

UNBC

Destination 2040

March 2019

UNBC *UNIVERSITY OF NORTHERN BRITISH COLUMBIA*

Campus Masterplan 2018



Daniel J. Weeks
President and Vice-Chancellor

UNBC *UNIVERSITY OF NORTHERN BRITISH COLUMBIA*

Campus Masterplan 2018

DIALOG®

Letter from the President

Following months of consultation and engagement with the University of Northern British Columbia (UNBC) community, I am pleased to share with you an updated Campus Master Plan that highlights our guiding principles and outlines future possibilities as we chart a course towards Destination 2040.

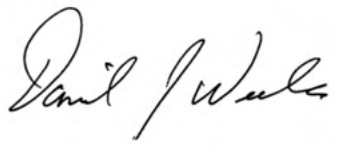
UNBC was founded as a 'university in the north for the north,' with a mission to improve the quality of life in its region, the province and beyond, by attaining the highest standards of undergraduate and graduate teaching, learning and research.

In a short period of time, UNBC has evolved to become one of Canada's premier research-intensive universities. The University has experienced significant growth in enrollment, program offerings and research, resulting in the need to define a clear vision for the future of the campus buildings, open space and transportation to serve both our current community and future expansion needs.

As we continue to grow and evolve, UNBC's Campus Master Plan will ensure that we create facilities, space and technology that successfully support innovation, research and high-quality academic programming to meet the changing needs of faculty, staff and students over the coming years.
Together, we have developed a guiding document that reflects our unique culture at UNBC. It provides inspiration about how we could develop for our future while acknowledging our past achievements and establishing a vision of who we want to become.

Our continued success rests in our commitment to ensuring we have the appropriate resources in place that will allow us to stay true to our vision of being a destination University that transforms lives and communities in the North and around the world. I am confident that the Master Plan we have created will chart a course for success as we head towards our future.

Sincerely,



Daniel Weeks
President and Vice-Chancellor

Territorial Land Acknowledgment

UNBC is located on diverse traditional territories that are home to numerous First Nations and other Aboriginal groups.

UNBC commits to playing an active role in reconciliation, including contributing to meeting the 94 recommendations put forth by the Truth and Reconciliation Commission.

Prince George Campus

The Prince George Campus is situated on the traditional territory of the Lheidli T'enneh, part of the Dakelh (Carrier) First Nations.

South-Central Campus

The South-Central campus in Quesnel is situated on the traditional territory of the Lhtako Dené (Red Bluff Band), Nazko, Lhoosk'uz Dené Nation (Kluskus Band), and ?Esdilagh First Nations (formerly Alexandria Band). Lhtako, Nazko, and Lhoosk'uz are Dakelh First Nations, and ?Esdilagh is a member of the Tsilhqot'in Nation.

Peace River-Liard Campus

The Peace River-Liard campus in Fort St. John is situated on the traditional territory of the Doig River, Blueberry River and Halfway River First Nations. They are the Dunne-Za people.

Northwest Campus

The Northwest campus in Terrace is situated on traditional Ts'msyen (Tsimshian) territory of the Kitsumkalum and Kitselas First Nations. It includes a satellite campus in the coastal community of Prince Rupert.

Wilp Wilxo'oskwhl Nisga'a Institute

UNBC also holds an affiliation agreement with the Wilp Wilxo'oskwhl (House of Wisdom) Nisga'a Institute (WWNI), a federated Aboriginal post-secondary institution established in 1993. The WWNI is located in the Nass Valley and the village of Gitwinksihlkw, B.C.

Acknowledgments

This document was developed by the University of Northern British Columbia and DIALOG, with contributions from stakeholders from the University and wider community. It would not exist without the contributions of students, faculty, and staff at UNBC. The consultant team was supported throughout the project process by the project's Executive Committee and the Board of Governors.

Thank you to those who participated in the campus planning process and provided deeply appreciated and invaluable input through interviews, workshops, the Ideas Fair, mobile booths, and the Open House.

Project Executive Committee

Robert Knight, Vice President, Finance and Operations

Tim Tribe, Vice President, University Advancement

Shelley Rennick, Former Director, Facilities Management and Capital Projects

Lisa Haslett, Director, Business Services

David Claus, Director, Facilities Management and Capital Planning

A special thank you to Shelley Rennick for 18 years of exceptional service. UNBC wishes her a phenomenal retirement.

UNBC Board of Governors

Dr Daniel Weeks, President and Vice Chancellor
Hon. James Moore, Chancellor
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Mr. Sean Simmons, Board Vice Chair - Order-in-Council Appointment
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Ms. Christina Ingram, Elected Graduate Student Member
Mr. Mark Barnes, Elected Staff Member



The Purpose of a Campus Master Plan

A Campus Master Plan articulates a shared vision for the future of campus. In particular, it defines a long-term strategy for the evolution of the campus' built form, open space, and transportation. This Campus Master Plan sets forth a vision for the University of Northern British Columbia in 2040.

Using this Document

The Campus Master Plan (the Plan) is not a blueprint for construction. Rather, the Plan should be used by UNBC staff when making decisions about development on campus and can help to guide decision making about when and where to do so.

Part One articulates the compass of how and why this Campus Master Plan came to fruition, and includes information about the historical background of UNBC and the existing conditions of the Prince George Campus.

Part Two is the compilation of the Vision, Objectives, Design Approach and Frameworks that will guide the growth of the Prince George, Regional, and Satellite campuses including recommendations for implementation.

Table of Contents

Letter from the President ii

Territory Acknowledgment iii

Acknowledgments v

The Purpose of a Campus Master Plan viii

Using This Document viii

Figure List xi

Forward xiv

Part 1: Context

1.0 Introduction **4**

1.1 Scope and Planning Process 4
1.2 Planning Context 5
1.3 Regional Campuses and Affiliated Institutions 6
1.4 Prince George Campus History 9

2.0 Existing Conditions **14**

2.1 Prince George Campus Context 14
2.2 Existing Plans and Strategies 18
2.3 Campus Community Demographics 20
2.4 Existing Open Space Conditions 22
2.5 Existing Movement Conditions 23
2.6 Existing Built Environment 30

3.0 Drivers for Change **36**

4.0 Public Engagement **38**

4.1 Engagement Summary 38

Part 2: The Plan

5.0 Vision, Objectives, Design Approach **44**

5.1 UNBC Destination 2040 44
5.2 Campus Vision 45
5.3 Objectives 47
5.4 Design Approach 49

6.0 Frameworks **52**

6.1 Introducing the Concept Plan 52
6.2 Destination 2040 Concept Plan 54
6.3 Open Space Framework 56
6.4 Built Form Framework 68
6.5 Mobility Framework: Active Transportation 73
6.6 Mobility Framework: Vehicular Transportation 77
6.7 Winter Design 81
6.8 Net Zero Campus 84
6.9 Community Well-being 86

Part 3: Implementation

7.0 Implementation **92**

Figure List

No.	Title	Pg.
1.0	UNBC Campus Locations	7
1.1	UNBC Celebrates 25 Years	8
2.0	Prince George Downtown Locations	15
2.1	Prince George Campus Context	16
2.2	Prince George Average Climate	17
2.3	Prince George Average Precipitation	17
2.4	The University Plan	18
2.5	Campus Community Demographics	20
2.6	Existing Secure Bicycle Storage	23
2.7	Pedestrian Movement Through the Agora	23
2.8	Parking Allotment	24
2.9	UNBC Bus Shelter Under Construction	24
2.10	Prince George Campus Parking Lots	24
2.11	Cycling Infrastructure	25
2.12	Pedestrian Network and Open Spaces	26
2.13	Transit Routes	27
2.14	Parking, Servicing and Loading	28
2.15	Building Uses	29

2.16	Campus Axes	31
2.17	Bioenergy Plant	32
2.18	Wood Innovation and Design Centre	33
2.19	Wood Innovation Research Laboratory	33
2.20	Energy Systems	34
4.0	Engagement Process	39
4.1	Engagement Events	40
4.2	Key Engagement Themes	41
6.0	Concept Plan	51
6.1	Annotated Concept Plan	53
6.2	Open Space Framework	55
6.3	Campus Axes	59
6.4	Views	60
6.5	Distinct Landscape Areas	61
6.6	Agora Walk	63
6.7	The Quadrangle	64
6.8	Programming Opportunities: Outdoor Fire Pit	66
6.9	Programming Opportunities: X-country Skiing	66
6.10	Campus Districts	67
6.11	Built Form Framework	69
6.12	Northern Architectural Character	70
6.13	Amenity Areas	73
6.14	Gateway Sites	73
6.15	Wayfinding Hierarchy	75
6.16	Secure Bike Storage	75
6.17	Active Transportation Framework	76
6.18	Vehicular Transportation Framework	78
6.19	Typical Ring Road Section	80
6.20	Typical Ring Road Section With Parking Bulge	80
6.21	Colour and Light Enhance the Winter Experience	82
6.22	Cleared Pedestrian Pathways	83
6.23	Community Wellbeing Framework	88



Forward

The UNBC Campus Master Plan is a Framework for decision making about development on campus, with a planning horizon to the year 2040. Over the next 22 years, this Plan will help to shape the evolution of campus and create a physical manifestation of the aspirations of the campus community.

UNBC has grown significantly since the University first started accepting students 25 years ago. What started as a campus land reserve of 754 acres has now almost doubled in size. Today the Prince George campus is made up of 1,400 acres of land and 16 buildings that host the 4,000+ students, faculty and staff that constitute our campus community.

This Campus Master Plan responds to UNBC's strategic priorities and sets forth direction for built form, open space, and mobility on campus. It also prioritizes leadership in wellness and sustainability. The Campus Master Plan is directive while providing enough flexibility to respond to emerging issues, goals, and aspirations. While the Vision and Objectives apply to UNBC in its entirety, the Design Directives and Frameworks apply specifically to the Prince George Campus.

The following document articulates this vision for the future of UNBC. Part 1 of this document captures the background research and engagement outcomes that informed the planning direction of the Campus Master Plan. This section can also be used as a benchmark from which to measure the implementation of the Plan throughout its life. Part 2 articulates the vision for the future of the campus. It starts by showing the Vision, Objectives and Design Directions for the Campus Master Plan. Part 2 also includes Frameworks that outline approaches to Mobility, Open Space, Built Form. An approach to Winter Design is also included in this section.

The Campus Master Plan represents the hundreds of comments, ideas, and challenges that have been raised by the campus community throughout the planning process. Consultation with the campus community directly influenced the Vision, Objectives, Design Approach and Frameworks that comprise the Campus Master Plan. Their feedback was essential to ensure that this Plan reflected the aspirations of the whole campus community and will be just as essential as the Campus Master Plan is implemented

Part 1:

Context



1.0 Introduction

1.1 Scope and Planning Process

1.1.1 Scope

The Campus Master Plan (the Plan) outlines the Vision, Objectives, Design Approach and Frameworks, and policy to guide the growth of the Prince George campus as it responds to changes in enrollment, academic and research needs, and student housing demand. The Plan is a tool for realizing the priorities outlined in the University Plan, Strategic Roadmap, Academic Action Plan, Strategic Research Plan, Aboriginal Services Plan, Updated Green Strategy, and Capital Plans in the physical space of UNBC's campuses. While the design approach, Frameworks and policy primarily address the growth of the Prince George campus, the Plan's vision and Objectives also apply to the future of the regional and satellite campuses.

The Plan is written at a high level, it addresses the physical space of campus at a large scale. It does not delve into the intricacies of curriculum, space planning and allocations, and operations, etc. The Plan does provide an approach for governance, administration, phasing, and recommendations for supporting and additional studies that exist in complement to the policy written into the Plan but it does not address the funding of specific projects, nor does it address detailed operational strategies; these items will be governed by the Board of Governors as the Plan is implemented.

1.1.2 Planning Process

The planning process occurred over five phases: data gathering, analysis and engagement, development of options, drafting the Campus Master Plan, and finalizing the Campus Master Plan. Three distinct public engagement periods occurred over the course of the planning process: first to determine the Plan's Vision, Objectives

and Design approach, second to review the direction of the planning Frameworks, and third, to review the draft of the Campus Master Plan. The engagement process is described in greater detail in Chapter 5, Public Engagement.

1.2 Planning Context

The development of the University of Northern British Columbia's campus is under the purview of the Government of British Columbia and City of Prince George's planning and regulatory context. The University's Board of Governors operates within this context to manage and administer the campus property, business and revenue. Their decision making is informed by a series of Plans and Strategies, including the Campus Master Plan. Greater detail of the provincial, municipal, and institutional planning context is provided on the following pages.

1.2.1 British Columbia Regulatory Context

The University Act governs how all British Columbian universities operate. The Act provides broad powers to universities to acquire property and construct buildings in order to achieve the mandates of the University. Additionally, the provincial government sends a yearly mandate letter to guide decision making by the University's Board of Governors. Among other areas, the annual mandate letter can influence capital projects, academic programming, and research focus areas.

64% of UNBC's operating budget is provided by the Government of B.C., while approximately 24% comes from tuition and fees.

The University holds endowments of more than $50 million, which fund items such as student awards and faculty research chairs, and cash and operating investments of almost $50 million, which support ongoing infrastructure repair and replacements.

1.2.2 City of Prince George Context

UNBC is within the Northern British Columbian City of Prince George. The City and the University sit on the traditional lands of the Lheidli T'enneh First Nation.

The population of Prince George is approximately 74,000. The City's major employment sectors are bolstered by proximity to UNBC and include:

- Forestry;
- Professional, Scientific, and Technical Services;
- Energy and Bioenergy;
- Healthcare, Social Assistance, and Education; and,
- Tourism, Culture, And Information

Within the City of Prince George's Zoning Bylaw, UNBC's lands are designated as P4: Higher Education. The City of Prince George is responsible for the development and building permit approvals, infrastructure, and emergency services needed by the University.

1.2.3 UNBC Governance

The University of Northern British Columbia operates under the authority of the University Act of British Columbia and is governed by a Board of Governors and a Senate.

The Board of Governors is responsible for the management, administration and control of the property, revenue, business and affairs of the University.

The Senate is responsible for academic governance including matters related to admissions, faculties, libraries, courses of instruction, scholarships, student appeals and the granting of degrees.

The implementation of the Campus Master Plan is under the discretion of the Board of Governors.

1.2.4 UNBC Strategic Roadmap

The Strategic Roadmap outlines strategic priorities and action-oriented outcomes for the next three years. This establishes the vision for the University that all other plans, policy, and actions will be working towards. It is essential that present and future Strategic Roadmaps and the implementation of the Campus Master Plan are mutually reinforcing.

1.3 Regional Campuses and Affiliated Institutions

There are four additional campuses in the South Central, Northwest, and Peace River-Laird regional districts.

1.3.1 South Central

UNBC's South Central location is approximately 3km from downtown Quesnel and shares the campus with the College of New Caledonia. The Quesnel campus serves an area that stretches from 100 Mile House to Valemount to Burns Lake. It sits on the traditional territory of the Lhatko Dene (Red Bluff Band), Nazko, Lhoosk'uz Den Nation (Kluskus Band), and ?Esdilagh First Nations (formerly Alexandria Band).

While not a campus, the Quesnel River Research Centre (QRRC) is an important part of UNBC's research and pedagogical approach. The QRRC is a facility that hosts a wide range of scholars who seek to improve the understanding of topics related to (and including interactions with) the natural environment. The centre was established in 2002 as western Canada's only field station focused on the highly interdisciplinary domain of landscape ecology.

1.3.2 Northwest

There are two campuses in the Northwest. One in Terrace (opened in 2000) and its satellite location in Prince Rupert. The Terrace location is the Northwest regional head quarters. The Terrace campus is situated on traditional Ts'msyen territory of the Kitsumkalum and Kitselas First Nations. Here, students can take courses face to face, virtually, or through field courses in the region.



Figure 1.0 UNBC Campus Locations



Figure 1.1 UNBC Celebrates 25 Years

1.3.3 Peace River-Laird

Fort St. John is home to UNBC's regional campus headquarters. Students here are able to enroll in both undergraduate and graduate programs in the areas of Social Work, Business, and Education. Through a partnership with Northern Lights College, students can take individual courses sufficient for a BA General. The campus is situated on the traditional territory of the Doig River, Blueberry, and Halfway River First Nations.

1.3.4 Affiliated Institutions

The Wilp Wilxo'oskwhl Nisga'a is an aboriginal post-secondary institute located in the Nass Valley of Northern B.C., approximately 100km northwest of Terrace. The WWNI is affiliated with the University of Northern British Columbia, Northwest Community College, and Royal Roads University for the delivery and accreditation of its courses and programs. The WWNI is a non-profit organization that serves the post-secondary needs of Nisga'a and non-Nisga'a people resident in New Aiyansh, Gitwinksihlkw, Laxgalts'ap, and Gingolx, in Nisga'a Urban Locals located in Terrace, Prince Rupert/ Port Edward, and Vancouver, and attracts students from all regions of the province as well as from across Canada and internationally.

1.4 Prince George Campus History

1960s: A UNBC Dream

The dream of having a northern university goes back to the 1960s, when then-MLA Ray Williston set aside the land on which UNBC's Prince George campus is currently situated as a university reserve.

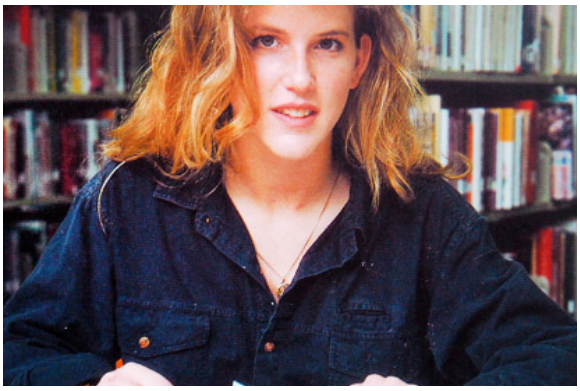
1991: The First Campus Plan

Once officially a University, UNBC needed a plan for growth. In 1991, the first campus plan, entitled the Facilities Master Plan was developed by Musson Cattell Mackey Partnership. This document is the backbone of the campus' form today.



1994 Official Opening

On August 17, 1994, Her Majesty Queen Elizabeth II visited Prince George to officially open the University.



1990: The UNBC Act

On June 22, the Provincial Legislature passed Bill 40, The UNBC Act, with all-party support. This officially created UNBC. The photo above depicts UNBC's first student.



1992: Sod Turning

April saw the official sod-turning ceremony for the Prince George campus, conducted by BC Premier Mike Harcourt. This was followed in May with the largest and most prestigious event in the UNBC's history to date - the Inaugural Convocation Ceremony, at which the formal Installation of the President and Chancellor took place.

1998: Maclean's Ranking

Not since the live, televised opening of the campus had UNBC received such important national media coverage as when Maclean's magazine included UNBC in its annual ranking of Canadian universities. UNBC debuted ninth out of 21 universities in Maclean's "primarily undergraduate" category, achieving best-in-category scores for library acquisitions and research.

2004: 10 Full Years

A decade after The Queen came to open the Prince George campus and kick-start full operations for UNBC, the total number of alumni (more than 4200) had finally surpassed the number of current students (about 3700). First Nations students made up about 10% of the student body, one of the highest percentages in Canada.

The year ended with timely validation from Maclean's, which, in 2004 for the first time, named UNBC the best small university in western Canada.



2010: First Place... With Harvard

The growing bioenergy project - and its connections with teaching, research, communities, and the local forest industry - earned UNBC the top campus sustainability award in North America, from the world's largest college/university "green" association. In fact, UNBC shared the first-place award with Harvard University.

2012: Planning for Growth

Over 20 years, the campus had grown substantially, and was quickly gaining international notoriety as a small, environmentally sustainable, research University. It was time to update the Campus Plan to reflect the growth of the University since its inception. The new Campus Master Plan created provisions for new building developments, increased enrollment, and expanding academic programs.

2007: Canada's Green University

The adoption of the trademark "Canada's Green University" in 2007 affirmed UNBC's commitment to sustainability. The Green University vision is to make UNBC a sustainable campus, to engender a 'spirit of sustainability' in the UNBC community, to make the UNBC campuses models of sustainability for communities and organizations in Northern British Columbia, to improve on our national and international reputation for excellence in teaching and research in the area of sustainability.



2011: The Bioenergy Plant

In 2011, Premier Christy Clark joined MP Dick Harris to officially open the University's Bioenergy Plant, which uses local sawmill residue to reduce UNBC's use of fossil fuel for campus heating by 85%. Within a few months, third-party testing revealed the emissions from the Plant to be lower than natural gas, making it one of the cleanest bioenergy plants in North America.

