration	1		6.3	
27	Workstation, Technical Specialist	1		8.4	
	Subtotal			23.9	
	Total, School of Criminal Justice and Security			467.0	
	School of Health/Community and Social Justice				
28	Office, Dean, School of Health/ Community and Social Justice	1		14.8	
29	Workstation, Receptionist/Program Assistant	1		8.4	

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
30	Workstation, Supervisor, Administrative Services <u>Community and Social Justice</u> <i>Centre for Leadership</i>	1		8.4	
31	Office, Program Manager	1		9.2	
32	Workstation, Program Assistant	2	6.3	12.6	
33	Workstation, Program Planner <i>Centre for Conflict Resolution</i>	1		6.3	
34	Office, Program Director	1		11.1	
35	Office, Program Manager	2	9.2	18.4	
36	Workstation, Program Assistant	3	6.3	18.9	
37	Workstation, Program Planner	2	6.3	12.6	
38	Workstation, Coordinator <i>Centre for Counselling and Community Safety</i>	1		8.4	
39	Office, Program Director	1		11.1	
40	Office, Program Manager	2	9.2	18.4	
41	Workstation, Program Assistant	3	6.3	18.9	
42	Workstation, Program Planner	1		6.3	
	Subtotal			183.8	
	<u>School of Health Sciences</u>				
43	Office, Director	1		13.0	
44	Office, Program Director	1		11.1	
45	Office, Program Manager <i>Paramedic Academy</i>	1		9.2	
46	Office, Program Manager	1		9.2	
47	Workstation, Coordinator	1		8.4	
48	Workstation, Program Assistant	3	6.3	18.9	
49	Workstation, Program Representative	1		6.3	

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
50	Workstation, Program Planner	3	6.3	18.9	
51	Workstation, Instructor <i>Centre for Professional Education</i>	2	6.3	12.6	
52	Office, Program Manager	1		9.2	
53	Workstation, Program Assistant	2	6.3	12.6	
54	Workstation, Program Assistant, Canadian Forces Contract	1		6.3	
Subtotal				135.7	
Total				319.5	
School of Public Safety					
55	Office, Dean, School of Public Safety <u>Emergency Management</u> <i>FFS/Contract Programs</i>	1		14.8	
56	Office, Program Director	2	11.1	22.2	
57	Office, Program Manager	4	9.2	36.8	
58	Workstation, Program Assistant	1		6.3	
59	Workstation, Supervisor, Administrative Services	1		8.4	
60	Workstation, Program Representative	1		6.3	
61	Workstation, Instructional Designer/ Coordinator <i>PEP Programs</i>	1		8.4	
62	Office, Program Manager	2	9.2	18.4	
63	Workstation, Program Assistant	3	6.3	18.9	
64	Workstation, Program Planner	1		6.3	
65	Workstation, Instructional Designer	1		6.3	
66	Workstation, Coordinator/Instructor	1		8.4	
Subtotal				161.5	

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
<u>Fire and Safety</u>					
67	Office, Director	1		13.0	
68	Office, Program Director	1		11.1	
69	Office, Program Manager	1		9.2	
70	Workstation, Program Assistant	1		6.3	
71	Workstation, Program Planner	1		6.3	
72	Workstation, Program Representative	1		6.3	
73	Workstation, Supervisor, Administrative Services	1		8.4	
74	Workstation, Instructional Designer	1		6.3	
<u>Graduate Certificates</u>					
75	Office, Program Manager	1		9.2	
76	Workstation, Program Assistant	1		6.3	
77	Workstation, Program Support Specialist	1		6.3	
<u>Contract Programs</u>					
78	Workstation, Program Assistant	1		6.3	
Subtotal				95.0	
Total				256.5	
 School of Applied Research and Graduate Studies					
79	Office, Dean	1		14.8	
80	Workstation, Administrator	1		6.3	
<u>Centre for Teaching, Learning and Innovation</u>					
81	Office, Director (Interim)	1		13.0	
82	Office, Program Director	2	11.1	22.2	
83	Office, Program Manager	1		9.2	

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
84	Workstation, Program Administrator	1		6.3	
85	Workstation, Instructional Designer	2	6.3	12.6	
86	Workstation, Media Producer/ Technician	1		6.3	
87	Workstation, Senior Web Specialist	2	6.3	12.6	
88	Workstation, Coordinator	1		8.4	
89	Workstation, Research Faculty <i>Centre for Liberal and Graduate Studies</i>	1		6.3	
90	Office, Program Manager	1		9.2	
91	Workstation, Program Support Administrator <i>JPS - Graduate Certificates</i>	1		6.3	
92	Workstation, Web and Marketing Administrator	1		6.3	
Total				139.8	
Finance and Operations					
93	Office, Vice-President, Finance and Operations	1		18.5	
94	Office, Records Governance and FIPPA Specialist <u>Financial Services</u>	1		7.4	
95	Office, Controller	1		13.0	
96	Office, Assistant Controller	1		11.1	
97	Office, Senior Manager	1		11.1	
98	Office, Deputy Financial Officer (Interim)	1		11.1	
99	Workstation, Senior Accounting Supervisor	1		6.3	

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
100	Workstation, Senior Financial Services Supervisor	1		6.3	
101	Workstation, Senior Financial Analyst	1		6.3	
102	Workstation, Senior Financial Services Clerk	1		6.3	
103	Workstation, Financial Services Clerk	6	6.3	37.8	
104	Workstation, Payroll Supervisor	1		8.4	
105	Workstation, Payroll Representative	2	6.3	12.6	
106	Office, ERP Program Manager (Technical Services)	1		9.2	
107	Office, ERP Analyst	1		7.4	
Total				172.8	
Human Resources					
108	Office, Vice-President, Human Resources	1		18.5	
109	Office, Senior Manager	1		11.1	
110	Office, HR Advisor	1		11.1	
111	Office, Senior HR Consultant	1		9.2	
112	Workstation, HR Associate	1		6.3	
Total				56.2	
Communications and Marketing					
113	Office, Senior Manager	1		11.1	
114	Workstation, Marketing and Special Events Advisor	2	6.3	12.6	
115	Office, Student Recruitment & Advising Officer	1		9.2	
116	Workstation, Writer/Content Specialist	1		6.3	
117	Workstation, Graphic Designer	1		8.4	

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
118	Workstation, Web Communications Administrator	1		6.3	
119	Communications Storage Room	1		10.0	Approximates existing
	Total			63.9	
Institutional Research					
120	Director, Institutional Research	1		13.0	
121	Workstation, IR Analyst	2	6.3	12.6	
	Total			25.6	
External Development					
122	Office, Director, External Development	1		13.0	
123	Workstation, Development Officer	1		6.3	
124	Workstation, Administrative Assistant	1		4.2	
	Total			23.5	
International Affairs					
125	Office, Manager	1		11.1	
	Total			11.1	
Presidents Office					
126	Office, JIBC President	1		22.2	
127	Office, Executive Assistant	1		7.4	
128	Office, Vice-President Academic	1		18.5	
129	Office, Executive Assistant to VP Academic	1		7.4	
130	Office, Program Manager, VP Academic	1		9.2	
131	Office, General Counsel	1		13.0	
132	Files Storage	8	0.8	6.4	

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
133	Photocopier	1		5.0	
	Total			89.1	
	Support Space				
134	Lobby Area	4	20	80.0	Locate at each walkway and elevator core on each level
135	Waiting Area	4	12.0	48.0	Locate at reception at walkways and elevator core on each level
136	Reception Station	4	7.4	29.6	Locate at each walkway and elevator core on each level
137	Board Room	1		72.0	As per existing
138	File Storage Room	6	12.0	72.0	Assumes can be shared; accommodates approximately 15 lateral filing cabinets
139	Workroom/Alcove	6	16.0	96.0	Currently 11 with average size of about 20sm; locate central and at two ends of each floor
140	Drop-Down/Hotelling Station	12	4.2	50.4	Locate in pods close to Workroom/service cores
141	Phone Booth	6	4.6	27.6	
142	Meeting Room	4	14.0	56.0	Currently 2 at 13.6nsm
143	Staff Lounge	1		41.0	As per existing
	Total			492.6	
	Grand Total - Net Area			2,117.6	

Ref	Space	No. Units	Area/ Unit	Total Area	Comment
	Component Gross Area @ 45%			3,070	

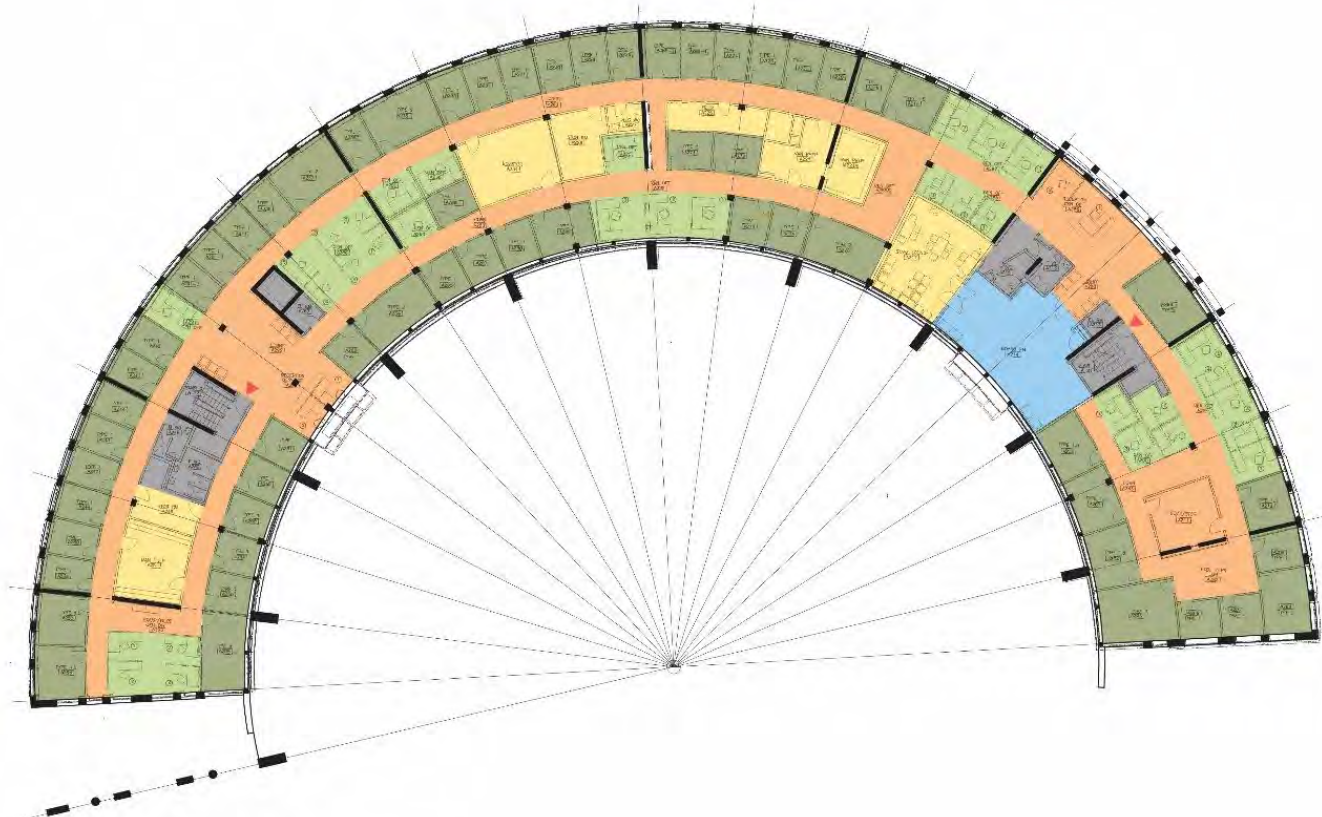
PHYSICAL PLANNING OPTIONS

As part of the Office Space Study, an analysis of the existing space was completed to identify any constraints and opportunities, prior to the development of schematic layouts for the administrative area on the New Westminster campus.

Existing Space

To assist in the analysis of the existing space, the diagram below was created to graphically show what is closed office vs. what is open office, circulation, support and building services using the second floor of the admin space as a starting point. Closed offices line the perimeter of the floor, with a mix of open office and support space in the middle, doubling up on the corridors fill the gaps of the floor plate.

- Open Office
- Closed Office
- Circulation
- Support
- Boardroom
- Services



Constraints and Opportunities

Constraints

A distinct challenge in developing any layout using this space were the implications of the building code and the shape of the floor plate.

Three key items within the code were addressed in the schematic layouts (the Building Code of British Columbia (BCBC) 2018 was referenced):

- *Travel distance*

Travel distance is the distance that a person would have to travel from any point within the floor area to the nearest exit. Due to the nature of its occupancy, and is not considered a high-hazard occupancy, provided the space is sprinklered, 45 metres is the maximum travel distance. [BCBC – 3.4.2.5.(1)(b)]

- *Dead-end corridors*

Dead-end corridors are corridors that has an exit in only one direction. A dead-end corridor is permitted provided it is not more than 6 metres in length. [BCBC – 3.3.1.9.(7)]

- *Suite size*

A suite size has an impact on how many doors are needed and to what size the suite may be. Two doors are needed when the intended occupant load is more than 60, and when the area of the sprinklered suite is more than the value in Table 3.3.1.5.-B, in this case 200 square metres. [BCBC – 3.3.1.5.(1)]

Opportunities

Addressing natural light within this space would be an opportunity. There are various ways to approach this, and is summarized as follows from Part 1 of the study:

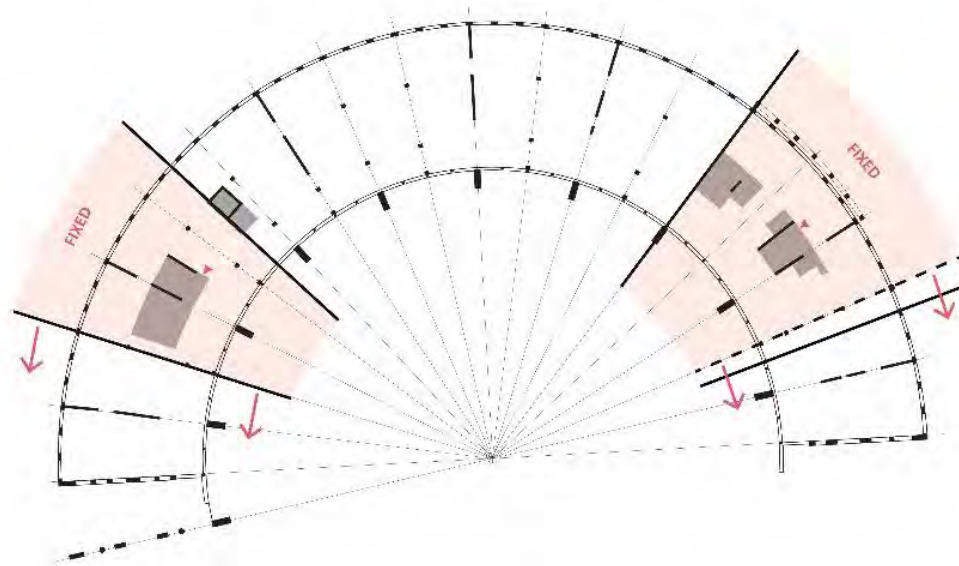
- Allow for open offices to sit along the perimeter, and/or
- Renovate perimeter offices with a glazing system to allow natural light to filter into the middle of the floor.

SCHEMATIC DESIGN - DIAGRAMS/LAYOUTS

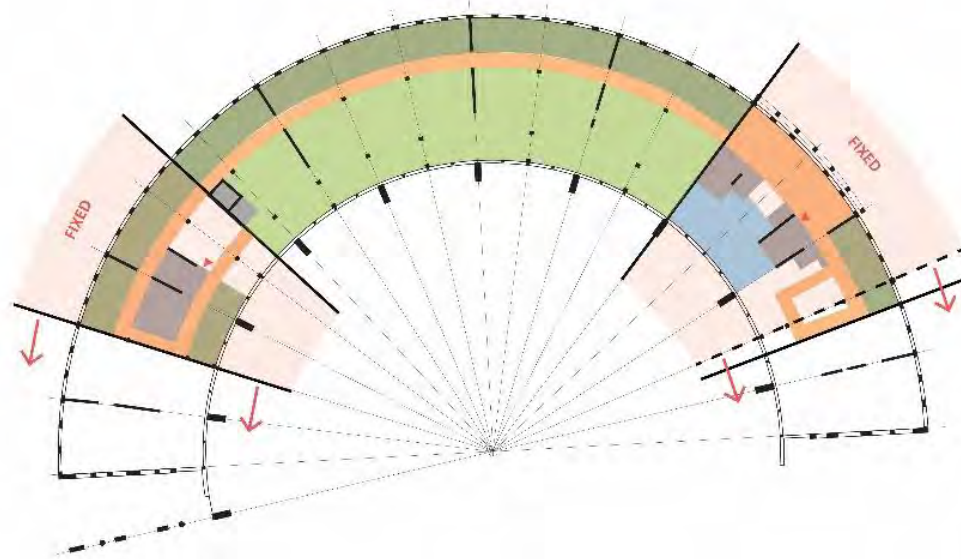
Once all constraints and opportunities were identified, a series of diagrams were created to illustrate the high-level design intent from which the schematic layouts were developed.

Diagrams

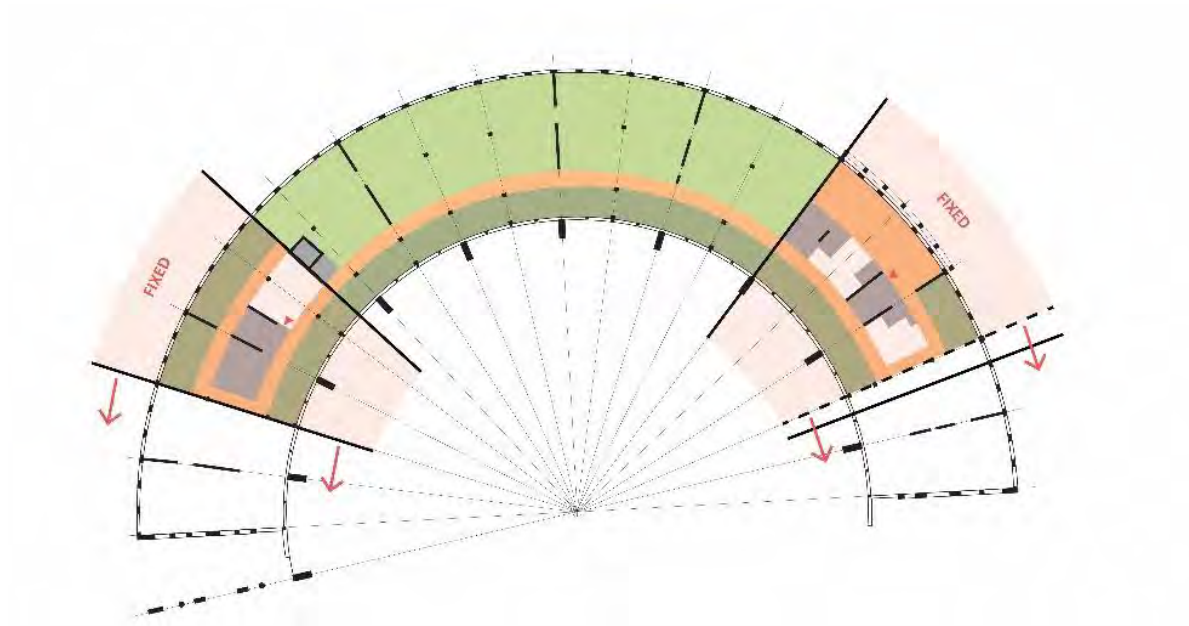
- 1) The first diagram identified the fixed areas on the plan. These areas included the lobbies, staircases, elevator cores, washrooms (areas in grey). Illustrating the fixed, revealed sections of the plan that could be home to most of the program needs/requirements.



- 2) The second diagram filled in the areas identified from diagram 1 – what could be closed office vs. open office. Open office is indicated in light green along the inner perimeter.

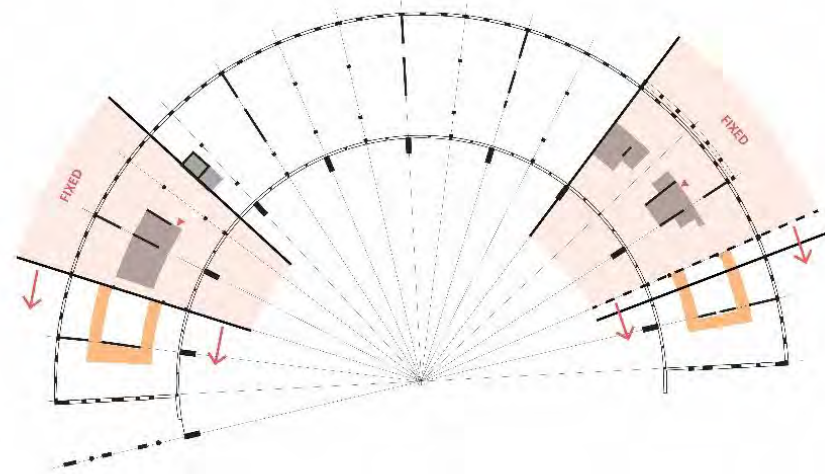


- 3) Like diagram 2 – diagram 3 identified what could be closed office vs. open office. Open office is indicated in light green at the outer perimeter.

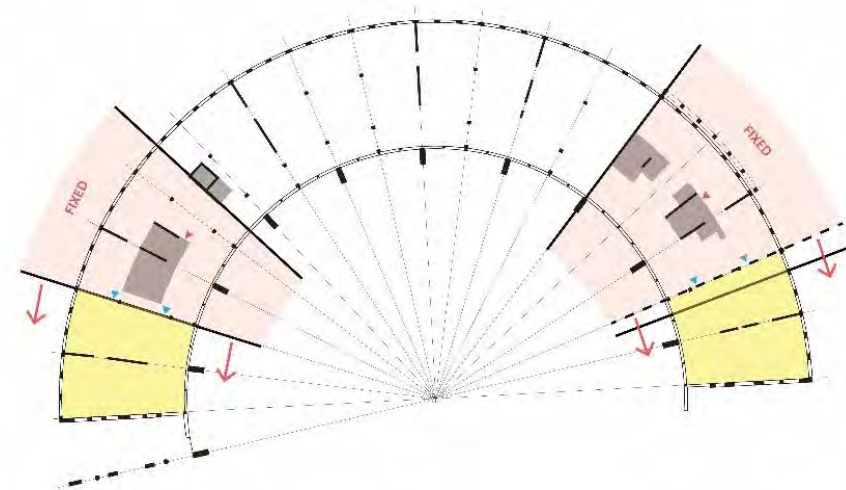


The end condition of the floor plate could take two different approaches: continue the existing circulation and offices through to address the dead-end corridors (diagram 4) or create an end suite that can be used by one or more specific departments (diagram 5), keeping in mind the code implications of suites.

4) End condition - Continued offices



5) End Condition - Suite



Schematic Layouts

See the attached drawings for further development of the diagrams into the schematic design layouts.

Option 1

Option 1a – Open Office (Inner Perimeter) with Continuous Office

Option 1b – Open Office (Inner Perimeter) with End Suite

Option 2

Option 2a – Open Office (Outer Perimeter) with Continuous Office

Option 2b – Open Office (Outer Perimeter) with End Suite

Option 3

Option 3a – Hybrid with Continuous Office

Option 3b – Hybrid with End Suite

Option 4

Option 4a – Hybrid with Continuous Office

Option 4b – Hybrid with End Suite

Summary

Each layout aims to respond to the strategies mentioned in part 1 of the study: creating clear navigation, addressing acoustics and confidentiality, provide a range of flexibility in accommodation, and allow for as much natural light to as many people, and addressing the code implications in part 2 of the study.

	Advantages	Disadvantages
Option 1a/b and 2a/b	<ul style="list-style-type: none"> - more open offices = more natural light - provide as many workstations as possible without doubling up staff - all support space needs are met 	<ul style="list-style-type: none"> - short workstations
Option 3a/b	<ul style="list-style-type: none"> - offers closed and open office - all support space needs are met - closed office count is met 	<ul style="list-style-type: none"> - short workstations (open offices), would need to double up staff at workstations - lack of natural light
Option 4a/b	<ul style="list-style-type: none"> - closed offices moved off one side to allow for open offices - opportunity for use of natural light - all support space needs are met 	<ul style="list-style-type: none"> - short workstations (open offices), would need to double up staff at workstations

.6 Administrative Space Management Guidelines



Administrative Space Management Guidelines

September 2, 2021

Facilities

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1. Revision History

Guidelines contained within this document will be reviewed annually and updated as necessary. Details of updates are to be recorded in the table below.

Subsection	Revision	Date	Description/Changes Made	Update (Yes/No)	Annual Update (Yes/No)
All	00	September 2019	Version 1	N/A	N/A
All	01	May 2021	Version 2	Yes	
All	02	September 2021	Version 3	Yes	
		2022			
		2023			
		2024			
		2025			
		2026			

2. Overarching Principles

2.1 Space Ownership

Administrative space is Institute space allocated to schools, offices, and divisions for their specific use.

2.1 Allocating Space

The Institute has an obligation to provide administrative space for staff and faculty that is appropriate and sufficient to support activities that are part of the Institute's mandate.

The Institute is responsible for allocating blocks of space to schools, offices, and divisions for their use. The Facilities Division has primary responsibility for managing the allocation of blocks of space to schools, offices, and divisions as they are expected to have a clearer understanding of the most efficient distribution of the building footprint. Space allocation to schools, offices and divisions will be reviewed periodically by the Facilities Division and reconfirmed accordingly.

The Institute can reallocate administrative space, at its discretion, to meet changing needs and priorities. The Facilities Division will carry out such reallocations of space in consultation with the affected schools, offices, and divisions.

2.2 Suitable Space

Administrative space provided shall be suitable in terms of size, quality, and location. Uses of space of a similar nature, or uses that are functionally related, will be allocated in proximity to one another wherever possible. In particular, schools, offices, and divisions, whenever practical, will have their special facilities (such as preparation rooms), offices and support spaces located contiguously.

2.3 Using Space Effectively

All administrative space allocated to a school, office or division must be used efficiently. It is the responsibility of the dean, director, or vice president to address changing and emerging needs for administrative space by optimizing the utilization of the space they currently occupy. The first response

to a perceived need is to identify available space resources that can meet the requirement. It is an obligation of the dean, director, or vice president to identify underutilized space and provide for improved space use.

2.4 Sharing Space and Functions

To avoid duplication of administrative space, equipment, and staff services, and to avoid unnecessary costs, as much space as possible should be shared among schools, offices, and divisions. Sharing of space applies, especially to preparation rooms and storage areas. Where there are multiple users, protocols shall be developed to establish responsibilities and priorities for the use and management of the space.

3. Space Allocation

Private and shared offices, cubicles and workstations, preparation and storage rooms, and meeting spaces are all considered administrative spaces. Schools, offices, and divisions will manage the allocation of administrative spaces within their respective areas according to the following stated guidelines and principles.

3.1 Offices

Private offices shall be allocated based on position, per the table below:

Position	Private Office Module
President/Vice President	2.0
Dean/Director/Deputy CFO/General Counsel/Senior Manager/Program Director/Associate Registrar/Sr HR Consultant	1.5
Executive Assistant/Manager/Program Manager/Librarian/Supervisors Administrative & Payroll/IR Analyst/Coordinator/HR Advisor	1.0

Shared offices shall be allocated based on position, per the table below:

Position	Current Shared Office Module
Instructor/Instructional & Graphic Designer	2.0 - 1.5

Prescribed furnishings for offices for position type and space allocation are detailed in Appendix 1.

3.2 Workstations and Cubicles

Workstations and cubicles shall be allocated based on position, per the table below:

Position	Workstation/Cubicle Module
Administrative Assistant	1.0
Technician	1.5
Curriculum & Scheduling Officer/ Admissions & Registration Officer/ Other academic and administrative staff	2.0

3.3 Preparation and Storage Rooms

Preparation and storage rooms are allocated to schools, offices and divisions based on needs. Preparation rooms may be used to accommodate additional workstations if deemed appropriate.

3.4 Meeting Rooms

Meeting rooms are available for use by all and are accessible through Outlook.

3.5 General Principles

1. Administrative spaces vacated by staff/faculty on leave will generally be assigned to the relief staff/faculty member.
2. When it is known in advance that an administrative space will be vacated by an outgoing staff/faculty member (e.g., retirement), the availability shall be reported to the dean, director, or vice president so that its future allocation can be determined.
3. All moves involving administrative space must include consultation with the Facilities Division and Technology Services Division to minimize the number of moves (the domino effect) and movement of furniture, fittings, and technology.
4. Requests for additional administrative space to accommodate new programs or increased capacity must be identified in the funding request for the position(s). For all such requests, the school, office, or division shall conduct an analysis to confirm that all current space is being used as efficiently and effectively as possible.
5. Assignment of multiple workspaces for staff/faculty is usually not supported; however, when an individual has functions not performed in close proximity, the individual may need two workspaces. Individuals with staff/faculty in multiple campuses may be assigned a secondary workspace if a genuine demonstrated need exists.
6. Part-time positions shall usually be assigned shared workspaces, including offices, workstations, and cubicles.
7. Hoteling space, which is shared by many, may or may not be allocated to a specific school, office, or division. Such space can be in the form of a private office, workstation, or cubicle.
8. Allocation and assignment of administrative space shall be in accordance with relevant provisions of the Institute's Communicable Disease Plan.

4. Records and Forms

The Facilities Division shall maintain an accurate inventory of allocated and assigned spaces. Schools, offices, and divisions shall provide details of all administrative space assignments within their respective areas to Facilities on a prescribed form, available on the Intranet.

All requests from schools, offices and divisions to Facilities for the assignment of new or renovated administrative space shall be submitted on a prescribed form, available on the Intranet.

5. Resolving Issues

Any issues resulting from applying these Administrative Space Management Guidelines can be referred to the Space Planning Committee (SPC), a subcommittee of the Campus Planning Council. The SPC is responsible for reviewing recommendations from the Facilities Division and others regarding space allocation, assignment, and related functions. The SPC also acts as an appeal body for space allocation and assignment decisions. For additional details on the role of the SPC, refer to Appendix 1 – Space Planning Committee Terms of Reference.

6. Appendices

Continued on next page.

Appendix 1 – Space Planning Committee

Space Planning Committee – Terms of Reference

Purpose

The Space Planning Committee (SPC) provides recommendations to the Campus Planning Council on the administration of space usage and allocation guidelines.

Chairperson

Members of the committee shall rotate the duty of chairing meetings.

Functions

The committee shall be responsible for addressing the issues and performing tasks described below:

- Reviewing recommendations for learning and administrative space footprint assignment and reassignments across schools, offices, and divisions;
- Reviewing recommendations for related procedures and guidelines; and
- Acting as an appeal body for
 - space assignment and allocation decisions; and
 - variances to related procedures and guidelines.

Accountability

Reports to the Campus Planning Council.

Meetings

Meets as required. A quorum is defined as four members.

Membership

Positions comprising membership of the committee include the following:

- Director, Campus Planning & Facilities Operations;
- Registrar & Director, Student Services;
- 1 Dean*;
- 1 Director of an administrative service division*

*Appointed annually from amongst the members of the Campus Planning Council.

Procedures

The Chair will guide the committee's efforts to ensure they are effective in meeting objectives. Each member will have the opportunity to contribute to discussions at the meetings. The Chair will record decisions of the committee for distribution to the Campus Planning Council.

Appendix 2 – Workspace Furnishings

The following is a list of furniture by module and workstation size. Optional furnishings are noted with an asterisk (*).

Offices

Module 2.0 – 18.5 - 22.2 m2

Furniture	Quantity	Size (W x L x H)
Desk	1	183 x 91
Credenza	1	183 x 51
Task Chair	1	Large or small
2-Drawer Pedestal	2	39 x 48 x 70
Table, Round	1	107 to 119 diameters
Side Chair	4 – 5	60 x 60

Module 1.5 – 13.0 m2 to 14.8 m2

Furniture	Quantity	Size (W x L x H)
L- Shaped Desk	1	168 x 168
Task Chair	1	Large or small
2-Drawer Pedestal	2	39 x 48 x 70
2-Drawer Filing Cabinet *	1	90 x 56 x 74
2-Drawer Filing Cabinet/Bookcase*	1	90 x 48 x 91
Table, Round	1	107 to 119 diameters
Bookcase*	1	90 x 30 x 183
Side Chair	2 – 3	60 x 60

Module 1.0 – 7.4 m2, 9.2 m2, 11.1 m2

Furniture	Quantity	Size (W x L x H)
L- Shaped Desk	1	168 x 168
Task Chair	1	Large or small
2-Drawer Filing Cabinet *	1	90 x 56 x 74
2-Drawer Filing Cabinet/Bookcase *	1	90 x 48 x 91
Side Chair	1-2	60 x 60

Workstations/Cubicles

Workstation – 4.2 m2

Furniture	Quantity	Size (W x L x H)
Desk	1	152 x 76
Task Chair	1	Large or small

Workstation – 6.3 m2

Furniture	Quantity	Size (W x L x H)
Desk	1	180 x 180
Task Chair	1	Large or small
2-Drawer Pedestal	2	39 x 48 x 70

Workstation – 8.4 m2

Furniture	Quantity	Size (W x L x H)
Desk	1	180 x 180
Task Chair	1	Large or small
2-Drawer Pedestal	2	39 x 48 x 70
Reception Counter*	1	180 x 30

.7 JIBC Transportation and Parking Study



JIBC TRANSPORTATION & PARKING STUDY

Final Report

Prepared For: Justice Institute of British Columbia
Date: September 2, 2021
Our File No: 2907.B01

WATT VANCOUVER
550 – 888 Dunsmuir Street
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EXECUTIVE SUMMARY

The New Westminster campus is the main administrative hub of the Justice Institute of British Columbia. Growth in student enrollment has highlighted several transportation issues at this campus, including inadequate parking availability, parking spillover, stagnant modal split, and overall car-oriented design. WATT Consulting Group (WATT) was retained in 2020 to review these issues and provide recommendations to support future growth while also addressing some of the transportation issues identified above.

As part of this Study, WATT analyzed current and future parking demand on campus, provided TDM recommendations to reduce vehicle mode share on campus, and suggested measures to modernise the campus. The JIBC Strategic Plan and its work in reducing its carbon footprint in compliance with provincial regulations combined with the supportive policies of the City of New Westminster are all conducive to a more sustainable direction for JIBC’s future planning efforts.

The parking demand forecast provides a range of potential futures for parking demand at the New Westminster campus. If JIBC pursues a “business as usual” scenario and does not implement transportation demand management (TDM) to reduce the number of trips by vehicle to and from campus, peak parking occupancy is estimated to be 840 vehicles and would exceed the future potential supply of 470 parking spaces. Different TDM measures have been recommended for JIBC in the short-term, medium-term, and long-term. Implementation of TDM could reduce parking demand to a peak occupancy of 310 to 540 vehicles and support the use of different transportation modes on campus and help reduce future parking demand.

This study is a first step of a larger TDM process and provides an in-depth look at the transportation issues on campus and a broad discussion around the solutions to address them.



1.0 PROJECT OVERVIEW

The Justice Institute of British Columbia (JIBC), through its applied education, training, and research programs, is a leading public safety educator in Canada with several campuses across British Columbia. As student enrollment has grown, capacity issues have increased on all campuses, particularly at the New Westminster campus. In preparation for future growth and expansion, JIBC is currently undertaking a Long-Range Facilities Plan (LRFP) that will forecast student, staff, and faculty growth over a 25-year horizon (2044) and make recommendations to address future expansion needs from a facility and site planning perspective. The Transportation & Parking Study is a supporting study as part of the LRFP and focuses specifically on the New Westminster campus.

The New Westminster campus is the main administrative hub of the JIBC. Growth in student enrollment has highlighted several transportation issues on campus, including inadequate parking availability, parking spillover, stagnant modal split, and overall car-oriented design. WATT Consulting Group (WATT) was retained in 2020 to review these issues and provide recommendations that will support future growth on this campus while addressing some of the transportation issues identified above.

The objectives of this study are as follows:

- Evaluate existing and future vehicle parking issues and needs.
- Review and recommend transportation demand management (TDM) measures to improve options for walking, cycling, and transit and reduce vehicle parking demand.
- Review opportunities to improve access, on-site circulation, and off-site connections with the broader neighbourhood.
- Recommend strategies to modernise the campus in anticipation of transportation technology advancements in the future (electric vehicles, electric bikes, carpooling, carsharing and ride-hailing).
- Recommend policy changes needed to support the parking and TDM recommendations coming out of the Study.



Source: JIBC



The base year for this study is the 2018-19 academic year and the planning horizon is 2044. WATT worked with ThinkSpace Architecture and JIBC throughout this study to ensure coordination with the development of the LRFP. It is noted that this study was conducted during the COVID-19 pandemic with the majority of students and employees studying and working from home. This was not reflective of normal activity levels on campus and these circumstances have been considered in our study approach and recommendations.



2.0 CONTEXT

2.1 Physical Context

The JIBC New Westminster campus is located in the Glenbrook South neighborhood of New Westminster (see **Figure 2-1**). The New Westminster campus is JIBC's largest campus and serves as its administrative hub. Set on a 4.2-hectare property, the campus currently comprises of three classroom buildings with office and administrative spaces over 16,000 square metres of built space. There are currently 7,282 students (979 Full-Time Equivalent), 249 staff, and over 500 faculty members as of the 2018-19 academic year. There currently are 437 vehicle parking spaces available on campus (432 unreserved spaces and 5 reserved spaces for staff) plus 16 spaces reserved for training vehicles, for a total of 453 spaces.

The campus is located at the southeast corner of a major intersection of Eighth Avenue and McBride Boulevard. Both streets are high traffic volume streets, with McBride Boulevard being a major arterial and truckroute. Access to the campus is possible using both streets with right- in/right-out access at McBride Boulevard and full movement access at Eighth Avenue.

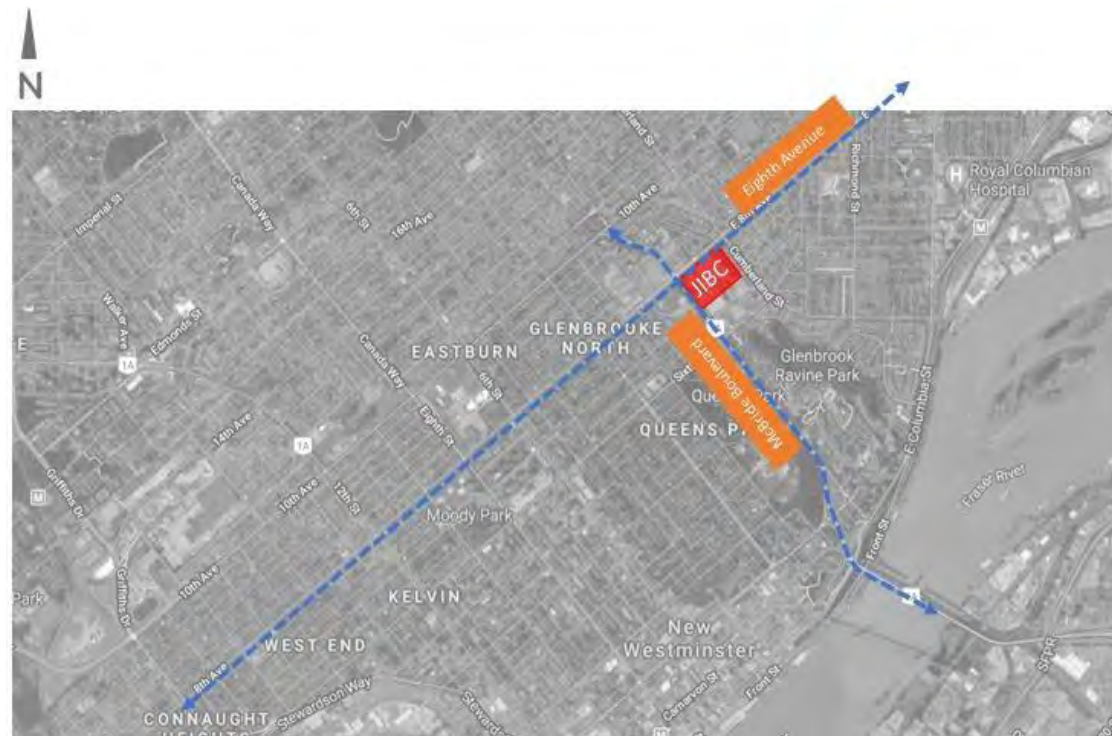


Figure 2-1: Location of JIBC New Westminster campus



2.2 Functional Context

The New Westminster campus offers a number of short-term courses with an average duration of up to three months. Before the COVID-19 pandemic, the majority (almost 80%) of classes were delivered in-person. Anecdotal observations suggest that students and employees travel from across the Metro Vancouver area to access the campus. Classes are generally held between 7 a.m. and 4 p.m. with some evening and weekend classes. The predominant mode of travel to campus is via single-occupancy vehicles (SOV).

2.3 Transportation Context

The New Westminster campus is accessible by different modes of transportation. Its centralized location in the region, proximity to Highway 1, and a number of SkyTrain stations contribute to this ease of access.

Figure 2-2 illustrates JIBC's location relative to major regional access points on both the regional road and transit networks.

- The campus is about 2.75 kilometres from the Burnette Avenue exit off Highway 1 and less than two kilometres from the Patullo Bridge. Both access points improve regional connectivity.



Figure 2-2: Regional connections to campus



- There are five SkyTrain stations within a four-kilometre radius of the campus. SkyTrain runs at a frequency of two minutes in peak and four minutes in off-peak. Of the five stations, four have a bus connecting to stops directly adjacent to the campus. While travel to campus on public transit would require at least one transfer (depending on origin), the campus is still relatively accessible by public transit.
- Two bus routes stop in front of the New Westminster campus on Eighth Avenue. Both these routes connect to SkyTrain stations at varying frequencies throughout the day, including Route 128 (stop # 52322 & 53580) and Route 105 (stop # 52322 & 53580).

For walking and biking connections (**Figure 2-3**), the Rotary Crosstown Greenway along Seventh Avenue is a traffic calmed multi-use pathway. McBride Boulevard and Eighth Avenue have sidewalks in good condition to enable biking and walking connections to campus. A review of existing travel times to campus using sustainable modes of transportation indicate that cycling and public transit are the most feasible alternate modes to access the campus. This is further reinforced by proposed improvements to transit and cycling networks in New Westminster expected in the future (see **Section 2.4**).




Figure 2-3: Walking, cycling, and transit connections to campus

Source: Urban Systems





Table 2-1: Travel times from neighbouring SkyTrain stations to campus

Walk/bike/bus travel times to connect to neighbouring SkyTrain stations			
			
Comment	Hilly terrain	Long walk distances and might not be feasible	Rt 128 @ 20 min peak frequency Rt 105 @ 30 min frequency all day
22nd St Station to JIBC	18 mins	> 20 mins	16 mins
Sapperton Station to JIBC	7 mins	> 20 mins	No bus route
Braid Station to JIBC	11 mins	> 20 mins	12 mins
Columbia Station to JIBC	12 mins	> 20 mins	15 mins
New Westminster Station to JIBC	21 mins	> 20 mins	23 mins

Although improvements to cycling connections and transit frequency to campus are needed to make both these modes more attractive to the JIBC community, the analysis suggests that the New Westminster campus has better than average connectivity to regional networks (road, cycling, and transit) and is well-placed to encourage and foster the use of sustainable modes of travel to campus.



2.4 Regulatory Framework

It is important to understand transportation-related regulations and policies as JIBC plans for future campus growth. This helps determine if a certain policy direction is supported by a municipality and if any incentives are available to pursue them. WATT reviewed the City of New Westminster’s policies regarding transportation and sustainability, along with pertinent JIBC policies.

New Westminster Master Transportation Plan (2015) and Climate Emergency Declaration (2019)



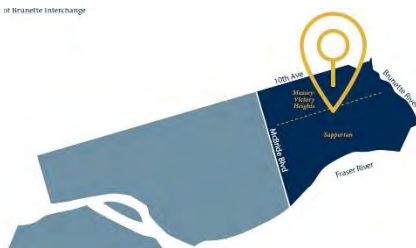
The New Westminster Master Transportation Plan identifies transportation as the biggest area of concern facing the community. In response to this and the need to address sustainability and climate change concerns, the City of New Westminster has established an ambitious target so that by 2030, 60% of all local trips within the city will be by sustainable modes of transportation, including walking, cycling, and transit.

At this time, no incentives have been identified for organizations like JIBC wanting to shift from traditional transportation modes to alternative ones; however, this is something the City is working on based on correspondence with City staff. It is anticipated that in the future, some incentives might be available to JIBC should they pursue formalized mode shift goals.

Sapperton Massey Victory Heights Transportation Plan (2018)

The Sapperton Massey Victoria Heights Transportation Plan is an area plan that identifies improvements for the transportation network in the immediate neighborhood of the New Westminster campus. Two recommendations will be helpful in improving transportation options for the JIBC community:

- Peak period bus lanes are proposed on East Eighth Avenue between Cumberland Street and East Columbia Street to improve reliability of service for Route #128.
- Eighth Avenue is identified as a corridor for enhanced transit service at Frequent Transit service levels (15 minute or better service until 9 p.m. every day).



Both these recommendations will improve transit service on Eighth Avenue and make it a more reliable and predictable alternative travel option.



JIBC Strategic Plan (2019) and Other Policies



The Strategic Plan identifies JIBC’s commitment to sustainability, with two relevant policies:

- JIBC is committed to meeting or exceeding regulatory requirements and organizational good practices related to sustainability.
- Supporting sustainable transportation for students, staff, and faculty.

The JIBC Strategic Plan and its work in reducing its carbon footprint in compliance with provincial regulations, combined with the supportive policies of the City of New Westminster, are all conducive to a more sustainable direction for JIBC’s future planning efforts.



3.0 ISSUES AND OPPORTUNITIES

WATT reviewed issues and opportunities on campus related to the future campus expansion (see **Figure 3-1**). This analysis informs the future transportation network for the New Westminster campus. The following sections highlights some of the transportation issues and opportunities that need to be addressed as JIBC thinks about future on-campus mobility.

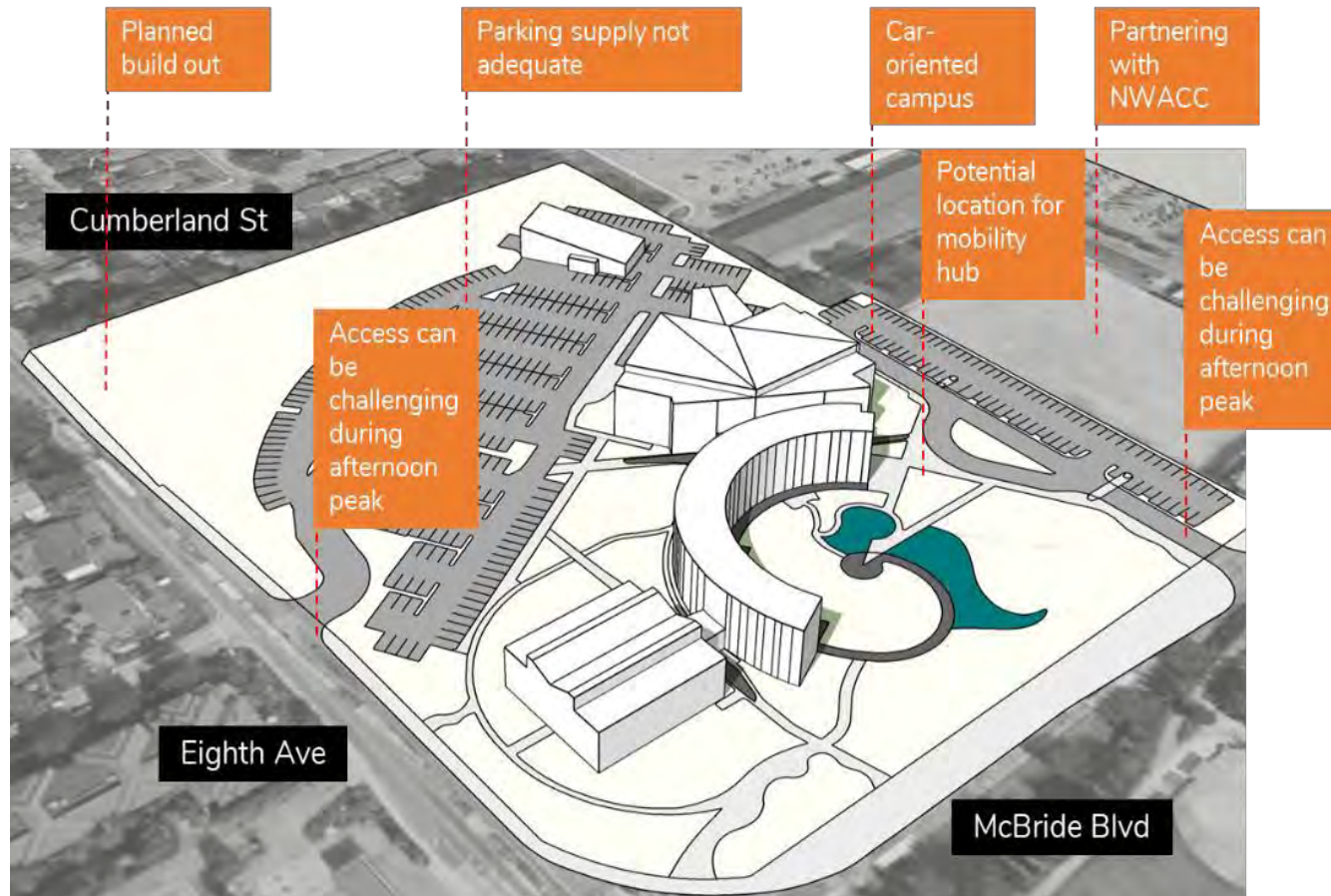


Figure 3-1: Campus issues and opportunities



3.1 Car-centric Campus Design

Information obtained from TransLink’s Regional Trip Diary Survey indicates that almost 80% of trips in the neighbourhood are by single-occupancy vehicles (SOV). While anecdotal information by staff suggests that some carpooling and transit trips occur, survey results from the Long-Range Facilities Plan Survey conducted towards the end of this study support the above interpretations.

Parking demand on car-centric campuses typically increase proportional to growth on campus. The more people that drive to campus, the more parking spaces are needed to meet the increased parking demand. At some point, this growth in parking supply will become financially and spatially unsustainable.

Post-secondary institutions across BC have found that accelerating sustainable mode share shift has helped address the need to constantly increase parking supply to keep up with student enrollment growth. Mode share is defined as the proportion of trips by a particular transportation mode for a specified place at a specific time. Some campuses have achieved an almost 50% sustainable mode share by strategically applying TDM principles to on-campus transportation planning (see **Table 3-1**). Recommended TDM measures for JIBC are in **Section 5** of the report.



Table 3-1: Mode share comparison with other BC post-secondary institutions

Institution	Mode Share							
	SOV	Carpool	Transit	Cycle	Walk	Other	Auto Total	Non-Auto Total
Langara College	9%	3%	60%	4%	23%	1%	12%	88%
University of British Columbia (Vancouver Campus)	30%	14%	52%	2%	1%	1%	44%	56%
Camosun College (Lansdowne Campus)	38%	9%	36%	5%	10%	3%	47%	54%
University of Victoria	40%	10%	27%	8%	15%	N/A	50%	50%
British Columbia Institute of Technology (Burnaby Campus)	55%	11%	31%	1%	2%	N/A	66%	34%
Okanagan College (Kelowna Campus)	58%	14%	14%	3%	13%	2%	72%	32%
Royal Roads University	63%	12%	6%	3%	13%	3%	75%	25%

Note: Mode share figure reflects data received from institutions as of 2018. Total may not add up to 100% due to rounding errors.

3.2 Vehicle Access

The New Westminster campus has access points off McBride Boulevard (right-in/right-out) and Eighth Avenue (full movement). Unencumbered ingress to campus in the morning is possible using both streets. However, egress after 3 p.m. on weekdays is challenging due to heavy congestion on adjacent streets. In particular, afternoon peak hour traffic backs up on Eighth Avenue due to vehicles going to and from the highway. As a result, there are reduced opportunities to safely exit out using Eighth Avenue due to inadequate gaps in both eastbound and westbound traffic. Left-turn movements onto McBride Boulevard are restricted and will remain the same in the future. Possible solutions to address these issues are addressed in **Section 6: Site Planning & Design**.



3.3 Vehicle Parking Supply

JIBC does not have quantitative data related to parking occupancy. Anecdotal observation by staff suggest that pre-COVID parking demand on campus was higher than supply, resulting in parking spillover onto neighbourhood streets on a daily basis. Staff reported a lack of available on-site parking spaces for students and employees arriving past 9 a.m. Further details of the parking supply and demand issue and some strategies to address them are discussed in **Section 4: Parking Conditions**.

3.4 Future Campus Expansion and Mobility Hub

JIBC is planning an expansion of the New Westminster campus in the future, but no timeline has been set for this expansion. The expansion provides an opportunity to address the issues presented above as well as to plan for campus modernization and improve on-campus mobility. Recommendations are discussed in **Section 6: Site Planning & Design**.

Modernizing the New Westminster campus is one of the key future goals for JIBC. A mobility hub could be incorporated into this future expansion that combines different transportation modes under one roof and serves as a connection point on campus. Mobility hubs range in size and complexity of function; JIBC could start with a bus and bicycle connection point at the bus stop on Eighth Avenue and progressively develop it into a bigger connection centre on campus with bike-sharing, electric car charging, waiting space for ridesharing and ride-hailing, and parking for electric or autonomous vehicles.



4.0 PARKING CONDITIONS

4.1 Existing Parking Conditions

4.1.1 Background

Existing transportation conditions were evaluated to understand current (baseline) travel and parking demand patterns among students, employees (faculty and staff), and visitors at the New Westminster campus as of the 2018–19 academic year. The study’s demand analysis will be used to inform future planning for transportation and parking infrastructure at the New Westminster campus as part of a planned expansion as identified in the JIBC Long-Range Facilities Plan. The analysis is focused on evaluating the number of motor vehicles that seek parking at the New Westminster campus.

The findings from this section are used as an input to the study’s transportation model to forecast travel & parking demand (see **Section 4.2**) and estimate a range of parking supply scenarios for the 2044 horizon year.

4.1.2 Methodology

The number of vehicles at the New Westminster campus were modelled for the 2018–19 academic year for every day of the year on a half-hourly basis. A three-step process was used by estimating the following components:

1. **Person demand**, defined as the number of persons by user group physically present at the New Westminster campus in 2018–19. A combination of data sources was used to estimate person demand:
 - a. Academic schedule for the 2018–19 academic year, containing information on student enrollment, section schedules (start/end dates, days of the week, and start/end time), section location (campus, building, and room number), and section type (face-to-face, online, and hybrid).
 - b. Staffing program and general work schedules for regular full-time and part-time employees in the academic and general support units as of February 2020 (assumed to be the same as 2018–19 staffing program).
 - c. Event booking schedule for JIBC Theatre for the 2018–19 academic year. Only graduation events were included due to data limitations and were assumed to have an attendance of 200 additional people on-campus.



2. **Travel demand**, defined as the share of trips (also known as journeys) going to and from the New Westminster campus by travel mode for a typical weekday in 2018–19. Travel modes incorporated in the model were: (1) trips by single-occupancy vehicle, i.e., an automobile with a driver; (2) trips by high-occupancy vehicle, i.e., an automobile with a driver and one or more passengers; and (3) trips by walk, bicycle, public transit, and other modes combined. A combination of data sources was used to estimate travel demand:
 - a. Anecdotal comments by JIBC staff.
 - b. TransLink’s Regional Trip Diary Survey data for the latest available year of 2017. Trip data on the number of trips by mode and area of residence for a typical fall weekday were retrieved for traffic analysis zone (TAZ) #29120 from Metro Vancouver’s Regional Transportation Model. The boundaries of TAZ #29120 are delineated by the following roads: Eighth Avenue (north), Cumberland Street (east), Sixth Avenue (south), and McBride Boulevard (west).
3. **Parking demand**, defined as the number of motor vehicles seeking a parking space at the New Westminster campus at any time at a particular price in 2018–19 (currently free to park).
 - a. Parking demand was estimated by using the number of persons present on-site at any time measured in half-hour intervals from 7:00 a.m. in the morning to 10:30 p.m. at night, multiplied by the daily share of trips taken by single-occupancy (SOV) or high-occupancy vehicle (HOV).
 - b. All SOV and HOV trips were assumed to require a parking space; in reality, some of trips could be drop-off/pick-up trips that do not actually require parking.

Results are all rounded to the nearest 10. The estimates of person, travel, and parking demand from the study’s transportation model could not be validated as data collection at the New Westminster campus was not feasible due to the COVID-19 pandemic. The majority of students and staff were attending classes and working from home remotely from May to December 2020 (summer and fall semester) for the duration of this study. Caution must be applied when interpreting model results presented in this report and should be viewed as high-level, order-of-magnitude results with a moderate level of uncertainty. Further work should be completed in the future to validate travel and parking demand patterns at the New Westminster campus when regular face-to-face classes and office work resumes.

Appendix A provides a detailed list of the assumptions and limitations of the study’s transportation model and demand analysis & forecast.



4.1.3 Findings

Existing Person Demand

Person demand for students, faculty, staff, and visitors at the New Westminster campus varies throughout the year, with distinct monthly, daily, and hourly trends. **Figure 4-1** plots person demand during the peak hour by day for 2018–19. In other words, the plot shows the number of people present on campus during the busiest hour of every day in 2018–19, which typically begins at 10:00 a.m. or 1:00 p.m.

- Students are the largest driver of person demand. They represent an average of 60% of the total demand during the peak hour of the day.
- The next largest group are staff, making up 30% of total demand during the peak hour of the day.
- The remaining 10% of demand during the year consist of faculty and visitors.

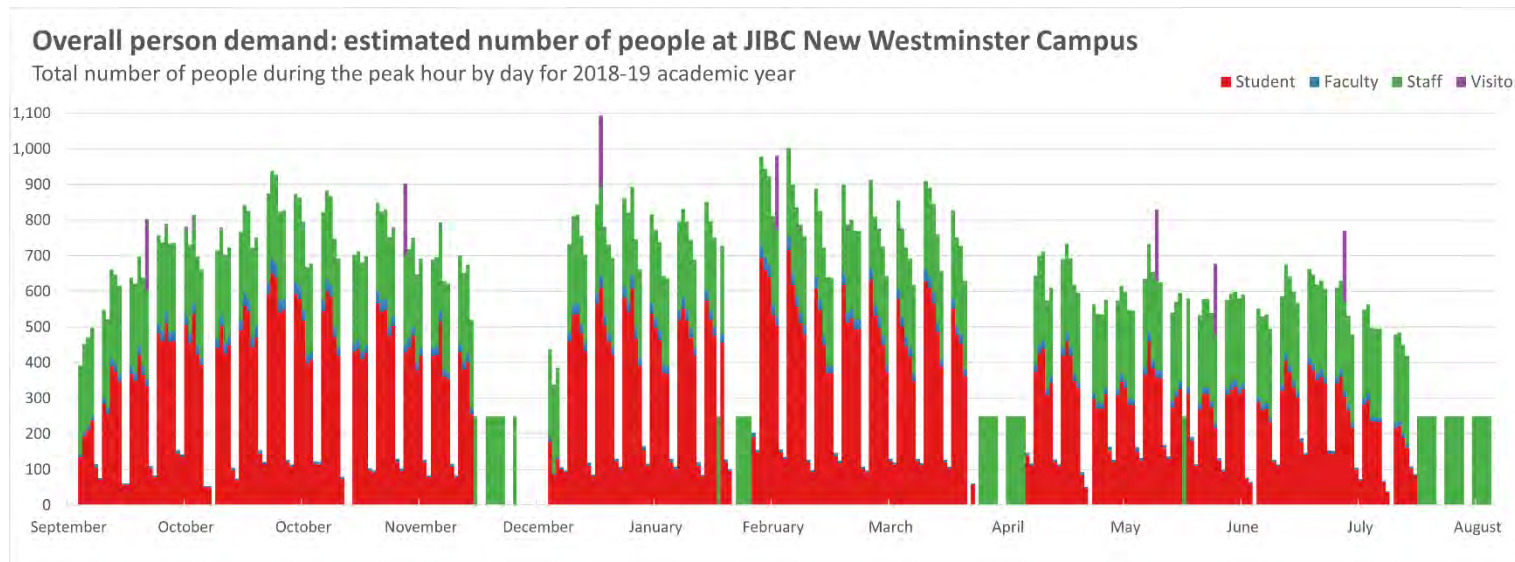


Figure 4-1: Daily person demand during peak hour, 2018–19



Figure 4-2 plots person demand during the peak hour by month to reduce the amount of noise and allow for easier interpretation relative to the daily plot for the entire year.

- January has the busiest peak hour of the year with 1,090 people, followed by March (1,000 people), October (940 people), and lastly April (910 people).
- August has the quietest peak hour of the year with 490 people, followed by May (730 people) and December (790 people).

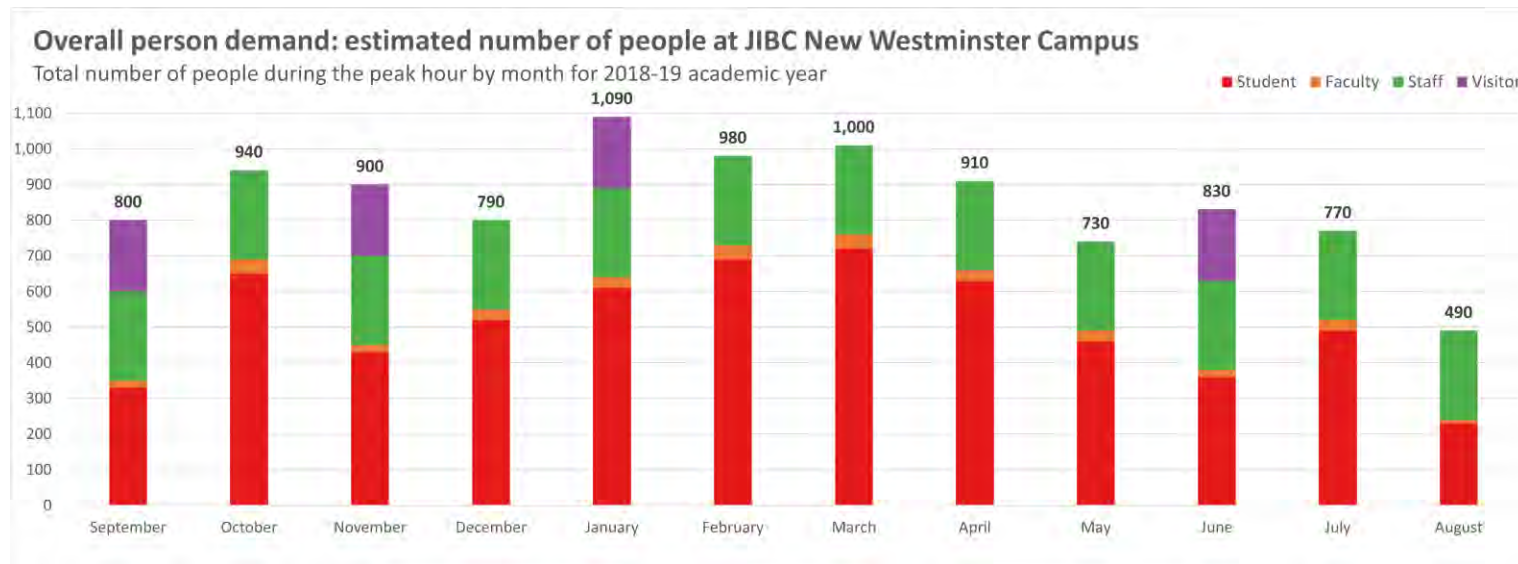


Figure 4-2: Monthly person demand during peak hour, 2018–19



Figure 4-3 plots average peak hour person demand by month, excluding weekends and holidays. This puts the monthly peak in context to typical conditions for the month.

- The average number of people present on-campus is consistently lower than the monthly peak hour across the year.
- In some cases, peak demand is more than a third of average demand. For example, there is an average of 480 people for the month of December compared to 790 during the December peak hour.
- Visitor demand associated with graduation events is noticeably absent from the average monthly peak hour chart, as graduations are relatively infrequent.

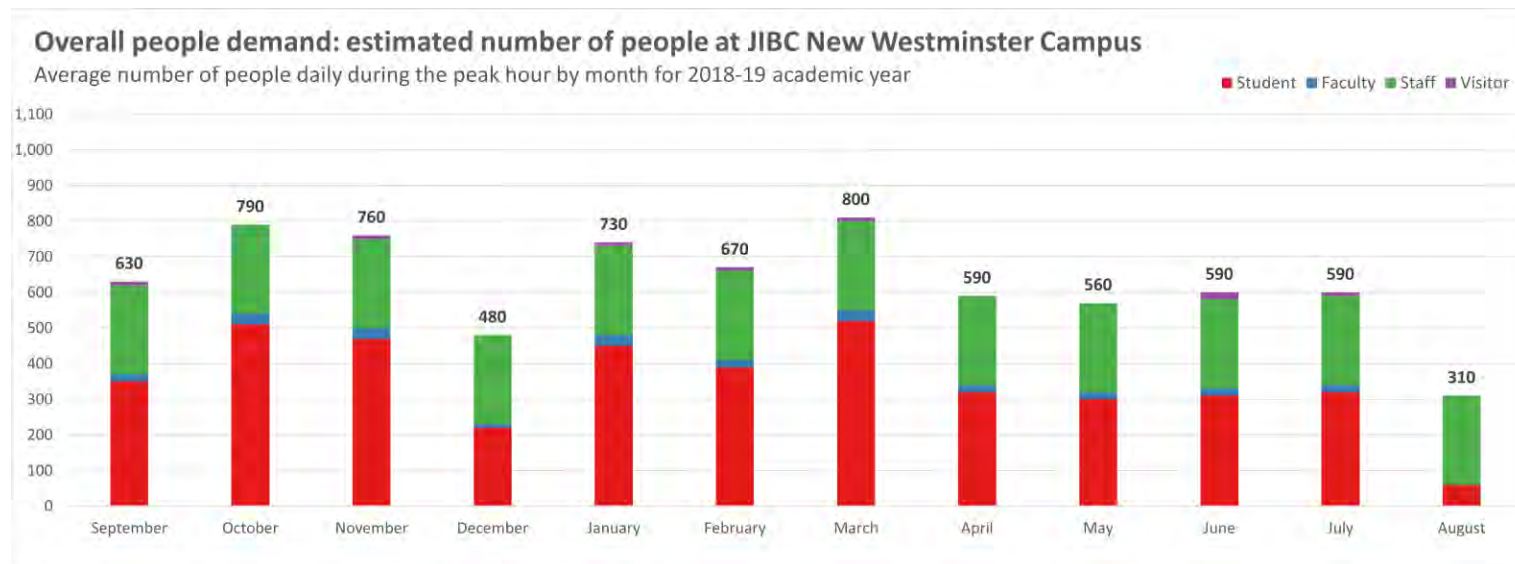


Figure 4-3: Monthly daily average person demand during peak hour, 2018–19



Figure 4-4 plots person demand during the peak hour by day for a typical week at the beginning of the academic year. **Figure 4-5** plots demand for the same timeframe, but shows average person demand during the campus' core hours from 7:00 a.m. to 7:00 p.m. The week of September 16 represents a typical demand profile at the New Westminster campus where demand is highest on Wednesday (average of 460 people and peak of 700 people), followed by Thursday (average of 430 people and peak of 640 people). Weekends have relatively low demand, with a small number of classes taking place on Saturday and Sunday.