Continued support for innovation with wood led to a Government announcement later in the year that it would construct a Wood Innovation Centre in downtown Prince George that would also house an expansion of UNBC engineering programs.

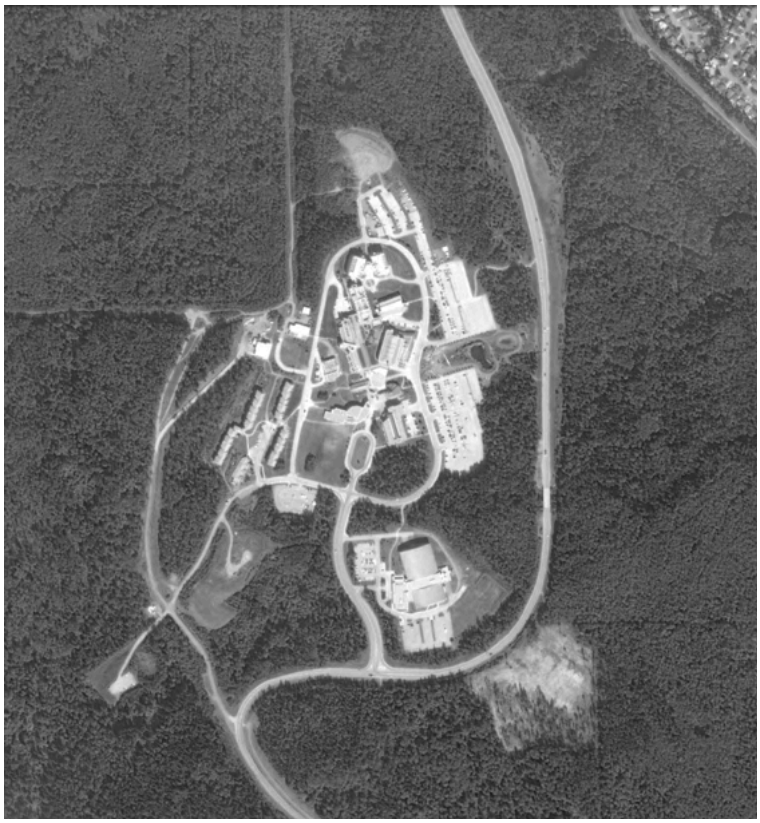
The following aerials depict the development of campus over time. Large additions such as the Charles Jago Northern Sport Centre and Teaching and Learning Centre can be seen.



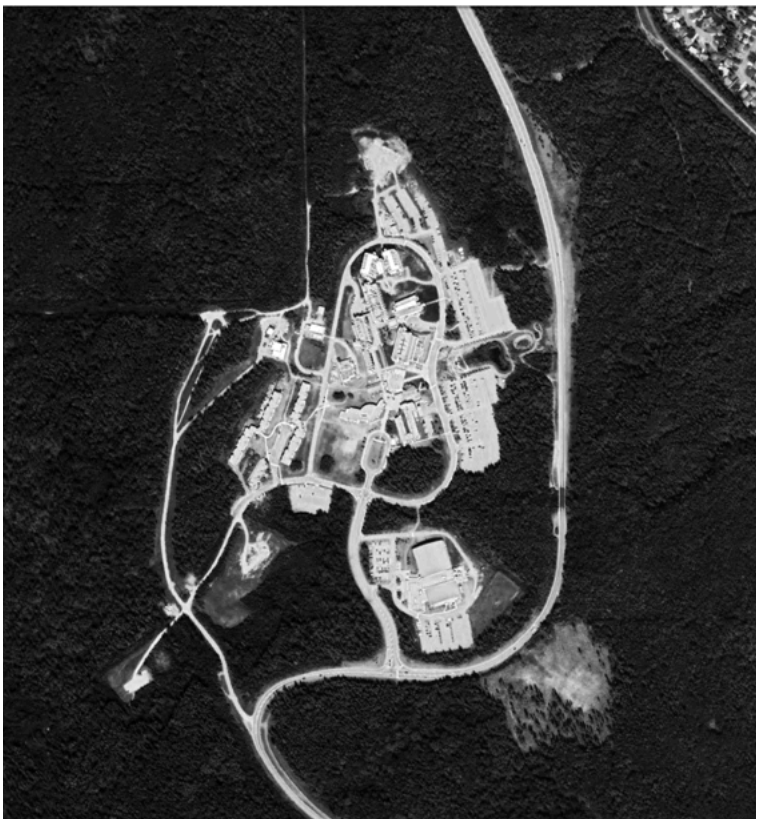
2002



2011



2016



2018



2.0 Existing Conditions

2.1 Prince George Context

2.1.1 Location

The Prince George campus is on Cranbrook Hill, just west of the neighbourhoods of Westwood and the emerging University Heights neighbourhood within the City of Prince George. West Bowl is a well-established residential neighbourhood just east of campus that hosts much of Prince George's apartment complexes and rental homes. The University Heights neighbourhood is a future development that will encompass 674 hectares of land immediately east and south of UNBC. This neighbourhood will likely be very influential on future development at UNBC and should be considered as this Plan is implemented.

West of campus is an extensive forest. UNBC sits at a frontier between the City, and the forest. Presently multi-use, equestrian, and mountain bike trails act as non-road connections between the forest, UNBC, and the rest of the City.

UNBC also has two satellite locations in downtown Prince George at The Wood Innovation and Design Centre and the Wood Innovation Research Laboratory.

2.1.2 Climate

UNBC's experiences all four seasons in full. The climate is classified as humid continental with warm to hot summers and cold winters. The average summer temperature is 16 degrees Celsius, peaking in the low 30s. In winter, the average temperature is -6 degrees Celsius, ranging from above zero to thirty below. The area experiences precipitation distributed fairly evenly throughout the year.

The most extreme cold temperatures take place during the academic year. This has a significant effect on how people move around the campus and therefore is a primary consideration in the Plan of open spaces and active transportation networks.

With a climate of relatively hot summers and cold winters, and with an expansive interface large stands of conifer forest, UNBC must be mindful of wildfire. The Prince George Wildland Interface Wildfire Management Plan (2005) identified the forested area to the west of the campus as a significant wildfire risk due to the presence of coniferous fuels that may be difficult to suppress.

The management plan provides several land use planning strategies to help reduce wildfire risk. As one example, modification of the fuels profile can help reduce fire behaviour potential by changing the stand structure and/or species composition. To reduce fire hazards, UNBC has already removed a five-hectare portion of Lodgepole Pine trees to the south of the campus that were killed by Mountain Pine Beetle between 2004 and 2005.

The management plan does not provide specific setback requirements for developments adjacent to forests, however the location of future buildings on the UNBC campus should be evaluated in relation to potential wildfire hazards as outlined in policy 6.3.3.1.

2.1.3 Biogeoclimatic Zone

UNBC is located in the Sub-Boreal Spruce biogeoclimatic zone (Meidinger and Pojar 1991). Some of the native species to the area are: Hybrid white spruce, Douglas-fir, Lodgepole pine, Oak Fern, Blueberries, Devil's club, and High-bush cranberry.

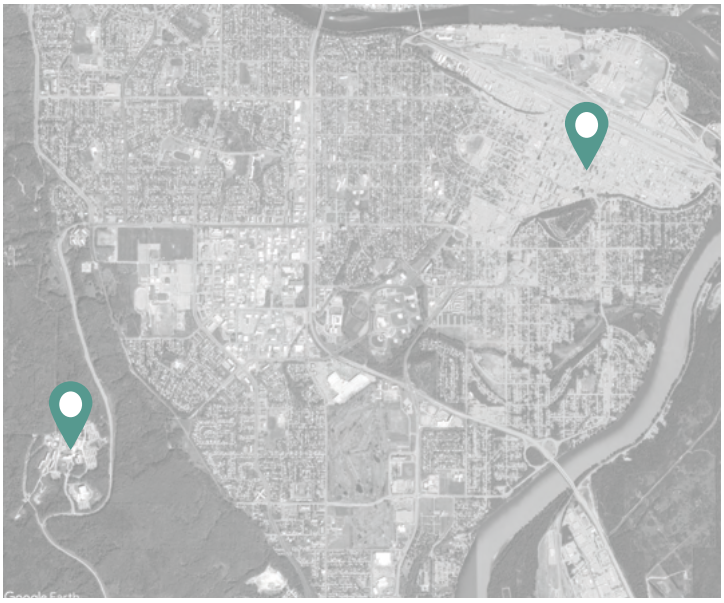


Figure 2.0 Prince George Downtown Campuses

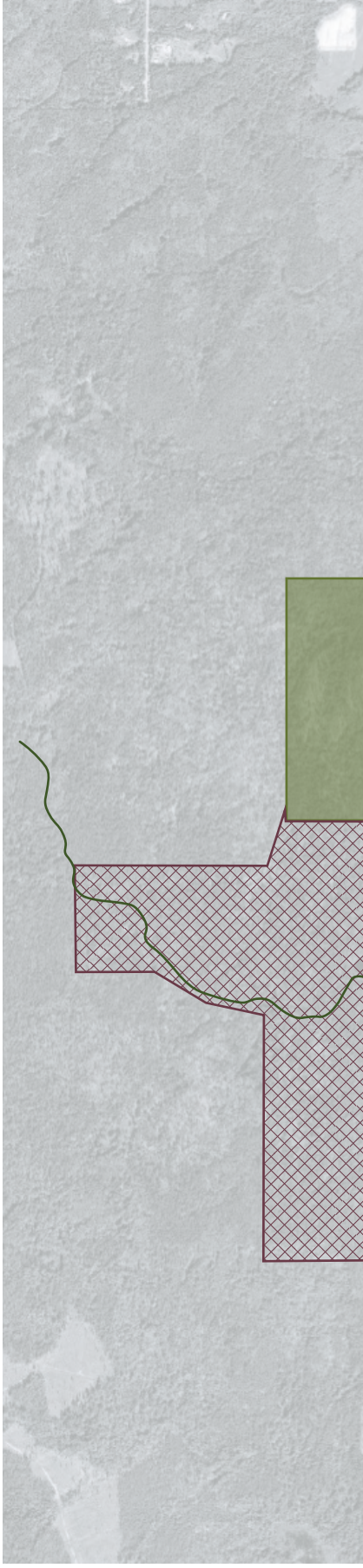
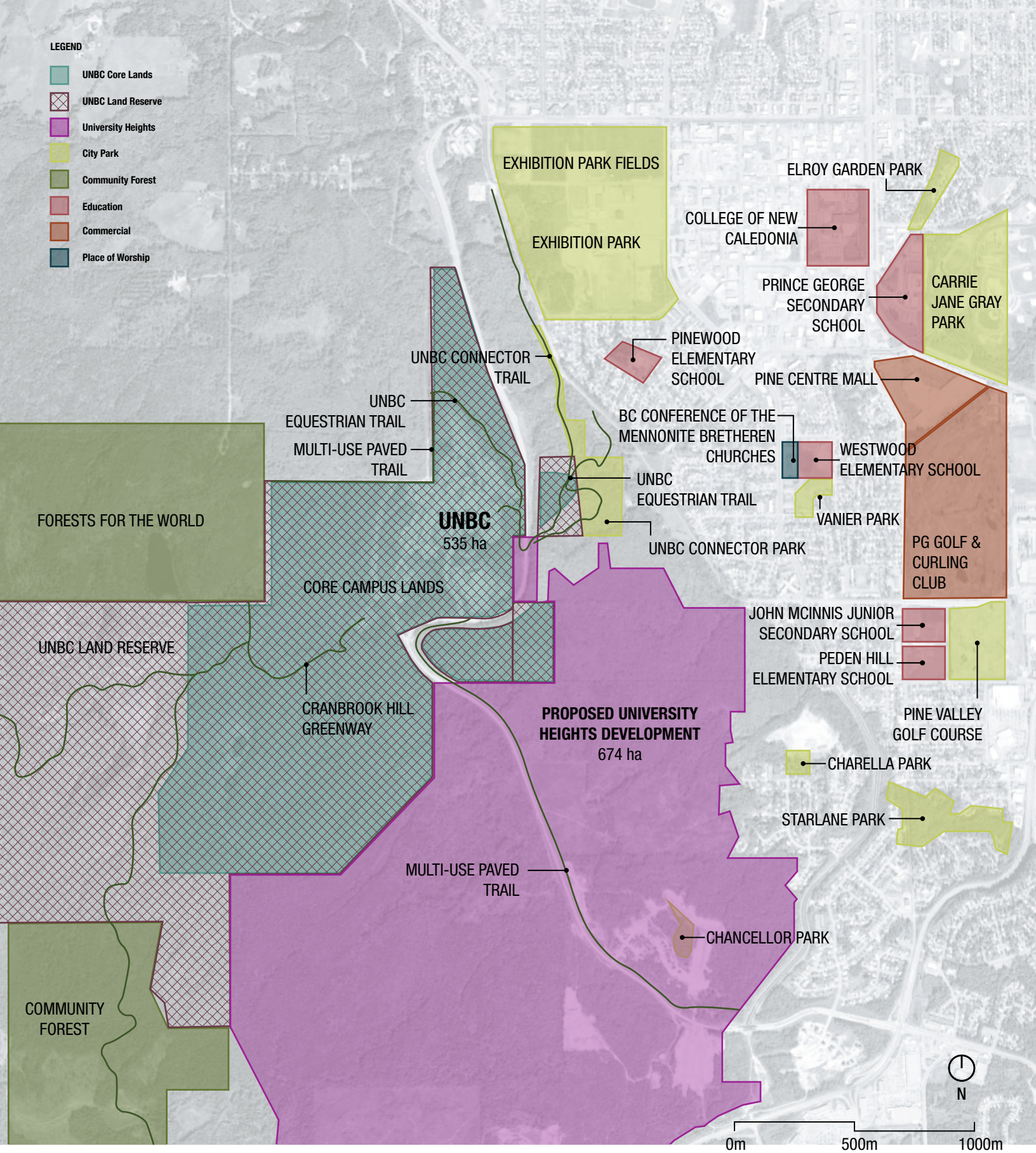


Figure 2.1 Prince George Campus Context


LEGEND
UNBC Core Lands
UNBC Land Reserve
University Heights
City Park
Community Forest
Education
Commercial
Place of Worship
EXHIBITION PARK FIELDS
EXHIBITION PARK
ELROY GARDEN PARK
COLLEGE OF NEW CALEDONIA
PRINCE GEORGE SECONDARY SCHOOL
CARRIE JANE GRAY PARK
PINEWOOD ELEMENTARY SCHOOL
UNBC CONNECTOR TRAIL
PINE CENTRE MALL
UNBC EQUESTRIAN TRAIL
MULTI-USE PAVED TRAIL
BC CONFERENCE OF THE MENNONITE BRETHEREN CHURCHES
WESTWOOD ELEMENTARY SCHOOL
UNBC EQUESTRIAN TRAIL
VANIER PARK
FORESTS FOR THE WORLD
UNBC
535 ha
UNBC CONNECTOR PARK
PG GOLF & CURLING CLUB
CORE CAMPUS LANDS
JOHN MCINNIS JUNIOR SECONDARY SCHOOL
PEDEN HILL ELEMENTARY SCHOOL
UNBC LAND RESERVE
CRANBROOK HILL GREENWAY
PROPOSED UNIVERSITY HEIGHTS DEVELOPMENT
674 ha
PINE VALLEY GOLF COURSE
CHARELLA PARK
STARLANE PARK
MULTI-USE PAVED TRAIL
CHANCELLOR PARK
COMMUNITY FOREST
N
0m
500m
1000m

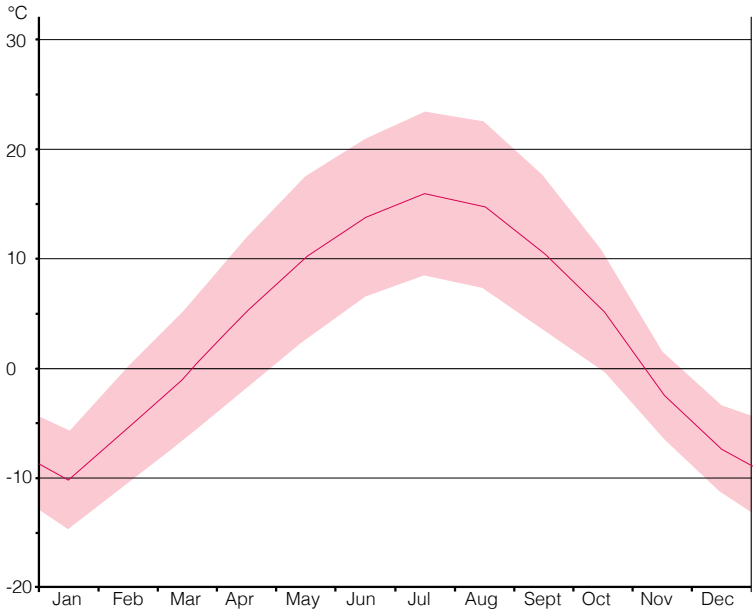


Figure 2.2 Prince George Average Climate

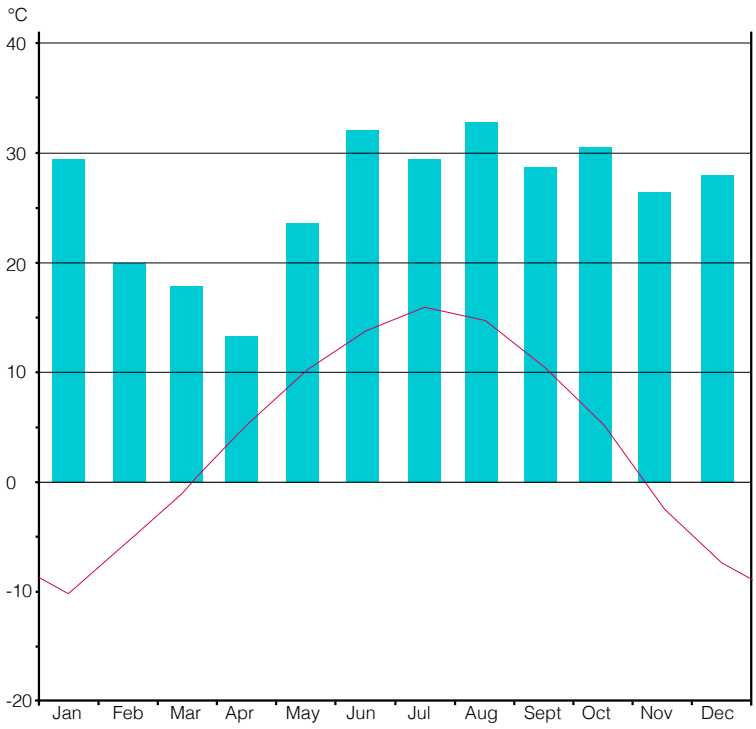


Figure 2.3 Prince George Average Precipitation



Figure 2.4 **The University Plan**

2.2 Existing Plans and Strategies

The Campus Master Plan builds upon and is in support of UNBC's existing planning and strategic Frameworks.

2.2.5 The University Plan

The University Plan is a representative summary of all UNBC planning documents that have come to effect since 1989. It describes UNBC's Values, Vision, and Mission, and goals. This summary is intended to serve as a touchstone for ongoing discussions for future development and updating the UNBC Plan.

2.2.6 Strategic Roadmap (2018-2021)

The Strategic Roadmap outlines strategic priorities and action-oriented outcomes for the next three years. This establishes the vision for the University that all other plans, policy, and actions should be working towards.

2.2.7 Academic Action Plan

The Academic Action Plan outlines UNBC's academic goals and a long-term Framework for their achievement. The Framework is made up of subsidiary themes which include:

- Academic Structure;
- Academic Administrative Organizational Structure;
- Student Experience and Pedagogy;
- Enrollment Initiatives; and,
- Faculty Renewal and Development.

2.2.8 Strategic Research Plan

The Strategic Research Plan provides six major Objectives for the future of research at UNBC These are:

- To strengthen research at UNBC that is of outstanding quality and pioneering in its innovation, especially in strategic interdisciplinary research areas that are of marked importance to our region and similar areas;
- To enhance the training of researchers, by increasing the number of graduate students and by providing a highly stimulating research environment for all of our students (undergraduate and graduate) that establishes UNBC as a leader in the integration of research and teaching;
- To guarantee our researchers access to superior research resources and infrastructure, and to manage these to ensure their effective and efficient use;
- To develop new research relations with communities, businesses, industries, other academic institutions and other partners, regionally, nationally, and internationally;
- To enhance access to the results of our research, through improved knowledge translation, transfer and application, in order to maximize their benefits to society in Northern British Columbia and beyond; and,
- To maximize the potential for research to enhance faculty recruitment to UNBC, by promoting research dissemination and by the strategic allocation of Research Chairs.

2.2.9 Aboriginal Services Plan

The Aboriginal Service Plan contains a range of initiatives to attract Aboriginal students to post-secondary studies, assist with transitions out of university, and enhance holistic cultural support while at UNBC.

2.2.10 UNBC Green Strategy (2009-2011)

The UNBC Green Strategy is out of date, but still serves as an overarching document to guide sustainability policy and action at UNBC. The Strategy sets forth series of Objectives and action-oriented strategies to achieve UNBC's Green University Vision.

2.2.11 5-Year Capital Plan (2018-2023)

The 5-year Capital Plan outlines the University's plans for the next five years for the planning and construction of new facilities, the re-purposing of current facilities and the expansion of others. These projects include academic space re-purposing, energy management and facilities construction, housing planning and research infrastructure.

There are four categories of capital projects:

- New projects driven by the need to accommodate growth and provide labour market demand-driven capacity.
- Whole asset replacement and renewal projects driven by the need to improve the physical asset condition and tor reduce maintenance backlog.
- Student housing.
- Other: research facilities.

The five priority projects are:

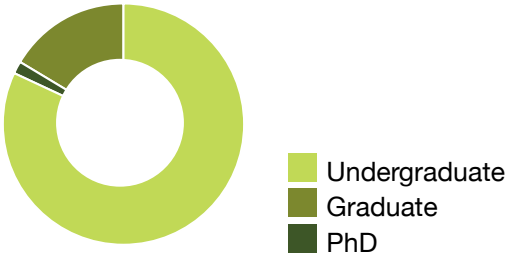
- Engineering building renovations;
- A new engineering building;
- A health sciences building;
- A facilities and maintenance building; and,
- Renewal of the Agora

2.3 Campus Community Demographics

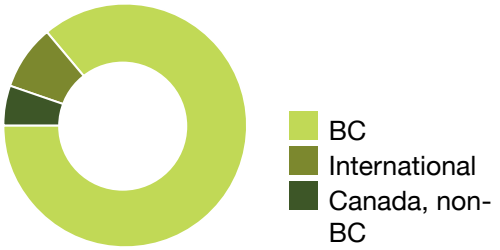
The present five year enrollment projection envisions 5,100 enrolled students by 2023, with FTE students making up 80% of that number. About 1000 students will be Indigenous decent, and about 800 will be international. Of the remainder, half will be students arriving to UNBC straight from high school, and the other half will be transfers and/or returning mature students (approximately 1700 each). About 20% of the student population will be graduate students.



Over 4,000 students, faculty, and staff make up the campus community.



Of the students, 82% are in undergraduate, 16% are in graduate, and 2% are in PhD programs.



The majority of UNBC's students come from BC. 9% are international students.



UNBC has a gender ration of 1:1.6 male to female.

392 students have self-declared as Aboriginal.

Figure 2.5 Campus Community Demographics



2.4 Existing Open Space Conditions

2.4.1 Outdoor Open Space

At present, the UNBC Prince George campus is interior-facing. Most of the open outdoor space is lawn or paved, with small stands of trees. As the majority of outdoor space is covered in snow during the academic year, indoor public realm amenities appear to have been prioritized in both design and campus operations.

2.4.2 Ecological Conditions

UNBC is located in the Sub-Boreal Spruce Dry Warm biogeoclimatic zone. Some of the native species to the area are: Hybrid white spruce & Engelmann spruce, Sub-alpine fir, Black spruce, Lodgepole pine, Occasionally Douglas-fir, Trembling aspen, Paper birch, Black cottonwood, Lilies, Ferns, Bunchberry, Blueberries, Devil's club, Black huckleberry, High-bush cranberry, Sitka alder, and Black gooseberry. Species that thrive post-forest fire include: Fireweed, Thimble berry, Lodgepole pine, Aspen, and Paper birch.

2.4.3 David Douglas Botanical Garden

The David Douglas Botanical Garden at UNBC is maintained by the David Douglas Botanical Garden Society and has a collection of flora native to northern British Columbia. The garden is solely volunteer run, and provides a number of horticultural and arboricultural education events year-round.

The David Douglas Botanical Garden is one of the few areas on campus with plant diversity. Unsurprisingly this makes it quite popular to the campus community, and provides a place of respite outdoors.

The David Douglas Botanical Society is working on a expanded Botanical Garden located to the south of the Student Residences.

2.3.4 Centres of Activity

The centres of activity on campus are the Canfor Winter Garden, Telus Student Street, and The Thirsty Moose Pub. These areas have been identified as popular by both students, academic and administrative staff.



Figure 2.6 Existing Secure Bicycle Storage



Figure 2.7 Pedestrian Movement Through the Agora

2.5 Existing Movement Conditions

2.5.1 Walking

The Ring Road encircles the built campus creating a vehicle-free Academic core. The resulting pedestrian circulation network is comprised of outdoor walkways, the interior connection system, and connection to regional trails. Given the cold climate, the fully enclosed interior connection system is the primary pedestrian link to buildings in the campus core. Regardless of whether they are indoor or outdoor, all pedestrian walkways are designed to be at 5% grade or below to support accessibility for all.

Presently, sidewalks are not present throughout campus streets. Instead, they mainly serve to connect large parking lots to the campus. The Ring Road is primarily used by vehicles due to the lack of multi-modal design treatment: sidewalks are discontinuous and lack a landscape buffer to separate them from the street, and there are no provisions for cyclists on the road.

2.5.2 Cycling

While a separated cycling facility is not present on campus, the use of bicycles is encouraged through provision of extra width in roads and walkways, storage racks at designated building entries, a bike maintenance stand, and two on-campus end-of-trip facilities.

The campus is also adjacent to three UNBC Connectors. These multi-use trails support walking, cycling and cross-country skiing and connect UNBC to the surrounding community.

2.5.3 Transit

UNBC is the second most popular origin and destination for transit users after Downtown Prince George. The 15-bus route has the highest ridership across all City bus routes during the weekdays, and maintains relatively high ridership into the weekend. Both the 15 and the 16 are two of the City's most popular bus routes. In the Prince George Transit Future Plan and the University's Academic Action Plan explore transitioning the 15-bus route to an express route to the campus during peak travel hours.

2.5.4 Vehicles

Presently, personal vehicle travel is the primary method by which the majority of

Student FTE	Ratio/Students	No. of Spaces
2000	1:2	1000
4000	1:2.5	1600
6000	1:2.7	2200
12000	1:3	4000

Figure 2.8 Parking Allotment

people arrive to campus. Once parked, campus is primarily traversed on foot through indoor connections between campus buildings.

The Campus Ring Road is the primary method of vehicular circulation and most people arrive to campus by way of Ceremonial Way.

2.5.5 Parking

The primary parking facilities are located east of the campus, in close proximity to the Agora. Buffer strips hide parking lots and are used as snow storage throughout the winter. In addition to the main parking facilities, smaller lots are distributed throughout the campus to support primarily non-academic usage.

The present parking allotment criteria is summarized in Figure 2.8, depicting the targeted parking to student ratio in response to enrollment.

2.5.6 Servicing And Emergency Vehicle Access System

The majority of goods are delivered to the central receiving dock in the Charles J. McCaffray Hall. From there they are unloaded, processed and either stored in the central storage area, or sent with hand trucks through the service tunnel system to the appropriate building destination.

Most delivery and waste removal activity is generated by the food service system. Waste from kitchens are placed in compactors close by for removal by truck.

To ensure emergency vehicle access, each building has at least one frontage that connects to an accessible roadway. Emergency access roadways are designed to the specifications of the City of Prince George Fire Department to meet the special requirements of large fire trucks.