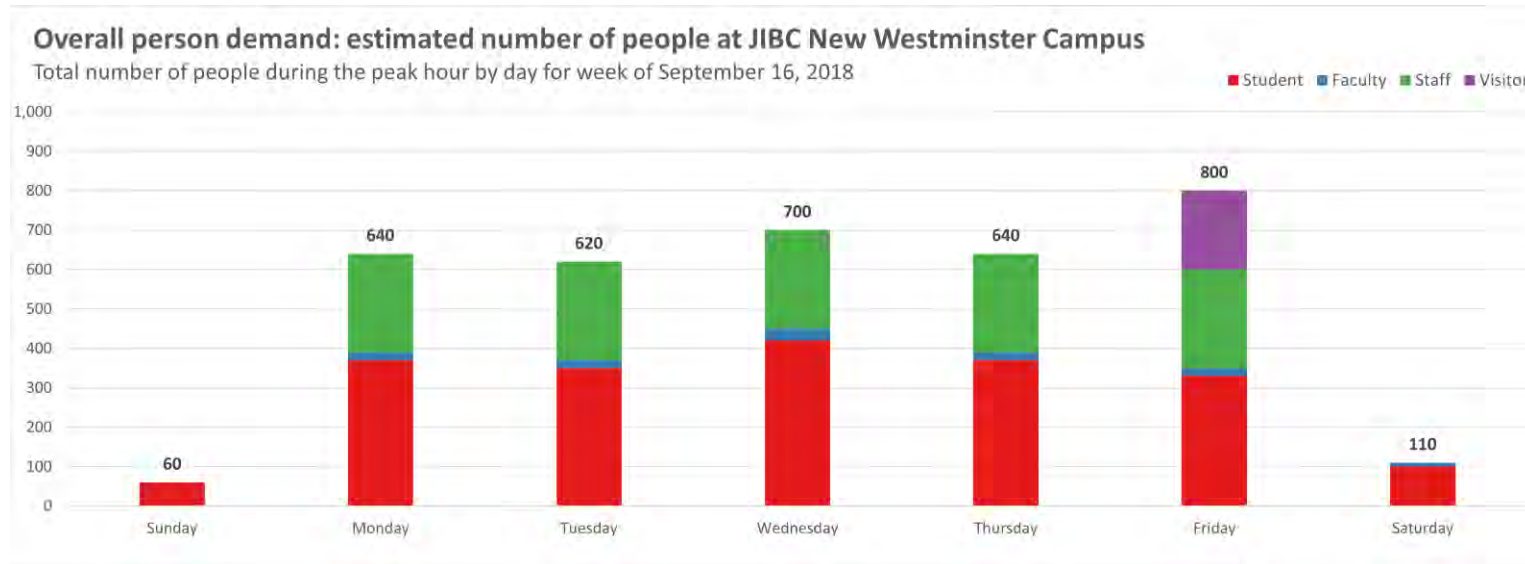


Figure 4-4: Daily person demand during peak hour, 2018–19

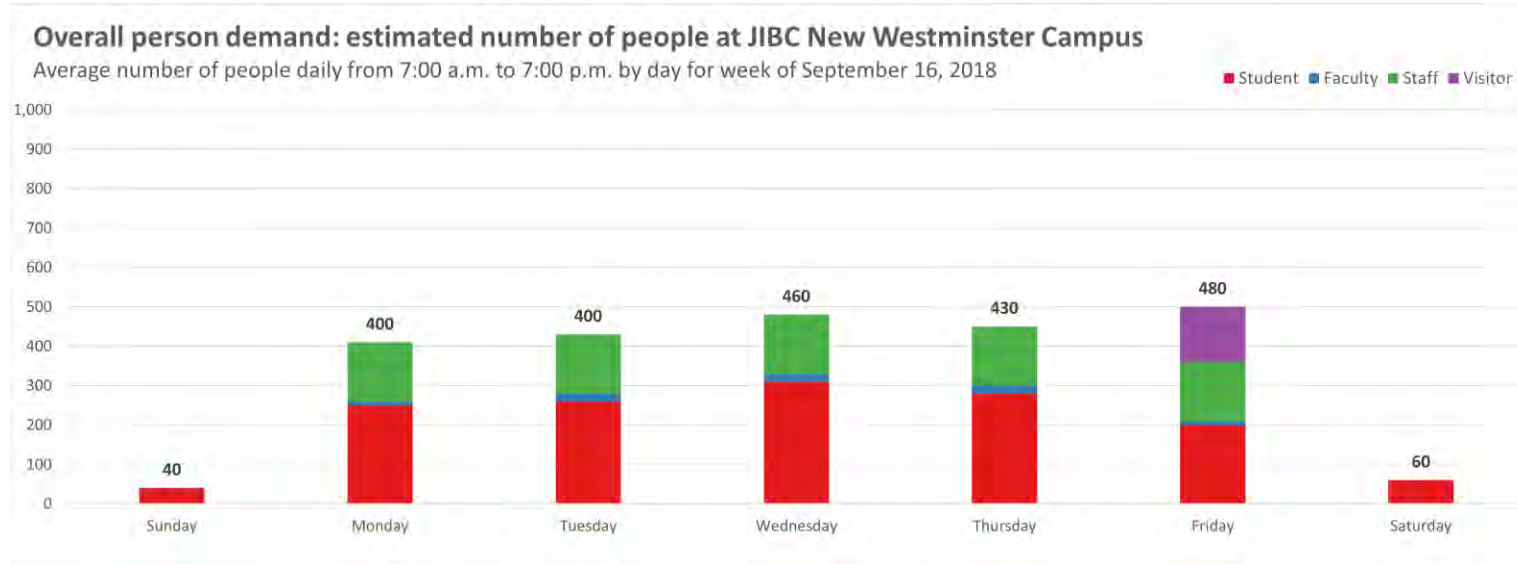


Figure 4-5: Daily average person demand during core hours, 2018–19



Figure 4-6 plots person demand for a representative day of the year by hour for Wednesday, October 10. This date represents representative daily demand and was selected using the 85th percentile of peak person demand (780 people). This means that 85% of the days in 2018–19 have a peak demand at or below 780 people, and the remaining 15% of days have a peak demand that exceed 780 people.

The shape of the demand profile is a typical “flat top bell-shaped curve”, with a gradual decline for the beginning and end of the day and flat demand for much of the day.

- Students and employees begin arriving to campus at 7:00 a.m.
- Demand gradually increases in the morning. By 9:00 a.m., most people are on campus with a relatively constant demand for the rest of the morning and early afternoon until 3:30 p.m.
- The peak period lasts approximately two-and-a-half hours long with 780 people present on campus. The peak begins at 1:00 p.m. in the afternoon and concludes by 2:30 p.m.
- Beginning at 4:00 p.m., the majority of classes end, and students and employees begin to depart campus, translating into a drop in demand.
- There are a few evening classes on campus with some people present on campus until 7:30 p.m.
- All people have departed campus by 10:00 p.m. in the late evening.

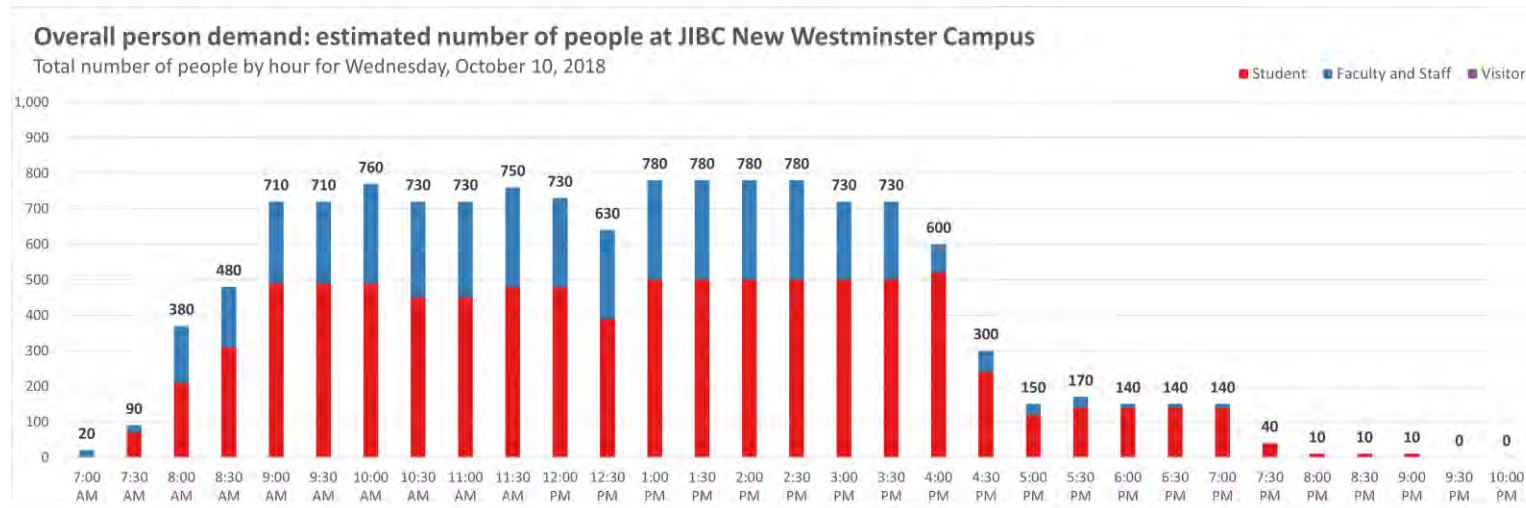


Figure 4-6: Hourly person demand for representative day, 2018–19



Existing Travel and Parking Demand

Travel and parking demand generated at a site is the cumulative effect of people’s travel behaviour for activities they need to access at a particular location at a particular time. How people travel, whether by driving, cycling, walking, or taking public transit, is a complex function of several variables, including, but not limited to, their social and demographic characteristics, the available transportation infrastructure and service in the immediate area and the larger region, and the relative costs and benefits of a particular travel mode. Some aspects that influence travel and parking demand are directly under the jurisdiction of JIBC (e.g., class schedules), while other aspects are outside the jurisdiction of JIBC (e.g., regional transportation infrastructure and service).

This study uses a simplified transportation model based on the number of people estimated to be present on campus and educated assumptions on how people typically travel to predict the volume of vehicles that seek parking for a representative day. The representative day is selected using the 85th percentile day of person demand as described in **Section 4.3.1**. In the context of parking demand, the 85th percentile day is used to represent the “design day”, defined as the day that “recurs frequently enough to justify providing spaces for that level of parking activity.”¹

Figure 4-7 plots parking demand for the representative 85th percentile day of the year by hour for Wednesday, October 10. A peak parking demand of 550 vehicles is estimated during the afternoon period, above the campus parking supply of 437 spaces (excluding 16 training vehicle spaces).

- Parking demand is commensurate to person demand. People begin arriving to campus beginning at 7:00 a.m. The number of people present by 9:00 a.m. on campus remains relatively flat for most of the day. Additional people arrive after the lunch break, associated with the start of afternoon classes. Demand drops beginning at 3:30 pm as classes and work shifts end.
- Based on this trend in person demand, the model estimates that parking occupancy gradually accumulates in the morning until by 9:00 a.m., parking occupancy exceeds the campus’ surface parking facility of 437 parking spaces.
- Students, faculty, and staff arriving to campus after 9:00 a.m. by automobile are forced to park elsewhere, resulting in spillover to the surrounding neighbourhood on-street parking supply such as on Cumberland Street.
- Vehicles begin to depart campus beginning at 3:30 p.m. Outbound vehicles exiting the site experience traffic operational issues based on reports by JIBC staff, as both McBride Boulevard and Eighth Avenue experience heavy congestion associated with the afternoon rush.
- After 4:00 p.m., parking occupancy is below the capacity of the parking facility as most people have departed campus.

¹ Smith, M. (2018). *Shared Parking, 3rd edition*.

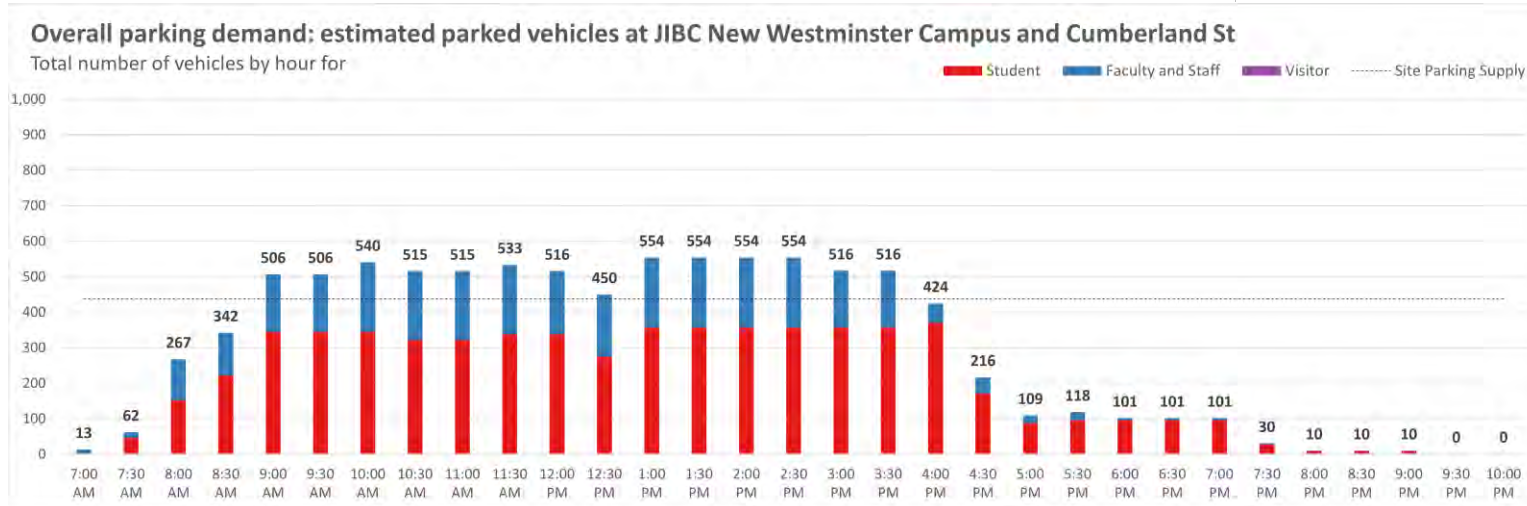


Figure 4-7: Hourly parking demand for representative day, 2018–19

The model’s prediction of parking demand at the New Westminster campus is consistent with anecdotal comments by JIBC staff. For this reason, we are reasonably confident the shape of the demand profile (i.e., flat top bell-shaped curve) is representative of parking conditions.

The model suggests that over 100 vehicles are spilling into the neighbouring on-street parking supply. JIBC staff are aware of people parking off-site, but the magnitude of this behaviour is unknown. While a spillover of over 100 vehicles is not unreasonable, it appears relatively high given the available on-street parking supply and parking patterns gathered from orthoimagery from Google Earth.

As result, the model’s findings may be overestimated. In other words, the parking demand results are conservative and may be higher than reality. The source of this error may be attributed to the person demand estimation procedure (how many people are on campus for any given hour?), the travel demand estimation procedure (how do people travel to and from campus, by automobile or another mode?), or a combination of both. To reiterate, the findings of the model should be viewed as high-level, order-of-magnitude results with a moderate level of uncertainty. However, the findings appear a reasonable approximation of parking demand to use for forecasting purposes.



4.2 Future Parking Conditions

4.2.1 Background

Future conditions were evaluated to understand future travel and parking demand patterns among students, employees (faculty and staff), and visitors at the New Westminster campus for the 2044 horizon year. The 2044 horizon year was selected to align the demand forecast with the timeline of the JIBC Long-Range Facilities Plan.

The 2044 demand forecast is based on input to the study's transportation model using modelled, non-validated results for the 2018–19 academic year. The findings of the demand forecast are used to estimate a range of parking supply scenarios for 2044. The findings are compared with a planned parking supply of 470 spaces as part of the future expansion (see **Section 4.5** for additional details).

The study adopts a scenario planning approach to ensure the findings of this study are resilient and to provide the greatest flexibility for JIBC as it begins to develop and implement a parking management plan and transportation demand management strategy for the New Westminster campus over the 25-year timeframe of the Long-Range Facilities Plan. The scenario approach is partially in response to the ongoing COVID-19 pandemic at the time of writing of this report. The growth of online (distance) learning and telecommuting during the COVID-19 pandemic in the Metro Vancouver region and across the world has drastically changed how people travel as many students and employees study and work remotely from home. This has affected how we should plan and design transportation and parking facilities for the future and will have implications for the Long-Range Facilities Plan.

4.2.2 Methodology

The number of vehicles at the New Westminster campus were forecasted for the 2044 horizon year for every day of the year on a half-hourly basis. A three-step process was used and followed the same procedure as the existing demand analysis (see **Section 4.1**) to estimate the following components to derive parking demand:

1. **Person demand**, defined as the number of persons by user group physically present at the New Westminster campus in 2044. A simple straight-line forecast was prepared for students and staff using the ratio between the number of persons by user group in 2018–19 to the planned number for 2044, adjusting for their presence by time of the day and assuming the same section scheduling practices and standard employee work hours. The faculty forecast followed a similar procedure but instead used the ratio between faculty and students from 2018–19 to 2044. Visitor demand was assumed to remain the same as 2018–19. Two campus online learning & telecommuting program scenarios were developed for the person demand component:



- a. Business as usual pre-COVID-19 pandemic, with the planned 2044 on-site student and employee headcount remaining the same.
 - b. Shift to more online learning & telecommuting post-COVID-19 pandemic, with a portion of the original planned 2044 on-site student and employee headcount located remotely off-site. This would be in addition to online student enrollment already projected institution-wide for 2044. A base assumption of 20% of the 2044 headcount shifting to remote was used.
2. **Travel demand**, defined as the share of trips (also known as journeys) going to and from the New Westminster campus by travel mode for a typical day in 2044. Travel modes incorporated in the model were: (1) trips by single-occupancy vehicle, i.e., an automobile with a driver; (2) trips by high-occupancy vehicle, i.e., an automobile with a driver and one or more passengers; and (3) trips by walk, bicycle, public transit, and other modes combined. Three transportation mode share scenarios were developed for the travel demand component:
- a. Business as usual, with no change to mode share from 2018–19 (78% of all trips by vehicle in 2044).
 - b. Conservative implementation of transportation demand management, with a vehicle mode share reduction of 15% from 2018–19 (63% of all trips by vehicle in 2044).
 - c. Aggressive implementation of transportation demand management, with a vehicle mode share reduction of 25% from 2018–19 (53% of all trips by vehicle in 2044).
3. **Parking demand**, defined as the number of motor vehicles seeking a parking space at the New Westminster campus at any time at a particular price in 2044.
- a. Parking demand was estimated by using the number of persons present on-site at any time measured in half-hour intervals from 7:00 a.m. in the morning to 10:30 p.m. at night, multiplied by the daily share of trips taken by single-occupancy (SOV) or high-occupancy vehicle (HOV).
 - b. All SOV and HOV trips were assumed to require a parking space, which is conservative as some of these trips could be passenger drop-off/pick-up trips that do not actually require parking.
 - c. The parking demand forecast does not provide a breakdown of the parking spaces demanded for students: (1) living off-campus and commuting to campus; and (2) living on-campus and walking to class. Further information can be found in **Section 6** on the City's off-street parking requirements for student housing.



A set of five scenarios were developed that outlined five potential futures for the New Westminster campus in terms of person, travel, and parking demand for the 85th percentile design day, defined as the day that “recurs frequently enough to justify providing spaces for that level of parking activity.”

1. **Scenario #1: Business as Usual**—the original planned 2044 on-site student and employee headcount remains the same, and no implementation of transportation demand management (2044 mode share of 78% of trips by vehicle; 0% reduction from 2018–19).
2. **Scenario #2: Face-to-Face with TDM**
 - a. **Scenario #2A: Conservative TDM**—the original planned 2044 on-site student and employee headcount remains the same, with conservative implementation of transportation demand management (2044 mode share of 63% by vehicle; 15% reduction from 2018–19).
 - b. **Scenario #2B: Aggressive TDM**—the original planned 2044 on-site student and employee headcount remains the same, with aggressive implementation of transportation demand management (2044 mode share of 53% by vehicle; 25% reduction from 2018–19).
3. **Scenario #3: Online Learning & Telecommuting with TDM**
 - a. **Scenario #3A: Conservative TDM**—20% of the original planned 2044 on-site student and employee headcount are located remotely off-site, with conservative implementation of transportation demand management (2044 mode share of 63% by vehicle; 15% reduction from 2018–19).
 - b. **Scenario #3B: Aggressive TDM**—20% of the original planned 2044 on-site student and employee headcount are located remotely off-site, with aggressive implementation of transportation demand management (2044 mode share of 53% by vehicle; 25% reduction from 2018–19).



4.2.3 Findings

Scenario #1: Business as Usual

The campus population is expected to increase to 12,700 students (from 7,300 in 2018–19) and 260 staff (from 250 from 2018–19) by the 2044 horizon year.² Assuming the same section scheduling practices and standard employee work hours, parking demand is expected to increase commensurately. **Figure 4-8** plots person demand for the design day by hour and **Figure 4-9** plots parking demand by hour (note the change in scale on the Y-axis). A peak parking demand of 840 vehicles is estimated during the peak afternoon period, exceeding the potential campus parking supply of 470 spaces.

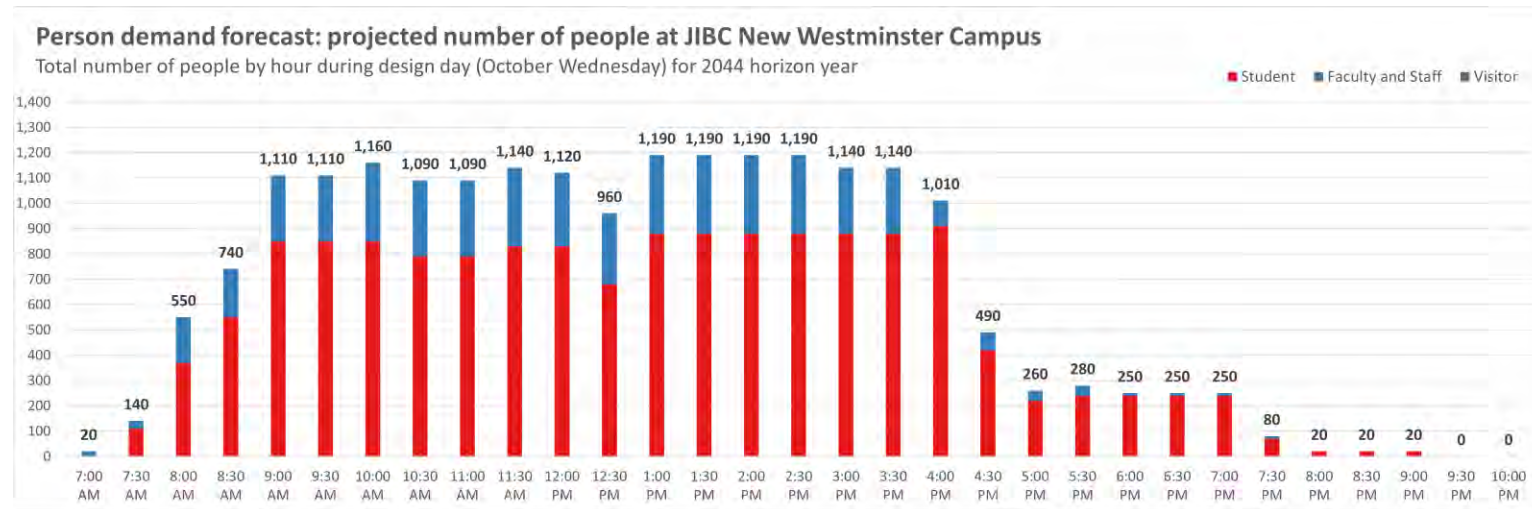


Figure 4-8: Hourly person demand forecast for design day, 2044 “Business as Usual”

² All forecasted numbers are rounded to the nearest 10.

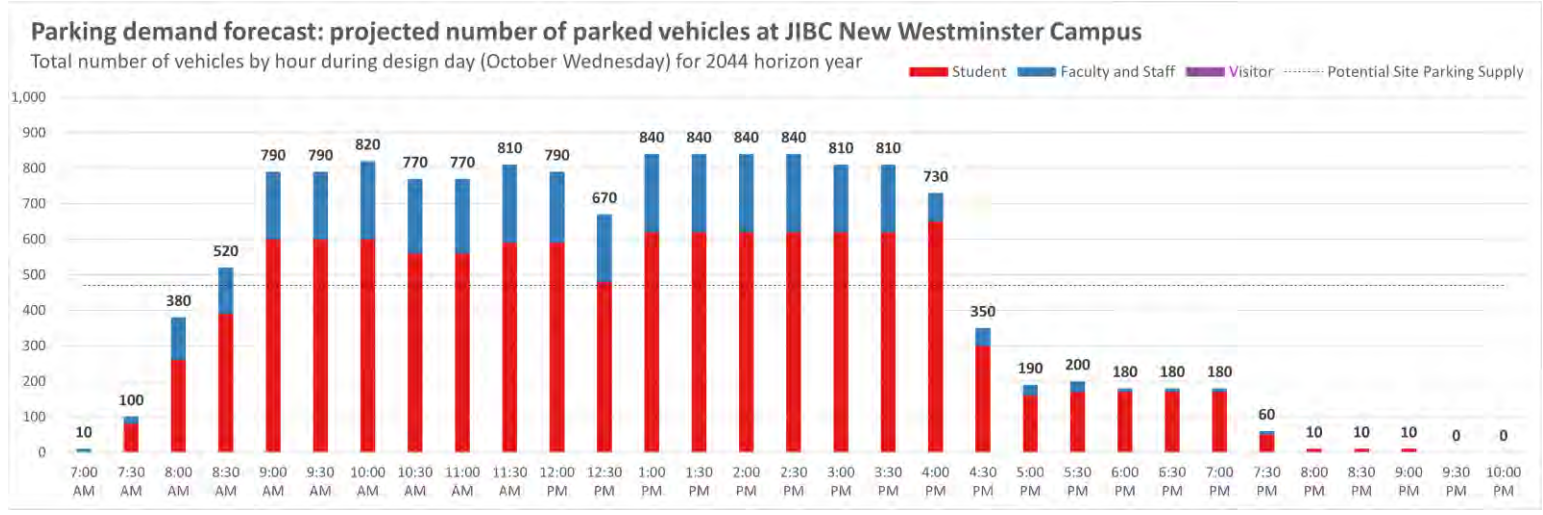


Figure 4-9: Hourly parking demand forecast for design day, 2044 "Business as Usual"



Scenario #2: Face-to-Face with TDM

Scenario #2A: Conservative TDM

Figure 4-10 plots parking demand by hour assuming conservative implementation of transportation demand management (2044 mode share of 63% by vehicle; 15% reduction from 2018–19).

A peak parking demand of 540 vehicles is estimated during the peak afternoon period, above the potential campus parking supply of 470 spaces.

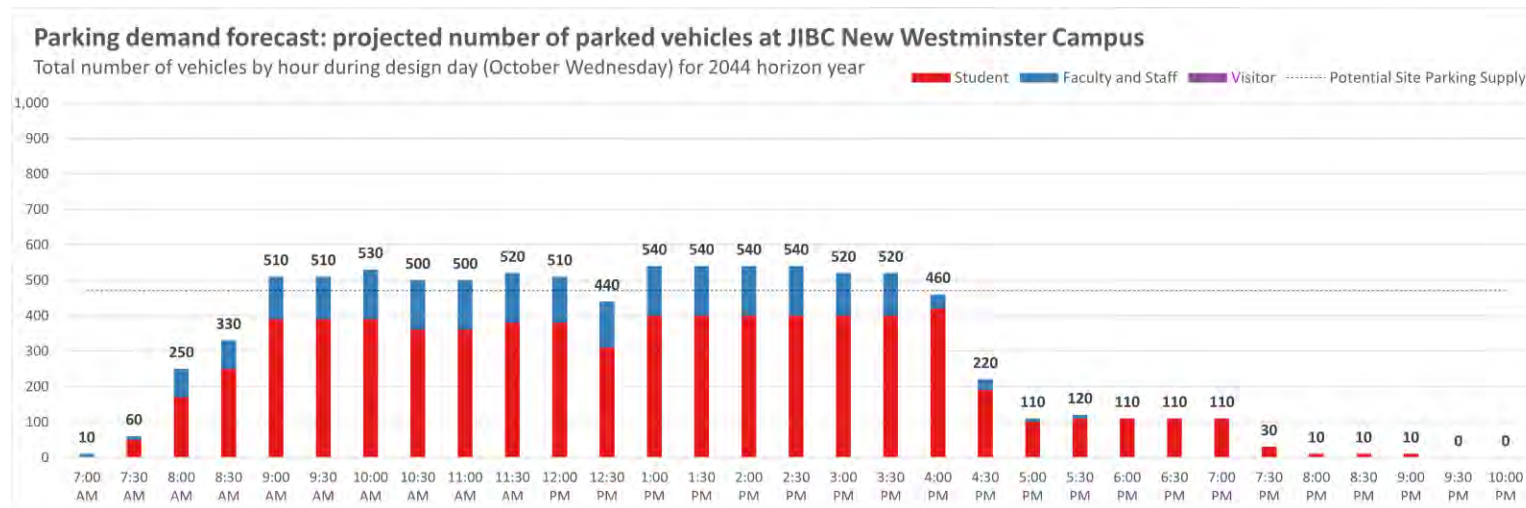


Figure 4-10: Hourly parking demand forecast for design day, 2044 “Conservative TDM”



Scenario #2B: Aggressive TDM

Figure 4-11 plots parking demand by hour assuming aggressive implementation of transportation demand management (2044 mode share of 53% by vehicle; 25% reduction from 2018–19).

A peak parking demand of 400 vehicles is estimated during the peak afternoon period, below the potential campus parking supply of 470 spaces.

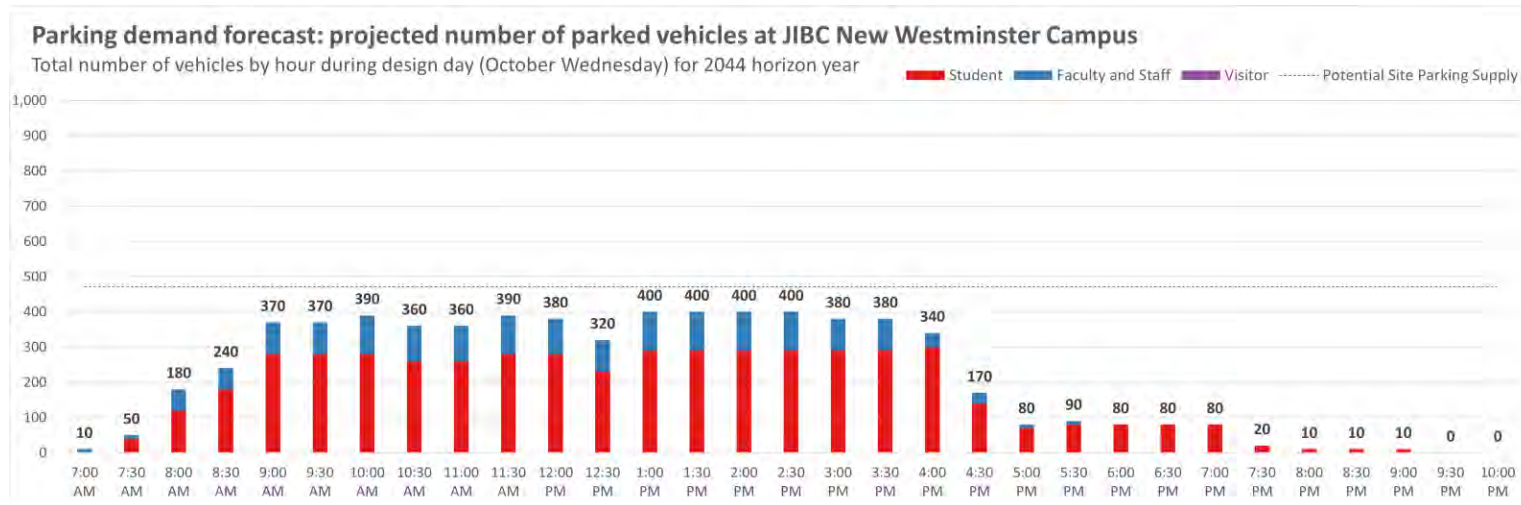


Figure 4-11: Hourly parking demand forecast for design day, 2044 “Aggressive TDM”



Scenario #3: Online Learning & Telecommuting with TDM

Scenario #3A: Conservative TDM

Figure 4-12 plots parking demand by hour assuming 20% of the original planned 2044 on-site student and employee headcount are located remotely off-site, with conservative implementation of transportation demand management (2044 mode share of 63% by vehicle; 15% reduction from 2018–19).

A peak parking demand of 440 vehicles is estimated during the peak afternoon period, below the potential campus parking supply of 470 spaces.

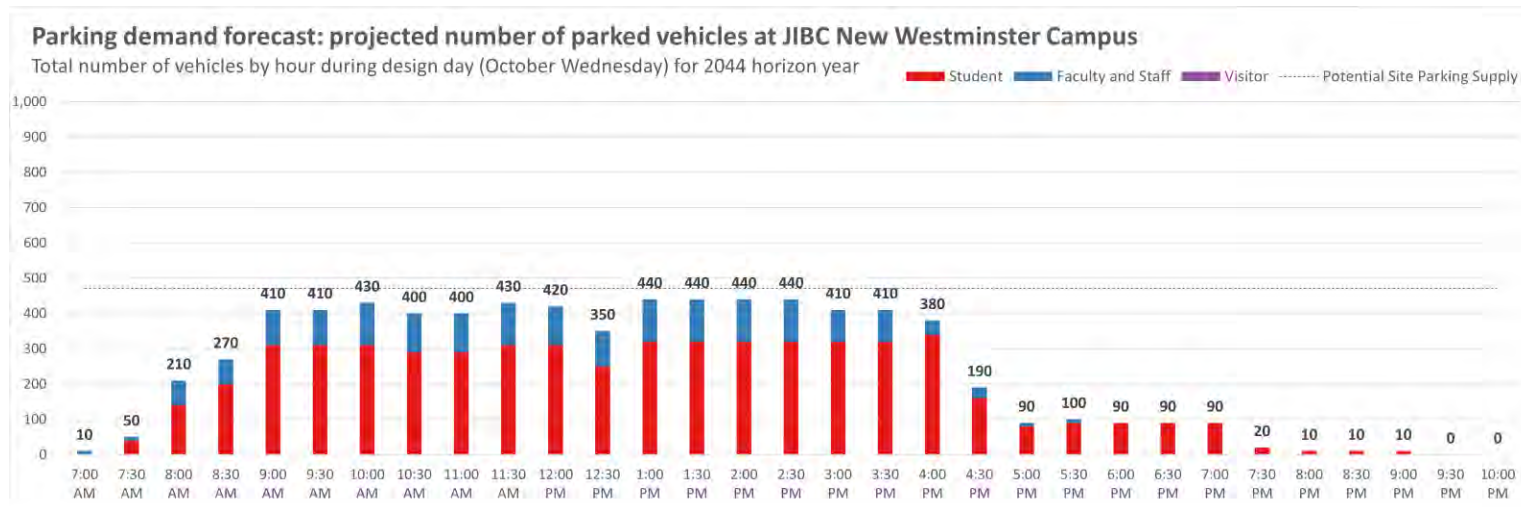


Figure 4-12: Hourly parking demand forecast for design day, 2044 “Conservative TDM with Additional Online Learning & Telecommuting”



Scenario #3B: Aggressive TDM

Figure 4-13 plots parking demand by hour assuming 20% of the original planned 2044 on-site student and employee headcount are located remotely off-site, with aggressive implementation of transportation demand management (2044 mode share of 53% by vehicle; 25% reduction from 2018–19).