Figure 2.9 UNBC Bus Shelter Under Construction



Figure 2.10 Prince George Campus Parking Lots



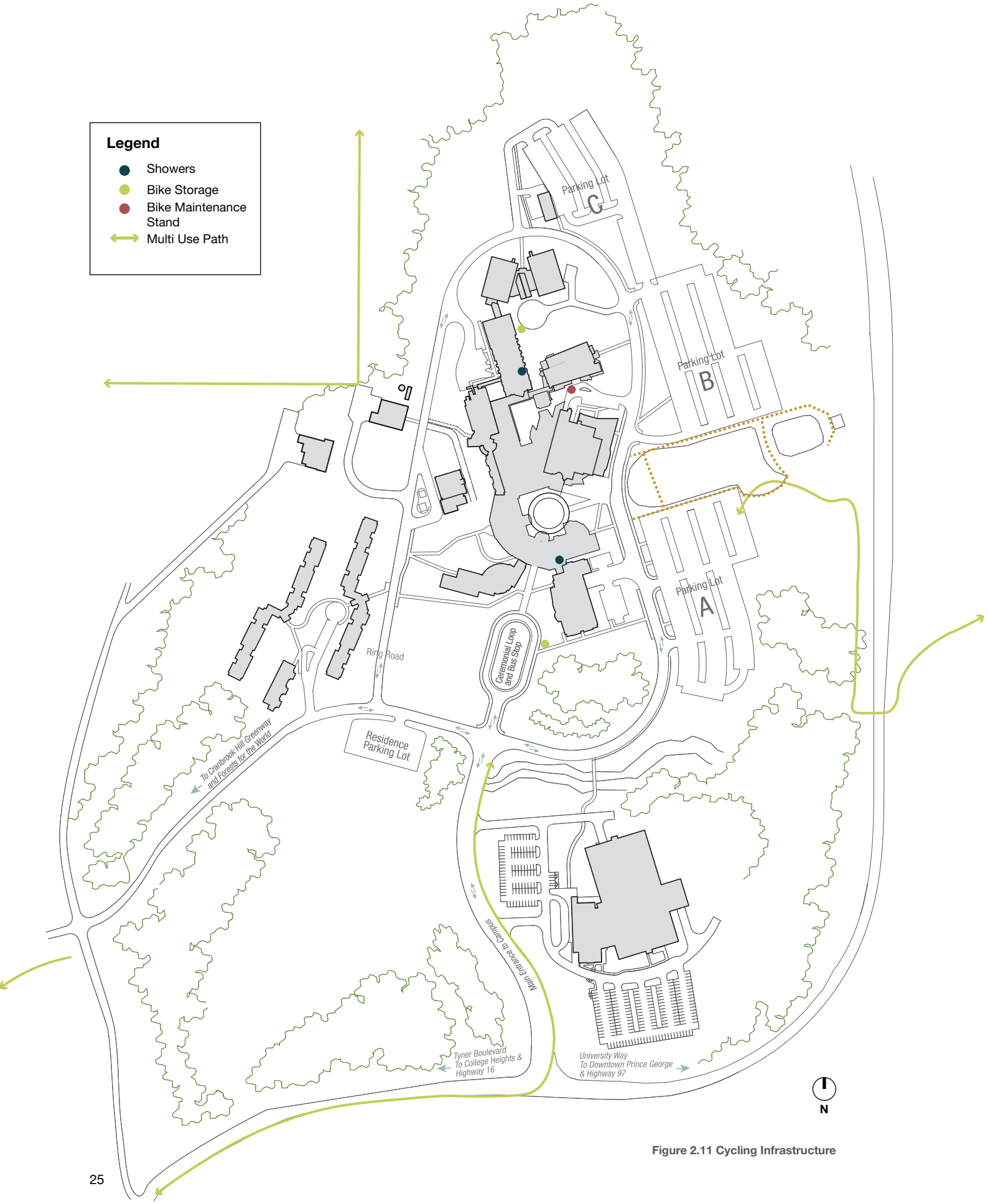


Figure 2.11 Cycling Infrastructure

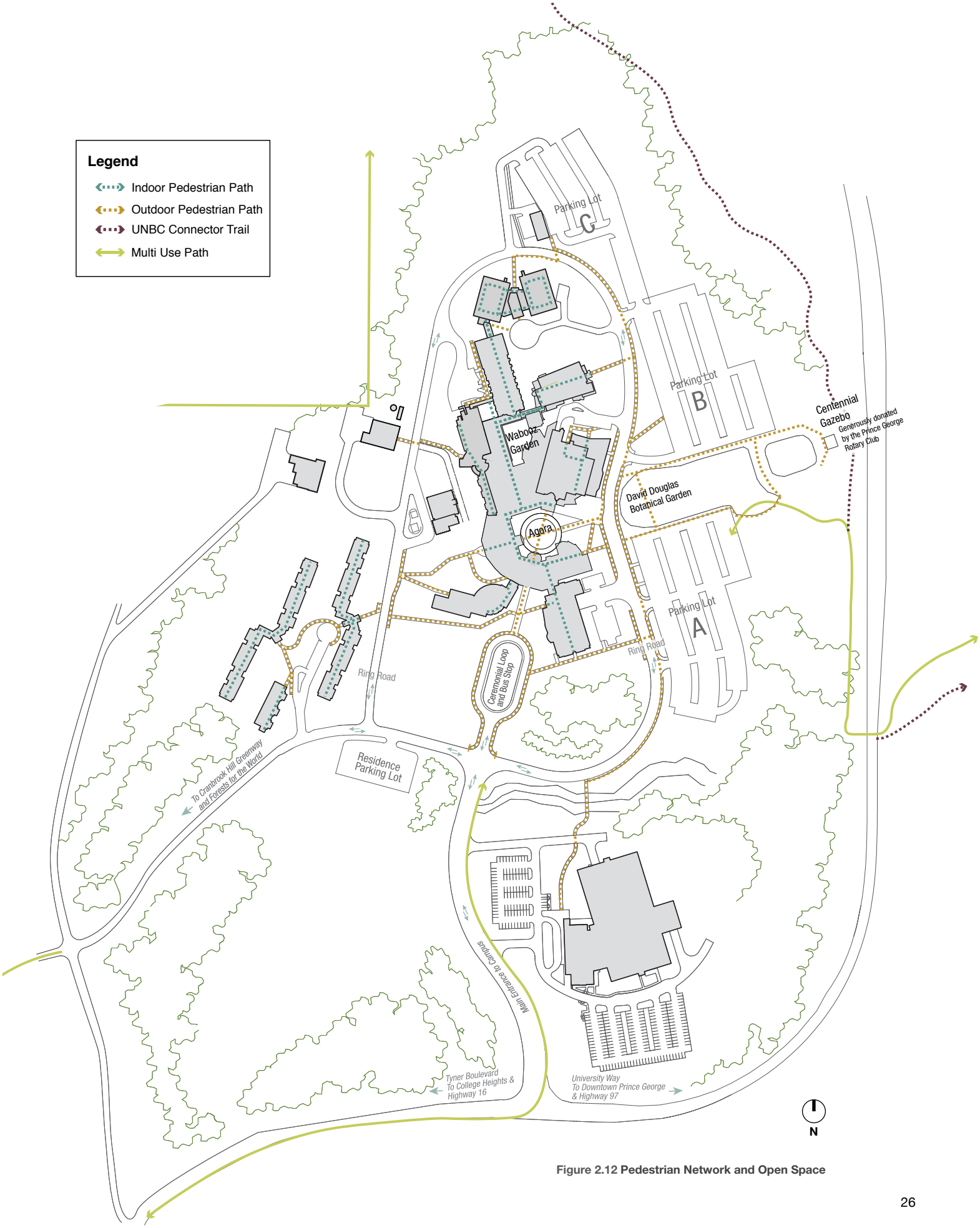


Figure 2.12 Pedestrian Network and Open Space

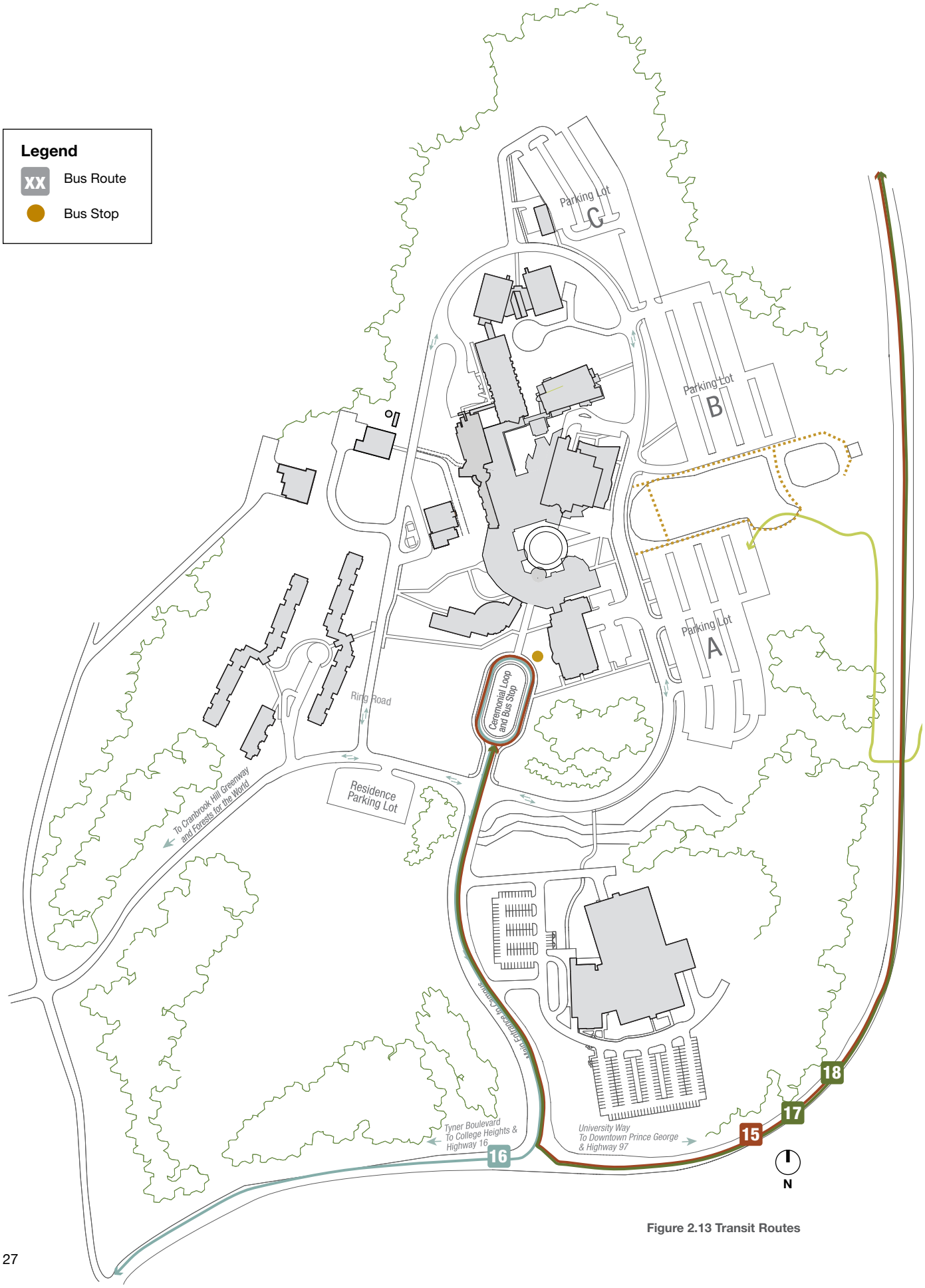


Figure 2.13 Transit Routes

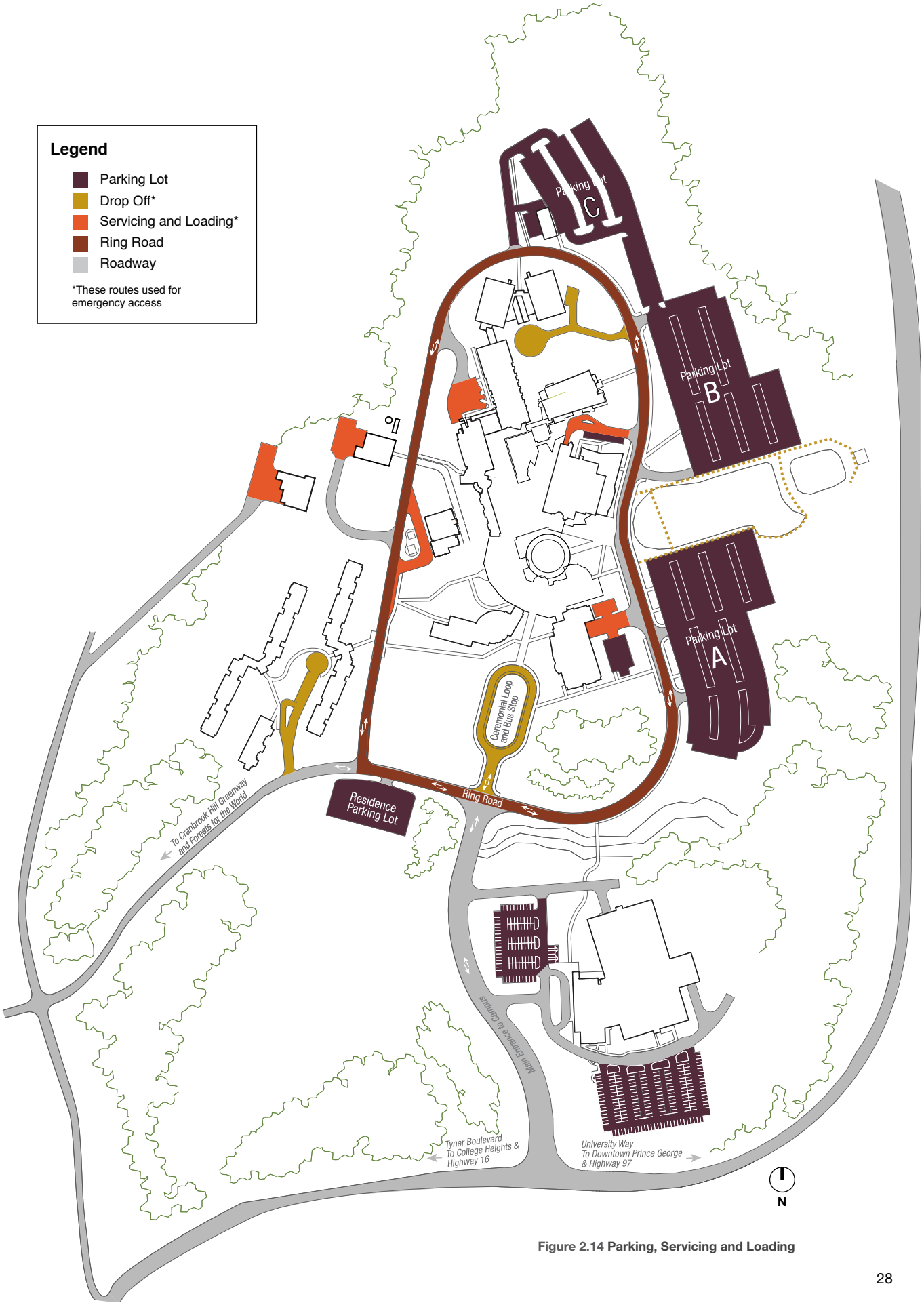


Figure 2.14 Parking, Servicing and Loading

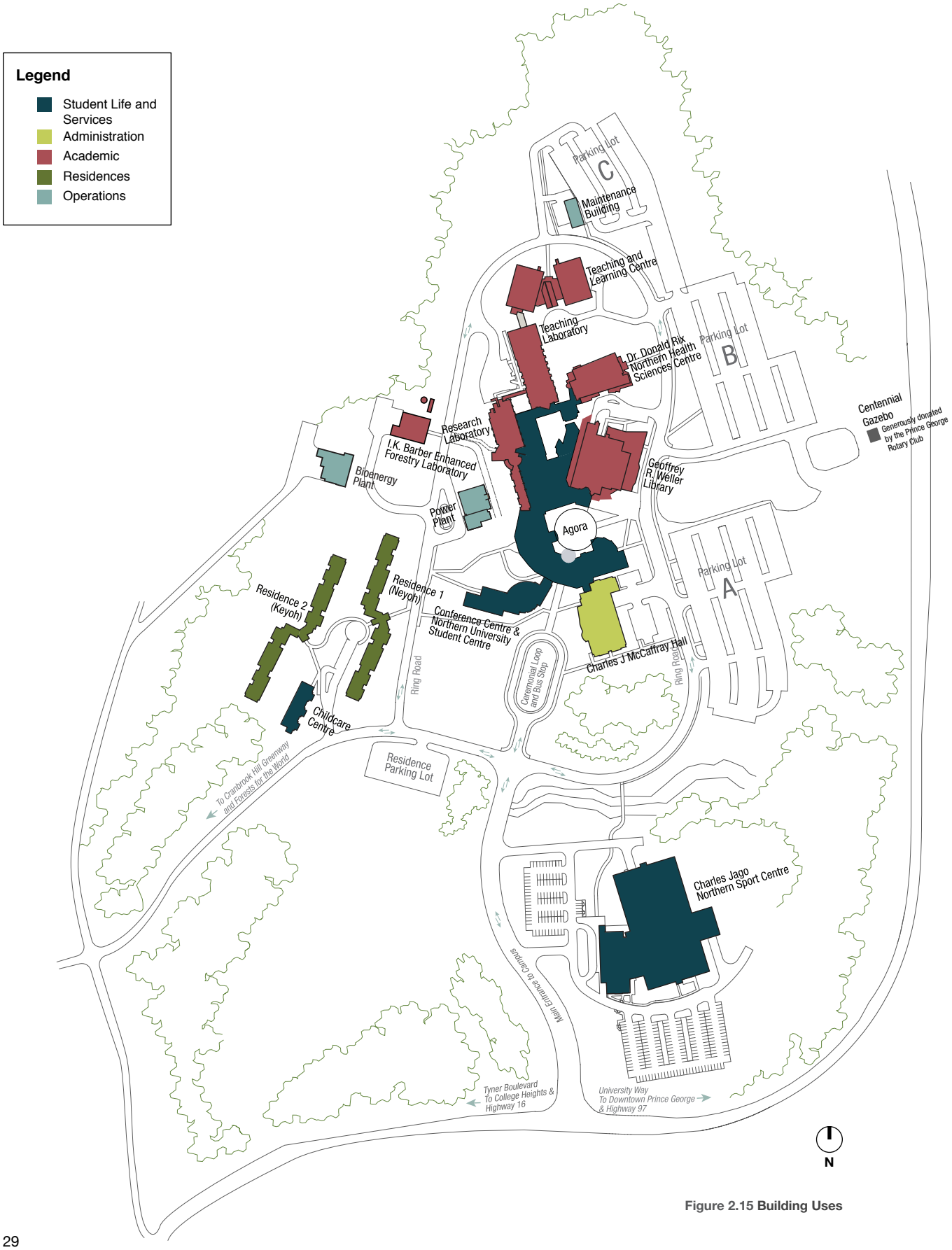


Figure 2.15 Building Uses

2.6 Existing Built Environment

2.6.1 Uses and Designation

The UNBC campus is oriented around the Agora, which provides both pedestrian circulation and space for lecture halls and other services, such as the UNBC bookstore, student services, and the cafeteria and dining hall.

Academic uses are concentrated to the north of the Agora, including both teaching and research facilities and the Geoffrey R. Weller Library. Charles J. McCaffray Hall is located to the south of the Agora along with the Conference Centre and Northern University Student Centre. Operations buildings are located separate from the academic core, although close enough to service the campus. These include the Bioenergy Plant, Power Plant, and Maintenance Shop.

The two residence buildings are positioned on a hill to the west of the academic core, elevated above the campus ring road. The campus daycare is located adjacent to the residences.

The Charles Jago Northern Sport Centre is located on the southern edge of the campus. This building requires more space for its multiple facilities, as well as public access separate from the academic core.

2.6.2 Character

UNBC's spatial hierarchy is organized by three intersecting axes (see Figure 2.16). As an organizational system, this produces unique spatial relationships within the built form which frame the northeast view of the City of Prince George and the distant Rocky Mountains. In their linear expression, the axes create progressive sequences for moving through the campus. The Agora is centered at the intersection of the axes, the only interruption in the sequence, marking it as the heart of the campus.

2.6.3 Infrastructure and Sustainability

UNBC's reputation as Canada's Green University provides a strong foundation for sustainable development. UNBC is guided by the Green University Vision, which outlines the following Objectives:

- To make UNBC a sustainable campus.
- To engender a 'spirit of sustainability' in the UNBC community.
- To make the UNBC campuses models of sustainability for communities and organizations in Northern British Columbia.
- To improve on our national and international reputation for excellence in teaching and research in the area of sustainability.

The University is actively supported by the Green University Centre, including the Green University Planning Committee (GUPC) and Green Team. The GUPC acts as an advisory body with respect to all initiatives at UNBC and manages the Green Fund, providing funding for sustainability projects on campus. The Green Team promotes pro-environmental behaviour through engagement activities, such as Earth Hour, Earth Day, Lights Out, Sweater Day and an Energy Awareness Drop-In Day.

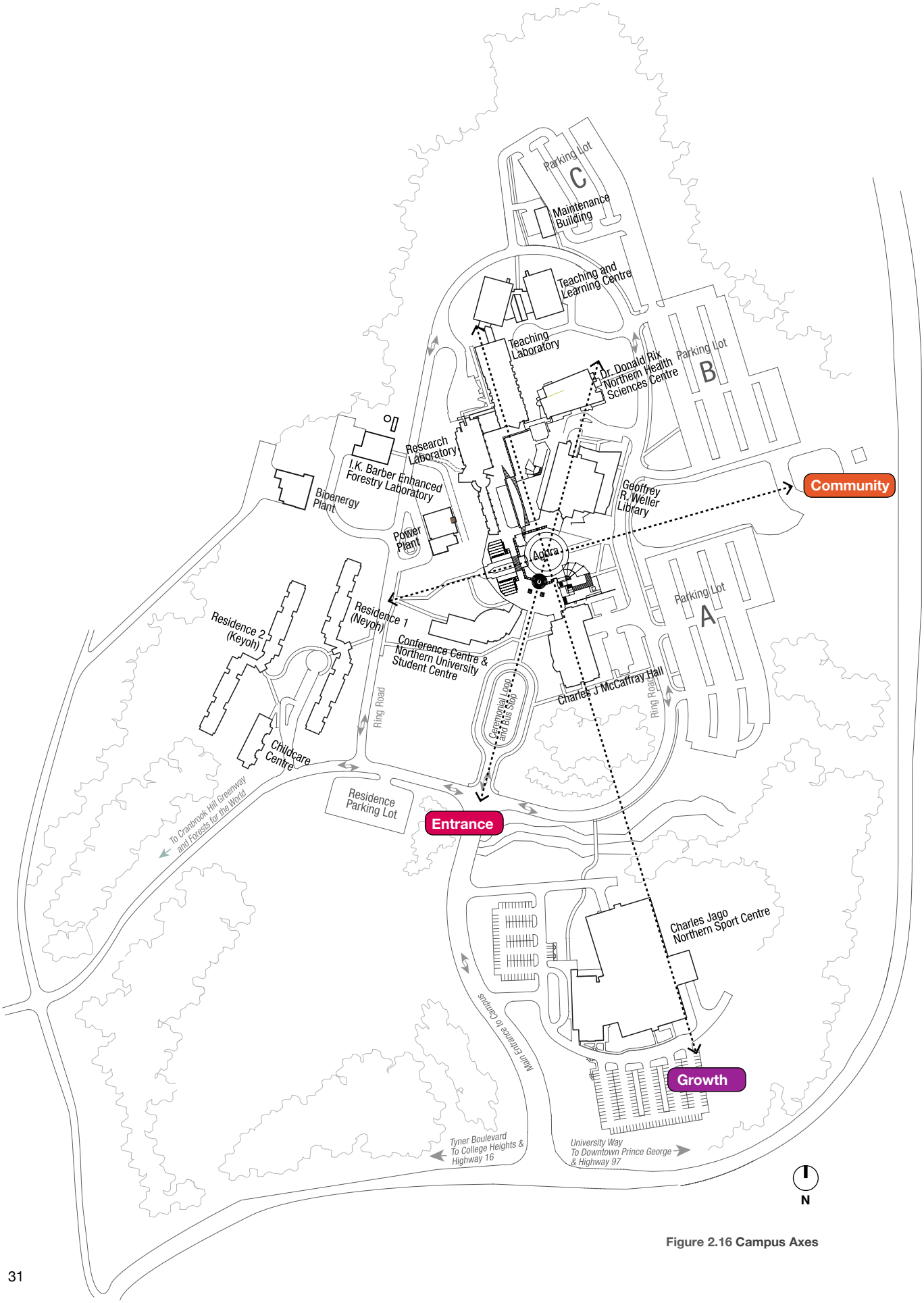


Figure 2.16 Campus Axes



Figure 2.17 Bioenergy Plant

2.6.4 Energy

Energy production on campus has been guided by the three phase UNBC Energy Initiative. Phase one involved the development of a wood pellet heating system, which provided renewable biomass heating to the Enhanced Forestry Laboratory. This demonstration project both contributed to educational and interdisciplinary research opportunities while reducing campus emissions.

Phase two expanded on the use of bioenergy with the development of a dedicated biomass gasification energy plant that transforms residual sawmill waste into a usable form of heat. The bioenergy plant was the first university building in British Columbia and the first building in the North to achieve LEED® Platinum certification.

Phase three – The Sustainable Communities Demonstration Project (SCDP) – involved the installation of a low-temperature, hot water district energy system to connect the student residences, campus daycare, and I.K. Barber Enhanced Forestry Lab with the bioenergy and wood pellet plants. The pipeline was designed and installed with flexibility in mind, including opportunities for future expansion and the ability to use alternative heating technologies such as geothermal, solar thermal, and heat recovery.

UNBC's Energy Management Program is supported by the BC Hydro Continuous Optimization Program, which helps identify and implement energy efficiency improvements for existing buildings. These include lighting retrofits, heating, ventilation and air conditioning projects, and building systems optimization. UNBC's energy management team is helping UNBC work towards its 2020 energy targets of reducing electrical and thermal energy consumption (combined) by 25 percent, and reducing fossil fuel consumption for heating by 85 percent.

2.6.5 Building Practice

UNBC's Green Strategy provides several Objectives with respect to campus facilities:



Figure 2.18 Wood Innovation and Design Centre



Figure 2.19 Wood Innovation Research Laboratory

- To incorporate sustainability principles in all facilities decisions and operations
- To ensure all future UNBC buildings meet and exceed the LEED® Gold standard
- To become a showcase for wood and local building materials

The 2012 UNBC Master Plan requires development proposals to provide a sustainability report outlining proposed sustainable measures, with scoring based on the Leadership in Energy and Environmental Design (LEED®) Framework.

The newly completed Wood Innovation Research Lab (WIRL) is a building that demonstrates UNBC's commitment to continuously advance sustainability measures, while integrating active research within the campus' built environment. This Passive House certified building both helps reduce campus emissions and supports the advancement of integrated wood design.

2.6.6 Waste Management

UNBC's Green Strategy outlines two Objectives for waste management:

- To strive toward building a campus-wide system of reducing, reusing, recycling that achieves a zero-waste circular system modeled after nature
- To reduce, reuse, and recycle in a sustainable context

Waste management on campus is supported by the UNBC Composting Program, which collects organic waste from bins located across campus and processes it within an on-campus compost garden. The compost program is organized by the Prince George Public Interest Research Group and is available to the entire University community. Organic waste diversion is also supported by other initiatives, such as the Food Recovery project, which collects surplus food from UNBC's Dining Hall for the Society of St. Vincent de Paul Prince George.

Recycling at UNBC is facilitated by 4-tier recycling bins located throughout the campus, as well as the Recycling Room and Green Centre. These two spaces allow students and faculty to recycle everyday items, such as plastic jugs and glass jars, as well as more difficult to recycle materials, such as batteries and electronics.

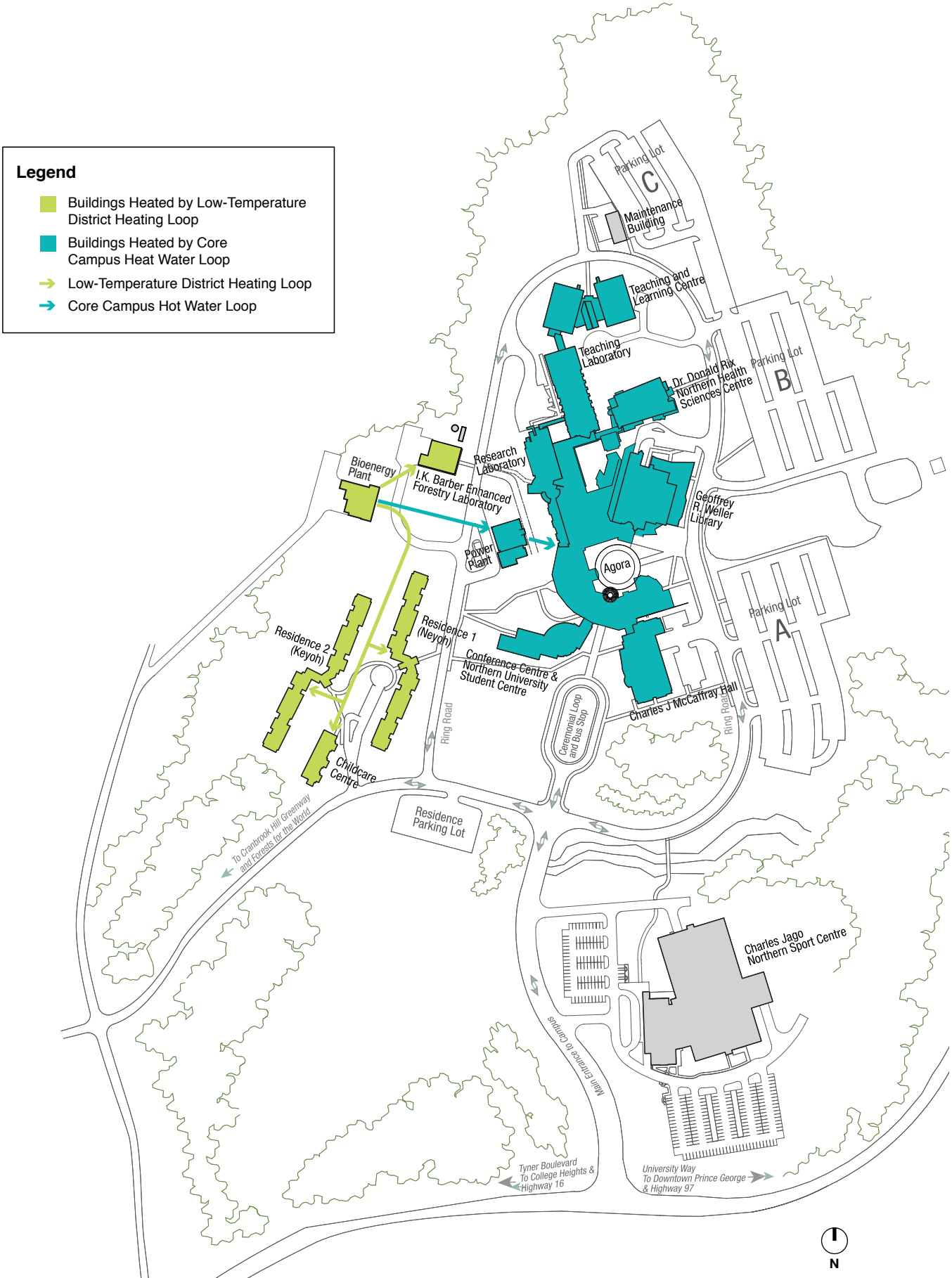


Figure 2.20 Energy Systems



Image of the WIDC by Ema Peter

3.0 Drivers for Change

This Campus Master Plan responds to a variety of factors that have changed in the larger academic context since the 2012 UNBC Campus Master Plan. These shifts have been part of the impetus for a new Campus Master Plan.

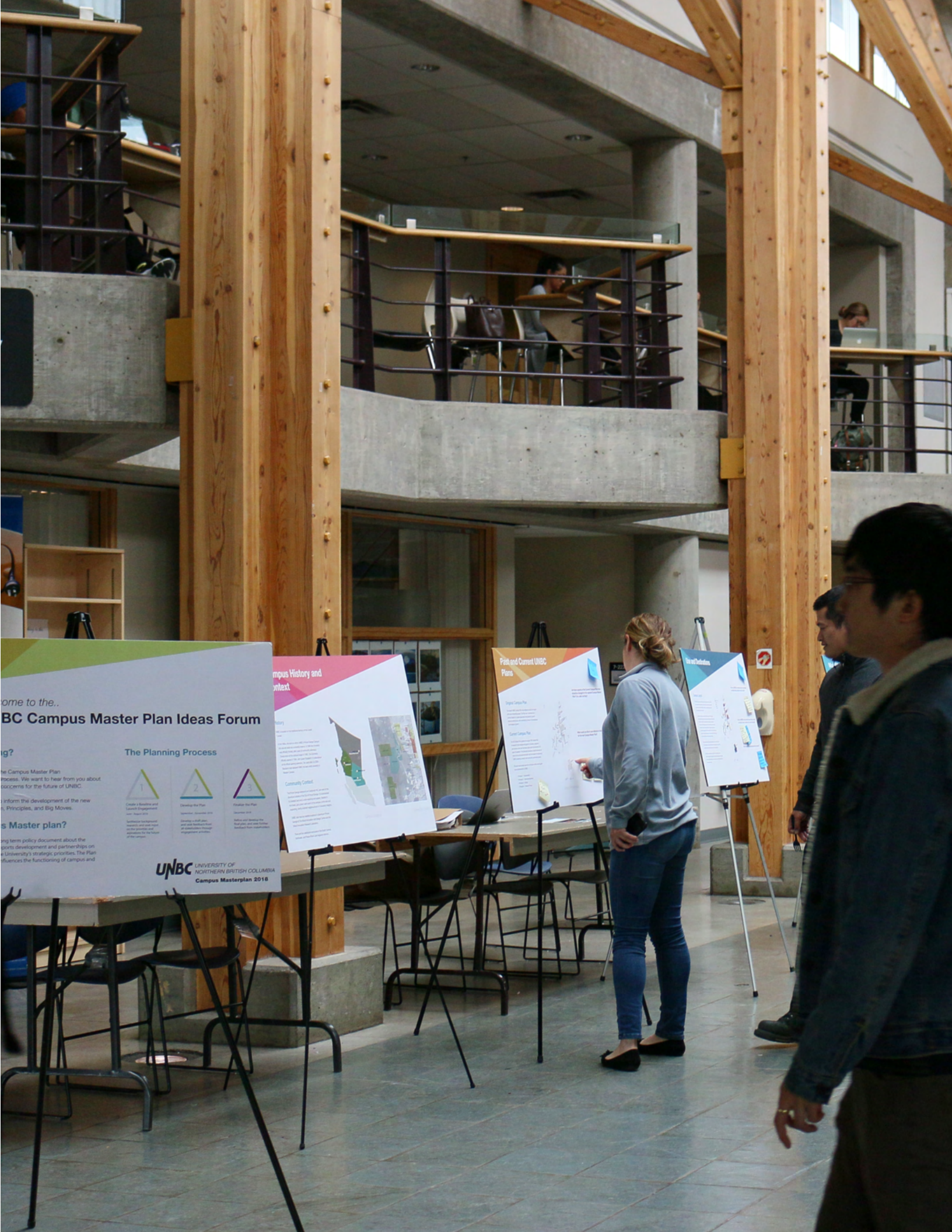
- **Social** – Demographic shifts have occurred within the student population, including the internationalization of student bodies. Traditional understandings of gender, family and identity have forced reconsideration of some approaches to physical space.

- **Technological** – Rapid advances in technology have shifted the way that students learn, how classes are taught and how people socialize. This has shifted approaches to pedagogy and how regional campuses might communicate amongst themselves.

- **Economic** – This Campus Master Plan looks to support UNBC to continue the work to develop strong relationships with local industry. This has included looking to support traditional northern industries, such as lumber, as they modernize. Education funding models have also shifted, increasing the impetus for partnerships and innovative approaches to funding and capital development.

- **Environmental** – The day-to-day realities of climate change and global warming have become harder to ignore. UNBC has identified as Canada's Green University, and this Campus Master Plan seeks to imagine what this might mean in the year 2040.

- **Psychological and Cultural** – Greater awareness of cognitive overload and mental health has shaped approaches to physical spaces on Campus. A renewed and increased commitment to reconciliation on campus has informed a commitment throughout the life of this plan to identifying ways in which to meaningfully incorporate indigenous cultural values in the physical form of campus.


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BC Campus Master Plan Ideas Forum
The Planning Process
UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA
Campus Masterplan 2018
Community Context
Plans

4.0 Public Engagement

4.1 Engagement Summary

4.1.1 Why We Engage

'En Cha Hunà

UNBC's motto, from the Dakelh (Carrier) Elders, is used to remind us that all people have a voice and a viewpoint. Directly translated as "he/she also lives," and interpreted as "respecting all forms of life," 'En Cha Hunà encapsulates the spirit of academic freedom, respect for others, and willingness to recognize different perspectives.

We engage to capture the vast voices and viewpoints of the stakeholders that make up the UNBC community. The engagement process is a willingness to recognize different perspectives and use them to create a richer understanding of a future vision for UNBC.

We also engage to create a sense of ownership over the Campus Master Plan's implementation. When stakeholders are directly involved in the development of the Plan, the outcomes will have the buy- and accountability needed to ensure successful implementation.

4.1.2 Engagement Process

Over the course of the campus master planning process, we have had hundreds of conversations with campus community members who shared their vision for UNBC in 2040. Staff, students and faculty expressed their view of what makes UNBC's campus great, their big ideas for the future and their present-day challenges. They provided direction for the Plan Frameworks presented in this document and priorities for implementation.

Throughout the Campus Master Plan's development, we hosted: an Ideas Forum, a Mobile Booth, a Speakers Event, two Stakeholder Workshops, drop-ins at the First Nations Centre, an Open House, and

multiple face to face conversations with stakeholder groups. Hearing from this vast wealth of experience and campus expertise was essential in forming the directives that will guide the growth of the campus over the next 22 years.

These engagement activities provided opportunity for both broad engagement to gain general input on priorities for the Prince George and Regional Campuses, and focused engagement for use in policy and design development.

The wide variety of engagement activities led to hundreds of conversations and comments. Eight major themes emerged from the engagement process and have been summarized in Figure 4.2. These themes directly informed the Vision, Objectives and Design Approach of this Campus Master Plan.



Create a Baseline and Launch Engagement

June - August 2018

Synthesize background research, and seek input on the priorities and aspirations for the future of the campus.

Engagement Activities:

- Project Communications launch
- Stakeholder Interviews

Develop the Plan

September - November 2018

Develop a draft plan, and seek feedback from all stakeholders through engagement activities.

Engagement Activities:

- Ideas Fair
- Mobile Booth
- Charrette
- Stakeholder Workshops
- 1:1 Interviews
- Speaker's Event
- Board of Governors Presentation

Finalize the Plan

November -December 2018

Refine and develop the final plan, and seek further feedback from stakeholders.

Engagement Activities:

- Open House
- 1:1 Interviews
- Stakeholder Workshops
- Board of Governors Presentation

Figure 4.0 Engagement Process

4.1.3 Engaging with UNBC's Indigenous Community

Engaging with UNBC's Indigenous community has been a priority throughout the development of the Campus Master Plan. We have worked with the First Nation's Centre to connect with Indigenous students and staff through engagement booths and a drop-in workshop.

We commit to continue to deepen our engagement with UNBC's Indigenous community as this Plan is implemented.



Figure 4.1 Engagement Events

The Plan should support opportunities for sustainable modes of transportation, including transit, walking, cycling, and reduced car-dependency.



Outdoor spaces should be maintained and programmed all year round.

The campus should be accessible to all.

The campus should enable active and passive recreation throughout the seasons.

The campus should be a destination for all residents of Prince George.



Informal social and learning spaces should be enhanced as a place to stay on campus when class is over.

There is a desire for increased amenities on campus including: food outlets, grocery store(s), convenience store(s), and housing.

The campus core should provide places for Indigenous ceremony.

Figure 4.2 Key Engagement Themes

Part 2:

The Campus Master Plan

VISION

away
from Home
NTER
AMPUS

walkable

open campus
↳ impromptu meeting

24/7

get over the hill

community services + conn
+ SP

↳ gondola
↳ switchback
↳ shuttle

Classe
in the
forest

diverse housing
7 → 75 yrs

endowment opportunity

inclusive TO ALL
living things

NESS CENTER

ection

Green
aces

erential's
ysical

Living Lab

Better Food Services

Recreational Enhancement

Delightful Public Realm

all year round

Every Studen

5.0 Vision, Objectives and Design Approach

5.1 UNBC Destination 2040

The Campus Master Plan is a strategic approach to realizing the goals and priorities outlined in UNBC's existing planning work and strategic roadmap as they pertain to campus lands. The Plan guides the growth and evolution of UNBC to a destination of 2040, and beyond.

The Plan is made up of three sections. First, the Vision, Objectives, Design Approach, provide a high-level overview of the intent of the Plan and create a concept for what UNBC's campuses will look like in 2040. Then, the Planning Frameworks drill down into policy, and present a series of recommendations that will bring that concept to life. Lastly, the implementation section provides a toolkit of additional studies that will strengthen the recommendations of the Plan, provide guidance the governance, administration, and phasing of the Plan, and highlight opportunities for partnerships.

The Campus Master Plan is a living document. Over the course of the next 22 years, the Plan should be reviewed and amended to respond to emergent challenges and opportunities.

5.2 Campus Vision

The University of Northern British Columbia builds on its roots as "the university in the North – for the North" by celebrating its northern environs with a campus that is inviting and inclusive through the seasons. UNBC functions like a dynamic neighbourhood, with diverse destinations, housing choices, and connections to the wider community. Its recreational opportunities, spectacular views, and cultural events further establish this unique place as a destination for students, faculty, staff, and the broader community alike.

The campus demonstrates leadership in sustainability through its high-performance infrastructure and buildings, and its focus on active modes of transportation. It embraces a holistic approach to well-being through indoor and outdoor active living, and in creating spaces for both active social exchange and quiet respite. The campus enhances and supports UNBC's core academic and research Objectives, providing flexible and adaptable spaces for learning and discovery.

5.3 Objectives

The Campus Master Plan creates an action-orientated Framework to achieve the following Objectives:

Nurture excellence in academia and research

A campus that supports the highest standards of teaching, learning, and research

Attaining the highest standards of teaching, learning, and research is at the core of UNBC's Mission. The campus supports the physical directions of the Academic Action Plan and Strategic Research Plan by planning for research spaces support innovation, collaboration and the advancement of knowledge, and teaching spaces are highly flexible, allowing adaptability to changing advancements in pedagogy.

Partner with First Nations to identify ways to apply Indigenous perspectives to the continual design of the campus

'En Cha Hunà

The campus embodies UNBC's motto 'En Cha Hunà, from the Dakelh Elders, which represents a spirit of academic freedom, respect for others and a willingness to recognize different perspectives. UNBC engages with First Nations in meaningful ways, identifying ways throughout campus to celebrate and support past and current First Nations presence. The Campus Master Plan reflects this commitment in policy and design directions.

Celebrate our unique location in northern B.C. and our multi-campus identity

One campus, many doorways

The Campus Master Plan outlines strategies for celebrating Prince George's winter climate, rural and industrious economic base, the vast expanse of northern B.C., and UNBC's multi-campus footprint.

Embody leadership in sustainability and resilience

Re-imagining Canada's Green University

UNBC embodies leadership in an approach to sustainability that considers social, economic and environmental factors.

Engage meaningfully through the campus planning process and through its implementation

A vision created - and implemented - together

Includes providing a diversity of mechanisms for the internal and extended UNBC community to participate in the creation and ongoing implementation of the campus plan.

Foster and enhance a sense of community

A welcoming and accessible campus

UNBC has a strong internal community that supports purposeful growth. The Campus Master Plan includes strategies for inclusivity, diversity, safety, housing, support services and amenities, and health services. The campus welcomes members of the surrounding communities, attracts esteemed scholars, researchers and students, has a strong international reputation and provides partnership opportunities.

Support holistic health and well-being

A vital campus life

The campus supports access to, and the 4-season enjoyment of, open spaces, trails, paths, and a diversity of opportunities for learning, social gathering, and recreation. The Campus Master Plan includes strategies to address the combination of social, economic, environmental, cultural, and political conditions identified by individuals and their communities as essential for them to flourish and fulfill their potential.

5.4 Design Approach

The Campus Master Plan's conceptual Frameworks are informed by the following physical planning design approaches.



A Campus of Scholarship

A Campus of Scholarship

The campus is a tool for teaching, learning, and research. It provides opportunities and inspiration for applied research, immersive learning experiences, informal educational moments, and thought-provoking ideas, indoors and outdoors, all year round.



A Winter Campus

A Winter Campus

The campus is enjoyed in all seasons. Winter is embraced as a cause of celebration and inspiration in approaches to open space, landscape design, building connections, transportation and public realm programming.



A Connected Campus

A Connected Campus

The campus is connected at all scales. Pedestrian connections are improved within the core campus; surrounding residential development is connected to UNBC through 'magnet' destinations like amenities, services, and attractions; and UNBC is better connected to downtown Prince George through an increase in all-season active transportation networks and public transit service.



A Campus Village

A Campus Village

The campus is a complete community that provides amenities and activities for residents, students and employees. The campus also serves as an attraction for the broader community through the provision of cultural and recreational opportunities.



A Sustainable Campus

A Sustainable Campus

The physical campus embodies sustainability leadership through the commitment to becoming a Carbon Neutral Campus. Growth of campus is compact, with minimal building footprints and designed around existing infrastructure, with provision for amenities and active transportation facilities. The public realm is designed with nature and features native and/or drought tolerant plantings, supports biodiversity, considers wildfire implications, and takes a natural systems approach to storm water management.


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6.0 Planning Frameworks

6.1 Introducing the Concept Plan

The Campus Master Plan Vision, Objectives and Design Approaches culminate into the UNBC Concept Plan which integrate Open Space, Built Form and Movement Frameworks.

Each of these Frameworks is further developed through more detailed policy directions that are outlined in following pages of this plan.

Left: Figure 6.0 Concept Plan


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4
6
1
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2

6.2 Destination 2040 Concept Plan

1. The Agora is reinforced as the symbolic heart of the campus. As the primary open space it is open year-round. A strong connection to the David Douglas Botanical Garden to the east along the Community Axis is enhanced and strengthened.

2. The campus quadrangle is a modern interpretation of a classic campus form. It serves as a permeable central open space which can be used both formally and informally.

3. Two potential building sites are identified within a student life precinct as potential student residences. Development on campus will be compact to create centres of activity and synergistic uses.

4. Connections with surrounding multi-use trails are enhanced and strengthened to encourage health and wellness on campus. The natural Northern environs are celebrated as a character defining feature.

5. A potential future building site is placed along the Community Axis, and could become a centre of student services - connecting the academic core of campus with the student life precinct.

6. A public space unifying two potential future building sites is imagined. This space will also serve to strengthen the Community Axis.

7. The Ring Road is re-imagined as a place for people. Multiple modes of transportation, including active modes, are welcome and safe.

Left: Figure 6.1 Annotated Concept Plan



Figure 6.2 Open Space Framework

6.3 Open Space Framework

The Plan sets forth a Vision of an Open Space Framework that supports UNBC's core academic and research Objectives. It celebrates its northern environs with a campus that is inviting and inclusive through the seasons. The Open Space Framework helps achieve this Vision through improving existing open spaces with strategies such as prioritizing native plantings that are indicative of the sub-boreal character of the surrounding campus lands, and creating memorable public spaces that bring people together to recreate, linger and enjoy the outdoors, year-round. Policy pertaining to the open space also includes recommendations for wildfire prevention, outdoor learning opportunities, and incorporating traditional uses on campus land.

6.3.1 A Diversity of Open Spaces

The Framework encourages the interplay and connectedness of buildings and open spaces, within a robust forested setting. The strategy is based on building upon the original natural setting, and recognizing the wide variety and density of use by students, faculty, staff, and visitors, during different times of the day, week, and year. The strategy focuses on six key moves:

- support a forested character, by conserving the existing forested setting and by extending elements of the character to permeate the core of the campus;
- conserve and commemorate the cultural heritage of the campus, including land-based traditional knowledge and the more recent establishment of UNBC's campus;
- enable opportunities for research and learning throughout the campus lands, including for leading sustainability practices;
- enhance the pedestrian experience throughout campus, including along major pedestrian circulation corridors by connecting them to significant existing and new destinations and having regard for cold-climate conditions, animation, and safety;
- develop a wide range of open spaces that accommodate a range of formal and informal uses, throughout campus; and,
- seek to enhance the delight and enjoyment of being on campus through an intricate placemaking strategy, with beautifully designed landscapes that incorporate views, opportunities for active and passive recreation, and public art.

6.3.2 Forested Lands

UNBC's forested setting should be one of its most prominent characteristics. The proximity to the forest is often cited as one of the most cherished features of the campus – supporting the wellbeing of UNBC's internal and external communities. Further, the relationship with the land itself is a fundamental opportunity for pedagogy and research, including traditional-knowledge sharing. Policies include:

- conserve and enhance existing forested areas where possible;
- support a forested character through the conservation of forested areas, as well as the design of new landscaped areas;
- acknowledge and incorporate elements of traditional land-based knowledge and use in forested areas; and,
- offer opportunities for research, learning, and interpretative landscapes and signage throughout campus lands.

6.3.3 Natural Heritage Conservation

The campus includes extensive lands that showcase the region's sub-boreal forest ecosystem and provide ecosystem services. The conservation of natural areas shall balance the parallel objectives of conserving the indigenous ecology of the campus, building resilience for an evolving ecology due to climate change, enabling research and pedagogy and supporting the use of natural settings by the community for learning and recreation. Policies to support natural heritage conservation include:

- identify and evaluate the ecological services of the campus landscape through academic research opportunities;
- conserve and enhance areas that are found through research to be essential to the function of ecosystem services; and,
- develop mitigation strategies when development encroaches on conservation areas.

6.3.3.1 Wildfire Prevention

Wildfire prevention should be prioritized in the design of all open spaces on campus. Wildfire spread is dependent on abundance of fuel. Forests with large conifers and an abundance of under-story vegetation are a potential catalyst for large-scale wildfires.

Designing landscapes to prevent wildfires requires consideration of the spacing of trees and plant species used. When designing for wildfire prevention, the latest policies and recommendations by BC Firesmart and the City of Prince George's Wildfire Management Plan should prevail. The following policies are included as a baseline:

All open spaces must be designed in accordance to three priority areas categorized as listed.

- First priority: within 10 meters of a building
- Second priority: 10-30 meters from a building structure
- Third priority >30 meters from any structure and extending to a distance of 100 meters and beyond

First Priority Area:
- limit shrubs, trees, dead fall or woodpiles;
- do not include evergreen shrubs and coniferous evergreen hedges;
- grasses should be kept watered and mowed;
- no tree limbs should be within 3 meters of a building; and,
- any landscaping mulches used should be non-combustible.

Second Priority Area:
- space trees so individual tree crowns are 3-6 meters apart;
- remove or reduce the number of evergreens in the area;
- prioritize aspen, poplar, and birch as these have very low flammability rates;
- remove dead fall, thick shrubbery and mature trees;
- prune tree limbs so that they are at least 2 meters above ground; and
- note that fires spread more easily uphill and extend the second priority zone guidelines further on downhill slopes and windward exposures.

Third Priority Area:
- thin or reduce shrubs and trees that make up the under story, retain fire resistant deciduous trees, space trees 3-6 meters between crowns to reduce the potential for a crowning fire.

6.3.3.2 Climate Adaptation

Changes in temperature and precipitation levels may alter where plants and animals can thrive. Policies include:

- select plantings that are resilient to a changing climate including to emerging patterns of migrating wildlife, insects, and diseases, as well as to extreme weather events (flash floods, droughts, and increased wildfire events).

6.3.3.3 Water and Hydrology

Acknowledging that much of Prince George relies on groundwater for its water supply, protecting local rivers is an essential component of community stewardship. All creeks and drainage ditches within Prince George are part of the Nechako and Fraser River watershed. This plan sets forth a commitment to sustainable water management, including the improvement of the quality of stormwater runoff leaving the core campus. Policies include:

- review and enhance irrigation strategies for landscaped areas to improve water conservation;
- strive to reduce water consumption of new buildings and design new buildings to collect, use, and then restore all needed water;
- design of new buildings should reduce stormwater impacts, and could incorporate, or contribute to, rainwater capture and re-use systems;
- assess existing drainage systems to determine the impact to Shane Creek, including potential fish habitat impacts;
- traditional road salt (sodium chloride) shall not be used to deice streets and sidewalks; and,
- preserve and enhance existing watercourses, creeks, and ponds on campus.

6.3.4 Cultural Heritage

The campus Open Space Framework honours the history of the site - both since time immemorial and more recent history. The following policies identify ways to incorporate cultural heritage into the public realm to meaningfully.

6.3.4.1 Traditional Uses

The campus as a whole has the potential to help raise awareness of past and present cultures, offering opportunities for knowledge sharing and generation. In particular, the campus should serve to commemorate, and raise awareness for, traditional land-based knowledge. Policies include:

- explore partnership with the Lheidli T'enneh and other Indigenous peoples to create opportunities for land-based learning and stewardship;
- explore opportunities for the provision of places for ceremony close to the core of campus; and,
- explore opportunities to embed interpretative elements throughout the campus that raise awareness for traditional uses.