A peak parking demand of 310 vehicles is estimated during the peak afternoon period, below the potential campus parking supply of 470 spaces.

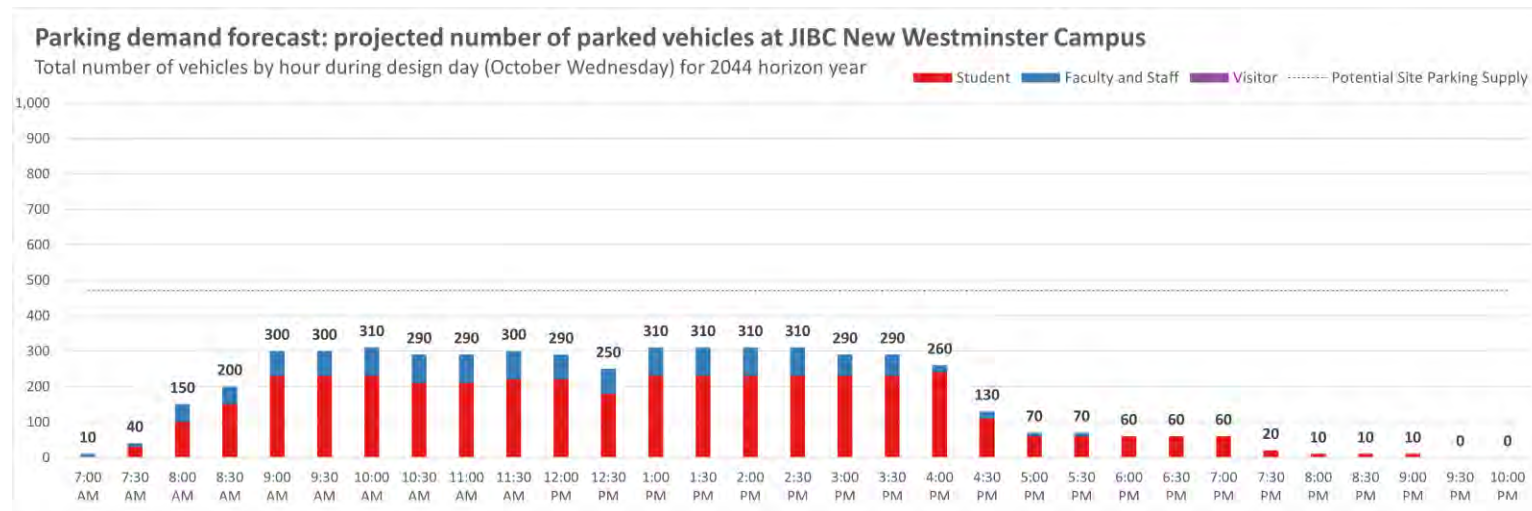


Figure 4-13: Hourly parking demand forecast for design day, 2044 “Aggressive TDM with Additional Online Learning & Telecommuting”



4.3 Summary of Findings

The parking demand forecast provides a range of potential futures for parking demand at the New Westminster campus. If JIBC pursues a “business as usual” scenario and does not implement TDM, peak parking occupancy is estimated to be 840 vehicles and would exceed the future potential supply of 470 parking spaces.

However, implementation of TDM could reduce parking demand to a peak occupancy of 310 to 540 vehicles. Three of the five scenarios realize a parking demand that could be accommodated by the future parking supply of 470 spaces.

It is worth highlighting that in under either the conservative or aggressive TDM scenarios, assuming the projected student and staff population is realized by 2044, parking demand can be lower than what is currently happening in 2018–19. Peak occupancy in Scenario 2 ranges from 400 to 540 vehicles in 2044, compared to the existing peak occupancy of 550 vehicles in 2018–19.

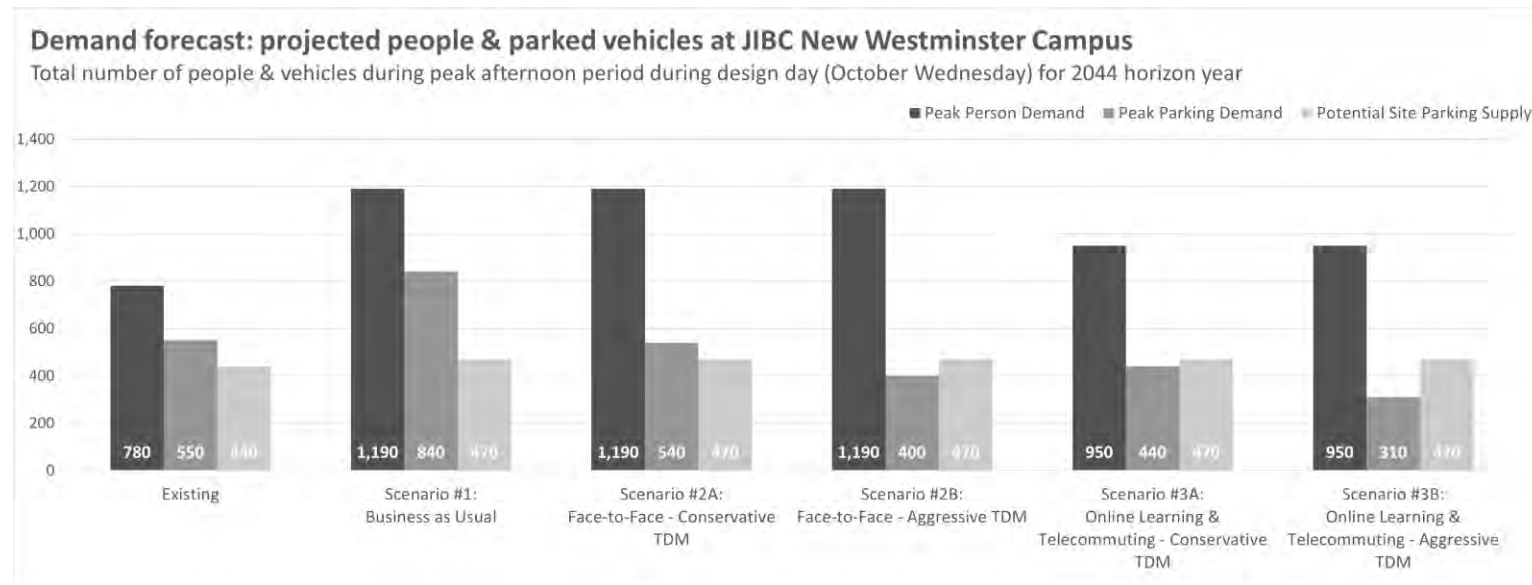


Figure 4-14: Parking demand forecast scenarios, 2044 (Note: Existing parking supply of 437 is rounded to 440 as part of the forecast)



4.4 Parking Management

Parking at the New Westminster campus is recommended to be sized according to the 85th percentile design day, representing the day that recurs frequently enough to justify providing spaces for that level of parking activity. This is a standard design criterion used in transportation. The estimated parking demand from the forecast scenarios, ranging from 310 to 840 spaces depending on the level of transportation demand management implementation, are a starting point for planning of a future parking facility as part of the campus expansion.

As the model results are believed to be conservative, no additional cushion is recommended from the forecast scenarios at this time. There are two sources where an additional cushion may be required:

- Practical supply factor: This refers to the fact that a parking facility may be perceived as full at less than its actual capacity, generally in the range of 85 to 95%.³ This is more important when there is a high volume of visitors who are unfamiliar with the site, which is not the case at the New Westminster campus.
- Reserved spaces for training vehicles: There are currently 16 reserved parking spaces at the existing parking facility for training vehicles. It is expected this may increase slightly in the future, but the magnitude is unknown at this time.

Selecting the 85th percentile design day will mean that for 15% of the days in the year, parking demand will exceed the available on-site capacity. Some of these days will be associated with days where there are a high number of visitors coming to and from campus, such as convocations. It is not recommended to build additional parking supply to accommodate the absolute maximum day of parking demand, as that would mean that additional supply would not be occupied for the majority of the year. Some of the vehicles associated with this exceed demand may choose to park on-street, provided that is still an option in the future.

Traffic, parking, and event management strategies will be required to address the excess demand for the remaining 15% of the days. One example measure could consist of allocating a temporary number of parking spaces for visitors during these days and encouraging regular users (e.g., students, faculty, staff) to reconsider how they might commute. These strategies would be in addition to the recommended transportation demand management measures in **Section 5: Transportation Demand Management**.

³ Smith, M. (2018). *Shared Parking, 3rd edition*.



Order-of-magnitude construction costs are presented in **Table 4-1** to illustrate the cost of business as usual versus implementation of TDM in the future in terms of building a parking facility. Assuming the baseline reference is a new underground facility of 470 parking spaces in 2044 delivered as part of the campus expansion:

- Scenario #1 – Business as Usual: Additional \$22.2 million would be needed to build an additional 370 parking spaces to meet the demand of 840 vehicles.
- Scenario #2 – Face-to-face: If conservative TDM were implemented (15% reduction in vehicle mode share), an additional \$4.2 million would be required to build an additional 70 parking spaces to meet the demand of 540 vehicles. If aggressive TDM were implemented (30% reduction in vehicle mode share), no additional money would be required as the supply would accommodate demand.
- Scenario #3 – Online Learning & Telecommuting: No additional money would be required as the supply would accommodate demand.

If campus mode share does not change in the future, parking demand will increase proportionate to the growth on campus. This means the cost of inaction in the future for JIBC is \$22.2 million in today's dollars if no TDM were to be implemented and assuming additional parking would be built to meet demand. While there are several assumptions built into this estimate, it does highlight that maintaining the status quo is not a sustainable option for JIBC in the future.



Table 4-1: Order-of-magnitude construction costs for future parking facility

Scenario	TDM	Parking Supply (Number of Spaces)	Parking Demand (Number of Vehicles)	Deficit / Surplus (Number of Vehicles)	Cost of Additional Parking to Meet Demand
Existing, Pre-COVID	No TDM	440 ¹	550	-110	\$6.6 million
Scenario #1: Business as Usual	No TDM	470 ²	840	-370	\$22.2 million
Scenario #2: Face-to-face	2A: Conservative TDM		540	-70	\$4.2 million
	2B: Aggressive TDM		400	70	Supply exceeds demand; no additional cost
Scenario #3: Online Learning & Telecommuting	3A: Conservative TDM		440	30	
	3B: Aggressive TDM		310	160	

¹ 440 is rounded from 437 parking spaces (432 unreserved spaces and 5 reserved spaces for staff). The stated supply excludes the existing 16 spaces reserved for training vehicles.

² A parking supply of 470 spaces in the future is assumed and is used as a baseline reference.

Note: Assumes underground parking facility with an efficiency rate of 350 sq. ft. per parking space and a construction cost of \$60,000 per parking space in 2021 Canadian dollars, selected as the average of a construction costrange of \$40,000 to \$80,000 per parking space.

Conservative TDM: vehicle mode share reduction of 15% from 2018–19 (63% of all trips by vehicle in 2044); aggressive TDM = reduction of 25% from 2018–19 (53% of all trips by vehicle in 2044). Scenario #3 assumes 20% of the original planned 2044 on-site student and employee headcount are located remotely.



5.0 TRANSPORTATION DEMAND MANAGEMENT

5.1 What is Transportation Demand Management?

Transportation demand management (TDM) is the application of strategies and policies to influence individual travel choice, most commonly to reduce single-occupant vehicle travel. TDM measures typically aim to encourage sustainable travel, enhance travel options, and decrease parking demand. Effective TDM strategies can be beneficial for post-secondary institution for several reasons, such as:

1. Health & Fitness: Encouraging more people to commute to campus by active transportation modes can support the population in meeting national physical activity guidelines.
2. Sustainability: Replacing single-occupant vehicle (SOV) trips with active transportation can contribute positively to reducing greenhouse gas (GHG) emissions from on-road transportation.
3. Future Growth: Especially important for campuses that are located within a constrained urban context, TDM strategies can allow for future growth without the need to expand parking facilities as alternative transportation options would become more viable.
4. Cost Effective: Improving options for sustainable travel can be significantly cheaper than providing infrastructure for vehicle parking.
5. Funding TDM: Establishing revenue streams from parking management can support TDM programs on campus.

5.2 The TDM Process

One of the objectives of this study is to develop a high-level TDM strategy for the New Westminster campus to increase sustainable travel to and from campus. **Figure 5-1** provides an overview of the TDM strategy development process—step 1 has been completed and step 2 is in progress from the completion of this study.

Further work will be required to advance the TDM strategy, including consultation with the JIBC community, determining specific operational requirements of each TDM measure, identifying resources, securing funding sources, and developing a detailed implementation plan.

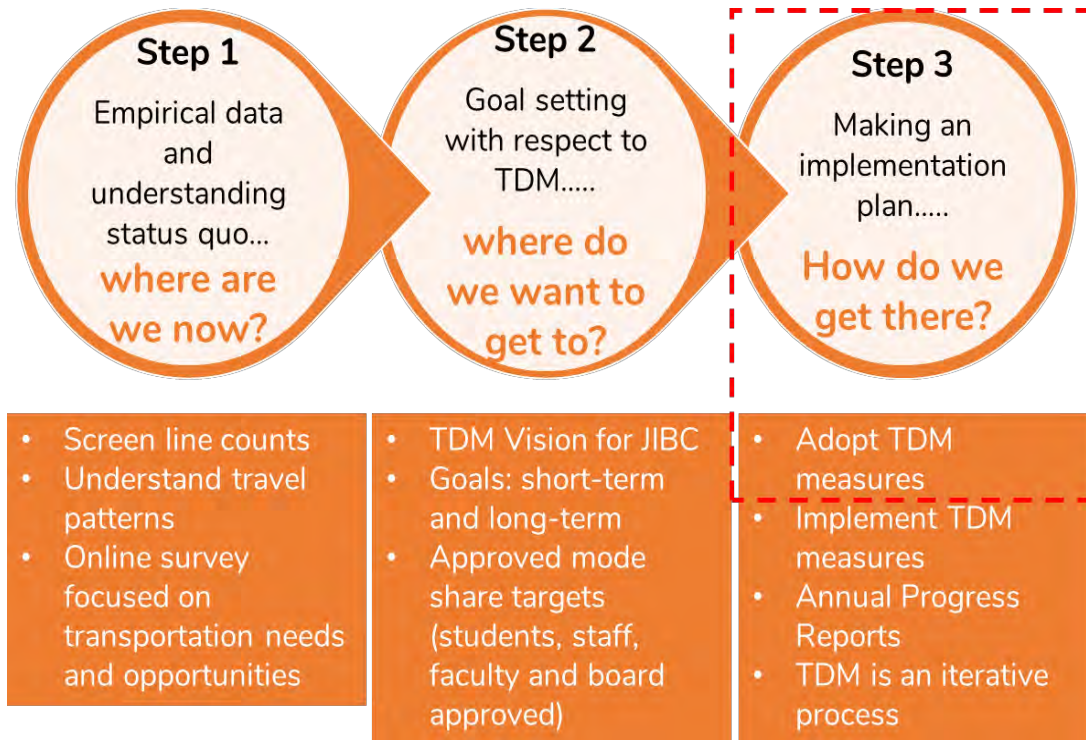


Figure 5-1: TDM strategy development process



5.3 Existing TDM Measures

JIBC has currently deployed a few TDM measures at the New Westminster campus. Identifying these existing measures and enhancing them as part of a comprehensive TDM strategy can have a significant impact in the campus mode share. JIBC’s existing measures are summarized below.

5.3.1 Cycling Facilities

JIBC currently offers some short-term bicycle parking, which are intended to accommodate short-term visits. These spaces provide limited protection from theft and are often found near building entrances. Recommended best practice is to locate short-term bicycle parking within 15 meters of every major entrance, ideally covered and visible. At the New Westminster campus, the existing bicycle parking spaces are uncovered, showing signs of wear and tear from the weather, and are not located at all entrances (see **Figure 5-2**).



Figure 5-2: TDM review: existing short-term bicycle parking



5.3.2 Promotion and Information

JIBC’s website provides basic information about how to access the campus via public transit and driving, and information on parking. The existing “Getting Here” webpage could be improved by including other active transportation modes such as cycling and walking.

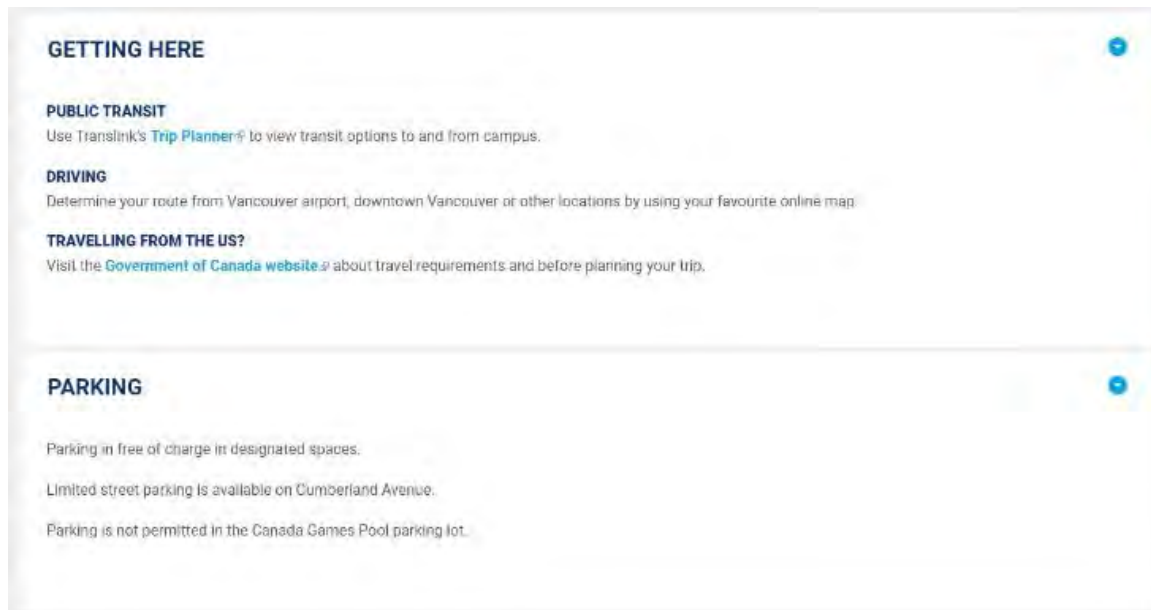


Figure 5-3: TDM review: existing website information



On-campus information on travel options does not currently exist. There is an opportunity to provide this information in a prominent location such as the main lobby. JIBC has an existing area where notices are posted and brochures are available that could include TDM promotion materials.



Figure 5-4: TDM review: opportunity for transportation-focused notice board



5.3.3 Parking Management

Currently, those driving to and from campus can park free of charge. This incentivizes the use of single-occupancy vehicle travel for students and employees. Parking at JIBC is largely unrestricted with a few parking spaces designated for short-term passenger pick-up and drop-off (15-minute parking only).



Figure 5-5: TDM review: existing parking facility



5.4 Recommended TDM Measures

A number of different TDM measures can be used to reduce vehicle mode share on campus. The measures can be grouped into five categories with a brief description of each shown below. **Appendix B** provides details about specific measures and their applicability to the New Westminster campus.

This section outlines specific TDM measures for further consideration by JIBC to improve the sustainable mode share on campus. The TDM measures are organized into two horizon periods: (1) short-term to medium-term implementation within the next five to 10 years (2029); and (2) long term implementation within the next 25 years (2044).



1. Campus Facilities

Campus facilities encompass everything from the development of student housing to investment in infrastructure upgrades such as campus transit and cycling infrastructure. While campus facilities do not directly dictate how students, staff, and faculty travel to campus, they can influence the overall transportation experience by facilitating sustainable travel and providing travel support options.



2. Services, Technologies, and Emerging Mobility Solutions

Sustainable transportation is not limited to walking, cycling, transit, and carpooling. It also refers to opportunities that provide options for those who do not own a vehicle, including carsharing, electric vehicles, and e-bikes.



3. Pricing and Financial Incentives/Disincentives

Pricing and financial incentives/disincentives refer to the tools that disincentivize single-occupant vehicle travel and encourage greater uptake in sustainable modes. Pricing parking is one such disincentive.



4. Programs and Marketing

Programs and marketing are educational in nature, referring to strategic actions that an institution could pursue to increase awareness and incentivize the use of sustainable transportation.



5. Coordination and Partnerships

Coordination and partnerships involve external actions to work with organizations such as transportation agencies, local governments, neighbouring properties, and local transportation non-profits to facilitate improve transportation infrastructure and services to help support travel behaviour change.

It is noted that the Long-Range Facilities Plan survey results indicate little willingness to bike or walk to JIBC, while the likelihood of using transit or carpooling was comparatively higher. Given these results, it might be advisable to prioritize investing in carpooling and transit pass programs and related improvements.



5.4.1 Short-term to Medium-Term Implementation (2029)

Carsharing

Carshare is a form of car rental where people can book vehicles for varying lengths of time. Carshare operators are typically structured as a co-operative organization where users must sign up as a member to use the vehicles. Carsharing is a good option for those who sometimes need access to a vehicle but may not want to or are unable to pay the costs associated with owning a vehicle. Most campuses in the region provide dedicated parking spaces for carshare vehicles. JIBC could enter into a partnership with operators such as Modo and Evo to provide dedicated parking spaces on campus.

TDM or Transportation Coordinator

Post-secondary institutions typically have a staff person or a team that work to improve or promote travel options for students, staff, and faculty. A TDM or transportation coordinator is responsible for the following:

- Coordinate TDM initiatives.
- Ensures that programs are following schedule and meet certain criteria.
- Allocates resources for promotions & campaigns and helps create collateral.
- Represents campus on internal and external transportation matters.
- Engages with stakeholders to solicit support for the success of TDM initiatives.

Parking Pricing

Given the urban location of the New Westminster campus and its access to a number of transportation options, priced parking should be considered for all on-site parking spaces. Priced parking is the most effective demand management tool to reduce parking demand. The overall impact of priced parking on demand may differ based on a range of factors, including the specific land use type and availability of other transportation options, for example. However, what is clear is that parking demand tends to decrease as the price increases.



Numerous studies have been conducted and results generally suggest parking demand reductions of 20% to 30% where employee parking is priced at market rates (varies by community), with reductions ranging anywhere from 10% to 50%.⁴ Further, priced parking has also been shown to have impacts on mode choice. One study estimated that with free parking in place, 62% of commuters would drive alone and 22% would use transit; however, with a \$6 daily parking fee, single occupancy vehicle travel dropped to 46% and transit use increased by 50%.⁵

To implement paid parking on campus, JIBC will need to explore appropriate payment technologies and determine the parking rates, which should be consistent with market rates in the community and other local post-secondary institutions.

Promotion and Information

How to Get on Campus Guide

Produce a “How to Get on Campus” Guide that provides concise information on how to access the New Westminster campus by various modes, including parking availability and price. Parking information can include maps, signs, brochures, and various options that provide a live update to people wishing to commute on campus regarding parking facility location, availability (whether a parking lot is full), service options, and price (see **Figure 5-5** for an example at UBC Vancouver). This can improve user convenience and security, increase the functional supply of parking, and address any objections to specific parking management strategies.

For example, people driving to campus may be less resistant to parking regulation, pricing, and reduced supply in a particular location if they can easily obtain information on where parking is available or what the travel options are that can meet their needs.

	Parking	EV
NORTH	GOOD	GOOD
WEST	GOOD	GOOD
ROSE	GOOD	GOOD
HEALTH	GOOD	GOOD
FRASER	GOOD	GOOD
THUNDERBIRD	GOOD	GOOD

Figure 5-6: TDM measure example: real-time parking availability on campus website

⁴ Transportation Research Board. (2005). Transit Cooperative Research Program, Parking Pricing and Fees: Traveler Response to Transportation System Changes, Report 95, Chapter 13, 2005; Page 13-15, Table 13-9. Retrieved from: www.trb.org/Publications/TCRPReport95.aspx

⁵ Hess, D. B. (2001) Effect of free parking on commuter mode choice: evidence from travel diary data. *Transportation Research Record* 1753: 35-42



Going Car Free Information

Many post-secondary institutions advertise the benefits of pursuing a car-free or car-lite lifestyle and provide information on how to achieve that. A dedicated webpage could include information on transit, cycling, carsharing, and additional resources such as the TravelSmart Toolkit by TransLink and the BC SCRAP-IT program. Encouragement messaging around campus at locations such as bus stops can be a good reminder of sustainable transportation options.

Bike to Work / School Week

Many organizations and post-secondary institutions participate in this week-long celebration of cycling in the Metro Vancouver region. Bike to Work Week and Bike to School Week is a campaign for commuter cycling where employees and students register to participate on a team and log their trips for the week. Various non-profit organizations hold “celebration stations” throughout the region with complementary beverages, prizes, ruffles, and free training courses such as bike maintenance.





Figure 5-7: TDM measure example: Bike to Work/Bike to School Week



Dedicated Transportation Webpage

A dedicated webpage related to transportation should be created for JIBC. The purpose of the webpage would be to educate, promote, and create awareness about the various TDM initiatives at the New Westminster campus and communicate to the community on JIBC’s progress in achieving sustainable travel goals and targets such as infographics. Some topics that could be included on this page are:

- The importance of TDM
- The JIBC TDM Plan (once finalized)
- TDM Plan Progress Reports
- How to Get on Campus Guide
- Information about cycling and available on-campus bike infrastructure
- Relevant sustainable travel news articles and/or research
- Quick tips regarding sustainable travel

Marketing Collateral

Drawing from the content drafted for the website, marketing collateral could be produced (e.g., posters, flyers, banners, brochures) to inform students, staff, and faculty about sustainable travel options available to them and upcoming TDM events. The goal is to involve and engage the campus community on sustainable travel.





Bicycle Parking

Research has shown that strategies that facilitate cycling are beneficial in shifting automobile travel to alternative transportation modes.⁶ The provision of well-designed and abundant bicycle parking can promote bicycle use and reduce driving with a direct correlation between the perceived availability of bicycle parking and the likelihood of cycling.⁷ Much like vehicle parking supply affects the ability of a person to drive to a destination, the supply of bicycle parking similarly affects peoples' decision to cycle to/from a destination.

Access to secured bicycle parking is an important factor that affects whether a person will bicycle to a destination. Bike theft has been a significant issue that can deter people from cycling to a destination. Apart from secure, long-term bicycle parking spaces, JIBC should also provide short-term visitor parking that is located near the major entrances of the building and are visible, covered, well-lit (see **Figure 5-6**). This will augment the existing short-term bicycle parking spaces already available on campus.

End-of-Trip Cycling Facilities

Bicycle end-of-trip facilities further encourage the use of cycling. These facilities typically contain change rooms and showers, bicycle repair tools, and personal lockers (see **Figure 5-6**). The provision of end-of-trip facilities has the potential to reduce parking demand. Providing showers and clothing lockers at workplaces has been found to be effective at encouraging bicycle use, particularly among commuters who require professional clothing attire.⁸ Bicycle parking and cyclist showers have been found to be associated with higher levels of bicycle commuting, but the likelihood of cycling was higher for employees with

⁶ Victoria Transport Policy Institute (2019). *Bicycling Improvements*. Available online at: <https://www.vtpi.org/tdm/tdm93.htm>

⁷ Heinen, E. & Buehler, R. (2019). *Bicycle parking: a systematic review of scientific literature on parking behaviour, parking preferences, and their influence on cycling and travel behaviour*. Transport Reviews. Available online at: <https://doi.org/10.1080/01441647.2019.1590477>

⁸ City of Victoria. (2011). *Bicycle Parking Strategy*. Retrieved from: <http://www.victoria.ca/assets/Departments/Engineering~Public~Works/Documents/parking-bicycle-strategy.pdf>



Figure 5-8: TDM measure example: short-term bicycle parking and repair stand



access to both compared to those with just bicycle parking.⁹ For example, a recent study in New York found that individuals with either bicycle parking, workplace showers and lockers, or shared-use paths were 50% more likely to cycle to work.¹⁰

End-of-trip facilities are typically access controlled and include the following:

- **Repair tools:** Tools include hex wrenches, tire levers, and a tire pump.
- **Personal lockers:** A combination of day lockers and long-term lockers provided for storing helmets, cycling clothing/gear, and other personal items.
- **Showers and change rooms:** Showers and change rooms should be available.
- **Lighting and surveillance:** The facility should be well-lit (interior and exterior), with consideration for surveillance systems.
- **Information:** Cycling network maps, information on bicycle shops, and advertising space for scheduled events.

A best practice is to provide at least one on-site shower with a changing facility for any building with 100 or more workers (per gender), with an additional shower for every 150 new workers thereafter.

⁹ Buehler, R. (2012). Determinants of bicycle commuting in the Washington, DC region: The role of bicycle parking, cyclist showers, and free car parking at work. *Transportation Research Part D: Transport and Environment*, 17(7), 525–531.

¹⁰ Bueno, P. C., Gomez, J., Peters, J. R., & Vassallo, J. M. (2017). Understanding the effects of transit benefits on employees' travel behavior: Evidence from the New York-New Jersey region. *Transportation Research Part A*, 99, 1–13



Discounted Transit Passes for Employees

While it is less common for post-secondary institutions to provide discounted transit passes for staff and faculty, some institutions are starting to establish an equivalent transit program for staff and faculty similar to those offered for students. TransLink offers the Compass Card for Organizations program whereby TransLink provides support to employers to establish a Compass Card program at their organization. While TransLink does not provide a discount, limited-time incentives are occasionally offered. Program details by TransLink are shown below:

- Compass Cards for your employees can be loaded with an adult or concession Monthly Pass or a West Coast Express Monthly Pass.
- Your organization chooses how much you want to contribute to your employees — from 10% to 100% of their monthly passes.
- You choose the duration from a single month or auto-load in perpetuity.

The University of Victoria has experienced positive success with its discounted transit pass program for staff where 11% of staff are enrolled in the program.^{11,12} The Victoria Regional Transit Commission provides a 10% discount for employers that purchase 100 or more regular transit passes per month and provide at least a 10% discount for employees. In the case of the University of Victoria, this discount is substantial, amounting to 45% off the regular price.

The key benefit of the university’s approach is that employees do not need to sign on for a year or more, making it more appealing to staff who may be just sessional instructors and not there for the whole year. It also better complements an overall active transportation lifestyle since some staff may choose to take transit in the winter but then cycle or walk in warmer months when the weather is better.

¹¹ Email correspondence with University of Victoria Manager of Parking & Transportation on April 26, 2018.

¹² More information about UVic’s employee bus pass program is available online at: <https://www.uvic.ca/security/parking/employeebus/index.php>



5.4.2 Long-Term Implementation (2045)

For the next three measures (carpooling, teleworking, and Guaranteed Ride Home), they can be achieved in the medium-term or short-term depending on how quickly JIBC is able to develop. Considering the results of the LRFP Survey indicating preferences for potential TDM, these three TDM measures might have more uptake earlier than later.

Carpooling (Ridesharing)

Carpool is the process of matching rides through a software, whereby a driver offers to provide a ride to the same destination to passengers to share the costs of the trip. TransLink currently partners with Poparide which connects drivers and passengers at affordable carpooling rates in the Metro Vancouver region. Poparide is free to register for drivers and passengers and JIBC could promote this among staff and faculty.

JIBC could enhance the attractiveness of carpooling by providing preferential carpool parking spaces on campus. Carpool parking spaces have been offered at other post-secondary institutions and typically comes with perks such as prime parking locations, reduced parking pricing, and sometimes paired with EV charging stations.

Teleworking

Teleworking has become more common with the COVID-19 pandemic as it offers employees an opportunity to work from home. Some campuses offer their administrative staff the option to work from home on designated days of the week or at their own discretion, thus helping reduce commuter congestion and parking demand. In addition, there has also been more widespread use of distance learning and virtual work rooms for students to collaborate virtually without meeting on campus.

Guaranteed Ride Home

Many campuses offer what is also known as Emergency Ride Home, which is intended for commuters who use vanpool, carpool, bike, walk, or transit to access the campus and have the option to return home reliably in case of an emergency using a taxi, carshare or ride-hail company that is subsidized by the organization. As an example, UBC Vancouver reimburses 90% of the cost of the trip (not including tip).



For the next six measures, they will require partnerships with external partners and/or larger capital investments.

Service Improvements for Transit

Post-secondary institutions have been collaborating with transit agencies to advocate for better transit. Good connections to transit hubs will reduce waiting time for commuters and make travel more seamless. It is recommended that JIBC work closely with TransLink and the City of New Westminster to improve transit frequencies on Eighth Avenue.

Infrastructure Improvements for Transit

Infrastructure that complements TDM strategies is a significant support asset and can help increase the effectiveness of such initiatives. As an example, JIBC could collaborate with TransLink for the provision of real-time transit information at the bus stop on Eighth Avenue, which would improve the experience for transit users by making trips more convenient and predictable.