6.3.4.2 Campus Axes

The axes are foundational components of the Campus Master Plan. Open space and landscape should enforce these as unifying features. The campus axes are identified in Figure 6.3. Policies include:

- the design of public spaces, views, and circulation should recognize and seek to emphasize and render visible the campus axes;
- the campus axes should remain free of visual and physical obstructions; and,
- a plaque or interpretative element should be installed to record and communicate the symbolism of the axes.

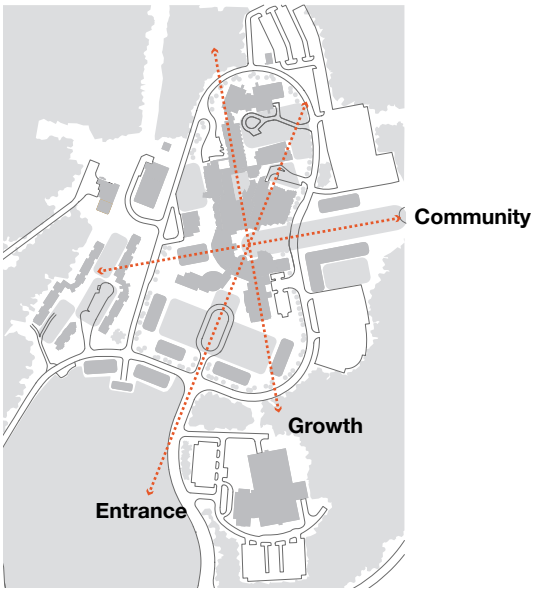


Figure 6.3 Campus Axes

6.3.4.3 Views

Views are an important component of the UNBC experience and can be used in open space design as a way to create visual interest, build a sense of place, and support wayfinding. Open views along streets, paths and trails also provide a means of wayfinding and making visual connections to key places and destinations. Policies include:

- preserve views along all the Axes, where they exist;
- support intuitive wayfinding by preserving view corridors along major streets and walking paths;
- preserve views to prominent view termini (iconic buildings, structures, or landscapes) within the campus; and,
- preserve signature views to the valley and city.

6.3.5 Enhancing the Pedestrian Experience

A key priority of the Plan is delivering a great pedestrian experience – for people walking between classes, going back and forth to the residences, looking for something to eat, enjoying a leisure lunchtime stroll, undertaking research in the woods, or hiking in from one of the adjacent neighbourhoods. In most cases, the experience of the campus will be defined by the experience of walking around the campus. And, given the prominence of winter throughout the academic year, the pedestrian experience can often include snow, ice, chilling winds, and reduced daylight hours. Policies include:

- the term “pedestrian” shall be deemed to include people of different mobility abilities, including those requiring wheelchairs, walkers, scooters, other personal mobility devises, as well as the visually impaired;
- give priority to pedestrian circulation in the design of open spaces, buildings, and transportation systems;
- design major pedestrian crossings should be designed as raised intersections to prioritize pedestrians and serve as traffic calming. An example is the intersection of the Ring Road and the southern gateway;
- provide clear and direct pedestrian pathways to connect all buildings and destinations such as transit facilities, and these shall include proper lighting, furnishings, and shall be cleared of ice and snow during the winter;
- include pathways or sidewalks on both sides of streets and along the entire perimeter of buildings;
- incorporate wind mitigation features along primary pedestrian corridors;
- incorporate public art, commemorative or interpretive features along pedestrian corridors; and,
- incorporate wayfinding elements at key decision-making moments (typically at intersecting paths or at gateways).



Figure 6.4 Views

6.3.6 Distinct Landscaped Areas

Distinct landscape areas have been identified in the Open Space Framework and are identified in Figure 6.5: Distinct Landscape Areas. These are areas of significant importance to the campus that have unique characteristics. Specific policies are outlined below.

6.3.6.1 Ring Road

The Ring Road is both the primary method of circulation around campus for all modes of transportation and a key open space where people can linger, socialize and recreate. Strategies include:

- add a continuous sidewalk for pedestrian enjoyment and safety among streets;
- introduce additional street trees, including Ring Road to provide shade and a sense of rhythm; and,
- use street furnishings to create a cohesive identity and sense of place, including without limitation a continuous placement of street lighting and the place-specific introduction of benches, wayfinding elements, waste receptacles, bike facilities, and public art.

6.3.6.2 The Quadrangle

The quadrangle is a large open space located at the entry to campus, depicted in Figure 6.7. This space serves as a central open space on campus and welcomes people as they arrive to campus. It can be used for a range of activities including campus-wide events, informal recreation, and formal ceremonies. The existing stand of trees east of the existing ceremonial loop



Figure 6.5 Distinct Landscape Areas

highlights the natural character the UNBC Prince George campus lands. To the west, a more formally landscaped area is conducive to large gatherings, informal recreation, and campus-wide programming. Policies include:

- preserve the tree stand to the east of the existing ceremonial loop;
- introduce additional tree planting to create a gradient from the formal landscaped area into the existing stand of trees;
- include a high degree of transparency in buildings that front onto the Quadrangle to encourage a strong relationship between indoor and outdoor activity; and,
- design the Quadrangle to accommodate year-round formal programming, as well as day-to-day informal use.

6.3.6.3 The Agora Walk

The Agora is the heart of campus. As such, it should be enjoyed year-round. Further, the pedestrian linkages from the Agora to the David Douglas Botanical Garden shall be strengthened to help create a sense of cohesion and unity of public realm along the Community Axis. This area is depicted in Figure 6.6. Policies include:

- ensure snow clearing to allow the Agora to be enjoyed year-round;
- establish weather protected seating;
- create a program of use for year-round activities;
- improve pedestrian connections between the Agora and the David Douglas Botanical Garden through improved crosswalks or other methods of visually demarcating this area as a pedestrian priority area;
- support the activation of this area by situating new buildings to define the edge of this public space, and position active programs (food outlets, study spaces, social areas e.g.) at the ground-level of new buildings to encourage a strong indoor-outdoor relationship; and,
- ensure that this area is well connected to the pedestrian network.

6.3.6.4 The Residence Commons

The student residence commons is a sloped open space that helps to unify the residence buildings and to enhance and build a sense of community in this area. Enhance the character and make better use of the underutilized space through the following policies:

- provide weather protected seating and places to gather; and,
- provide well-lit pedestrian connections year-round through the Residence Commons.

6.3.6.5 Courtyards

Courtyards are relatively small outdoor open spaces that are generally enclosed in the centres of larger buildings or surrounded by multiple building facades, and that have a semi-private character. Policies include:

- ensure they are well lit and there is the provision for weather protected seating;
- provide clear wayfinding to help people orient themselves through these spaces; and,
- link courtyards to the broader pedestrian network.

6.3.6.6 Plazas

Plazas are medium sized hard-surfaced areas that are able to accommodate a higher degree of foot traffic. These plazas are associated with main entrances of buildings and can be seen as a wayfinding tool to denote a strong sense of arrival.

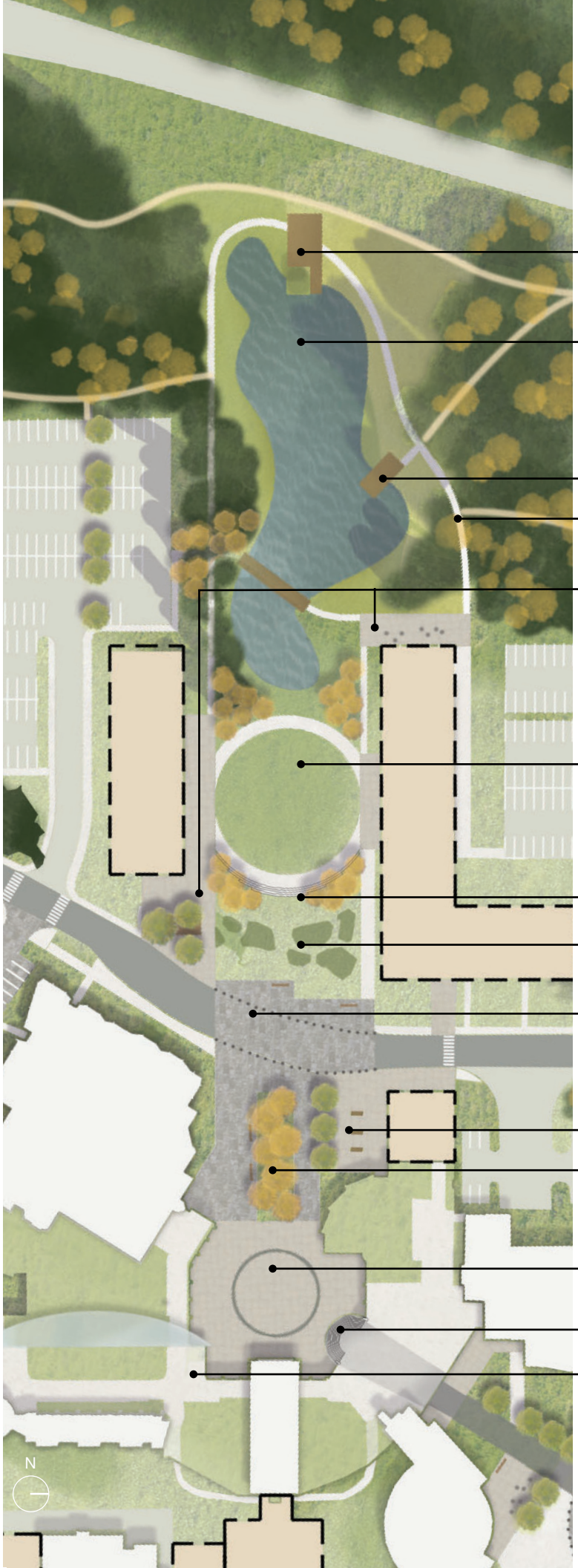


Figure 6.6 The Agora Walk

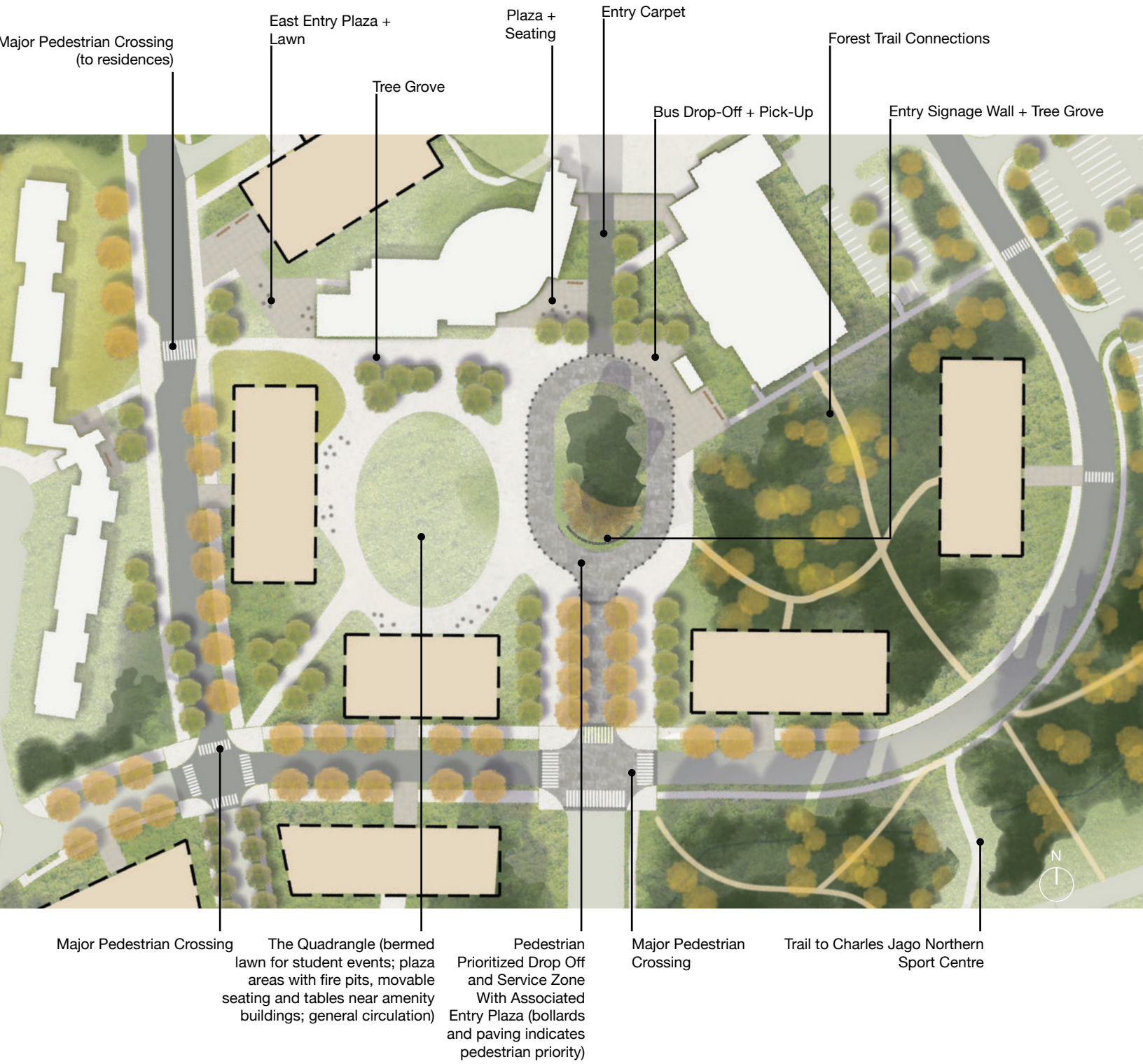


Figure 6.7 The Quadrangle

6.3.6.7 Meadows

Meadows are informal open spaces that incorporate both lawn and native plantings to support wildlife, reduce maintenance requirements and provide a more naturalized aesthetic. These areas are referenced in Figure 6.2. Policies follow:

- maintain and continue developing meadows in open spaces that do not have formal landscaped areas or programming opportunities.

6.3.6.8 Edge Landscapes

Edge landscapes are transitional spaces that act as a green buffer between two different land uses, for instance: the forest and campus, roadways and buildings and parking lots and buildings. Edge treatments shall be tailored to respond to their adjacent use so that together they contribute to attractive and pleasant spaces. Policies include:

- plant street trees in clusters within edge landscapes interior to the Ring Road to emulate the natural setting of the Prince George campus;
- incorporate appropriate levels of pedestrian lighting in edge landscapes fronting the Ring Road and adjacent to building entrances to extend their hours of use and create a safe environment;
- incorporate wind mitigation techniques in the planting design of edge spaces to help create comfortable microclimates for people to enjoy year-round;
- encourage the natural cycle of forest succession in edge landscapes at the edge of the surrounding forest by pruning and clearing only when necessary to reduce wildfire risk; and,
- provide opportunity for repose and/or gathering within or adjacent to edge landscapes that abut buildings.

6.3.6.9 Pedestrian-Priority Drop Off & Service Zones

Pedestrian-priority drop off and service zones are roadways that are used solely for service vehicles and drop offs. Pedestrian circulation is prioritized in these areas. Policies include:

- install paving stones in pedestrian-priority drop off and service zones to provide visual and physical cues to drivers that they are moving into a pedestrian-prioritized area;
- demarcate pedestrian-priority drop off and service zones from the Ring Road using collapsible bollards; and,
- use enhanced marked crosswalks at all road intersections within pedestrian-priority drop off and service zones.

6.3.7 Public Art and Cultural Expression

Public Art and Cultural Expression: Public art can help to strengthen a sense of campus identity and to assist with orientation and wayfinding around campus. Policies include:

- site public art to help define the public realm, support wayfinding or help to create a sense of entry on campus;
- use public art can as a point of interest to anchor the termination points of the campus axes, namely the northern ends of the growth and entry axes as depicted in Figure 6.3;
- select public art to help represent UNBC's unique identity and location and also to support commemoration or interpretation opportunities; and,
- selection of public art in collaboration with the First Nations Centre is encouraged.

6.3.8 Programming Opportunities

The Plan supports an active and inclusive campus year-round. Programming supports UNBC values of sustainability and wellness. Policies are as follows:

- host special events in open spaces at a variety of scales. These could include winter festivals, concerts, theatre, outdoor movies etc;
- make provision for weather protected public spaces that encourage passive recreational activities such as socializing, lingering, reading and studying;
- Strengthen connections and accessibility to surrounding trails and existing active recreational spaces such as the Charles Jago Northern Sports Centre; and,
- support the entire campus as a living laboratory through the incorporation of places for learning throughout the open spaces on campus. Opportunities might include community gardens, outdoor classrooms, and knowledge walks. These opportunities also allow UNBC to highlight their commitment and leadership to sustainability.



Figure 6.8 Programming Opportunities: Outdoor Fire Pit



Figure 6.9 Programming Opportunities: X-country Skiing

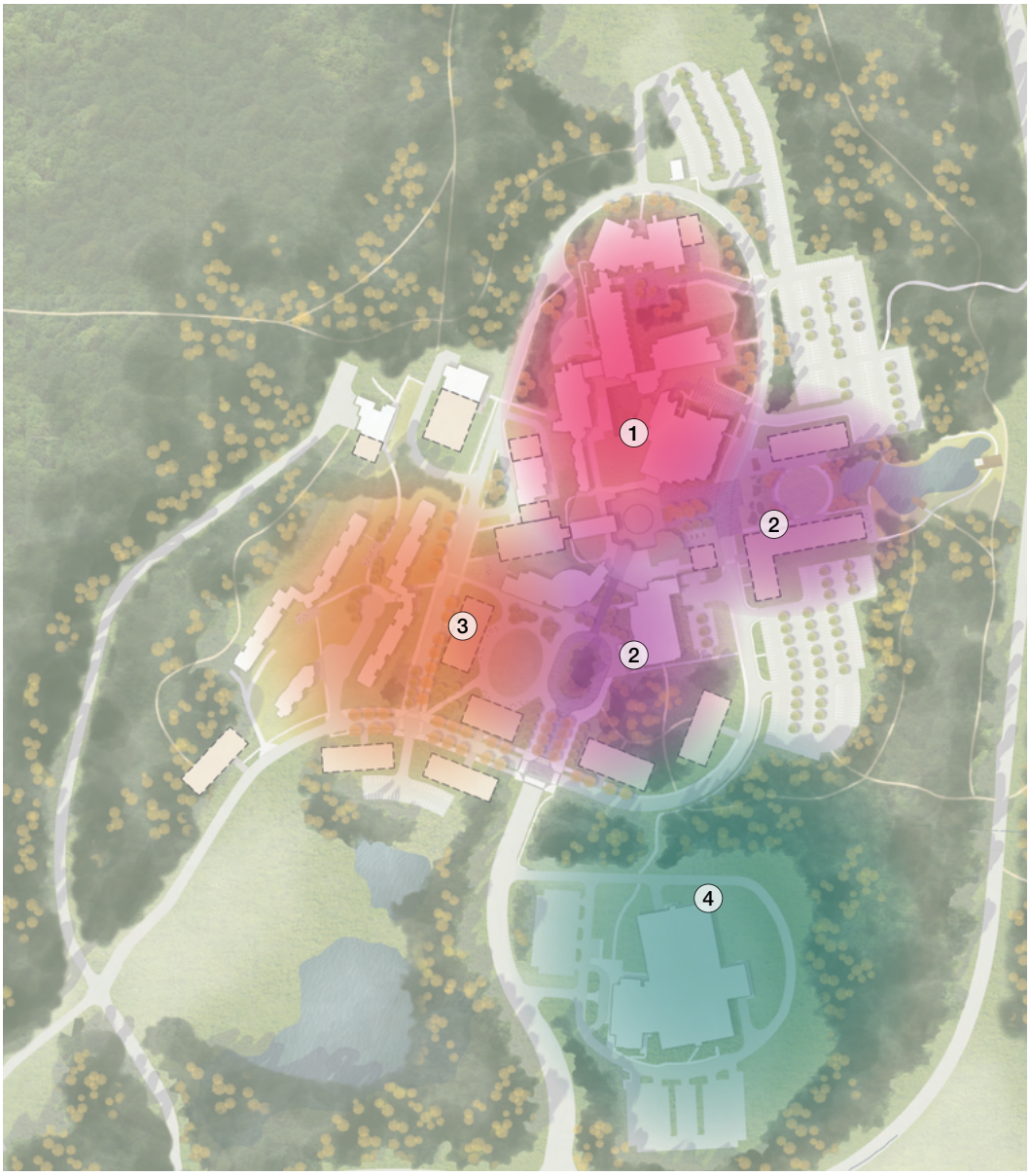


Figure 6.10 Campus Districts

Legend

1. Academic Focus
2. Academic Mixed Use
3. Student Life
4. Wellness

6.4 Built Form Framework

The Plan sets forth a vision for a campus that functions like a dynamic neighbourhood, with diverse destinations, housing choices and connections to the wider community. The Built Form Framework identifies potential future development sites on the Prince George campus that would support this overall vision of the Campus Master Plan including clustered uses and strong connections to Open Space. These sites were identified to help create a strong sense of entry, to strengthen and build upon the existing campus Axes and to reinforce open spaces on campus.

6.4.1 Campus Districts

The Campus Master plan is defined by four districts as outlined in Figure 6.10: Academic Focus, Academic Mixed Use, Student Life, and Wellness. Each of these districts has a unique character, however the boundaries of each of these districts are porous. Each works together in concert to provide a complete community where people can live, work, recreate, study and play.

- **Academic Focus:** The Academic Focus district is primarily academic and research based in nature. New development would include upgrades and replacement when necessary and be of a primarily academic nature.

- **Academic Mixed Use:** The Academic Mixed Use district contains a mix of uses including academic, residences, student-oriented services and other amenities. Buildings have animated frontages with orientation to the street. These districts include significant opportunity for partnership as the potential future building sites located within these areas are high visibility and located near gateway conditions.

- **Student Life:** The Student Life district is comprised predominantly of student residences and supporting services. The clustering of student residences and services will help to build a sense of community and activity for those who live on campus.

- **Wellness:** The Wellness districts focused upon the existing Charles Jago Northern Sport Centre, but makes provision for expansion or additional playfields.

6.4.2 A Compact Campus

Future growth at UNBC should occur in a compact manner, not only to reinforce the vision for the campus shaped by the original Campus Master Plan, but also in order to create a highly walkable campus. This is especially relevant for a winter campus, where short distances in between buildings can help to make going outside more palatable. Policies include:

- create synergies with existing buildings; and,
- build with orientation towards the Ring Road to reinforce and animate this primary circulation route.

6.4.3 Retrofitting and Re-purposing Existing Buildings

Priority should be given to reuse and re-purpose of existing buildings prior to building new buildings. Reuse of existing built form should incorporate the following policies:

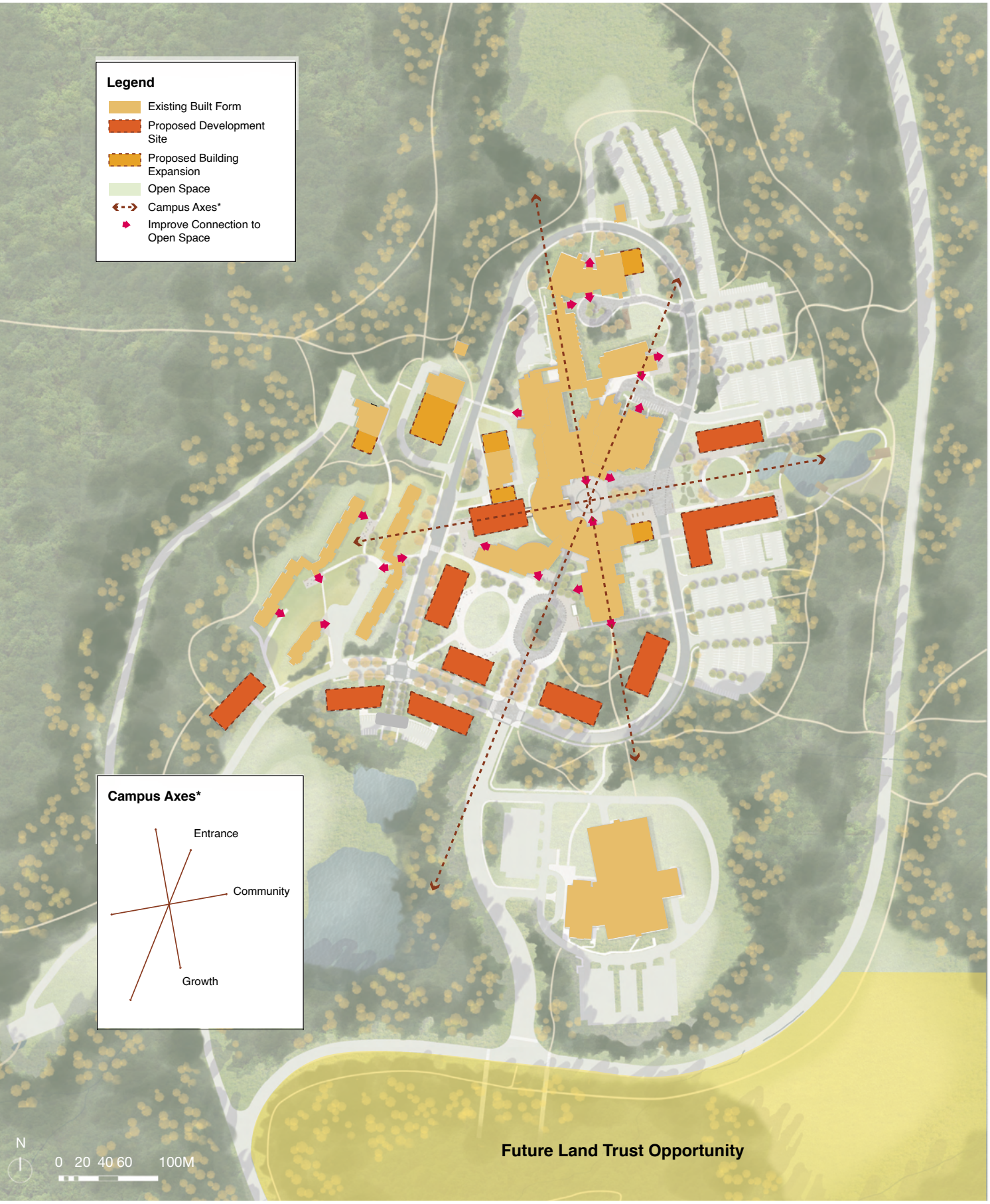


Figure 6.11 Built Form Framework



Figure 6.12 Northern Architectural Character

- large blank walls or uninterrupted building masses should be avoided;
- where possible, enhance permeability through the increase of transparent facades; and,
- provide flexibility to respond to changing needs, trends and future opportunities

6.4.4 Future Building Sites and Uses

6.4.4.1 Potential Future Building Sites

Locate future development on the sites identified in Figure 6.11. This Figure indicates the general location of the proposed new buildings, but specific footprints and orientation would be determined through further detailed design work. However, consideration for frontages and relationships to open spaces should be honoured. Selection criteria of potential future building sites include sites that:

- do not encroach upon existing natural spaces;
- improve the sense of entry to campus;
- build upon the existing activity in and around the residence buildings;
- reinforce the Ring Road; and,
- build on synergies between existing buildings and the campus axes.

6.4.4.2 Future Building Expansions

Potential building expansions have been identified as per Figure 6.11 to accommodate future growth as needed. The expansion opportunity identified in the Enhanced Forestry Lab should not impact solar access for existing Greenhouse facilities.

6.4.4.3 Active Uses

Position uses that will bring a sense of activity, such as food services and student support services, on the ground floor and/or along active pedestrian corridors. These areas should be designed to interface with open spaces and should have a high degree of transparency and accessibility. Ground floor residential units and residential buildings must include entrances that are directly accessible from the exterior at the ground level, and incorporate porches and front yards.

6.4.4.4 Land Trust

In Figure 6.11, a location for a future Land Trust has been identified. This site is suggested for its proximity to the core campus, its strategic location in between the future University Heights neighbourhood development and the campus, and its highly accessible location. The future Land Trust should take the following into consideration:

- connections to existing surrounding trails;
- be comprised of a mix of residential typologies;
- when possible, blocks shall be 80m providing efficiency and flexibility;
- serve as a link between UNBC, the emerging University Heights neighbourhood, and the City of Prince George;
- incorporate open space and parks;
- respect and incorporate natural features into community design; and,
- provision for an amenity retail node that would benefit the University community.

6.4.5 Built Form Guidelines

The following guidelines serve to inform the overall character of new buildings on campus.

6.4.5.1 Articulated Frontages

New and existing buildings should have articulated frontages on all sides in order to address, and provide an attractive face to, the surrounding public realm and open spaces, with clearly defined entry points that directly access the sidewalk and pathways. When existing buildings do not have articulated frontages, they should be built in any future renovation or upgrade.

6.4.5.2 Visual Transparency and Permeability

Visual transparency and permeability encourage safety through enabling natural surveillance, providing a sense of welcome and maximizing natural light. The following policies apply:

- new buildings and renovations of existing buildings should encourage a high degree of transparency and permeability at grade; and,
- perimeter pedestrian circulation routes within and between buildings shall be designed to incorporate a high degree of transparency and permeability.

6.4.5.3 Orientation

Building shall be oriented in accordance with the following principles:

- provide well defined entrances that connect to pedestrian networks and facilitate short walking times between buildings;
- provide a frontage and entrances onto open spaces to create meaningful people oriented places;
- reduce setbacks between new buildings and the Ring Road, so as to create a strong relationship between buildings and the public realm;
- avoid large massing, using entrances, windows and other architectural

features to create fine grained rhythm; and,
- corner buildings address both street frontages.

6.4.5.4 Human Scale

The "human scale" makes reference to the experience of the building mass in relation to the size of its users. Scale and massing of buildings must be designed so as to create strong relationships to surrounding buildings and open spaces. Policies include:

- transition building heights to be respectful of the scale of adjacent buildings and prominent existing buildings;
- massing should consider the shadow impacts on the public realm;
- doors, awnings, windows and furnishings should be included and designed in proportion to a human scale, rather than a vehicular or other scale; and,
- setbacks and stepbacks should be considered so as to allow maximum solar penetration into the public realm.

6.4.5.5 Building Heights

As a general rule, building heights within the core campus shall remain between 4-6 stories to encourage efficient use of space, minimal building footprints and strong relationships with open space. Additional heights would be considered within the future Land Trust development.

6.4.5.6 Materials and Character

The Northern character of the University shall be enhanced and maintained in future development. Policies include:

- be responsive to natural form and environmental considerations;
- be comprised of visually coherent materials that reflect the northern environs in which UNBC is located. Materials should be highly durable and sustainable;
- the incorporation of indigenous cultural values into the built form and site design; and,
- the incorporation of materials that resist the spread of wildfire.

6.4.6 Priority Amenity Areas

Figure 6.13 identifies areas for amenity improvement. These have been identified through synergy with existing and potential future uses. Priority should be given to those identified within existing areas, followed by other areas as built form and critical mass is developed.

6.4.7 Views

The campus has several spectacular views, and the built form should look to preserve and enhance these to support a sense of campus identity and wayfinding. The orientation of buildings should consider and strengthen view opportunities such as gateway moments, symbolic landmarks, terminus views, and focal points.

6.4.8 Gateway Sites

Gateway sites are those that are located within proximity to major points of entry to campus, creating a strong sense of welcome, assist with wayfinding and present the character of the campus. Landmark forms at gateways help to build a sense of identity, assist in wayfinding and anchor key intersections. Gateway sites are identified in Figure 6.14. Buildings and landscapes located on gateway sites should be designed to assist with wayfinding by drawing attention to entry points, routes of travel, and the overall identity of the campus.



Figure 6.13 Amenity Areas



Figure 6.14 Gateway Sites

6.5 Mobility Framework: Active Transportation

The Plan sets forth a vision for a campus that supports wellness through indoor and outdoor active living. The Active Transportation Framework (Figure 6.17) encourages active modes of transportation and looks to make arriving to and moving around campus in these methods delightful year round. Specific interventions include expansion of the pedestrian network internal to the Ring Road, provision for marked cycling routes, and expanded public transit stops to support safety and accessibility. Policies include approaches to topics such as safety, accessibility, and wayfinding to help support the vision for the campus of a highly accessible campus for all modes of transportation.

6.5.1 Universal Accessibility

Universal accessible design fosters a built environment that is welcoming, inclusive, and able to be enjoyed by all. Adopting Universal Design principles will enable UNBC to cater to people of all abilities which supports the Plan's objectives of fostering and enhancing a sense of community and supporting holistic health and well-being. The design of all campus' built form and public realm must comply with

barrier-free design policies outlined in the British Columbia building code. Additional Universal Design policies include:

- install curb letdowns at all pedestrian crossings with a grade between 5-7% and provide two curb letdowns on sidewalk corners where two crosswalks exist;
- use paving surfaces for sidewalks that minimize exposure to vibrations;
- provide seating every 50m along high-traffic pedestrian routes; and,
- provide barrier-free access to plazas and courtyards.

6.5.2 Trails and Paths

Trails encourage the continued enjoyment of UNBC's spectacular location. Policies include:

- continue to maintain the existence of trails and paths throughout campus, including connections to surrounding multi-use trails;
- trails should be maintained through the winter; and,
- explore didactic opportunities to share history, sustainability leadership, and to encourage stewardship.

6.5.3 Safety

Enhance a sense of safety and security on campus throughout the day and during all seasons through the following policies:

- encourage transparency in building design, particularly at ground level, to help create a feeling of "eyes on the street";
- provide pedestrian oriented lighting along pedestrian routes especially at building entrances, parking lots, and through treed areas. Lighting shall be dark sky-friendly to reduce light pollution; and,
- apply core CPTED (Crime Prevention Through Environmental Design) principles in the design of open space, mobility networks and built form.

6.5.4 Wayfinding

The Plan supports all users, including those new or visiting campus, in navigating their way through campus. Priority is given to intuitive wayfinding strategies such as clear sight lines and sense of place. Policies include:

- protect unencumbered sight lines to major destinations along pedestrian routes;
- develop a comprehensive signage and wayfinding strategy that sets a clear hierarchy of wayfinding approaches;
- employ landscape elements such as paving, lighting, furnishings, and planting that reinforce a sense of direction along major travel routes;
- provide distinct and memorable places on campus through public art, special treatments or other distinct elements so that visitors can orient themselves to landmarks as they make their way through campus;
- provide transparent pedestrian routes along the perimeter of buildings so that pedestrians can have a strong sense of connection between indoor and outdoor spaces and better orient themselves;
- use wayfinding elements to create a greater sense of arrival at both the entrance at Ceremonial Way and the main entry to campus at the University Ring Road; and,
- use landscape features and/ or public art as a wayfinding element.

6.5.5 Gateways and Entrances

The primary gateway to campus is at the intersection of Ceremonial Way and

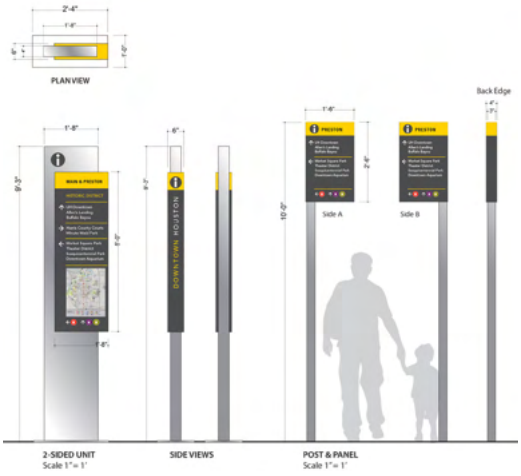


Figure 6.15 Wayfinding Hierarchy



Figure 6.16 Secure Bike Storage

the Ring Road. A secondary gateway is planned along the community axis at the Agora. The design of open space at identified gateway sites should seek to highlight the sense of campus identity, and assist with wayfinding by protecting sight lines to major destinations, and deploying landscaping features that orient users intuitively along major pedestrian routes. Additionally, gateways should be supported with:

- seating and bike racks;
- wayfinding signage;
- traffic slowing measures to indicate to vehicles that they are entering a pedestrian first environment;
- drop-off zones with appropriate signage, traffic slowing measures, and crossings; and,
- gateway features such as signage, planting, or public art.

6.5.6 Cycling

The Plan supports those arriving to campus via cycling and aims to increase the number of people who chose this as a viable option by increasing the sense of comfort, safety and convenience of cycling. Both on-road and off-road facilities are mapped in Figure 6.17. Policies are as follows:

- incorporate strong cycling connections between surrounding multi-modal trails and on campus cycling paths;
- establish a continuous cycling path around Ring Road with shared lane markings to assist in cyclist safety; and,
- provide bicycle parking in convenient and high visibility locations near building entrances and destinations throughout campus. Bicycle parking shall be covered and well lit to enable multi-season use.
- New development, especially student residences, shall include end of trip facilities.

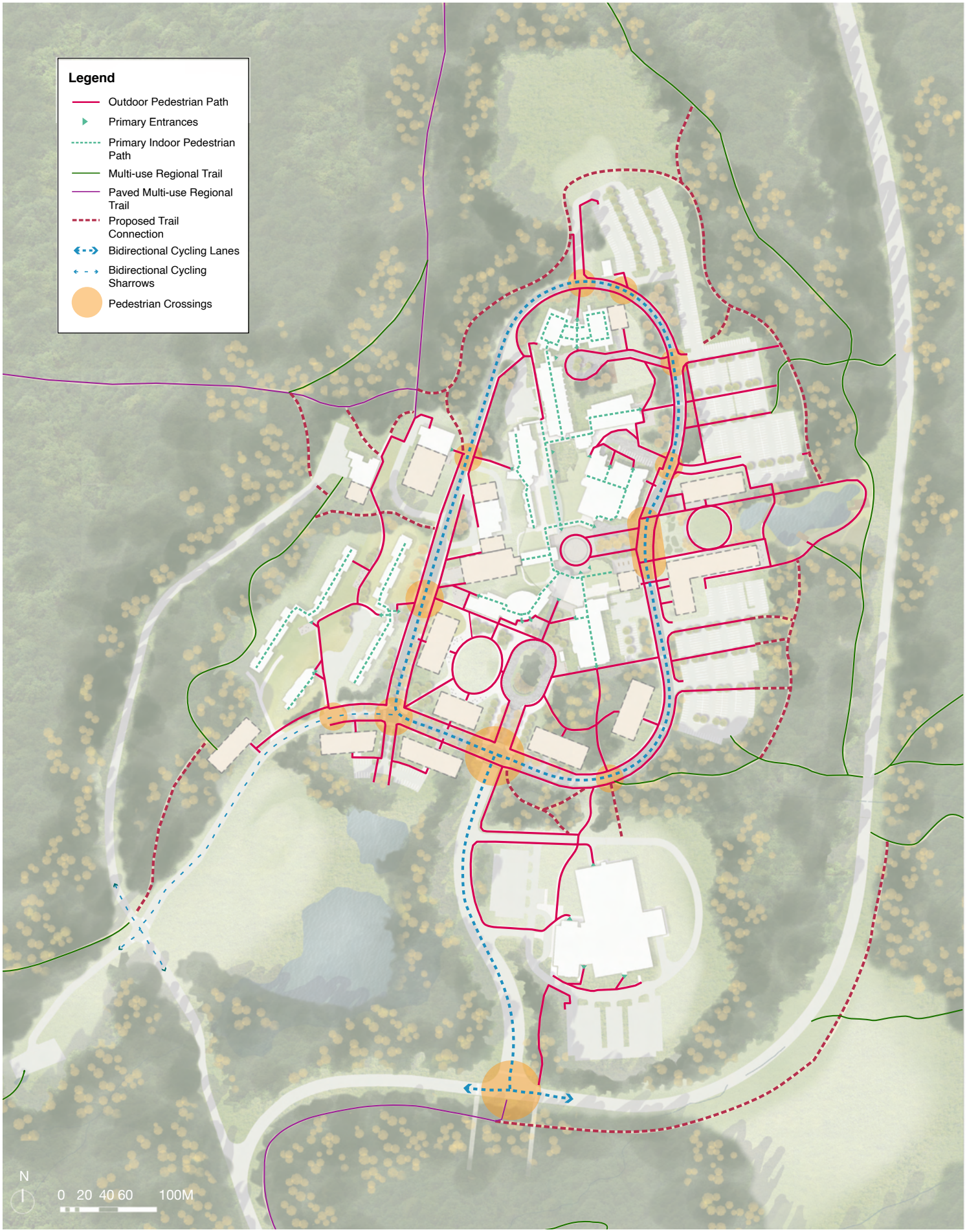


Figure 6.17 Active Transportation Framework

6.6 Mobility Framework: Vehicular Transportation

This Plan acknowledges that presently the primary current mode of transportation is vehicular but seeks to increase the prevalence of alternate modes, including public transportation through the Vehicular Transportation Framework (Figure 6.18). The aim is to create a viable and attractive option to reduce GHG emissions and respond to changing technology. A shift away from private vehicles also enhances the quality and character of campus life. It also provides opportunities for socialization and improves wellbeing.