Infrastructure Improvements for Cycling

Improvements to cycling infrastructure can be achieved on campus under JIBC’s jurisdiction such as bicycle parking and end-of-trip cycling facilities. JIBC should also consider coordinating and advocating with the City of New Westminster for improved cycling connections to the campus, which in turn have the potential to attract more people to bike to campus.

Infrastructure Improvements for Walking

Infrastructure improvements on campus ensure that the last stretch of one’s trip is safe, comfortable, and convenient. Creating a campus that makes walking as convenient as possible will increase the share of people getting on campus on foot or using public transit. Infrastructure improvements can be costly and investments must be weighed and allocated accordingly. There should also be coordination with other infrastructure upgrades to reduce the cost. Common improvements include:

- Improved sidewalks, crosswalks, and paths.
- Improve facility designs to accommodate special needs, including people using wheelchairs, walkers, strollers, and hand carts.
- Provide covered walkways, loading, and waiting areas to provide protection from the elements.
- Street furniture such as benches and lighting.



- Implement traffic calming, speed reductions, and vehicle restrictions.
- Address pedestrian security concerns. Install emergency call boxes, and ensure all walkways are lit.
- Creating more attractive, inviting, and clean walking areas.

Shared Parking

Given JIBC's proximity to the New Westminster Aquatics and Community Centre (NWACC, and previous work identifying opportunities for a shared parking arrangement, the two organizations could share their parking lots and efficiently provide additional parking supply. Based on discussions with JIBC staff, shared parking would be most appropriate for special events on campus such as convocation rather than accommodating regular weekday parking demand.

Student Housing

Campus housing is generally provided at many large post-secondary institutions. The University of Victoria, as an example, offers approximately 2,500 on-campus housing units and houses approximately 12% of the student population. As a result, walking represents 15% of all trips to/from the university. Students living on-campus contribute to a post-secondary institution's walking mode share as most can walk to/from classes.

JIBC is currently considering introducing campus housing in the next 20 years which provides a significant opportunity for students to live on-campus and walk to classes. Certain TDM measures become increasingly important if/when students live on-campus, such as reliable transit service and safe and convenient pedestrian & cycling infrastructure to nearby commercial areas (i.e., downtown New Westminster and Uptown), as well as carshare service within the campus.

5.4.3 Monitoring and Evaluation

Transportation demand management is an iterative process intended to influence travel behaviour over an extended period of time. It is recommended that JIBC adopt the following monitoring and evaluation protocols to test how well it is achieving the recommended TDM measures and sustainable mode share target.

TDM Goals, Objectives, and Mode Share Targets

A TDM plan should develop goals and objectives to provide overall direction for what an institution wants to achieve with respect to sustainable transportation. The plan should also contain measurable and realistic objectives to benchmark against and test how well it is achieving the goals and objectives. JIBC can set ambitious but achievable targets that will reduce single-



occupancy vehicle travel and increase sustainable modes of transportation. **Section 4** of this report adopts a preliminary target of 53% to 63% of all trips by motor vehicle by 2044.

Screenline Counts and Parking Occupancy Surveys

Monitoring travel patterns provides a progress report or check-in on the effectiveness of TDM implementation. Screenline counts assess the number of trips and provide an overall indication of how people get to campus. Counters are stationed at key entrances of the campus and observe the number of individuals that enter/exit the campus (i.e., crossing the “screenline”) by each travel mode. Parking occupancy surveys assess the number of parked vehicles throughout the course of a typical day. These should occur regularly to observe the effectiveness of TDM strategies and overall trends in commuting patterns. It is recommended the screenline counts and parking occupancy surveys occur every two years.

Annual TDM Progress Report

It is recommended that that JIBC develop and release an annual summary of transportation performance evaluated against its TDM goals. The purpose of the report is to promote and create awareness of its TDM initiatives and how they are contributing to a more sustainable campus. It would be beneficial if the report included infographics about how JIBC is performing on its transportation metrics, which will serve as valuable data for students and employees and help reinforce non-SOV travel as the norm at JIBC.

Five-Year Comprehensive Reviews

A TDM plan should be a living document and be updated to reflect changing context and lessons learned. A five-year update horizon will provide an adequate monitoring and evaluation window to understand how well the strategic actions are meeting the goals of this plan. Over time, there may be a need to refine and/or update the goals and objectives, which may require new actions to be developed accordingly.



6.0 SITE PLANNING & DESIGN

6.1 Off-street Parking and Loading Requirements

The City of New Westminster’s Zoning Bylaw (Section 140, 150, and 160) establishes the minimum number of off-street parking and loading spaces that developments are required to legally provide in the city. Expansion of the existing JIBC New Westminster campus is expected to require a development permit application to modify the current use, form, and density of the 715 McBride Boulevard property, triggering the need to comply with the City’s off-street parking and loading requirements.

The following sections summarize the pertinent requirements as of 2021 that will be applicable to the future campus expansion. The land use quantities used here are sourced from the master program within the Long-Range Facilities Plan (dated November 11, 2020).

6.1.1 Vehicle Parking Bylaw Requirement

Section 140 of the Zoning Bylaw establishes requirements for motor vehicle parking for an institutional use (academic space, including instructional station space and ancillary support spaces; defined as “public school” in the bylaw), and a residential use (student housing).

Table 6-1 summarizes the expected motor vehicle parking requirements for the future campus by two student housing scenarios:

1. Academic space and student housing as “dormitory units” (174 spaces).¹³
2. Academic space and student housing as “secured rental units” (251 spaces).¹⁴

¹³The Zoning Bylaw defines “dormitory unit” as “one or more habitable rooms equipped to be used for sleeping and sitting purposes only” (Section 120.62). A dormitory unit shall not have “sinks or cooking facilities contained therein” and they shall not have “less than one complete bathroom for every 700 square feet (65.03 square metres) of floor area used as a dormitory unit” (Section 190.23).

¹⁴The Zoning Bylaw defines “dwelling unit” as “one or more habitable rooms designed, occupied or intended for use, including occupancy, by one or more persons as an independent and separate residence in which a facility for cooking, sleeping facilities and a bathroom are provided for the exclusive use of such person or persons.” (Section 120.67).



The Long-Range Facilities Plan identifies 3,211 m² of gross floor area (96 student housing units) for the New Westminster campus expansion. The City’s Zoning Bylaw establishes distinct requirements between dormitory units (without kitchen) and standard dwelling units (with kitchen). The format of the student housing is unknown at this time but is expected to be standard rental dwelling units given the demographic characteristics of JIBC’s student population (e.g., older students as opposed to typical post-secondary institutions due to the nature of the course offerings).

Table 6-1: Vehicle Parking Bylaw requirement

Use	Quantity	Bylaw Supply Rate	Parking Supply
Scenario 1: Dormitory Student Housing			
Academic Space	310 employees	0.5 space / 1 staff member	155 spaces
Student Housing	2,676 m ² NFA	1 space / 140 m ² NFA	19 spaces
Total			174 spaces
Scenario 2: Standard Rental Housing			
Academic Space	310 employees	0.5 space / 1 staff member	155 spaces
Student Housing	96 dwelling units	1 space / 1 dwelling unit	96 spaces
Total			251 spaces

Source: JIBC Long-Range Facilities Plan (draft dated November 11, 2020); City of New Westminster’s Zoning Bylaw (consolidated for convenience as of June 22, 2020).

Note: Assumes Eighth Avenue is added to TransLink’s Frequent Transit Network by 2044, where 15 minute or better service runs until 9 p.m. every day, and starts at 6 a.m. on weekdays, 7 a.m. on Saturdays and 8 a.m. on Sundays.

Where the number of persons is used as a unit of measurement in the City’s Zoning Bylaw, it shall mean the greatest number of persons on-site at any time. 310 employees are estimated to be present during the site’s overall afternoon peak period (1:00 p.m. to 2:30 p.m.) in 2044 based on the following assumptions:

- Existing 242 staff accounted for in the master program within the Long-Range Facilities Plan, and existing seven (7) facilities staff not accounted for in the Long-Range Facilities Plan, including one (1) security staff plus six (6) cafeteria staff.
- Existing 28 faculty estimated to be present on-site for the October Wednesday design day based on the number and type of classes in instruction.
- Additional 12 staff from the planned increase of 12.5 FTE for JIBC institution-wide by 2044, all assumed to be allocated to the New Westminster campus.
- Additional 21 faculty estimated to be present on-site for the October Wednesday design day by 2044.
- 100% time-of-day presence factor for staff (excluding faculty) for the site’s overall afternoon peak.
- No changes to the staffing program for 2044 based on a revised remote working policy from the Long-Range Facilities Plan, and no changes to the faculty program for 2044 based on a revised share of classes delivered online from the Long-Range Facilities Plan. This corresponds with Scenario #1 and Scenario #2 from the parking demand forecast (see Section 4 of the report).
- Results are rounded to the nearest 10.

A gross-to-net factor of 1.2 was applied to estimate the net floor area (2,676 m²) from the gross floor area (3,211 m²) identified in the Master Plan.



There are additional requirements in the Zoning Bylaw that must be satisfied within the total envelope of the required off-street parking, including:

- Carpool/vanpool spaces:
 - 8 spaces for academic space (5% of the required institutional supply of 155 spaces).
- Accessible spaces:
 - 5 spaces for academic space (4 per 76–100 plus 1 additional for every 50 in excess of 100 of the required institutional supply of 155 spaces).
 - 1 space for student housing, assuming dormitory (1 per 1–25 of the required residential supply of 19 spaces).
 - 4 spaces for student housing, assuming rental (4 per 70–100 of the required residential supply of 96 spaces)
- Van accessible spaces (1 van accessible for every 3 accessible spaces required):
 - 1 space for academic space.
 - 1 space for student housing, either dormitory or rental.

It is noted that municipal off-street parking requirements do not necessarily predict the actual parking demand for a site. For example, the existing New Westminster campus has an assumed afternoon peak person demand of 249 employees for the October Wednesday design day (239 staff, 10 facilities staff, and 28 faculty). This would imply an off-street parking requirement of 125 parking spaces under the City’s Zoning Bylaw. However, as of 2018–19, actual peak parking occupancy is known to exceed the existing facility of 437 parking spaces (excluding the 16 training vehicle spaces), a difference of at least 312 parking spaces.

The parking demand forecast in **Section 4** does not provide a breakdown of the expected demand by students living off-campus versus those living on-campus. Further work is required to determine an appropriate parking supply for these students. If parking supply for the student housing is provided below the City’s off-street parking requirements depending on the student housing scenario, a parking study that provides an acceptable rationale will likely be required by the City of New Westminster.

It is noted that recent trends in transportation planning show that many municipalities have begun considering eliminating off-street parking requirements for motor vehicles for residential and other uses entirely. For that reason, vehicle parking requirements may not be applicable in the future by 2044.



6.1.2 Bicycle Parking Bylaw Requirement

Section 150 of the Zoning Bylaw establishes requirements for bicycle parking for an institutional use (academic space, including instructional station space and ancillary support spaces; defined as “public school” in the bylaw) and a residential use (student housing; defined as “multiple dwelling” in the bylaw).

Table 6-2 summarizes the expected bicycle parking requirements for the future campus, with an overall total of 157 spaces broken down by:

- Academic space: 12 long-term bicycle parking and 19 short-term parking.
- Student housing: 120 long-term bicycle parking and 6 short-term parking.

Table 6-2: Bicycle Parking Bylaw requirement

Use	Quantity	Bylaw Supply Rate	Parking Supply
Long-Term			
Academic Space	310 employees	1 space / 25 staff member	12 spaces
Student Housing	96 dwelling units	1.25 spaces / 1 dwelling unit	120 spaces
Short-Term			
Academic Space	13,123 m ² NFA	1 space / 700 m ² NFA	19 spaces
Student Housing	96 dwelling units	6 spaces with 20+ units	6 spaces
Total, Long-Term			132 spaces
Total, Short-Term			25 spaces
Total, Overall			157 spaces

Source: JIBC Long-Range Facilities Plan (draft dated November 11, 2020); City of New Westminster’s Zoning Bylaw (consolidated for convenience as of June 22, 2020).

Note: Refer to Section 5.2 and Table 5-1 for assumptions on land use quantities. Net floor area for academic space (13,123 m²) is calculated by subtracting assumed net floor area for student housing (2,676 m²) from total net for New Westminster campus (15,799 m²) as identified in the Long-Range Facilities Plan.



6.1.3 Loading Bylaw Requirement

Loading

Section 160 of the Zoning Bylaw establishes requirements for loading for an institutional use (academic space, including instructional station space and ancillary support spaces; defined as “colleges, universities” in the bylaw”) and a residential use (student housing; defined as “multiple unit residential use” in the bylaw).

Table 6-3 summarizes the expected loading requirements for the future campus, with an overall total of 3 loading spaces.

Table 6-3: Loading Bylaw requirement

Use	Quantity	Bylaw Supply Rate	Parking Supply
Academic Space	13,123 m ² NFA	1 space for first 2,800 m ² plus 1 space for every 4,650 m ² above 2,800 m ²	3 spaces
Student Housing	96 dwelling units	Not applicable	0 spaces
Total			3 spaces

Source: JIBC Long-Range Facilities Plan (draft dated November 11, 2020); City of New Westminster’s Zoning Bylaw (consolidated for convenience as of June 22, 2020).

Note: Refer to Section 5.2 and Table 5-1 for assumptions on land use quantities. Net floor area for academic space (13,123 m²) is calculated by subtracting assumed net floor area for student housing (2,676 m²) from total net for New Westminster campus (15,799 m²) as identified in the Long-Range Facilities Plan.

Passenger Loading

Section 160.6 of the Zoning Bylaw establishes a base requirement of 20 off-street passenger loading spaces (drop-off and pick-up) for educational-related uses, defined as “public school” in the bylaw. The Zoning Bylaw allows an alternative supply to be proposed with the provision of a site-specific parking study.

The current report does not recommend a specific passenger loading supply as primary data collection of passenger loading demand was not possible due to the COVID-19 pandemic; further research is required on this matter.

Anecdotal comments by JIBC staff indicate there are currently no operational issues with the existing off-street passenger loading zone (five designated spaces) located by McBride Boulevard adjacent the main campus building.



6.2 Site Design, Access, and Circulation

As JIBC looks forward towards growth and expansion, we recommend being mindful of some basic guidelines for site planning and design purposes. These strategies will reduce conflict between modes and allow for safe and efficient circulation on campus. WATT has worked closely with ThinkSpace to develop these recommendations and are based on a draft site plan developed by ThinkSpace (see **Figure 6-1** for an overview). This site plan is conceptual only and may change in the future. However, the recommendations below should be kept in mind as this site plan evolves.

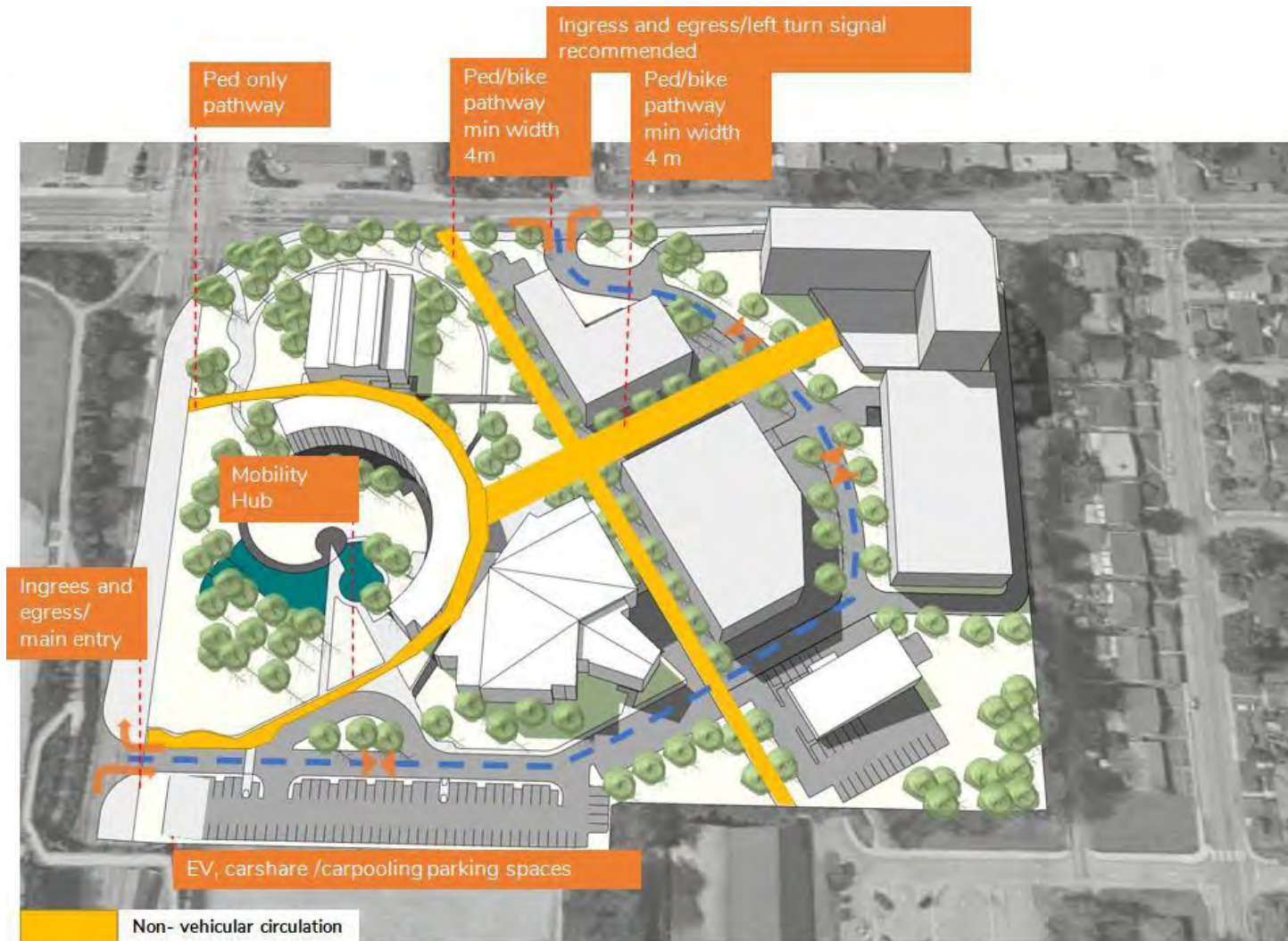


Figure 6-1: Conceptual site transportation network



6.2.1 Access and Circulation

Pedestrian and Cycling Circulation

We recommend the following design standards to ensure adequate and safe circulation for active modes on campus:

1. A central non-vehicular circulation spine that forms the main connector between buildings. This pathway should be at least four metres wide to allow unimpeded use for both pedestrians and cyclists.
2. Amenities along the spine like benches, short-term bicycle parking, lighting, and signage to enhance the walking/cycling environment.
3. Crosswalks and lighting at strategic locations to avoid vehicular conflict to increase the safety of this connection.

Vehicular Circulation

1. We recommend retaining the existing on-site vehicle circulation pattern with access points located at both Eighth Avenue and McBride Boulevard.
2. We recommend working with the City of New Westminster to install a signal on Eighth Avenue at the intersection of Sangster Pl. This will support safe left turn movements out of the JIBC campus on to Eighth Avenue. Signals like this, mid-way between major intersections are not common practice but can be installed if the situation warrants it. Criteria such as safety and traffic volumes are some factors considered while making this determination. An example of such a signal is at Eighth Avenue, west of McBride Boulevard to facilitate traffic flow in and out of the Royal Square Mall, the shopping plaza at the northwest corner of McBride Boulevard and Eighth Avenue.

6.2.2 Connections

The New Westminster Aquatic and Community Centre (NWACC) shares the southern boundary with JIBC. We recommend ensuring pedestrian connectivity with the NWACC as part of the future site plan. **Figure 6-1** shows the main pedestrian path that cuts across the site plan at a diagonal continues south to connect into the NWACC site.

The neighboring residential areas to the east of JIBC should be able to use this pedestrian connection to connect to the campus and access the bus stop on Eighth Avenue. Currently most residents from this area use existing pedestrian paths to access the campus and the sidewalks on McBride Boulevard and Eighth Avenue. In consideration of this, even if the access pathways are laid out differently than illustrated in the conceptual plan in the future, it is important to maintain the pedestrian connection and accessibility.



6.2.3 Mobility Hub

A mobility hub is defined as a focal point of the transportation network and can be as simple as bus stop with a bicycle rack or as complex as a multi-modal transfer station that has several transit routes serving it, supported by first-mile/last-mile options like biking, car sharing, ridesharing, etc (see **Figure 6-2** for examples).

Typical components of a mobility hub are:

- 1. Wayfinding and information:**
Mobility hubs typically provide signage and wayfinding to communicate to users about available transportation options, connections, wait times, and contact information for an emergency situation.
- 2. Waiting area:**
The mobility hub provides a safe and convenient area to wait for their mobility option of choice to arrive, such as a bus, carpool, or ride-hail.
- 3. Integration of multiple modes of transportation:**
Mobility hubs integrate different mobility options to provide users with different choices to their origin or destination. Some also dispense fare products.







Figure 6-2: Conceptual examples of mobility hubs

Source: Various

In the short-term, enhancing the existing bus stop adjacent to the campus on Eighth Avenue could serve as an interim mobility hub (see **Figure 6-3**). Amenities like real-time information display, additional seating, and a bicycle rack are relatively inexpensive compared to large infrastructure investments but can substantially improve the waiting experience for the JIBC community at the bus stop.



Figure 6-3: Mobility hub: improvements to existing bus stop on Eighth Avenue

In the long-term, consideration can be given to constructing an independent mobility hub at the southwest corner of site in proximity to the McBride Boulevard entrance (see **Figure 6-4**). Some of the functions that can be incorporated into this mobility hub are:

1. Waiting space for passenger pick-up/drop-off (e.g., ride-hailing, taxis).
2. Information kiosk about all the different modes that can be accessed on campus.
3. Emergency contact information.
4. Fare vending machine for transit.
5. Muster area for the campus in case of an emergency.

The proposed location of the mobility hub allows it to be used by patrons of the NWACC and the residents of the neighbourhood to the south and east of the campus. This can potentially make the mobility hub a focal point of the surrounding community and help improve mobility on campus and in the neighbourhood.

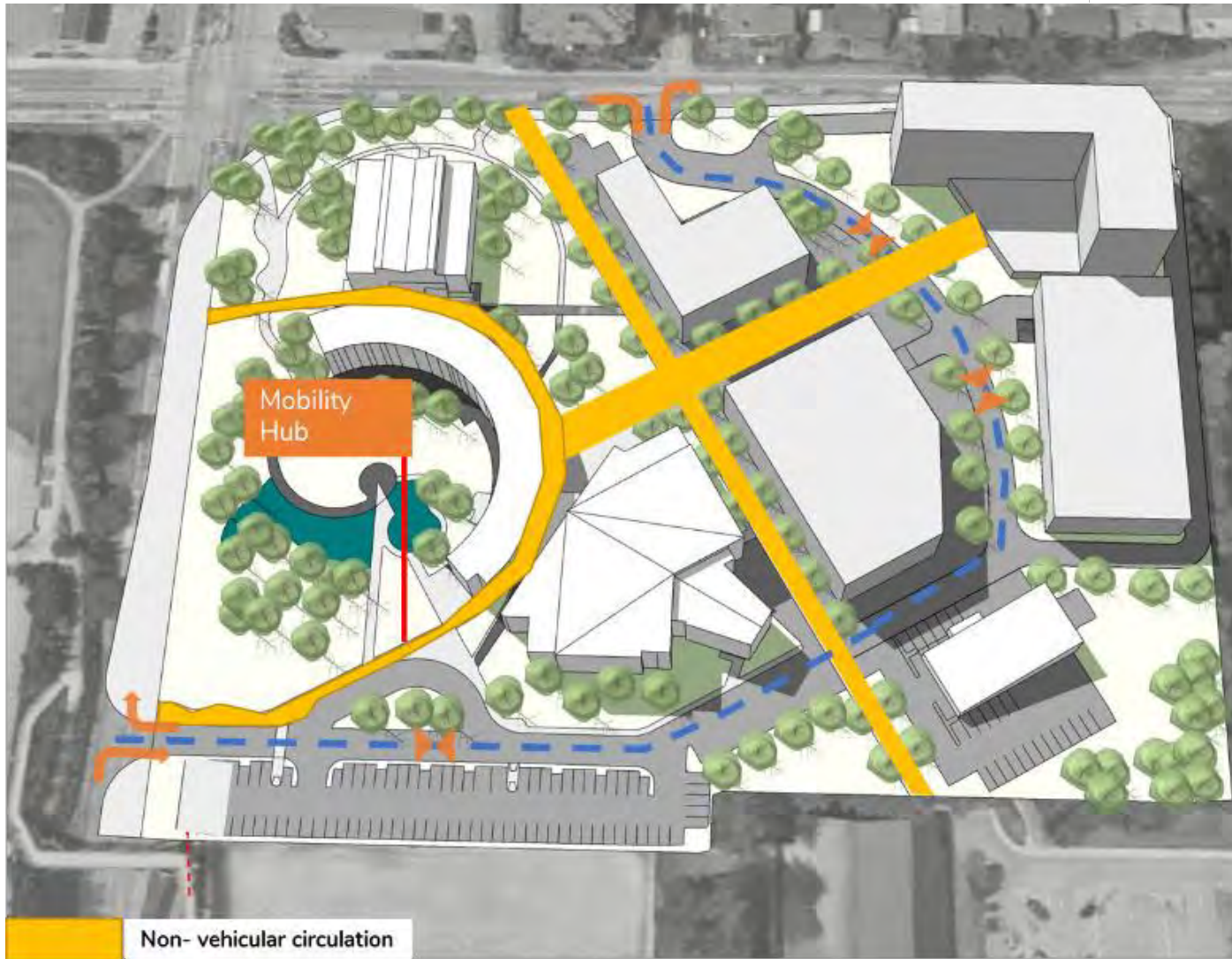


Figure 6-4: Mobility hub: potential future location of campus mobility hub



As part of modernizing the campus, if JIBC were to consider providing electric vehicle charging stations on campus, we recommend installing three to four level 2 chargers in the short to medium term for students, staff, and faculty. Ideally electric vehicle parking is located in the southwest corner of the site, along with carpool and carshare parking to incentivise their use. The cost would range from \$2,500 to \$10,000 per charging station.

The next step in implementation of this recommendation would be to complete a technical feasibility study undertaken by an electrical engineer to determine the electrical requirements for these chargers and specifications of the chargers to procure, etc.



7.0 RECOMMENDATIONS AND NEXT STEPS

In-depth research and analysis conducted as part of this study has resulted in a number of conclusions. Some were anticipated and some have been eye-opening. For example, the cost of inaction in the future is \$22.2 million in today's dollars if no transportation demand management were to be implemented and assuming additional parking would be built to meet demand.

This report outlines several recommendations related to parking management, transportation demand management, and site planning and design. In addition to these recommendations, we suggest some next steps to gain support and momentum towards implementing these recommendations:

1. **Inclusion:** Share findings from this report with JIBC student, staff and faculty to get their feedback.
2. **Representation:** Form a transportation committee that represents views from students, staff and faculty to shape JIBC's approach to transportation, working in partnership with JIBC Facilities staff.
3. **Planning:** Create a TDM Plan for the campus that starts at the very beginning with understanding the current situation in a both qualitative and quantitative manner. This would include:
 - a. Establish TDM goals and objectives.
 - b. Establish mode share targets (ideally 5-year, 10 year, and 20-year targets.)
 - c. Implement the recommended short-term and medium-term TDM measures.
4. **Coordination and Partnerships:** The New Westminster Aquatics and Community Centre experiences similar parking issues as JIBC. Informal collaborations could form the basis of a stronger, formal partnership in the future. The City of New Westminster has adopted very ambitious goals for mode share shift. They are currently working on some policies to incentivize the use of alternate transportation modes in the city. Collaborating with the City to help achieve their goals could help JIBC leverage some of these financial incentives to support the goals established in step 3 above.
5. **Policy Changes:** Shifts in policy with regard to telecommuting and online instruction could also be beneficial in addressing the current and future parking issues on campus.



APPENDIX A: TRANSPORTATION MODEL ASSUMPTIONS



Existing Person Demand

1. Existing person demand for the 2018–19 academic year is estimated using a combination of the following data sources:
 - a. Student and faculty demand:
 - i. Enrolment report for the 2018–19 academic year from the “Room Usage and Enrolments – 2017-18 and 2018-19 Academic Years.xlsx” spreadsheet provided by JIBC.
 - b. Staff demand:
 - i. Staffing program for February 2020 from the master program within the Long-Range Facilities Plan (dated November 11, 2020) provided by Thinkspace Architecture.
 - ii. General work schedule provided by JIBC (November 12, 2020 meeting and emails from November 12, 2020 and January 21, 2021).
 - c. Visitor demand:
 - i. Room usage report for the 2018–19 academic year from the “Room Usage and Enrolments – 2017-18 and 2018-19 Academic Years.xlsx” spreadsheet provided by JIBC.
2. Student person demand (measured in headcount) was estimated from the enrolment report using the following procedure:
 - a. All section records that met the following criteria were extracted, with the spreadsheet field name indicated in parentheses:
 - i. Academic Year (“AY”) = 2018–19
 - ii. Academic Semester (“TERM”) = 2018 Fall (“18FA”), 2019 Winter (“19WI”), 2019 Summer (“19SS”)
 - iii. Location (“SEC LOCATION”) = JIBC New Westminster (“JINW”)
 - iv. Building (“BLDG”) = Administration (“NWAD”), Classroom (“NWCL”), Gym (“NWGY”), Simulation (“NWRX”)
 - v. Instruction Purpose (“INSTR”) = Lecture (“LEC”)
 - vi. Instruction Type (“SEC COURSE TYPES”) = Face-to-Face (“F2F”), Hybrid (“HYB”)
 - b. The start/end time fields (“START TIME”; “END TIME”) were modified to be rounded to the nearest half-hour.
 - c. Duplicate section records were dropped when the following criteria were met:
 - i. Section records had:
 1. Identical dates.



2. Identical days of the week.
 3. Identical start/end time or blank start/end times.
- ii. Section records had identical dates, identical days of the week, and:
 1. Overlapping start/end times with the record(s) having the shortest duration of the duplicate records.
 2. Overlapping start/end times with the record(s) having the least common start/end times of the duplicate records.
 3. Overlapping start/end times with the record(s) that ended later in the day relative to the other duplicate records.
 4. Start/end times that spanned from 7:30 a.m. to 10:00 p.m.
 - iii. Non-instructional events scheduled for “ROOM” = “NWCL110”.
- d. Duplicate section records were kept when the following criteria were met:
 - i. Section records had:
 1. Identical dates.
 2. Different days of the week and/or identical start/end time.
 - ii. Section records had:
 1. Identical dates.
 2. Identical days of the week.
 3. Partially overlapping, but consecutive start/end times. These records were modified to remove the partial overlaps.
 - iii. Section records had:
 1. Identical dates.
 2. Partially overlapping days of the week. These records were modified to remove the partial overlap.
 3. Identical start/end time.



- e. The number of students present (“Enrolled”) were summed up in half-hourly intervals from 7:00 a.m. to 10:30 p.m. by date for the entire year. Presence was not adjusted to account for students potentially not present and missed class for various reasons (e.g., sickness).
3. Faculty person demand (measured in headcount) was estimated from the enrolment report using the same procedure as student demand, with the following additions:
 - a. For section records that remained after the student demand procedure, assume one instructor per section, except for police and sheriff courses.
 - b. For section records with the following police-related course names, assume two instructors per section:
 - i. Police Driver Training
 - ii. Police Instruction
 - iii. Police Leadership Development
 - iv. Police Recruit Block I Wk1
 - v. Police Recruit Block I Wk 2
 - vi. Police Recruit Block I Wk 3
 - vii. Police Recruit Block I Wk 4
 - viii. Police Recruit Block I Wk 5
 - ix. Police Recruit Block I Wk 6
 - x. Police Recruit Block I Wk 7
 - xi. Police Recruit Block I Wk 8
 - xii. Police Recruit Block I Wk 9
 - xiii. Police Recruit Block I Wk 10
 - xiv. Police Recruit Block I Wk 11
 - xv. Police Recruit Block I Wk 12
 - xvi. Police Recruit Block II
 - xvii. Police Recruit Block III
 - xviii. Police Recruit Block III Wk 1
 - xix. Police Recruit Block III Wk 2
 - xx. Police Recruit Block III Wk 3
 - xxi. Police Recruit Block III Wk 4
 - xxii. Police Recruit Block III Wk 5
 - xxiii. Police Recruit Block III Wk 6
 - xxiv. Police Recruit Block III Wk 7
 - xxv. Police Recruit Block III Wk 8



- xxvi. Police Recruit Training
 - xxvii. Police Recruit Training Block1
 - c. For section records with the following sheriff-related course names, assume four instructors per section:
 - i. Sheriff Driver Training
 - ii. Sheriff Physical Ability Test
 - d. The number of faculty present (“WATT_Instructor”) were summed up in half-hourly intervals from 7:00 a.m. to 10:30 p.m. by date for the entire year.
4. Staff person demand (measured in headcount) was estimated from the staffing program and general work schedule using the following procedure:
- a. The staffing program was based on the February 2020 program, consisting of 242 staff as described in the master program within the Long-Range Facilities Plan. An additional seven facilities staff not accounted for in the Long-Range Facilities Plan were added, including one security staff plus six cafeteria staff, for a total of 249 staff members.
 - b. The number of staff present on-site were adjusted using hourly time-of-day presence factors that were developed based on a combination of data from Urban Land Institute’s *Shared Parking* book (for an office land use), input from JIBC staff (January 21, 2021 email from JIBC), and professional judgement. The adjustment reflects that not all staff would be present at all hours of the day, and instead vary as a function of work schedules, breaks, etc. Monthly or seasonal adjustment factors were not applied (i.e., staff presence is assumed to be the same for every month).
 - c. Two sets of hourly factors were used for: (1) staff; and (2) operations staff, specifically those in security, maintenance (housekeeping), and cafeteria.

Time	Staff	Operations Staff
Before 7:00 a.m.	0%	0%
7:00 a.m.	5%	60%
8:00 a.m.	60%	80%
9:00 a.m.	80%	100%
10:00 a.m.	100%	100%
11:00 a.m.	100%	100%



12:00 p.m.	90%	90%
1:00 p.m.	100%	100%
2:00 p.m.	100%	100%
3:00 p.m.	80%	50%
4:00 p.m.	20%	10%
5:00 p.m.	10%	5%
6:00 p.m. to 10:30 p.m.	0%	5%
After 10:30 p.m.	0%	0%

- d. The number of staff present were summed up in half-hourly intervals from 7:00 a.m. to 10:30 p.m. by date for the entire year.
5. Visitor person demand (measured in headcount) was estimated from the room usage report using the following procedure:
- a. All section records that met the following criteria were extracted, with the spreadsheet field name indicated in parentheses:
 - i. Academic Year (“AY”) = 2018–19
 - ii. Location (“SEC LOCATION”) = JIBC New Westminster (“JINW”)
 - iii. Room (“Rooms”) = JIBC Theatre (“NWCL110”)
 - b. The start/end time fields (“Start Time”; “End Time”) were modified to be rounded to the nearest half-hour.
 - c. Only graduation events were included in the input. Graduation events had an assumed attendance of 200 additional people that were in addition to student, faculty, and staff demand. The emphasis is on additional attendees to avoid double counting JIBC students already attending class the day of the event and JIBC employees that would be captured in the other person demand estimation procedures.
 - d. Other larger events are held at the JIBC Theatre with attendance of up to 150 people. These are held approximately four to five times a year and are excluded from the analysis.
 - e. The visitor demand estimation procedure excludes other types of visitors, such as contractors and positions that require travel between campuses.



- f. The number of event visitors (“WATT_Attendance”) were summed up in half-hourly intervals from 7:00 a.m. to 10:30 p.m. by date for the entire year.
6. Student, faculty, staff, and visitor person demand were summed together in half-hourly intervals from 7:00 a.m. to 10:30 p.m. by date for the entire year.
 - a. Each half-hourly interval represents an instantaneous snapshot of the estimated number of people present on-campus as a function of the input used (e.g., class schedule, work schedule, etc.)
 - b. For students, no buffers were added to the demand profile to account for arrival and departure. For example, students were assumed to immediately leave campus following the end of their class before the next half-hour interval. Some students may remain longer on-campus after their class ends. Conversely, some students may arrive to campus earlier than half an hour before the start of the class.
 - c. For visitors, demand was assumed to be fixed for the duration of the time of the room booking in the room usage report. As the records are for room bookings, this is not a direct proxy to the actual event start/end times. For example, a room might be booked from 9:00 a.m. to 12:00 p.m., but the event does not actually start until 10:00 a.m. as set-up of the room and other logistics are required.
 - d. For visitors, as only graduation events were included in the visitor demand estimation procedure, their demand profile is only used to illustrate the effect of an additional influx of people on-campus during event days.

Future Person Demand

7. Future person demand for the 2044 horizon year were forecasted using a simple straight-line method.
8. Student person demand (measured in headcount) was estimated using the following procedure:
 - a. The 2018–19 headcount at the New Westminster campus was 7,282 students. This number excludes students enrolled in online or off-site courses, which JIBC classifies by default as located at the New Westminster campus. For further clarity, 7,282 students are the number of students attending classes that are physically held at the New Westminster campus.
 - b. The 2044 headcount at the New Westminster campus was estimated to be 12,732 students. The headcount was derived from the projected Full-time Equivalent (FTE) students using an FTE-to-headcount factor of 10 to the estimated FTE of approximately 1,273 FTE in the future.



- c. FTE is defined as the number of contact hours that it takes to make up the equivalent of a full-time student. The FTE projection used a series of parameters provided by Thinkspace Architecture that were developed as part of the master program within the Long-Range Facilities Plan:
 - i. The 2044 institution-wide FTE of 3,686 for all JIBC campuses was calculated by using the projected instructional Contact Hour Equivalent (CHE) of 1,670,351 divided by a “CHE divisor” of 453. CHE is defined as the number of course enrolments multiplied by the length of time in each course. The “CHE divisor” is the institution-wide CHE divided by reported FTE for the 2018–19 academic year.
 - ii. The 2044 FTE specific to the New Westminster campus of 1,273 was calculated by using the institution-wide 3,686 FTE divided by a factor of 35%, representing the share of CHE located at the New Westminster campus. This procedure assumes that CHE with the Chilliwack campus are transferred to the New Westminster by 2044.
 - d. A set of factors were calculated by using a ratio of the 2018–19 student demand for each half-hour interval to the total 2018–19 student headcount. The factors were then applied to the total 2044 student headcount to estimate student demand in 2044 for each half-hour interval.
9. Faculty person demand (measured in headcount) was estimated using the same procedure as student demand, with the following additions:
- a. A set of factors were calculated by using a ratio of the 2018–19 student demand for each half-hour interval to the 2018–19 faculty demand for each interval. The factors were then applied to the estimated 2044 student demand to estimate faculty demand in 2044 for each half-hour interval.
10. Staff person demand (measured in headcount) was estimated using the following procedure:
- a. The 2018–19 headcount at the New Westminster campus was 249 staff members. 242 staff are listed in the master program within the Long-Range Facilities Plan. Seven (7) additional staff are not accounted for in the Long-Range Facilities Plan, including one (1) security staff plus six (6) cafeteria staff.
 - b. The 2044 headcount at the New Westminster campus was estimated to be 261 staff members. This is calculated by assuming the planned increase of 12.5 FTE for JIBC institution-wide by 2044 is equivalent to an additional headcount of 12, all allocated to the New Westminster campus.
 - c. A set of factors were calculated by using a ratio of the 2018–19 staff demand for each half-hour interval to the total 2044 staff headcount. The factors were then applied to the total 2044 staff headcount to estimate staff demand in 2044 for each half-hour interval.



11. Visitor person demand (measured in headcount) was assumed to be the same as 2018–19. The profile is only intended to illustrate the effect of an additional influx.
12. Student, faculty, staff, and visitor person demand were summed together in half-hourly intervals from 7:00 a.m. to 10:30 p.m. by date for the entire year.

Existing Travel and Parking Demand

13. Existing travel demand for the 2018–19 academic year is estimated using a combination of the following data sources:
 - a. Anecdotal comments by JIBC staff.
 - b. TransLink’s Regional Trip Diary Survey data as of 2017 for traffic analysis zone (TAZ) #29120, delineated by the following roads: Eighth Avenue (north), Cumberland Street (east), Sixth Avenue (south), and McBride Boulevard (west). The traffic zone also includes trips to and from other neighbouring destinations such as the Canada Games Pool.
14. For a typical, fall weekday in 2017 for travel to and from TAZ #29120:
 - a. Approximately 2,300 trips were made, with the bulk of trips from residents of New Westminister and Burnaby.
 - b. Approximately 64% of trips were by automobile as a driver, 15% of trips by as an automobile passenger, and the remaining 22% were by other modes, including walk, bicycle, and public transit. The breakdown of other modes is not provided here as the data was not reliable.
15. Travel data specific to the JIBC New Westminister campus was unavailable. Anecdotal comments by JIBC staff suggested a high automobile mode share. This description was generally consistent with the TransLink data. A high automobile mode share was emphasized for students (at least 80%) due to socio-demographic characteristics of the population attending JIBC:
 - a. 70% of students are 30 years or older, which is associated with higher rates of vehicle ownership and driving.
 - b. 70% of students are male. People identifying as men are more likely to drive than people who identify as women or other genders according to the TransLink 2011 Regional Trip Diary.¹⁵

¹⁵ TransLink. (2013). *2011 Metro Vancouver Regional Trip Diary Survey*. Retrieved online from: <https://www.translink.ca/-/media/translink/documents/about-translink/customer-service/trip-diary/2011-metro-vancouver-regional-trip-diary--analysis-report.pdf>



- c. Many students are post-hire enrolments taking courses required by their employers. These students may carpool with coworkers, may have access to a company vehicle, and/or have the option of being reimbursed for business travel mileage, increasing the likelihood they drive.
 - d. Some programs at JIBC have high physical requirements and require the use of protective equipment, such as police and firefighting students. JIBC staff reported these people tend to drive due to the nature of their profession.
16. JIBC staff reported that several students and staff use the neighbouring on-street parking supply (e.g., Cumberland Street) as the campus' parking facility is typically full by 9:00 a.m. during the weekday.
- a. This suggest that at minimum, peak parking occupancy should exceed the on-site supply of 437 spaces (less 16 reserved for training vehicles).
 - b. The degree of this spillover is unknown. Imagery from Google Earth taken on June 12, 2019 indicates several vehicles parked on the west side of Cumberland Street from Eighth Avenue to Sixth Avenue, and vehicles parked on the south side of Seventh Avenue. Some of these vehicles be attributed to JIBC, the Canada Games Pool, and residents. The number of on-street spaces on Cumberland Street between Eighth Avenue to Sixth Avenue for both sides is approximately 50 spaces, with additional supply within a 400-metre radius (e.g., Seventh Avenue, Cumberland Streetnorth of Eighth).
17. Mode share and average vehicle occupancy to and from the New Westminster campus was estimated by applying professional judgement with consideration to JIBC staff comments and the TransLink Trip Diary Survey data.
- a. For students and employees, an average vehicle occupancy of 1.5 was used (1 for single-occupancy trips and 2.0 for high-occupancy trips).
 - b. For visitors, an average vehicle occupancy of 1.8 was used (1 for single-occupancy trips and 2.5 for high-occupancy trips).
 - c. The average mode share across students, faculty, and staff were aligned with the mode share reported for TAZ #29120 by TransLink. Visitor mode share was not calibrated to the TransLink data due to the illustrative nature of the visitor demand estimation procedure but included for transparency.
 - d. No assumptions were made regarding the number of passenger drop-off/pick-up trips that would not require the use of a parking space. This would potentially overestimate parking demand.
 - e. No assumptions were made regarding average parking duration due to limitations from the “instantaneous snapshot” approach of the person demand estimation.



Mode	Student	Faculty/Staff	Visitor	Total (except Visitor)
Auto	85%	75%	80%	78%
Auto SOV	57%	67%	40%	64%
Auto HOV	28%	8%	40%	15%
Walk/Bike/Transit/Other	15%	25%	20%	22%
Total	100%	100%	100%	100%

Note: Auto SOV = single-occupancy vehicle (one driver); Auto HOV = high-occupancy vehicle (one driver and one or more passengers).

Future Travel and Parking Demand

18. Future travel demand for the 2044 horizon year was estimated using a low and high mode share reduction target based on the level of parking management and transportation demand management implementation.
 - a. Automobile mode share reductions were mainly attributed to students and employees, with minor changes to visitors.
 - b. Average vehicle occupancy remained the same as 2018–19.

Mode	Student	Faculty/Staff	Visitor	Total (except Visitor)
Scenario A: Conservative TDM (-15% Auto Mode Share)				
Auto	60%	65%	70%	70%
Auto SOV	32%	57%	30%	30%
Auto HOV	28%	8%	40%	40%
Walk/Bike/Transit/Other	40%	35%	30%	30%
Total	100%	100%	100%	100%
Scenario B: Aggressive TDM (-30% Auto Mode Share)				
Auto	50%	55%	70%	70%
Auto SOV	17%	42%	30%	30%



Auto HOV	33%	13%	40%	40%
Walk/Bike/Transit/Other	50%	45%	30%	30%
Total	100%	100%	100%	100%

Note: Auto SOV = single-occupancy vehicle (one driver); Auto HOV = high-occupancy vehicle (one driver and one or more passengers).



APPENDIX B: TDM STRATEGY REVIEW



TDM Measure	Description	Discussion	Impact	Suitable for JIBC?
Transit				
Student Discounted Transit Passes	Provides transit subsidy to students	<p>One of the most common TDM measures at post-secondary institutions are transit programs for students that are included in the tuition offered at a significant discount compared to a regular adult transit pass. Commonly known as “U-Pass”, it provides unlimited access to all available public transit options. This is not recommended for JIBC as a U-Pass is provided from TransLink on an annual basis and typical student enrolment is only about three months at JIBC.</p> <p>Discounted transit passes for employees are not as common at post-secondary institutions, however, some schools are starting to show interest in this TDM measure. TransLink offers ‘Compass for Organizations’ whereby a monthly pass or a West Coast Express monthly pass can be loaded to employees’ compass cards and the organization contributes a minimum of 10% of the fare.</p>	Reduces transit cost for students and makes transit an affordable travel option for students	No
Employee Discounted Transit Passes	Provides transit subsidy to employees	Discounted transit passes for employees are not as common at post-secondary institutions, however, some schools are starting to show interest in this TDM measure. TransLink offers ‘Compass for Organizations’ whereby a monthly pass or a West Coast Express monthly pass can be loaded to employees’ compass cards and the organization contributes a minimum of 10% of the fare.	Reduces transit cost for employees	Yes
Improved Transit Service	Provides reliable and frequent transit service for everyone commuting to campus	Post-secondary institutions have been collaborating with transit agencies to advocate for better transit. Good connections to transit hubs will reduce wait times for commuters and make travel seamless.	Reduces travel time commuting via transit	Yes
Infrastructure Improvements	Provides improved transit amenities and improves the customer experience around waiting for transit	Infrastructure improvements at transit stops that complement other TDM measures are a significant support asset and can increase the efficacy of said initiatives. As an example, JIBC could collaborate with TransLink to provide real time transit information at the bus stop on Eighth Avenue, which would make transit users’ trip more convenient and predictable.	Increases awareness of transit arrival and departure times; this increase in predictability and reliability encourages people to use transit more	Yes
Cycling				



TDM Measure	Description	Discussion	Impact	Suitable for JIBC?
Bicycle Parking	Includes both long- (secure) and short-term (covered) bike parking	Much like vehicle parking supply affects the decision to drive to a destination, the supply of bicycle parking affects peoples' decision to cycle to/from a destination. Bike theft continues to be a significant issue that deters people from cycling to a destination. Access to a secured bicycle parking increases the probability of a person biking to a destination.	Incentivizes bike usage as a commuting option	Yes
Electric Bicycle Parking	Includes secure bike parking and charging locations for electric bicycles	Electric bicycles (e-bike) have the potential to substitute or completely replace, almost all trips taken by cars. Research has reported that one of the main barriers e-bike users face is the lack of secure parking. Access to an 110V electrical outlet is also important to incentivize e-bike usage.	Incentivizes people to cycle as their commuting mode	Yes
End-of-Trip Cycling Facilities	Provides facilities for commuters to change, shower, store their cycling gear and maintain their bicycles	Bicycle end-of-trip facilities further encourages the use of cycling. These facilities typically contain change rooms and showers, bicycle repair tools, and personal lockers. The provision of these facilities has the potential to reduce parking demand. Providing showers and clothing lockers at workplaces has been found to be effective at encouraging bicycle use, particularly among commuters who require professional clothing attire.	Incentivizes people to use cycling as their commuting option	Yes
Infrastructure Improvements	Provides improved cycling infrastructure	JIBC could coordinate and advocate for improved connections of the cycling infrastructure adjacent to the campus which in turn has the potential to attract more people to bike to campus.	Improves cycling safety and accessibility	Yes
Walking				
Infrastructure Improvements	Provides improved walking infrastructure	Infrastructure improvements within the campus ensure that the last stretch of one's trip is safe, comfortable, and convenient. Creating a campus that puts walking on the forefront and makes it as convenient as possible, will increase the share of people getting on campus on foot or using public transit. This strategy helps reduce automobile travel on campus and shifts the campus' mode split. Infrastructure improvements can be costly and investments must be weighed and allocated accordingly. There should also be coordination with other infrastructure upgrades to reduce the cost.	Improves walking safety and accessibility	Yes



TDM Measure	Description	Discussion	Impact	Suitable for JIBC?
Parking Management				
Parking Pricing	Implements paid parking	Given the urban location of the JIBC campus and its access to several transportation options, consideration could be given to priced parking for all parking spaces. Priced parking is the most effective demand management tool to reduce parking demand. The overall impact of priced parking on demand may differ based on a range of factors including the specific land use type and availability of other transportation options, for example. However, what is clear is that parking demand tends to decrease as the price increases.	Reduces parking demand and increases revenue that could be allocated to TDM strategies	Yes
Shared Parking	Enables parking to be shared among adjacent properties	Due to JIBC's proximity to the New Westminster Aquatics and Community Centre (NWACC), the parking lots of each site could be shared between users. This would require a partnership with the NWACC.	Increases overall available parking supply through shared use of parking among JIBC and nearby properties	Yes
Promotion & Information				
Website	Provides information to students and staff on sustainable transportation options	Providing an accessible medium for students and staff to promote and create awareness about TDM strategies and how they relate to JIBC is a critical step for a successful TDM plan. Typically, this is done through an online dedicated web page, but is also coupled with social media activity and pamphlets/brochures.	Educates and informs students and staff about available travel options	Yes
Marketing Collateral	Provides information to students and staff on sustainable transportation options	To achieve behaviour change and create awareness, engaging materials need to be produced in various formats (e.g., posters, flyers, banners, brochures).	Educates and informs students and staff on available travel options	Yes
TDM or Transportation Coordinator Position	Designates a full- or part-time TDM coordinator	Most commonly, post-secondary institutions have at minimum a dedicated staff person in a sustainability or transportation coordinator role, who is (a) responsible for daily tasks involving the TDM strategies a campus has set in place, (b) helps ensure that programs are following schedule and meet certain criteria, (c) allocate resources for promotions, (d) campaigns and create materials, (e) represents the institution when it comes	Ability to help implement the TDM Plan faster and with better results. Develops and monitors TDM strategies and represents JIBC to ensure	Yes



TDM Measure	Description	Discussion	Impact	Suitable for JIBC?
		to transportation, and (f) engages with stakeholders to solicit support for the success of various TDM strategies.	the success of various TDM programs	
Bike to Work Week / Bike to School Week	Participates in the bi-annual celebration of cycling to campus	Annual events are a staple of many post-secondary institutions and are a visible reminder to students, staff, and faculty of their transportation options. Events usually provide a free breakfast, raffle prizes and awards.	Educates students and staff about cycling and celebrates cycling	Yes
Car Free Days	Designates a number of day(s) per year where commuting to campus is being done without a car	Car Free Day is a worldwide event in September that encourages sustainable modes of transportation. By reducing and eliminating car use, faculty, staff, and students can come together as a community to improve their physical fitness, reduce their carbon footprint, and save money.	Introduces commuters to experience sustainable modes of transportation	No
Ride-sharing				
Vanpool	Provides passenger vans for staff to commute to work	A vanpool is a smaller shuttle which generally offers one- or two-way transit from pre-determined locations and certain times. It is generally paid for by the organization. Some vanpools offer personal stops while others are limited by end-user, such as persons with mobility constraints. A campus vanpool may also serve the same purpose as a workplace vanpool, offering employees (faculty & staff) a group ride home in semi-private conditions for a reduced cost. Employee vanpools are partially funded by the riders and the organization.	Provides an alternative to single-occupant vehicles	No
Carpool	Provides prime parking spots for carpool parking	Carpool is typically the process of matching rides through a software, whereby a driver offers to provide a ride to the same destination for several people to share the costs of the trip. A successful example of such as software has been Poparide, which started by connecting drivers and passengers wishing to travel to Whistler from Vancouver and has now expanded across the country. Although there is no expense to JIBC to promote such an option, the greatest opportunity for such initiative is when it is paired with carpool parking. Carpool parking, much like HOV lanes, offers preferential parking for those carpooling and it has been	Incentivizes carpooling and reduces parking demand	Yes



TDM Measure	Description	Discussion	Impact	Suitable for JIBC?
		used in many TDM-focused campuses. It typically comes with perks such as prime parking spots, reduced parking pricing, and is sometimes paired with EV charging stations.		
Other				
Shuttle Service	Provides a transportation option for students and staff to other campuses	After subsidized transit, a free shuttle between campuses is a widely used and often successful TDM program. Most institutions with two or more campuses implement a shuttle service. Shuttle programs offer stops at transit hubs and some have detour stops available upon request. Typically, shuttle services are funded through the revenue of parking pricing.	Incentivizes multi-modal trips using sustainable modes of transportation	No
Carsharing	Provides dedicated parking spaces for carshare vehicles	Carshare is a form of car rental where people can book vehicles for varying lengths of time. They are usually co-operative and users must sign up as a member to be able to use the vehicles and pay the costs associated with it. Carsharing is a good option for those who sometimes need access to a vehicle but may not want to or be able to pay the costs associated with owning a vehicle. Most campuses in the region provide dedicated parking spaces for carshare vehicles.	Incentivizes the use of carsharing	Yes
Bikesharing / Scootersharing	Allows private companies to operate shared micromobility	Shared micromobility has been in the forefront in the last few years and has been embraced by many municipalities and campuses. It offers a mobility option that is particularly useful for the first/last kilometre and for trips that are within 5-10 kilometres. JIBC's campus is not big enough and does not have a large enough population to justify a shared micromobility system.	Incentivizes multi-modal travel	No
Teleworking	Incentivizes people to work and/or study from home	Teleworking has become more common with the Covid-19 pandemic as it offers staff an opportunity to work from home. Some campuses offer their administrative staff the option to work from home on designated days of the week or at their own discretion, thus helping reduce commuter congestion and parking demand. In addition, there has also been more widespread use of distance learning and virtual work rooms for students to collaborate virtually without meeting on campus.	Reduces demand for parking	Yes



TDM Measure	Description	Discussion	Impact	Suitable for JIBC?
Guaranteed Ride Home	Offers a subsidized trip to home in case of an emergency for those using sustainable transportation modes	Many campuses offer what is also known as Emergency Ride Home, which is intended for commuters who use vanpool, carpool, bike, walk, or transit to access the campus and have the option to return home reliably in case of an emergency (e.g., family emergency, unexpected overtime work) using a taxi, carshare or ride-hail company that is subsidized by the organization.	Provides a guaranteed trip for those using sustainable transportation modes while in need	No
Student Housing	Provides housing on-campus	Students living on-campus contribute to a post-secondary institution's walking mode share as most can walk to/from classes. As JIBC considers campus housing in the long term, it is important to emphasize how it can contribute to the institution's walking mode share and decrease the share of trips made to campus by vehicle. Certain TDM strategies become increasingly important if/when students live on-campus, such as reliable transit service to nearby commercial areas, carshare service, and pedestrian infrastructure improvements.	On-campus housing tends to have lower demand for vehicle parking	Yes
Monitoring and Evaluation				
Annual TDM Progress Report	Overview of how the campus performs against its TDM goals	Post-secondary institutions aim to publish an annual summary of TDM strategies and performance against its TDM goals. The overview would include a visual scorecard on how JIBC is performing on its TDM metrics, which will serve as valuable data for students and staff alike and help reinforce non-SOV travel as the travel norm at JIBC.	Builds awareness around TDM	Yes
Screenline Count and Parking Occupancy Survey	Undertake screenline counts every two years to monitor travel patterns	A travel mode share survey (e.g., screenline counts) typically takes place every two years with a minimum of two counts per day to capture the morning and afternoon peak periods.	Identifies which TDM measures are being more effective over time	Yes
Five-year Comprehensive Review	Regular updates on the TDM Strategy to address recent trends	A TDM plan should be a living document that is updated to reflect changing context and lessons learned. A five-year update horizon will provide an adequate monitoring and evaluation window to understand if goals are being met as well as help update goals and strategic actions as needed	Ensures the TDM plan is up-to-date and meets JIBC's needs	Yes

.8 Long-Range Facilities Plan Survey 2021

Long-Range Facilities Plan Survey 2021

Q3 - What is your relationship to JIBC? Choose the answer with the best fit.

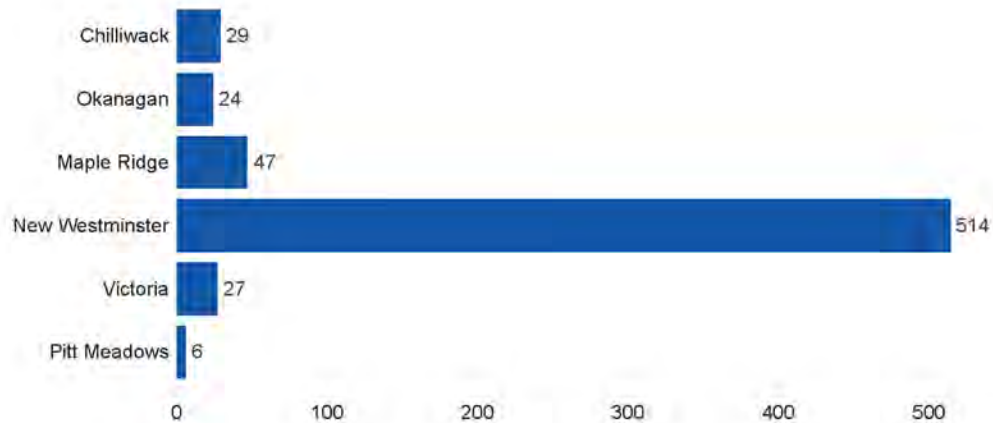


● Student
 ● Staff
 ● Faculty
 ● Other advisor, client, partner, board member, etc.

Field	Min	Max	Mean	Standard Deviation	Variance	Responses
What is your relationship to JIBC? Choose the answer with the best fit.	5	8	6	1	1	650

Field	Choice Count
Student	420
Staff	160
Faculty	42
Other advisor, client, partner, board member, etc.	28
Total	650

Q4 - At which campus location do you spend most of your time? If currently studying or working from home, base your answer prior to the COVID-19 Pandemic.



Field	Min	Max	Mean	Standard Deviation	Variance	Responses
At which campus location do you spend most of your time? If currently studying or working from home, base your answer prior to the COVID-19 Pandemic..	1	6	4	1	1	647

Field	Choice Count
Chilliwack	29
Okanagan	24
Maple Ridge	47
New Westminster	514
Victoria	27



3

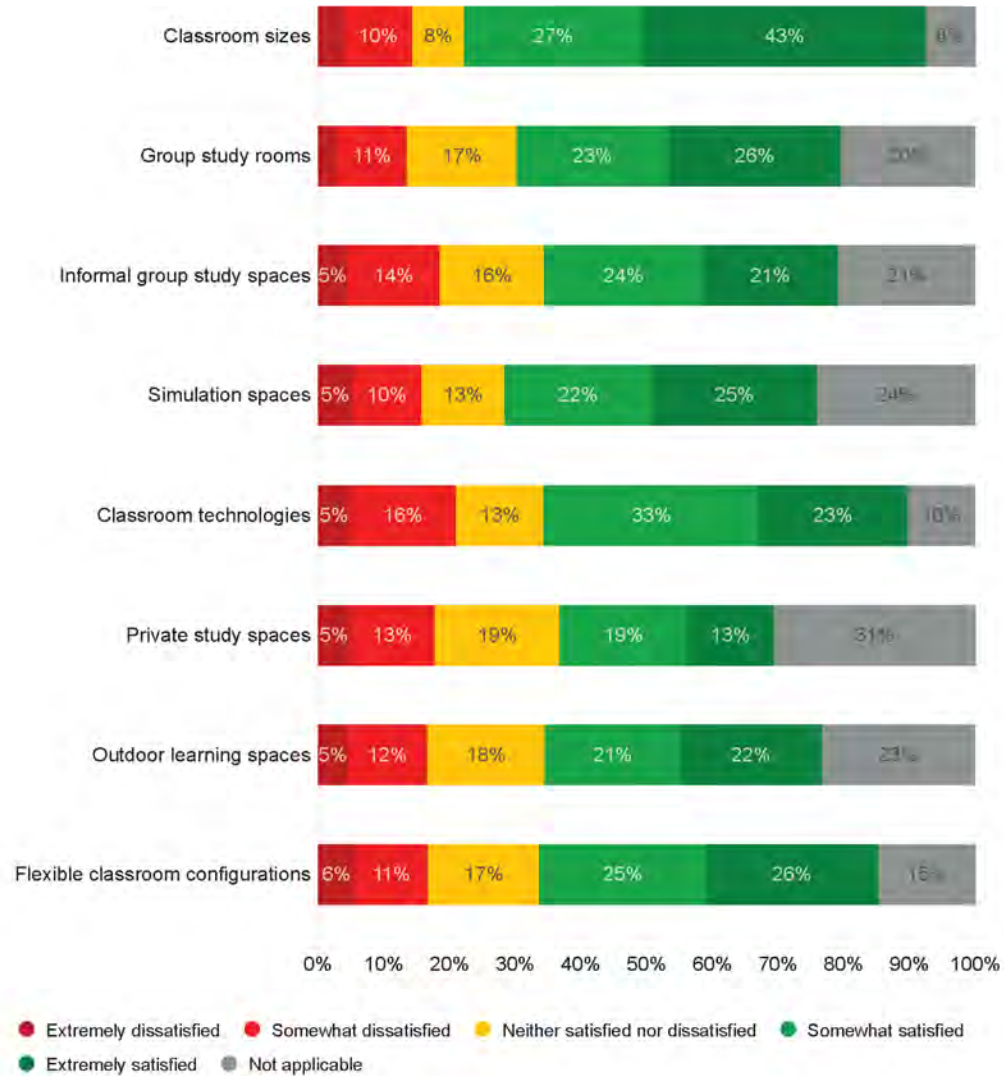
Pitt Meadows

6

Total

647

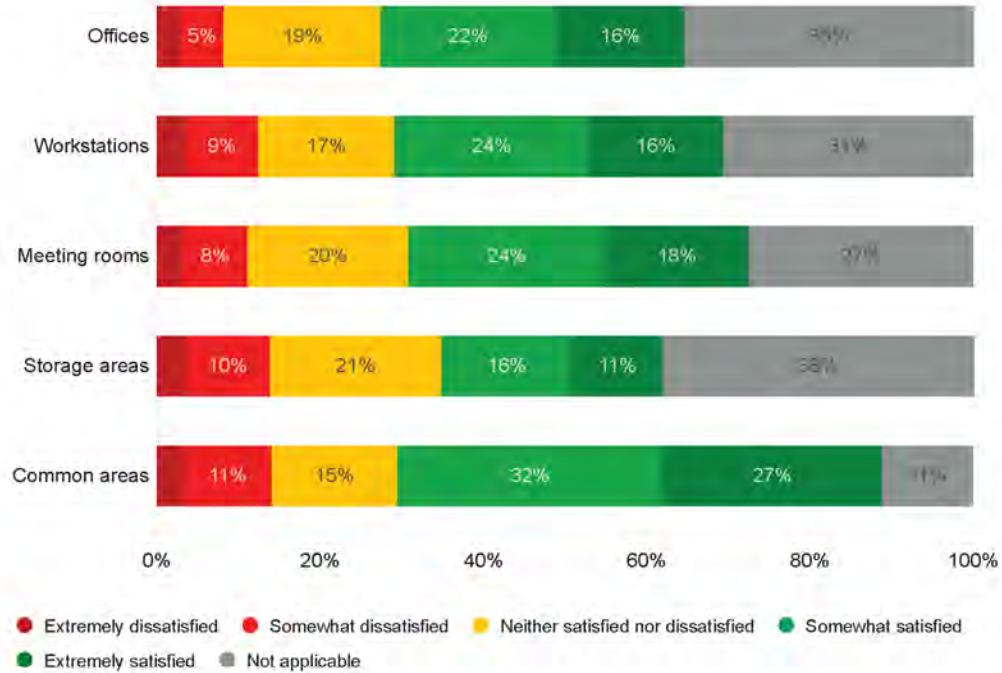
Q6 - How satisfied are you with JIBC's physical learning spaces?



Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Classroom sizes	1	6	4	1	2	558
Group study rooms	1	6	4	1	2	555
Informal group study spaces	1	6	4	1	2	552
Simulation spaces	1	6	4	1	2	553
Classroom technologies	1	6	4	1	2	553
Private study spaces	1	6	4	2	2	552
Outdoor learning spaces	1	6	4	1	2	553
Flexible classroom configurations	1	6	4	1	2	555

Field	Extremely dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Extremely satisfied	Not applicable	Total
Classroom sizes	22	58	44	152	240	42	558
Group study rooms	16	59	93	128	146	113	555
Informal group study spaces	25	77	88	133	114	115	552
Simulation spaces	29	58	70	124	139	133	553
Classroom technologies	27	89	74	181	125	57	553
Private study spaces	27	71	105	107	73	169	552
Outdoor learning spaces	25	67	99	114	119	129	553
Flexible classroom configurations	31	62	94	141	145	82	555

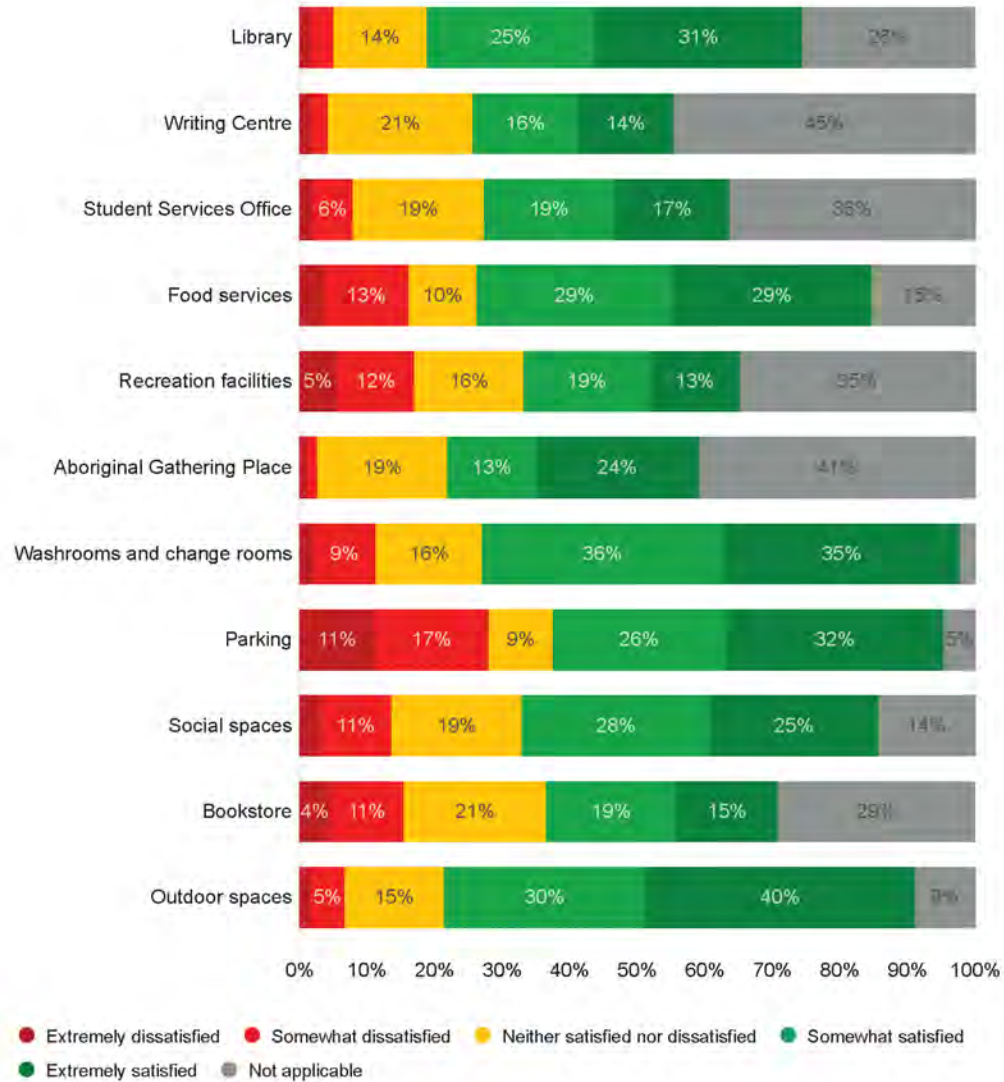
Q9 - How satisfied are you with JIBC's administrative spaces?



Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Offices	1	6	4	1	2	515
Workstations	1	6	4	1	2	516
Meeting rooms	1	6	4	1	2	513
Storage areas	1	6	4	2	2	513
Common areas	1	6	4	1	2	512

Field	Extremely dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Extremely satisfied	Not applicable	Total
Offices	15	27	99	111	81	182	515
Workstations	18	46	86	123	85	158	516
Meeting rooms	16	41	101	124	90	141	513
Storage areas	18	53	108	82	57	195	513
Common areas	17	55	79	166	138	57	512

Q12 - How satisfied are you with JIBC's physical spaces for campus services and amenities?

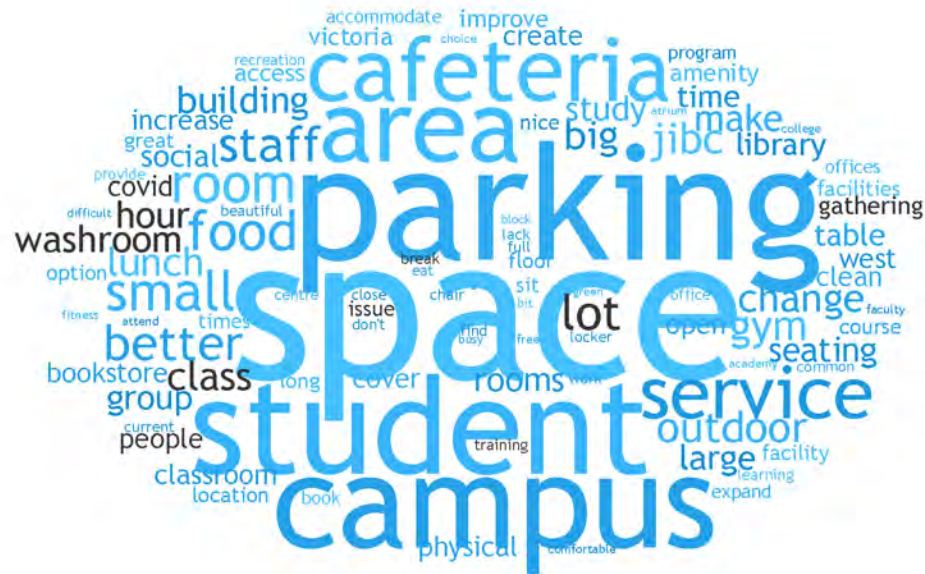


Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Library	1	6	5	1	1	495
Writing Centre	1	6	5	1	2	495
Student Services Office	1	6	5	1	2	495
Food services	1	6	4	1	2	496
Recreation facilities	1	6	4	2	3	494
Aboriginal Gathering Place	1	6	5	1	2	494
Washrooms and change rooms	1	6	4	1	1	496
Parking	1	6	4	1	2	496
Social spaces	1	6	4	1	2	492
Bookstore	1	6	4	2	2	493
Outdoor spaces	1	6	4	1	1	496

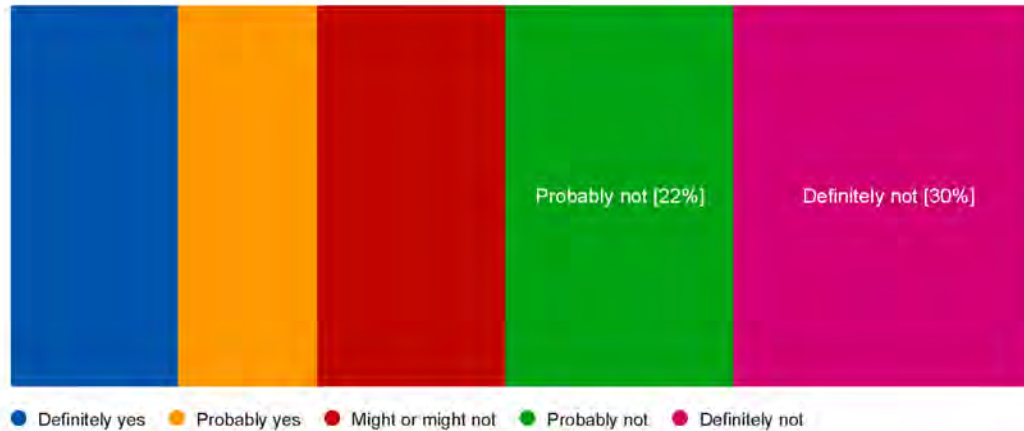
Field	Extremely dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Extremely satisfied	Not applicable	Total
Library	8	17	68	124	151	127	495
Writing Centre	9	12	106	77	70	221	495
Student Services Office	10	29	96	96	84	180	495
Food services	18	62	50	144	146	76	496
Recreation facilities	27	57	80	92	66	172	494
Aboriginal Gathering Place	5	8	95	65	119	202	494
Washrooms and change rooms	10	46	78	177	174	11	496
Parking	55	84	47	127	160	23	496

Social spaces	15	52	95	137	122	71	492
Bookstore	22	54	104	95	74	144	493
Outdoor spaces	8	25	73	148	198	44	496

Q13 - How should we improve JIBC's physical spaces for campus services and amenities?



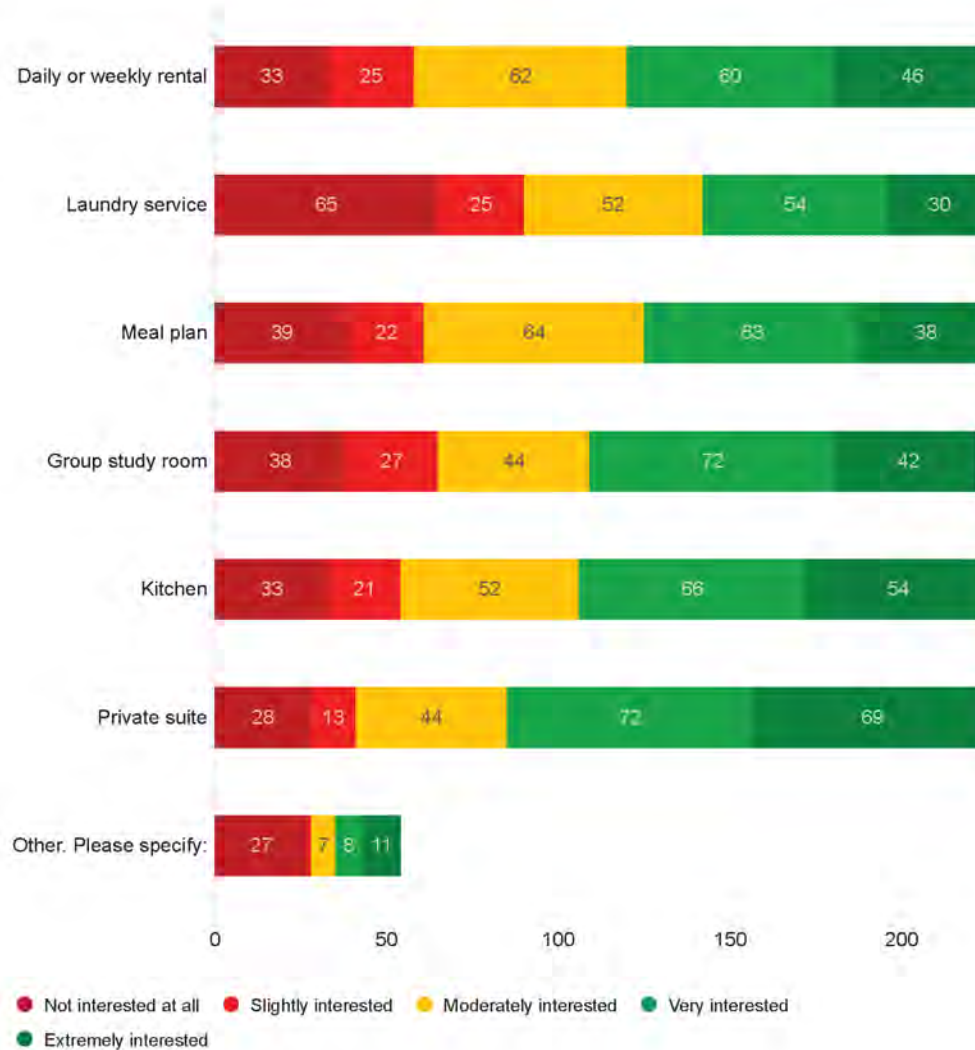
Q15 - Would you use on-campus living accommodations if they were available?



Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Would you use on-campus living accommodations if they were available?	1	5	3	1	2	484

Field	Choice Count
Definitely yes	78
Probably yes	66
Might or might not	88
Probably not	107
Definitely not	145
Total	484

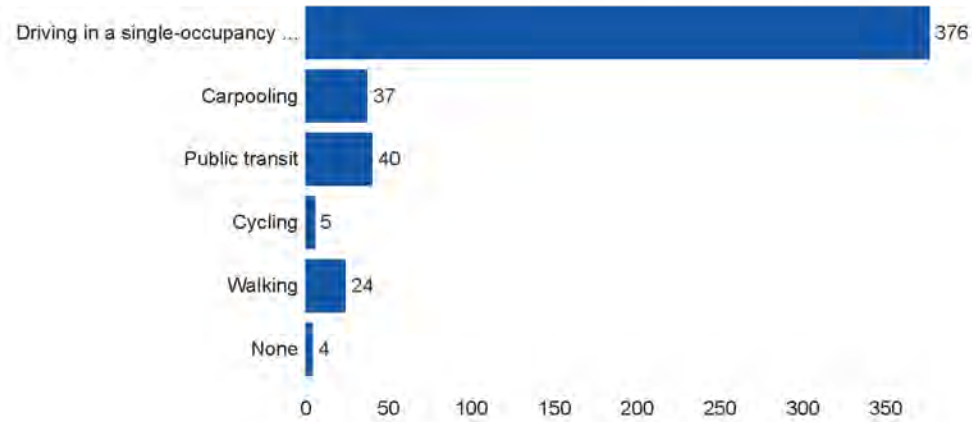
Q16 - Please rate your interest in the following amenities as part of your on-campus accommodation:



Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Daily or weekly rental	1	5	3	1	2	226
Laundry service	1	5	3	1	2	226
Meal plan	1	5	3	1	2	226
Group study room	1	5	3	1	2	223
Kitchen	1	5	3	1	2	226
Private suite	1	5	4	1	2	226
Other. Please specify:	1	5	3	2	3	54

Field	Not interested at all	Slightly interested	Moderately interested	Very interested	Extremely interested	Total
Daily or weekly rental	33	25	62	60	46	226
Laundry service	65	25	52	54	30	226
Meal plan	39	22	64	63	38	226
Group study room	38	27	44	72	42	223
Kitchen	33	21	52	66	54	226
Private suite	28	13	44	72	69	226
Other. Please specify:	27	1	7	8	11	54

Q18 - What is your most frequent mode of transportation to campus?



Field	Min	Max	Mean	Standard Deviation	Variance	Responses
What is your most frequent mode of transportation to campus?	1	6	2	1	1	486

Field	Choice Count
Driving in a single-occupancy vehicle	376
Carpooling	37
Public transit	40
Cycling	5
Walking	24
None	4
Total	486

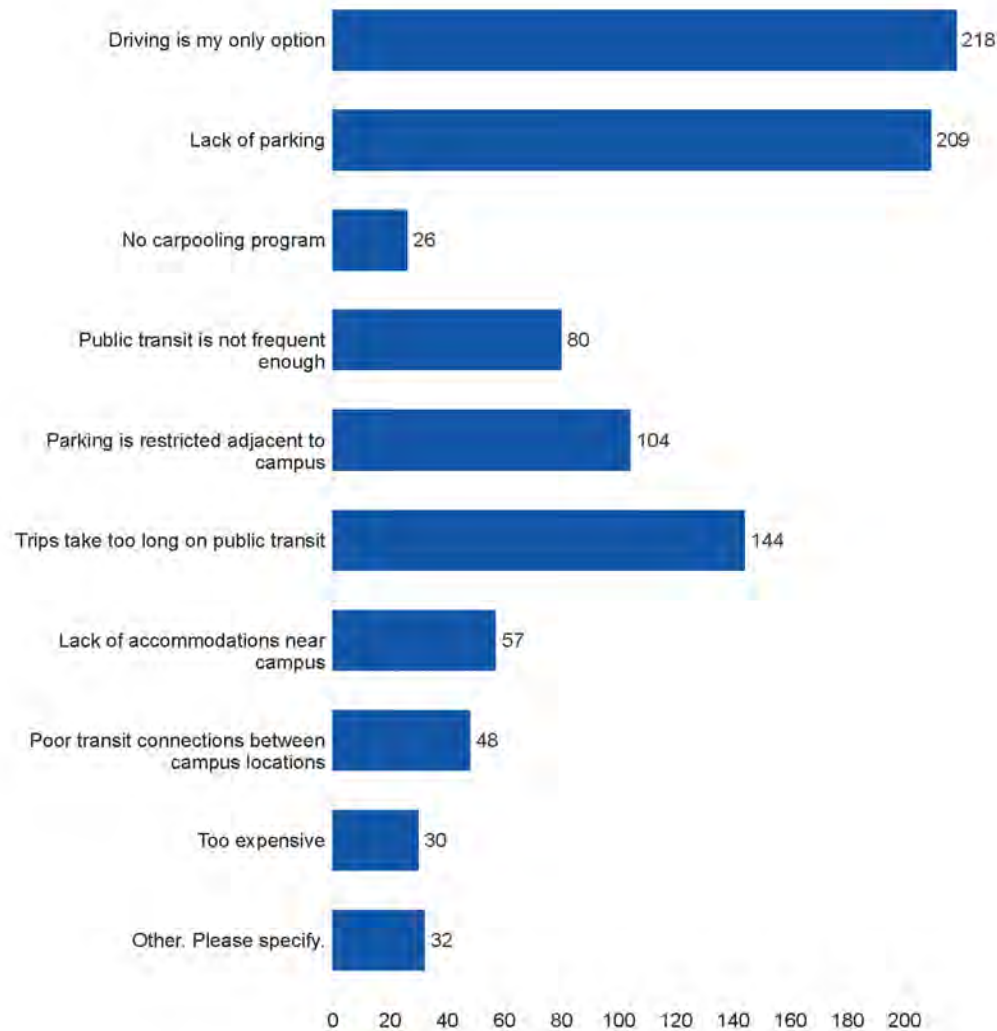
Q19 - Have you ever visited JIBC's New Westminster Campus?



Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Have you ever visited JIBC's New Westminster Campus?	1	2	1	0	0	483

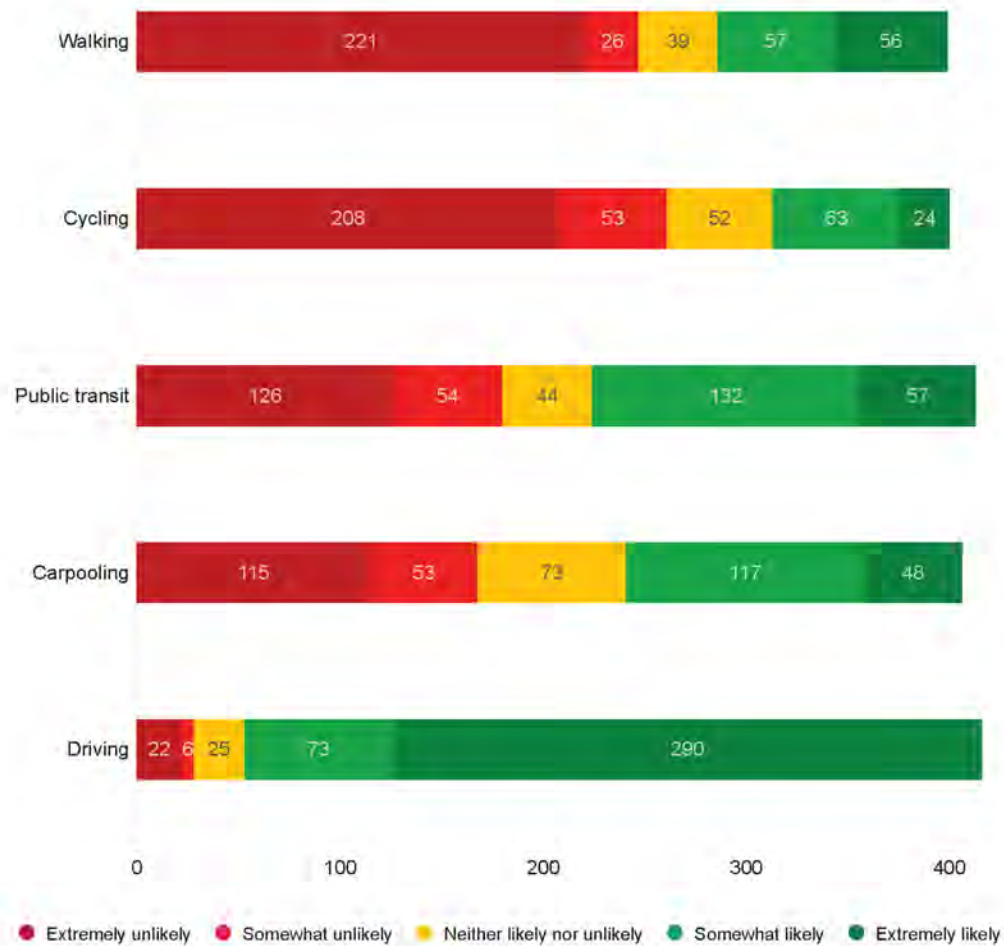
Field	Choice Count
Yes	444
No	39
Total	483

Q20 - Thinking of the New Westminster Campus, what are your top three transportation issues? Choose up to three of the following:



Field	Choice Count
Driving is my only option	218
Lack of parking	209
No carpooling program	26
Public transit is not frequent enough	80
Parking is restricted adjacent to campus	104
Trips take too long on public transit	144
Lack of accommodations near campus	57
Poor transit connections between campus locations	48
Too expensive	30
Other. Please specify.	32
Total	948

Q21 - If JIBC were to focus on facilitating other modes of transportation to and from the New Westminster Campus, how likely would you be to use the following:



Field	Min	Max	Mean	Standard Deviation	Variance	Responses
Walking	1	5	2	2	2	399
Cycling	1	5	2	1	2	400
Public transit	1	5	3	1	2	413
Carpooling	1	5	3	1	2	406
Driving	1	5	4	1	1	416

Field	Extremely unlikely	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	Extremely likely	Total
Walking	221	26	39	57	56	399
Cycling	208	53	52	63	24	400
Public transit	126	54	44	132	57	413
Carpooling	115	53	73	117	48	406
Driving	22	6	25	73	290	416

.9 Student Housing Demand Survey Report



Student Housing Demand Survey Report
February 2021

Prepared by the Facilities Division

Executive Summary

The Ministry of Advanced Education, Skills & Training completed the first province-wide survey of students at 24 public post-secondary institutions (PSIs) to better understand housing demand in British Columbia. The Ministry provided the survey response data to PSIs, and this report is an analysis of responses from participating students at the Justice Institute of British Columbia (JIBC).

Over 460 JIBC respondents answered the survey questions, with 300 responses considered valid as they are non-homeowners. A total of 161 respondents indicated they were homeowners and were not included in current living situational questions, demographics, age, and were not asked about future housing concepts and options (conjoint questions). Valid respondents were considered non-homeowners that live at home, rent alone, or rent with others. An equal representation of females and males responded to the survey, and all respondents currently live off-campus. The survey included 23 Indigenous respondents and 11 International students.

The report's majority and key analyses are founded on the current housing situation's satisfaction level, transportation method and commute time, and total monthly rent. Over 71% of respondents indicated their current living situation as "excellent" or "good," and a low 3% deemed their situation "poor" and are looking for alternative housing. Although respondents indicated satisfaction with their current living situation, about 15 respondents indicated feeling racism while looking for and living in their housing situation.

A thorough analysis using postal codes provided by respondents was used to identify where respondents live to determine and group key factors for decision making about student housing needs. Postal codes were grouped into the following geographical areas: Metropolitan, Lower Mainland, Squamish, Fraser Valley, Tri-city, Thompson-Okanagan and Vancouver Island to allow for a more in-depth analysis. The analysis indicated the likelihood of respondents moving on-campus using commute time as a predictable variable

through a grouping of areas. The analysis was later solidified by asking respondents “whether they would consider moving on-campus given an opportunity for on-campus housing?”

Of the respondents, 45% live at home with family, 20% rent and live alone, and 30% rent and live with roommates. Of the respondents who live at home, about 22% do not pay rent, 15% pay less than \$400 per month, and the remaining indicated higher costs associated with living at home. The majority of respondents drive to their respective campuses, with 18% using public transit and 13% walking or cycling. On average, respondents that drive to campus take about 15-60 minutes commuting, one-way.

The majority of respondents currently live in Burnaby, Delta-Surrey, Vancouver, and New Westminister. The highest concentration of respondents reside in Burnaby, followed by Delta-Surrey at 16%, and Vancouver at 12%.

When respondents were asked about hypothetically moving on-campus, 43% reported a desire to continue to live off-campus. About 13% would consider moving on-campus, given the right unit type and price of rent. Respondents would consider moving on-campus for a price range of \$450 per month with a full kitchen instead of kitchenette options.

Respondents prefer amenities such as in-house laundry room facilities, exercise room, and fully furnished rooms. The least important amenities include common workspace areas, a security desk staffed 24 hours a day, and drug and alcohol-free areas. Other reasons respondents would consider moving on-campus are avoiding bad weather, being closer to classes and labs, and believing in performing better academically.

The majority of respondents indicated their preferred location for on-campus housing was New Westminister, followed by Victoria.

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Introduction

The Ministry of Advanced Education, Skills & Training completed the first province-wide survey of students at 24 public post-secondary institutions to better understand housing demand in B.C. The survey was developed by Customer Relationship Index (CRI) in partnership with the Student Housing Working Group and Indigenous partners (led by FNEESC)¹.

This report comprises an analysis of students' responses at the Justice Institute of British Columbia (JIBC) to evaluate and understand housing demand. The analysis examines satisfaction levels of current housing, on-campus preferences of living, and ideal on-campus housing preferences. Respondents' geographical location categorizes a thorough examination of the response to determine current costs and the likelihood of moving on-campus based on transportation.

This report does not provide a detailed analysis of all research data applicable to JIBC as provided in the Ministry's Province Wide Student Housing Survey. Future additional reporting can be carried out specific to survey question responses related to identification and satisfaction levels.

¹ Province Wide Student Housing Survey and Province-Wide Student Survey PowerPoint available as a separate document. Along with research data of the current JIBC Student Housing Survey Report available as a separate document.

Overview of Respondents

The following JIBC students received an invitation to participate in the province-wide student housing survey:

- o students with course section start dates between September 1, 2018, and April 30, 2019 (Fall and Winter Term); and
- o students with a minimum of 35 hours of instruction (2.5 credits or 5 days of instruction) at a JIBC campus location, excluding practicum/on-the-job training hours.

A total of 2,867 JIBC students were asked to participate in the survey, with 461 responses received. JIBC students represent 2% of the total respondents surveyed in B.C., as seen in Diagram 1.0. From the total number of respondents asked to participate in the survey, 10% were considered valid responses, with the remaining 6% deemed invalid.

The following are details of JIBC respondents from the survey:

- o 300 respondents live off-campus and are not homeowners;
- o 161 respondents are homeowners;
- o 289 domestic students and 11 international students;
- o 23 of the 300 students are domestic Indigenous students;
- o 83 students (28%) have partners and/or children. The remaining 72% do not live with partners and/or children; and
- o 27 respondents are graduate students.

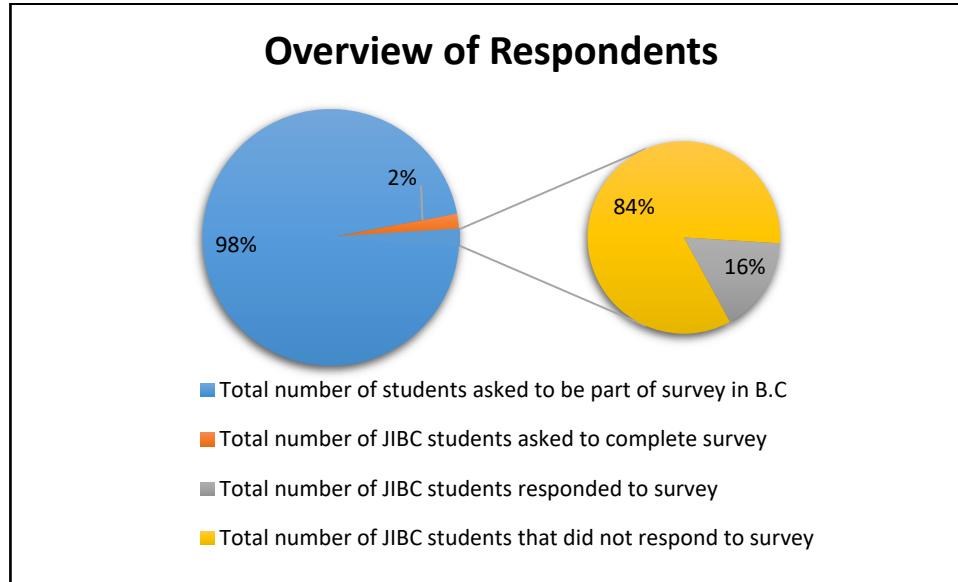


Diagram 1.0: Overview of Respondents

Furthermore, the survey responses defined as valid are “respondents currently living off-campus and on-campus,” and non-valid respondents are defined as “homeowners” and were excluded from the survey results. Refer to Diagram 1.1 for an overview of JIBC respondents deemed as valid and invalid.

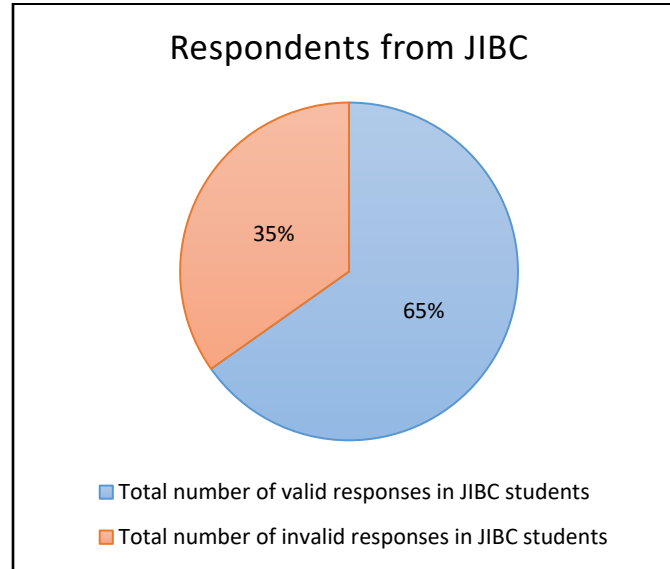


Diagram 1.1: Valid and Invalid Respondents

Survey Questions & Key Variables

The survey was administered as a flow chart. Each yes or no response led to a relatable question or comments section. The flow chart was organized to draw conclusions from students living on- campus and off-campus to analyze and measure levels of interest in renting various possible housing options. The survey questions were categorized into the following sections.

1. Indigenous identification.
2. Satisfaction level of staying on-campus and off-campus.
3. Racism encountered.
4. Graduate and mature students.
5. Conjoint questions relating to housing options and pre-determined needs like unit types, kitchen, bathroom configurations, and rental rates.
6. Closeout questions.

Diagram 2.0 illustrates part of the survey where the majority of the analyses are completed. After asking respondents about their current living situation, the flow chart navigates respondents through a series of questions. Questions such as monthly costs, transportation, and the importance of living on-campus as indicated on the right side of Diagram 2.0. At this time, none of the respondents live on-campus; therefore, the series of questions pertaining to current on-campus housing (left side of Diagram 2.0) is excluded in the analyses except for selecting and ranking reasons for living off-campus and the importance of on-campus accommodation.

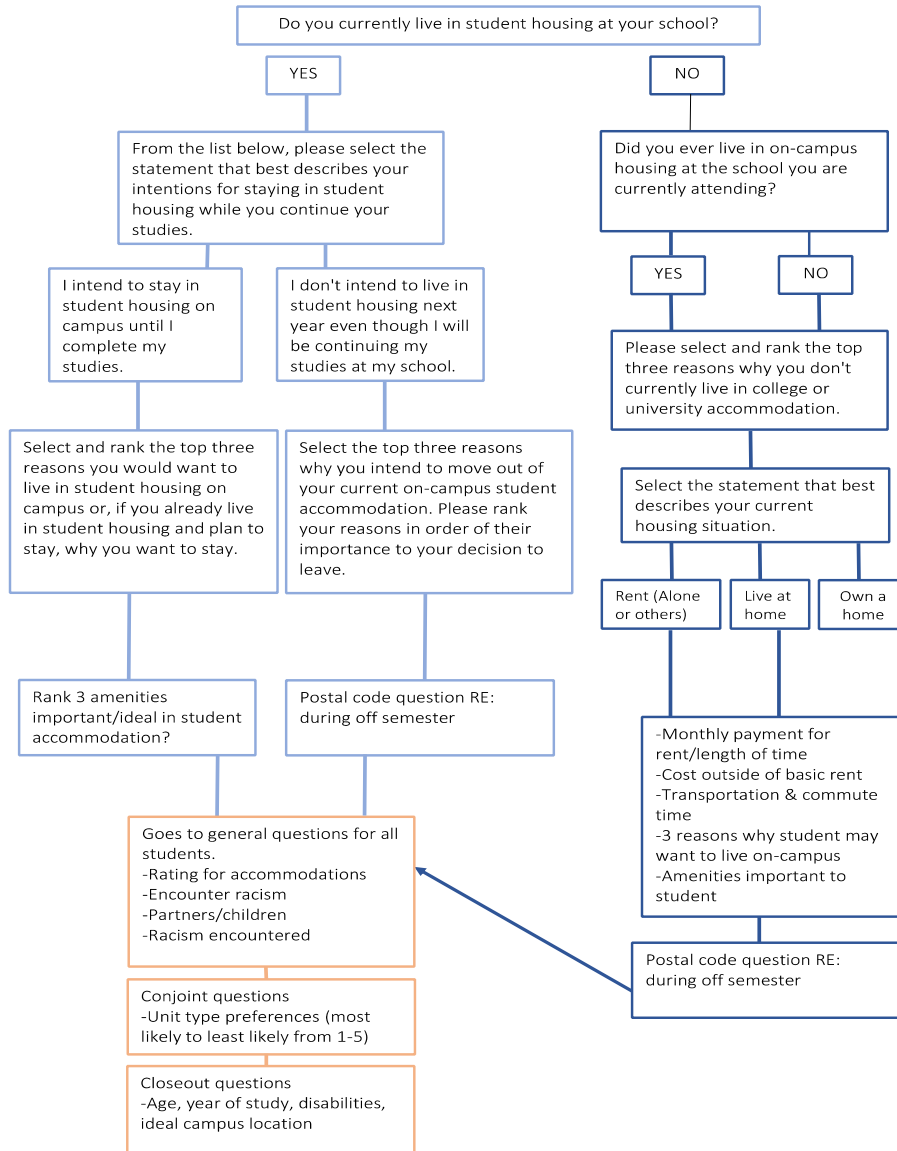


Diagram 2.0: Flow Chart of Questions

Survey Questions

The survey asked various types of questions pertaining to identification, general questions, satisfaction levels, conjoint questions, and closeout questions.

Indigenous Identification

Respondents were asked to identify their Indigenous background. If respondents answered “yes” questions such as: having traditional welcomes, cultural artwork, and Elders' options to live on-campus and/or visit are acknowledged.

Homeowners & Non-Homeowners

Respondents were asked whether they are homeowners. If respondents indicated they were homeowners, the survey ended. A total of 161 respondents indicated they were homeowners. Therefore, homeowners are not included in current living situational questions, nor were respondents asked about future housing concepts and options (conjoint questions).

Homeowners that were asked "why they live off-campus?" primarily responded by indicating "they own homes" and "living on-campus is too expensive." However, not all homeowners responded to the particular survey question. From the respondents who answered the survey question, 8% indicated that owning a home was the reason for not staying on campus, followed by preferring to live with family members who are not living on campus and living on campus is more expensive.

Racism Encountered

Respondents were asked if they encountered racism while looking for housing or living on-campus or off-campus. A small percentage of respondents indicated experiencing racism when looking for housing both on-campus and off-campus (about 5%).

Satisfaction Level of Staying On-Campus

Respondents were asked questions such as cost of living, environment, living alone preference, social environment, meal plans, rules and regulations on campus, facility and mobility concerns, maintenance, kitchen, and sharing space with others.

For example:

- If living on-campus is too expensive.
- Now that I know my way around, I'd like to live off-campus.
- I am unhappy with the quality of the facilities or the maintenance conditions.
- I believe I will do better academically.
- Another family member is coming to study at the same school, and I want to rent a place to live with them.
- I found other accommodation where I didn't have to pay rent.
- I feel I'm too old to be living in student housing.

Satisfaction Level of Staying Off-Campus

Respondents were asked questions such as total monthly share for rent, basic utilities, transportation forms, travel time, and hypothetical questions if living on-campus was an option.

For example:

- I prefer a quiet environment for studying.

- I want to take advantage of the meal plan.
- I want to have more opportunities to play sports, enjoy leisure activities with others and work out.
- I want to take greater advantage of the on-campus experience.

Conjoint Questions

Conjoint questions asked respondents to answer various unit types and pricing questions based on six hypothetical scenarios.

Graduate & Mature Students

Respondents were asked if graduate or mature students would consider living on-campus given the availability of specific unit types and why they prefer to live off-campus.

Closeout Questions

Respondents answered questions such as gender, living with other genders, physical limitations, and age.

Analysis of General Responses

The following section provides insight into general responses provided by JIBC students. An overview of current off-campus living situation, satisfaction level with current housing, cost of living, transportation, and gender and age group are discussed.

Current Off-Campus Living Situation

The following are results from respondents about their current living situation.

- 136/300 Live at home with parents/guardians **45%**
- 61/300 Rent their own space and live alone **20%**
- 90/300 Share rent with 1-2 adults **30%**
- 13/300 Other (three or more roommates and have no plans) **5%**

Note that students who are homeowners are not included above as the survey ended at that point for such respondents.

Satisfaction Level with Current Housing

Respondents were asked their level of satisfaction with their current living situation. Over 71% of respondents indicated current housing as "excellent or good." From this, 38% of respondents reported their living situation as "good." A small 3% of respondents indicated their living situation as "poor" and another 4% as "fair." The remaining 21% reported they felt neutral about their living situation.

Cost of Living

Respondents who do not pay rent accounted for 20% of the responses, with 45% living at home. Also, 15% of the respondents pay less than \$400 per month who also live at home. The majority of respondents, about 20%, share rent with other adults, spending on average \$600-\$700 per month. Overall, the majority of the respondents spend \$500-\$700 per month and 5% pay between \$1,400-\$1,500 or more per month on rent. Refer to Table 1.0 for a complete breakdown of monthly rent costs by the number of respondents.

Amount of Rent Plus Basic Utilities	Number of Respondents
I don't know	5
I pay nothing	62
I pay \$400 or less per month	45
I pay \$401 to \$500 per month	21
I pay \$501 to \$600 per month	34
I pay \$601 to \$700 per month	32
I pay \$701 to \$800 per month	9
I pay \$801 to \$900 per month	18
I pay \$901 to \$1,000 per month	14
I pay \$1,001 to \$1,100 per month	12
I pay \$1,101 to \$1200 per month	8
I pay \$1,201 to \$1,300 per month	9
I pay \$1,301 to \$1,400 per month	7
I pay \$1,401 to \$1,500 per month	7
I pay more than \$1,500 per month	17
Grand Total	300

Table 1.0: Monthly Rental Cost

Transportation & Commute

Respondents answered questions regarding transportation time and mode of transportation. Over 69% of all student respondents reported they drive to campus. About 38% of these drivers take between 30-60 minutes, and 34% take 15-30 minutes to drive to campus.

About 18% of students take the second most common transportation method using public transit. On average, 46% of public transit users take 30-60 minutes to arrive on campus, and 25% take 60-90 minutes. About 20% of students that use public transit take less than 30 minutes to arrive at the campus.

The remaining 11% of students used other transportation modes such as car share services/rides, walking, and riding their bicycles. Students who used other transportation methods spent less than an hour coming to campus and spent 15-30 minutes commuting on average. Refer to Table 1.1 below for a complete summary of the transportation method and commute time.

Summary	Ranking						Grand Total
	Less than 15 minutes	Between 15 and 30 minutes	Between 30 and 60 minutes	Between 60 and 90 minutes	Between 90 and 120 minutes	More than 120 minutes	
Transportation method							
I drive my own car to school.	15	34	38	10	2	3	200
I take public transit.	4	15	46	25	10		52
I walk.	6	9					15
I get a ride from a family member, friend or other student.		5	3				8
I use a car share service to get to school.	3	3	1				7
I ride my bike.	2	3	2				7
Grand Total	42	95	106	33	8	5	289

Table 1.1: Transportation Method & Commute Time

Gender & Age Group

Nearly an equal representation of females and males responded to the survey. An equal 50% of females completed the survey, and about 47% were male. The remaining 3% of respondents preferred not to answer or reported non-binary.

The majority of the responses were from students aged 19-21 (26%), followed by the age range of 22-25 years (25%). About 5% of graduate students responded to the survey, with 55% between the age range of 31-41 or older. Respondents that identified themselves as graduate students also represented the highest concentration of those living with a partner.

It is important to note that less than 2% of respondents indicated physical disabilities for related questions, and about 4% identified as international students.

Analysis of Responses by Geographical Location

The first section discusses geographic location, where most students reside while attending school off-campus, along with their preferences for either continuing to live off-campus or move to on-campus facilities based on commute time. Refer to Appendix A for a table of geographic areas derived from postal codes provided. A full breakdown is available in a separate spreadsheet and with the original student housing survey and presentation from the Ministry.

The second section breaks analyses by geographical areas students live by region, analyzing current living situations, cost of rent and basic utilities, transportation time, and their preferences of living on-campus or off-campus (preferences based on commute time).

From the valid number of 300 respondents, only 294 responses were considered as the remaining 6 were invalid responses².

Overview for Area of Current Residence & Preference of Living

The analysis using postal code indicated that the majority of students prefer to live in their current off-campus residence. Of the 294 respondents, 152 students who make up 52% of the responses reported they would continue to live off-campus, and 20% would live closer to campus but still off-campus. From the total number of responses, 10% of students would consider living on-campus.

About 19% of students (55 out of the 294) would prefer to live closer to campus or may live on-campus; however, they are uncertain what option they would prefer. Refer to Appendix A for a full list of responses for cities in which students reside.

² 6 respondent answers were removed due to invalid postal codes and/or answers not congruent with the postal code and answer provided.

The majority of student respondents currently live in Burnaby, Delta-Surrey, Vancouver, and New Westminster. These students' highest concentration resides in Burnaby at 18%, followed by Delta-Surrey students at 16%, and Vancouver, with 12% of students in the area.

Of the majority of respondents residing in Burnaby, about 52% of these students would continue living in Burnaby even if given the option for on-campus housing. About 20% of students living in Burnaby responded they would move closer to campus but continue to live off-campus. Nearly 17% of Burnaby residents attending JIBC responded they would consider moving on-campus housing if it becomes available.

Of the respondents residing in Delta-Surrey, about 54% reported satisfaction with living off-campus and continuing to live off-campus. Less than 6% of Delta-Surrey respondents stated they would move on-campus based on the commute as the key variable for moving.

Respondents from Vancouver live primarily in North and West Vancouver. Of these, over 67% reported they would continue to live off-campus, and of that, 17% would consider moving closer to campus. About 50% of Vancouver respondents are content with the geographical area of residence, and less than 9% would move to on-campus housing.

The majority of respondents currently living in Abbotsford, Chilliwack, and Mission reported they would continue to live off-campus or closer to campus but not on-campus. About 32% of these respondents would consider living on-campus, but only 12% would move to on-campus living while studying. None of the Mission respondents stated they would move on-campus or consider moving on-campus given commute time.³

³ Respondents from Mission only account for three responses, a minimal sample size. Consider a larger sample size for future surveying.

The majority of Kelowna respondents indicated satisfaction with commuting to campus, and 25% indicated they would consider moving on-campus if it were an option. Similarly, respondents living in Kamloops reported satisfaction with living off-campus, and only a small percentage would consider moving on-campus.

Respondents in the Squamish area would continue to live off-campus, with 28% reporting they would consider moving on-campus but still uncertain if they definitively would move on-campus.

Of the respondents from Victoria and Vancouver Island, about 35% would consider moving on-campus if housing was available. However, 65% of respondents reported being content with current commute time and would not consider moving on-campus.

Cost of Living, Transportation, & Current Living Situation

Areas of living indicated by respondents using the first three numbers of their postal code are categorized by rural areas, including the following: Metropolitan Vancouver area, Lower Mainland area, Squamish area, Fraser Valley area, Tri-city area, Vancouver Island area, and Thompson-Okanagan area.

Metropolitan Area

Respondents living in Burnaby and Vancouver comprise the majority of responses from the valid responses received. About an equal percentage of respondents from the Metropolitan area live at home or rent, and the majority drive to campus, taking anywhere from 15-60 minutes. Similarly, a quarter percentage of respondents take public transit and commute 60-90 minutes. Refer to Table 2.0 below for a complete, summarized snapshot.

Respondents residing in Burnaby commute to campus with a majority of 52% confirming commute time is acceptable—followed by 19% that would prefer to live closer to campus but still would not live on campus. Respondents residing in Burnaby primarily rent, and about 42% live at home with family members. The majority of respondents indicated they drive to campus with an average time between 30-90 minutes.

About 65% of respondents that live in the Vancouver area rent on their own or share rent with other adults and about 35% live with family. The respondents that live with family indicated they do not pay rent or pay less than \$400 a month. Respondents who live on their own and drive to campus indicated that they spend 30-60 minutes commuting with the remaining, taking public transit commuting 60 minutes and more. Based on the commute, students still prefer to live off-campus in their current arrangement, and about 17% would consider moving closer but still live off-campus. A small percentage of 8% would consider moving to live on-campus.

Metropolitan Area	Burnaby	Vancouver
Current Living Situation	42% Live at home 57% Rent alone or with others	35% Live at home 65% Rent alone or with others
Cost of living	17% Pay no rent 83% Pay rent \$1,000-\$1,500+	32% Pay no rent 58% Pay rent about \$500-\$1,000+
Commute	75% Drive- 30-60 minutes 25% Public transit 60- 90 minutes	71% Drive 15-60 minutes 29% Public transit 60- 90 minutes

Table 2.0: Metropolitan Area Current Living Situation & Commute

Lower Mainland

Surrey, Delta, Langley, Richmond, and New Westminster account for 28% of the responses. From the sample, 25% of residents in the Lower Mainland would consider moving on-campus. Respondents living in the Lower Mainland primarily drive to the campus and, on average, commute 30-60 minutes one way.

Of Surrey and Delta residents, 71% live at home with family, friends, and/or relatives and do not pay rent. Surrey and Delta respondents living at home, comprise 29% renting on their own or with others. In terms of living costs, 60% of Surrey and Delta respondents do not pay rent or lower than \$400 per month and the remaining pay rent of \$500-\$1,500 per month. A small proportion of respondents paying rent in Surrey and Delta indicated satisfaction with commuting as it takes 30-60 minutes and 94% drive, with only 7% taking public transit.

Of Langley residents (represent 7 respondents), 57% reported they would live on campus even though 71% currently live at home. About 43% of respondents pay less than \$400 rent per month, with 57% paying anywhere from \$500-800 per month. The majority of respondents residing in Langley during the school semester drive, taking 30-60 minutes and the remaining utilize public transit commuting 90-120 minutes.

Like Surrey, respondents residing in Richmond during the school year also live at home with their family, friends, or relatives and about 20% pay rent living on their own. The individuals that live at home indicated they do not pay rent. All of the respondents residing in Richmond indicated they commute to campus, taking 30-60 minutes.

Unlike the other Lower Mainland cities, respondents from New Westminster primarily rent living alone or with others, and 28% live at home with family. Over 90% of respondents living in New Westminster pay rent and 25% would consider moving on-campus. Unlike the other cities in Lower Mainland, about an equal percentage of respondents from New Westminster drive or take public transit, taking anywhere from 15-60 minutes commuting. Refer to Table 2.1 below for a complete summary.

Lower Mainland	Surrey & Delta	Langley	Richmond	New Westminster
Current Living Situation	71% Live at home 29% Rent	71% Live at home 29% Rent	80% Live at home 20% Rent	28% Live at home 48% Rent and live alone 24% Rent and live with others
Cost of Living	60% Pay no rent 20% Pay less than \$400 20% Pay rent \$501-\$1,500+	29% Pay no rent 14% Pay less than \$400 57% Pay rent \$501-800	80% Pay no rent 20% Pay rent about \$1,000+	8% Pay no rent 92% Pay rent about \$500-\$1,500+
Commute	94% Drive- 30-60 minutes 7% Public transit 30-60 minutes	86% Drive 30-60 minutes 14% Public transit 90-120 minutes	100% Drive 30-60 minutes	52% Drive 15-60 minutes 32% Public transit 30-60 minutes 12% Walk

Table 2.1: Lower Mainland Current Living Situation & Commute

Squamish Area

Respondents from the Squamish area represent the third-largest response rate. The majority of respondents rent alone or live with others, and about 23% live at home. Respondents indicated they do not mind the commute time, and from that, they are not interested in moving close to campus or on-campus. The majority of respondents pay rent anywhere from \$500-\$1,000 or more per

month, and about 18% pay no rent. Respondents that do not pay rent indicated they live at home. The majority of the Squamish area respondents walk or ride a bicycle to the campus, with only 23% driving taking 15-30 minutes one-way. Refer to Table 2.2 below for a complete summarized snapshot.

Squamish Area	Squamish
Current Living Situation	23% Live at home 77% Rent alone or with others
Cost of Living	18% Pay no rent 82% Pay \$500-\$1,000
Commute	23% Drive 15- 30 minutes 54% Walk/Bicycle

Table 2.2: Squamish Area Current Living Situation & Commute

Fraser Valley Area

Respondents from the Fraser Valley comprise the fourth largest response data. Respondents live at home with a small percentage of renting alone or with others. Similar to respondents from the Lower Mainland area and the Tri-City area, the Fraser Valley respondents also drive to campus, taking 30-60 minutes. Respondents from the Fraser Valley area pay rent, starting from \$501-\$1,100 per month, and a small percentage live rent-free.

Respondents from Mission represent a small sample size, and all indicated they live at home, contribute less than \$400 a month, and deemed commute time acceptable, taking 30-90 minutes. Refer to Table 2.3 below for a complete summary.

Respondents living in Abbotsford indicated they live at home while a near equal number rent on their own or live with roommates. The majority of respondents pay rent ranging from \$500-\$1,100 per month, and a small percentage of 15% pay no rent.

Like Abbotsford, respondents from Chilliwack primarily live at home, and about 39% rent alone or with others. The majority of respondents drive to campus taking 30-60 minutes, whereas others have indicated they walk or cycle taking 15-30 minutes.

Fraser Valley Area	Abbotsford	Chilliwack	Mission
Current Living Situation	62% Live at home 38% Rent alone or with others	61% Live at home 39% Rent with others	100% Live at home
Cost of Living	15% Pay no rent 54% Pay less than \$500 31% Pay \$501-\$1,100	33% Pay no rent/less than \$400 67% Pay rent \$500-\$1,000	100% Pay less than \$400
Commute	100% Drive 15-120 minutes	83% Drive 30-90 minutes 17% Walk or bike 15-30 minutes	100% Drive 30-90 minutes

Table 2.3: Fraser Valley Area Current Living Situation & Commute

Tri-City Area

A small percentage of students live in the Tri-City area, making up less than 3% of the respondents. Tri-City respondents indicated they would continue to live with their current living arrangements and would not live on-campus. The majority of respondents live at home, and a small percentage rent alone or with one other roommate. Those that live at home also indicated not paying rent or as little as \$400 a month or less. The majority of respondents indicated commute time (one-way) is between 30-60 minutes, and 60% do not mind the time spent commuting. Of the respondents, less than 7% indicated a preference for moving on-campus. Respondents from the Tri-City area primarily drive, and about 20% taking public transit for 30 to 90 minutes. Refer to Table 2.4 below for a complete summary of responses from Tri-city area students.

Respondents from Port Moody primarily live at home while 33% rent. Although most respondents live at home, they reported paying towards basic utilities ranging from \$1,000 and above. Respondents that rent pay anywhere from \$1,000-\$1,500 per month. The majority of respondents drive to campus taking 30-60 minutes, and about 20% take public transit, commuting the same length of time as those that drive.

About 75% of Port Coquitlam respondents indicated they live at home, with only 50% paying rent and the remaining \$401-\$1,000 a month. Commute to the campus is primarily by driving, which takes 15-60 minutes, and the remaining 25% use public transit taking 30-60 minutes to commute.

Respondents from Maple Ridge are equally split between living at home or renting while living with others. A small sample size was collected from residents of Maple Ridge. The majority of respondents drive to campus taking 60-90 minutes, and the remaining 25% take public transit and commute 60-90 minutes.

Tri-City Area	Port Moody	Port-Coquitlam	Maple Ridge
Current Living Situation	67% Live at home 33% Rent	75% Live at home 25% Rent	50% Live at home 50% Rent with others
Cost of Living	33% Pay no rent 67% Pay rent \$1,000- \$1,500+	50% Pay no rent 50% Pay rent about \$401-\$1,000	50% Pay no rent 50% Pay rent \$500- \$1,100
Commute	80% Drive 30-60 minutes 20% Public transit 30-60 minutes	75% Drive 15-60 minutes 25% Public transit 30-60 minutes	75% Drive 60-90 minutes 25% Public transit 60-90 minutes

Table 2.4: Tri-City Area Current Living Situation & Commute

Vancouver Island Area

Respondents from Vancouver Island, including Victoria, primarily rent alone or live with others and about 25% live at home. The majority of respondents pay rent, with less than 20% living rent-free. Based on the commute, 33% of respondents from Victoria would live on-campus, 40% do not mind commuting and would not move on campus, and 27% would move closer to campus but would continue to live off-campus. On Vancouver Island, 40% would move on-campus, and the remaining do not mind their current condition. Refer to Table 2.5 below for a complete summary.

Vancouver Island Area	Vancouver Island	Victoria
Current Living Situation	13% Live at home 87% Rent alone or with others	33% Live at home 67% Rent alone and/or with one other
Cost of Living	13% Pay no rent 87% Pay \$401-\$1,500+	13% Pay no rent 87% Pay rent \$400-\$1,500+
Commute	100% Drive 30- 60 minutes	40% Drive 30-90 minutes 60% Public transit 30-90 minutes

Table 2.5: Vancouver Island Area Current Living Situation & Commute

Thompson-Okanagan Area

The majority of respondents from the Thompson-Okanagan area live on their own or rent, with a small percentage of 28% or less living at home. Therefore, the cost of living for respondents, as indicated, ranges from \$500-\$1,500 per month. All of the respondents from the area drive to the campus, with respondents from Kelowna and Kamloops taking 15-30 minutes and other regions taking 60 minutes or more.

Of Kelowna residents, 25% would consider living on campus if offered, and the remaining 75% find the commute acceptable and, therefore, would not consider moving on-campus. Commute time for 82% of respondents is between 15-30 minutes and the remaining account for 30-60 minutes of drive time to campus. A small percentage lives at home and does not pay rent, and 75% rent alone or with others. Given, 81% of respondents pay rent from \$500-\$1,400 or more per month, about 25% would consider moving on-campus.

Residents of Kamloops, like Kelowna, primarily rent, and 23% live at home. 57% of Kamloops respondents pay \$600-\$1,500 per month in rent, and about 43% pay less than \$400 a month. All of the respondents from Kamloops indicated that they commute 15-30 minutes. The majority of respondents accept commuting to campus and would prefer to live off-campus based on commute time. Respondents from Princeton, Prince George, and Vernon rent with others and find the commute to the campus acceptable. Most respondents drive from 30-60 minutes, with one respondent indicating they drive 120 minutes. All respondents indicated renting and paying rent from \$500-\$1,500 or more per month.

Thompson Okanagan Area	Kelowna	Kamloops	Penticton, Princeton, Prince George, & Vernon*
Current Living Situation	25% Live at home 75% Rent alone or with others	28% Live at home 43% Rent alone 29% Rent with others	100% Rent with others
Cost of Living	38% Pay no rent/less than \$400 81% Pay \$500-\$1,400+	43% Pay less than \$400 57% Pay \$600-\$1,500+	100% Pay rent \$500-\$1,500+
Commute	100% Drive 15- 30 minutes	100% Drive 15-30 minutes	100% Drive 30-60 minutes Vernon Drive 120 minutes

Table 2.6: Thompson Okanagan Area Current Living Situation & Commute

*Grouped as respondents in each postal area are equal to 2 or less.

Student Preferences

The following section analyzes the response data from respondents regarding moving on-campus by posing hypothetical questions. The following provides insight into whether students would move on-campus, amenities, unit types and price preferences—finally, a review regarding where student accommodation preferences are analyzed given the replies from respondents.

Currently, there is no student housing available for domestic students and those that completed the survey. Therefore, the survey questions are based on the expectation that students would move into on-campus housing if it became available.

Would Students Move into On-Campus Housing?⁴

Students that responded to the survey and indicated living off-campus as their current situation were asked if “they would consider moving on-campus housing if it were available?” Refer to Appendix B for a full table regarding the preferences by the number of respondents. Below are the results:

- 43% of students would continue to live off-campus;
- 39% would like to move into student housing, but only if the right combination of unit and rental rate was offered;
- 13% would move into on-campus student housing; and
- 5% selected other.

⁴ QOFF 6 from the survey

From the survey, nearly 43% of respondents are satisfied with living off-campus, which is similar to the results when asked about commute time being a key variable for moving on-campus. About 51% of respondents would not move on-campus given commute time, and as noted above, very closely, 43% would not move on-campus if housing were available. Similarly, 39% of respondents indicated they would live on-campus given the right combination of unit types and prices. This finding coincides with the commute time variable wherein 28% would move on-campus given commute time. The variance is about 9% indicating a slight change of mind if the correct unit types and prices were offered to students.

The Top 5 Reasons Why Students Would Want to Live On-Campus

All valid responses from students, including Indigenous, International, and domestic, stated the following 5 reasons for wanting to live on campus:

1. I want to be closer to classes and academic resources like labs and the library.
2. I will do better academically.
3. I want to avoid all the hassles of getting to school in bad weather.
4. Living on campus is receiving value for money.
5. I want to have more opportunities to play sports, enjoy leisure activities with others, and work out.

Ideal Amenities Students Prefer for On-Campus Housing

Amenities respondents indicated as highly preferable for on-campus living include laundry facilities followed by an exercise room. Amenities respondents deemed less important include study rooms, a security desk, and designated drug and alcohol-free areas. See

below Table 3.0 for preferred amenities. Refer to Appendix C for a full list of amenities respondents rated from most important to least important.

Amenities	Likely Move On-Campus	Definitely Move On-Campus
In-house laundry facilities	76%	24%
Exercise room	78%	22%
Furnished room	81%	19%
Entrance pass-card security	82%	19%
Paid parking spaces for vehicle	79%	21%

Table 3.0: Amenities Preferences

Unit Types & Prices

Students were given six scenarios that they were asked to rate as “most want to rent” and “least want to rent” based on unit type and prices. Results are summarized below based on students deemed most likely to rent and least likely to rent, with the number of respondents for each noted in parentheses.

Most Likely to Rent	Least Likely to Rent
1 bedroom, full kitchen with no dining hall \$450/ per month (116)	Nano unit 2 burner stovetop with no dining hall \$1,350/per month (140)
4 bedroom kitchenette with dining hall food service \$450/per month (26-28)	Nano unit 2 burner stovetop with no dining hall \$1,050/per month (102)
1 bedroom full kitchen with no dining hall \$1,050/per month (17-28)	Dorm double, common kitchen with no dining hall \$1,050/per month (127)
2 bedroom kitchenette with dining hall food service \$450/per month (33-56)	1 bedroom kitchenette with dining hall food service \$1,350/per month (89)
2 bedroom full kitchen with no dining hall \$450/ per month (33-57)	4 bedroom full kitchen with no dining hall \$1,350/ per month (139)
1 bedroom kitchenette with dining hall food service \$450/ per month (33-96)	4 bedroom kitchenette with no dining hall \$1,350/ per month (135)

Table 3.1: Unit Type and Price Preferences

From the information gathered, respondents indicated a willingness to pay about \$450 per month. Still, when the price of a unit was higher than \$450 per month, on average, respondents are unlikely to pay for that particular living situation. It is interesting to note for "most likely to rent," the highest number of respondents indicated paying \$450 per month with a full kitchen. After that, the response data dropped to 23-58 responses, indicating a low preference for other unit types and pricing options. Rent price is a deciding factor, as shown in the "least likely to rent" responses from the above Table 3.1. When Nano kitchens were offered with high prices per month for rent, a high response rate chose not to pick those types of units.

Respondents also indicated a full kitchen as reasons for moving on-campus, which is indicative of the response data in "most likely to rent" as kitchenettes and stovetop burners are offered; many respondents did not choose them. In the "least likely to rent" section, Nano units and stovetop burners were the top reasons for not moving on-campus.

From the responses gathered, it is important to note that respondents are willing to pay, on average, \$450 per month for rent, but when the price goes higher than \$1,000 per month, respondents will not move on-campus if offered. The price is also contingent on having a full kitchen. Students will choose other options available off-campus when a full kitchen is not provided, and instead, stovetop burners are offered.

Preferences of Student Housing Location

Respondents indicated their preferences for student housing by location. The majority of respondents noted New Westminster as the preferred primary campus for student housing, with 181 ranking it their number one choice. Victoria received the second-highest

response regarding on-campus housing, and finally, Kelowna was the third-highest. See below Table 3.2 for student housing preferences for location.

Location	Rank #1	Rank #2	Total
New Westminster	181	45	226
Kelowna	30	57	87
Victoria	39	84	123
Chilliwack	24	37	61
Maple Ridge	15	46	61

Table 3.2: Preferences of Student Housing Location

Preferences of Students That Would Move On-Campus

The 13% of respondents who responded they would move on-campus indicated their unit type and price preferences as detailed in Table 3.2 below.

Most Likely to Rent	Least Likely to Rent
1 bedroom, full kitchen with no dining hall \$450/ per month (20/38) 53%	Nano unit 2 burner stovetop with no dining hall \$1,350/per month (14/28) 50%
2 bedroom full kitchen with no dining hall \$450/ per month (11/28) 39%	Dorm single Common kitchen with no dining hall \$1,050/per month (14/28) 50%
1 bedroom kitchenette with dining hall food service \$450/ per month (17/38) 45%	Dorm double Common kitchen with no dining hall \$1,050/per month (15/38) 40%

Table 3.2: Responses for Respondents that would move on-campus

Respondents preferred the full bedroom unit with a full kitchen leading at 53%, and 45% of respondents indicated a kitchenette in a unit if available. However, unit types are also dependent on price, in which the majority of respondents indicated \$450 per month as a preference.

Respondents are least likely to rent dorm-style units, with 50% indicating dissatisfaction. Respondents also opted out of dining halls and burner stovetop options. Respondents also indicated an unwillingness to pay \$1,050 and more for rent per month.

Furthermore, respondents that indicated a preference for moving on-campus primarily live in the Burnaby area. Refer to Appendix D for a full table of respondent answers for current housing and rent. About 21% of respondents pay less than \$400 per month in rent but indicated a preference for moving, given rent remains at \$450 per month on-campus. Moreover, a fair representation of respondents that are willing to move on-campus live at home or share rent with others.

Key Conclusions

The survey highlighted the majority of respondents from JIBC are satisfied with living off-campus and would not move on-campus. Nearly 43% of respondents indicated their satisfaction level, and 13% would definitely move on-campus if offered. The results are similar to the 3-digit postal code FSA analysis, which indicated 52% of respondents would not move on-campus given commute time. The 39% of respondents that would consider moving on-campus will do so if given the right combination of unit types and prices. The results are similar to the commute time variable used in the postal code search, which shows that 28% of respondents would consider moving on-campus given commute time.

Respondents who would consider moving on-campus prefer a price range of \$450 per month with a full kitchen instead of kitchenette options. In house laundry room facilities, exercise rooms, and fully furnished rooms are the top three amenities respondents deem important for on-campus housing. The least important amenities included common workspace areas, a security desk staffed 24 hours a day, and drug and alcohol-free areas. Other reasons respondents would consider moving on-campus are avoiding bad weather, being closer to classes and labs, and believing in performing better academically. Respondents that would move on-campus are willing to pay \$450 per month and prefer full room and kitchen options.

The majority of respondents, about 45% live at home with family, 20% live alone and rent, while 30% rent and live with others. Of the students who live at home, 22% do not pay rent, 15% pay less than \$400 per month, and the remaining indicated higher costs associated with living at home. Overall, 71% of respondents indicated current housing as "excellent or good," a small 3% of respondents indicated their living situation as "poor" and another 4% as "fair."

The majority of the responses were from students residing in Burnaby, Vancouver, Surrey, Delta, New Westminster, and Squamish. The highest concentration of respondents live in Burnaby, followed by Surrey & Delta students at 16%, and Vancouver, with 12% of students in the area. The majority of respondents from these geographical areas drive to campus and do not mind the commute; therefore, they would not move on-campus. About 20% of respondents would consider moving from their current location to accommodations nearby but still not on-campus.

The survey highlighted current housing satisfaction levels, costs of living, transportation and commute time, and ideal accommodations for on-campus housing. The survey gathered information from 461 respondents with 300 valid responses. The questions answered provided useful insight with the majority of responses from the Metropolitan area, Lower Mainland, Squamish area, and the Fraser Valley. The survey analysis concluded that if student housing were offered, the preferred location would be the New Westminster campus, followed by the Victoria campus.

Appendix A: Responses by Geographical Area

City	I would prefer to live on campus.	I would prefer to live nearer or on campus.	I would prefer to live nearer to campus but not on campus.	My commute to and from my classes is acceptable.	Total
Abbotsford	1	4	4	4	13
Burnaby	9	6	10	27	52
Chilliwack	3	2	2	11	18
Delta	1	2	2	6	11
Kamloops	0	2	0	5	7
Kelowna	0	4	5	7	16
Langley	1	3	1	2	7
Maple Ridge	1	0	1	2	4
Mission	0	0	3	0	3
New Westminster	1	4	6	14	25
Penticton	1	0	0	0	1
Pitt Meadows	0	1	0	1	2
Port Coquitlam	0	0	2	2	4
Port Moody	0	2	0	4	6
Prince George	0	0	1	0	1
Princeton	0	0	0	1	1
Richmond	1	0	2	2	5
Squamish	0	6	1	15	22
Surrey	2	7	8	20	36
Vancouver	3	8	6	17	34
Vancouver Island	3	0	1	4	8
Vernon	0	0	1	1	2
Victoria	1	4	3	7	15
Total Respondents	28	55	59	152	294

Appendix B: Preference of Living Situation

Assume that the school you are attending has student housing even if it currently does not. Please select the statement that best describes whether you would continue to live off campus or move on to campus.	
I would continue to live off campus for the rest of my studies.	129
I would like to move into student housing but only if the right combination of unit and rental rate were offered to me	119
I would definitely move into on-campus student housing	40
Other	12
Total	300

Appendix C: Amenities

Amenities important to off-campus housing	Will definitely move on-campus	Will likely move on-campus	Grand Total Respondents in each Category
In-house laundry facilities	23%	76%	86
Exercise room	22%	78%	64
An already-furnished room	19%	81%	53
Entrance pass-card security (swipe card)	18%	82%	43
Paid weekly or monthly parking space for my own vehicle	21%	79%	38
Study rooms	37%	63%	30
Nearby Dining hall/facility	30%	70%	30
Air conditioning.	15%	85%	26
Common spaces for working in groups	33%	67%	18
Security desk staffed 24 hours a day at building entrance	24%	76%	17
Designated drug-free and alcohol-free areas	27%	73%	11

Appendix D: Respondents That Would Move On-Campus

Current housing situation.	Area of Residence	Total Monthly Share Rent
I share the rent with two other adults.	Abbotsford	\$401 to \$500 per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Burnaby	\$400 or less per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Burnaby	\$1,101 to \$1,200 per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Burnaby	I pay nothing.
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Burnaby	I pay nothing.
I rent my own space and live alone.	Burnaby	\$801 to \$900 per month
I rent my own space and live alone.	Burnaby	\$1,101 to \$1,200 per month
I rent my own space and live alone.	Burnaby	\$1,301 to \$1,400 per month
I rent my own space and live alone.	Burnaby	\$901 to \$1,000 per month
I share the rent with one other adult.	Burnaby	\$701 to \$800 per month
I share the rent with one other adult.	Burnaby	\$1,201 to \$1,300 per month
I share the rent with one other adult.	Burnaby	\$1,301 to \$1,400 per month
I share the rent with two other adults.	Burnaby	\$501 to \$600 per month
I share the rent with two other adults.	Burnaby	\$501 to \$600 per month
I rent my own space and live alone.	Chilliwack	\$501 to \$600 per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Delta	\$601 to \$700 per month

I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Delta	\$701 to \$800 per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Delta	More than \$1,500 per month
I share the rent with one other adult.	Kamloops	\$400 or less per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Kelowna	\$400 or less per month
I share the rent with two other adults.	Kelowna	\$601 to \$700 per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Langley	\$501 to \$600 per month
I share the rent with one other adult.	Maple Ridge	\$801 to \$900 per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	New Westminister	I pay nothing.
I rent my own space and live alone.	New Westminister	I pay \$701 to \$800 per month.
I share the rent with one other adult.	New Westminister	I pay \$601 to \$700 per month.
I rent my own space and live alone.	Penticton	I pay \$801 to \$900 per month.
I don't have stable housing at the present time.	Squamish	I pay \$401 to \$500 per month.
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Squamish	I pay \$801 to \$900 per month.
I rent my own space and live alone.	Squamish	\$1,201 to \$1,300 per month
I share the rent with two other adults.	Squamish	\$801 to \$900 per month
I share the rent with two other adults.	Squamish	\$901 to \$1,000 per month

I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Surrey	I pay nothing.
I don't have stable housing at the present time.	Vancouver	More than \$1,500 per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Vancouver	\$601 to \$700 per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Vancouver	\$400 or less per month
I share the rent with one other adult.	Vancouver	\$1,301 to \$1,400 per month
I live at home with my parents/guardians/extended family (aunt, uncle, brother, etc.)	Victoria	\$501 to \$600 per month