6.6.1 Public Transportation

The Plan encourages the use of public transportation and looks to make it a viable, safe and convenient mode of public transportation for all visitors to campus. Policies are as follows:

6.6.1.1 Public Transportation Stops and Circulation

In the near term, the primary public transportation stop will continue to be in the Ceremonial Loop, adjacent to Charles J. McCaffray Hall as shown in Figure 6.18. In the longer term, UNBC shall work with the City of Prince George to develop a Transit Memorandum of Understanding that will explore public transportation routing around Ring Road to facilitate additional stops to improve convenience and safety for students, as shown in Figure 6.18. Policies include:

- prioritize locating additional public transportation stops in places that are convenient, close to the centre of campus or student residences, and provide weather protection; and,
- provide adequate lighting, signage, and seating at all public transportation stops.

6.6.2 Vehicles

6.6.2.1 Vehicular Access to Campus

The primary vehicular point of access for the campus will continue to be the Ring Road accessed via Ceremonial Way. While this is a vehicular route, there shall be provisions for the comfort and safety of cyclists and pedestrians such as highly visible cross walks and visual demarcations indicating that the road is shared with cyclists.

6.6.2.2 Drop Off

The primary area for drop off to campus shall be in the Ceremonial Loop. The drop off for residences shall be located on the Residence Court. A second drop off shall be located next to the Agora. Future development, especially student residences, shall consider the need for additional drop off(s).

6.6.2.3 Autonomous Vehicles

As driver-less technology advances, revisit parking and drop off strategies to confirm safe and efficient vehicular circulation.

6.6.3 Parking

Parking supply on campus should be reviewed within the context of a Transportation Demand Management (TDM) Study.

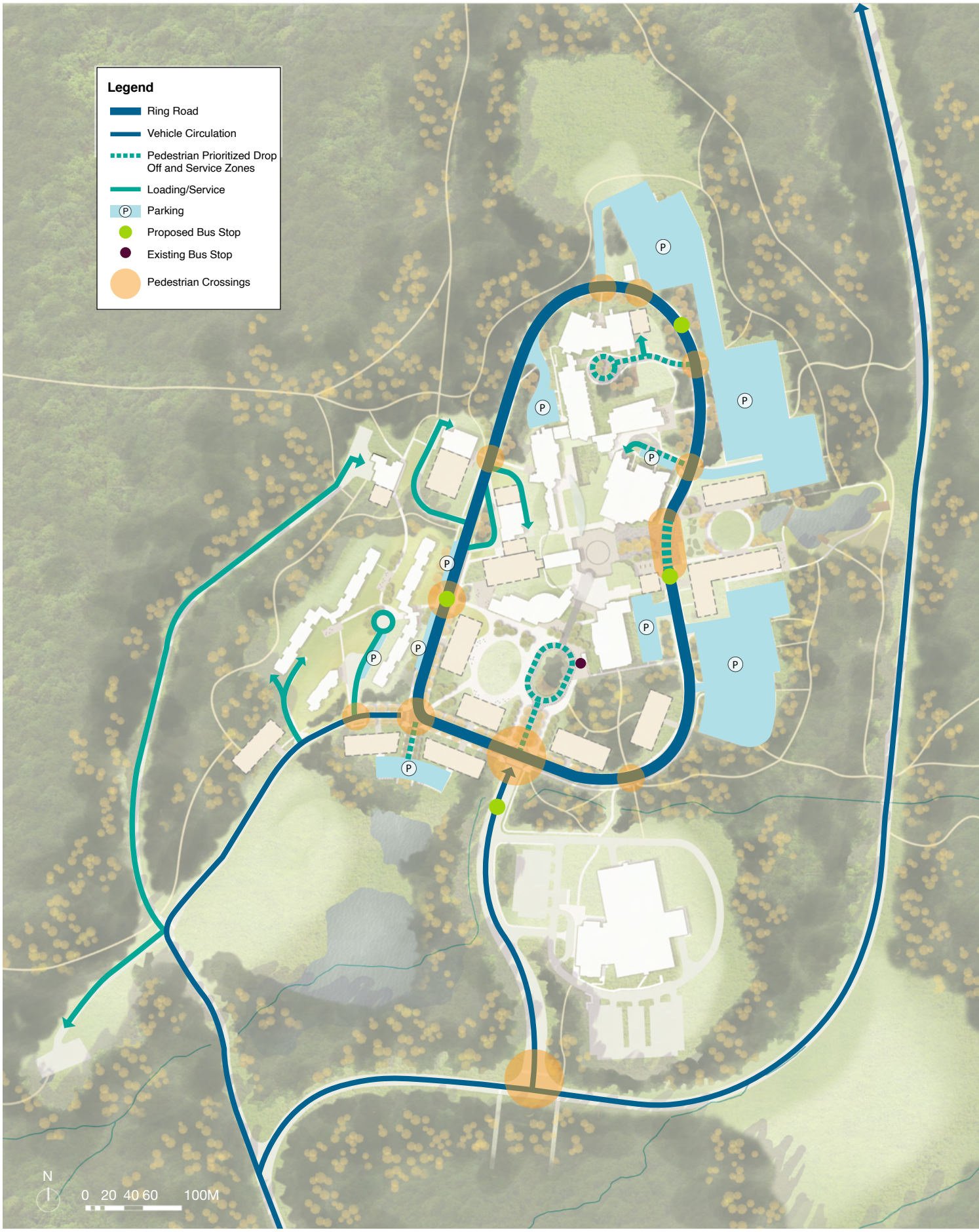


Figure 6.18 Vehicular Transportation Framework

6.6.3.1 Parking Criteria

As UNBC increases its strategies for managing the demand for single-occupancy vehicles arriving on campus and actively manging its supply of parking, dispensations from minimum municipal parking standards may be realized, allowing UNBC to make better use of land and support sustainability strategies. Policies include:

- UNBC shall monitor the use of parking areas during typical and peak periods;
- UNBC shall establish TDM policies to reduce demand for parking; and,
- UNBC will seek dispensation from municipal parking requirements with future development.

6.6.3.2 Parking Design

Reduce the negative visual and environmental impacts of parking through:

- minimizing the supply of surface parking;
- employing permeable surfaces and Low Impact Design strategies for reducing storm water runoff;
- using tree canopy as a way of reducing the impact of surface parking lots, with consideration for CPTED principles;
- consider at grade or below grade parking integrated into the development for the two new building sites identified to the south west of Ring Road, as per Figure 6.18; and,
- add parking bulges for short term parking on the western section of Ring Road as per Figure 6.18.

6.6.4 Servicing

Servicing and loading access are critical to the successful operation of the campus, and as such, deserve special consideration. Policies include:

- design garbage, loading, servicing, and utility functions so that they work as part of adjacent open spaces;
- locate parking and servicing access points off of rear lanes when lanes are present;
- where there are no rear lanes, particularly for blocks with internal green corridors, parking and servicing access points should be located within the side façade of buildings along side streets so as not to obstruct the pedestrian circulation;
- locate servicing and loading access in a coordinated manner within buildings rather than in adjacent structures or in outdoor areas; and,
- coordinate building servicing design with waste reduction strategies to provide adequate space for innovative strategies.

6.6.5 Transportation Demand Management

The Plan supports the reduction of single occupancy vehicles through Transportation Demand Management (TDM) strategies. A more comprehensive Transportation Management Strategy is recommended as part of the Further Studies and Plans in Section 7.0. Strategies include:

- set 5 year mode targets;
- manage increases in parking fees to manage peek hour demands and incentivize alternate modes of travel, with additional revenue directed towards the implementation of TDM measures;
- support car share, carpooling and ride share by providing priority parking for those who participate and commit to reducing single occupancy vehicle use;
- work with the City of Prince George to ensure that bus scheduling works with class schedules and to explore the option of a route expansion around

Ring Road; and,

- improve pedestrian and cycling connections between transit facilities and key destinations.

6.6.7 Ring Road

The Plan imagines an improved character for the Ring Road. It is imagined as a lively place that is enjoyable for those moving around campus in all modes of transportation, including walking and cycling. Future development strengthens the relationship between built form and Ring Road. Policies are as follows:

- encourage the placement of active uses, such as food services or student services, at the ground floor along Ring Road; and,
- new buildings shall be sited so as to create an intimate relationships with the Ring Road, as per Figure 6.11. This can be accomplished through entrances and forecourts oriented towards the street.

6.6.8 Typical Road Sections

The following sections depict representations of the proposed typical Ring Road condition and the Ring Road condition with parking bulges.

Figure 6.19 Typical Ring Road Section

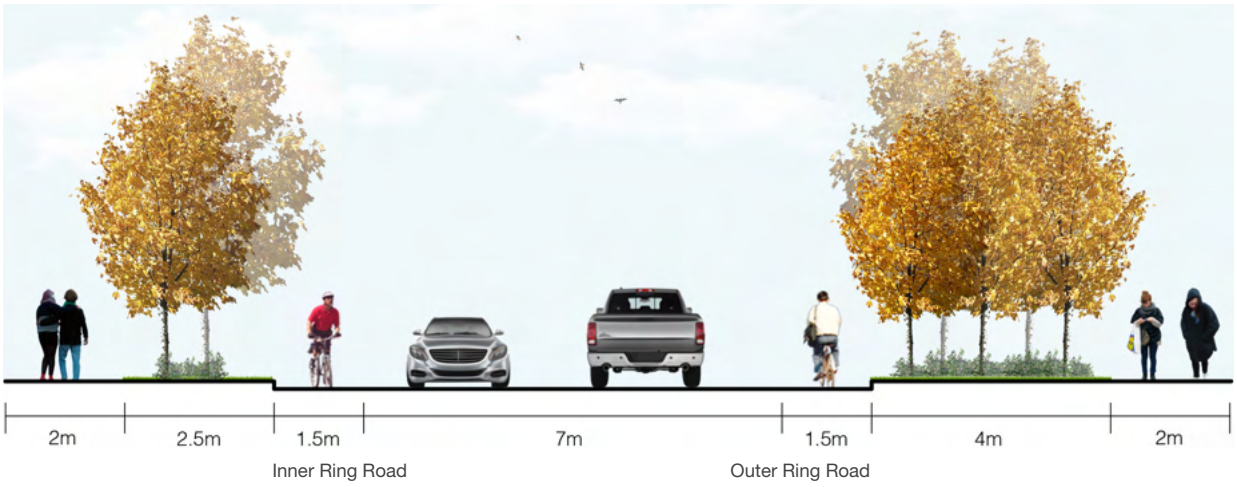
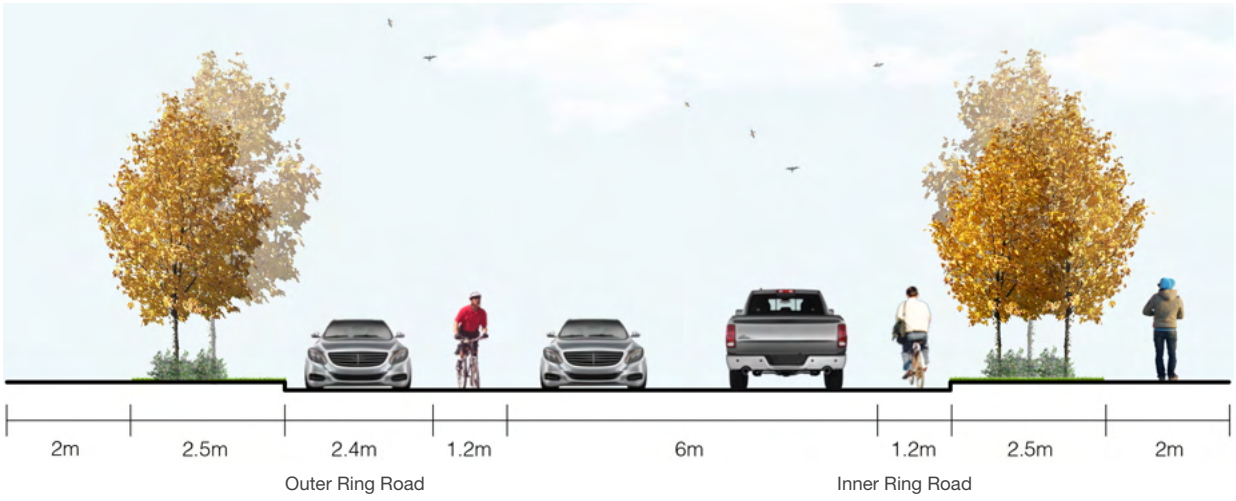


Figure 6.20 Typical Ring Road Section With Parking Bulge



6.7 Winter Design

"Our perpetual summer state of mind has been a serious impediment to the development of meaningful solutions to comfortable winter living… We must discover a 'sense of place' with climate being one of the primary sources of inspiration in the decision making process" – Pressman, Norman (2004) Shaping Cities for Winter: Climatic Comfort and Sustainable Design. Prince George, BC: Winter Cities Association.

The Plan sets forth a direction to make the Prince George campus delightful, safe, interesting and enjoyable year round. This requires winter design consideration for the open space, built form and mobility Frameworks. Importantly, this Plan has the goal of celebrating winter as opposed to designing "against" winter; UNBC has a great opportunity to become a leader in winter campus planning.

6.7.1 Open Space

The goal of the winter design approach to open space is to make it fun and comfortable to be outside year round. Policies include:

- maintain the Agora and stairs leading to the Agora, and other prominent hardscaped open spaces, so that they are cleared and accessible throughout the winter months;
- create year-round patios that are comfortable throughout the seasons;
- plant deciduous trees adjacent to buildings and exterior public spaces to allow the sun to shine during the winter;
- plant trees near large building walls to help reduce the severity of the wind tunnel;
- foster synergistic relationships between winter operational maintenance and public space activation: create snow mounds in public spaces to help block winds and create a place to play outside;
- when planning for new development, maximize south-facing exposure of open spaces;
- explore the feasibility of providing an ice rink on the Agora or Quadrangle during winter months;
- pilot a program that explores the use of snow to build points of interest in open spaces around campus;
- use lighting design as a way of bringing interest and wayfinding into open spaces; and,
- explore opportunities to include didactic materials relating to how people have lived and thrived in northern climates.

6.7.2 Built Form

The goal of the winter design strategy for built form is to provide a future built form that has minimal impact on public open spaces and the year round enjoyment of outdoors. Policies include:

- buildings shall be sited and designed to maximize solar gain and reduce shadows on public open spaces and other building elevations;
- align building entrances to reduce distance of exterior travel between buildings;
- maximize solar access through roof orientation and the use of light wells;

- buildings shall be sited with consideration for blocking winds at the ground plane with particular consideration for prevailing winds and downdrafts;
- design buildings with breaks in frontages to provide shelter from the wind;
- buildings shall be designed so as to provide better micro-climates in open space and encourage outdoor enjoyment; and,
- make use of colour on outdoor design to help enliven the campus during winter months.

6.7.3 Mobility

The goal of the winter design approach is to make active modes of transit a viable and safe option throughout the winter months.

Policies include:

- snow removal shall not compromise the functionality of trail connections to campus;
- clear main pedestrian walkways;
- future public transportation shelters shall be 'winter friendly' meaning that they will be covered, heated and provide seating for those waiting;
- limit the use of chemical de-icers; and,
- create a "white-way" trail system so that those using the broader trail network with snowshoes or skis can arrive onto campus.



Figure 6.21 Colour and Light Enhance the Winter Experience



Figure 6.22 Cleared pedestrian walkways



Inside the Bioenergy Plant

6.8 Net Zero Campus

UNBC is known as Canada's Green University. The Plan calls for the continuation of sustainability leadership at UNBC across multiple domains, including social, economic, and environmental initiatives. Although principles of sustainability permeate the entire Campus Plan, this section focuses on greenhouse gas (GHG) emission reductions associated with UNBC's built form and explores the possibility of achieving a net-zero campus.

6.8.1 Net-Zero

Net-zero is often associated with net-zero carbon, or carbon neutrality. Net-zero carbon refers to achieving a balance of carbon dioxide emissions released with an equivalent amount of carbon dioxide sequestered or offset. Since 2010, UNBC has offset all of its operational emissions as part of the Carbon Neutral Government program. In 2016, stationary fuel combustion (building heating and generators) and electricity accounted for 98.6% of UNBC's greenhouse gas emissions.

To solidify UNBC's commitment to the environment and to minimize the impact of the campus, the University should adopt a net-zero framework that targets zero emissions associated with campus operations. Although a comprehensive assessment of UNBC's greenhouse gas emissions portfolio has not been completed, below is a list of potential strategies to further reduce carbon emissions.

Policies have focused on reducing greenhouse gas emission on campus. The impact of greenhouse gas emissions from off-campus programs and materials, as well as the impact of transportation modes to-and within-campus, has not been considered. These may offer opportunities for further greenhouse gas reductions.

6.8.2 Operational Emissions

6.8.2.1 Retrofitting Existing Buildings

Retrofitting existing buildings has the potential to improve building performance, improve user comfort, and shift user behaviours. Policies include:

- continue optimizing existing building performance through BC Hydro's Energy Manager program Utilize the Real Time Energy Monitor to identify further opportunities for reduced operational energy usage; and,
- continue engaging and educating occupants to identify positive behaviour changes

6.8.2.2 Performance Requirements for New Buildings

New building technology has the potential to create high-performance buildings that require less heating and cooling in extreme weather. Policies include:

- Prioritize a Passive-First Approach:
    - mandate high-performance, air tight building envelopes;
    - Require high-performance glazing with an appropriate window-to-wall ratio;
    - Prioritize natural ventilation with heat recovery;
    - Design solar shading specific to each façade's orientation; and,
    - Maximize daylight penetration and views for occupants.

- Optimize building orientation:
    - orient buildings to optimize solar gain in the wintertime;
    - design glazing that responds to each façade's orientation; and,
    - balance solar radiation with internal heat loads and space programming.

- Optimize building form and massing:
    - prioritize compact building forms with decreased envelope to volume ratio; and,
    - minimize the number of junctions, indents, and intersections in the building envelope.

- Prioritize integrated design:
    - pursue an integrated design approach that promotes mutualistic strategies across disciplines, scales, and use types; and,
    - engage students and staff within the design process to better align building design with occupant behaviour.

- Energy systems:
    - continue expanding renewable energy generation on campus ; and,
    - Explore options for fuel switching of existing natural gas Power Plant to a renewable energy source.

6.8.3 Waste and Materials

To fully account for greenhouse gas emissions associated with the built environment, UNBC should also consider the entire lifecycle of carbon, including embodied energy. The following policies apply:

- require Life-Cycle Assessments (LCA) as part of the building design and construction process (embodied emissions of materials could be offset as part of the campus' carbon neutrality);
- renovate existing structures to accommodate growing demands where opportunities exist, rather than building new buildings;
- LCAs could be completed through course curriculum or other University engagement programs;
- minimize food waste on campus and expand formal composting capacity;
- explore a campus-wide strategy to reduce packaging waste, such as water bottles and coffee cups; and,
- support a circular economy on campus: explore the creation of a lending library through which students and staff can borrow durable goods that would otherwise be purchased.

6.8.4 Next Steps and Additional Studies

The following policies and studies are recommended to further support a Net Zero campus:

- develop a net-zero campus framework, exploring opportunities to include other resources such as water;
- establish clear GHG emissions reductions targets and mechanisms for ongoing monitoring;
- develop a climate change adaptation and resilience plan;
- identify further opportunities to integrate sustainability leadership within UNBC's pedagogy; and,
- further consider the greenhouse gas footprint of UNBC relative to transportation modes and off-campus programs and materials.

6.9 Community Well-being

Health and well-being emerged as a central theme during the engagement process. The link between how we plan and design communities and the wellbeing of people and the environment is increasingly recognized. In fact, well-being is quickly becoming a 'common-ground' motivator – a vision shared by residents, municipal officials, developers, and investors – that inspires action.

This Campus Master Plan has been written through the lens of a community well-being framework, which is a holistic understanding of five integrative planning domains of: social, political, cultural, economic, and environmental well-being. Together, these domains form a more thorough understanding of community well-being.

Specific policies are outlined in more detail throughout the document, but the following strategies provide an overview of how the Plan will foster greater community well-being throughout its implementation.

The **social domain** comprises the social conditions that enable individuals and their communities to flourish and fulfill their potential. Policy that supports social well-being may connect and strengthen the campus community and enhance community health and well-being through their impact on socialization, support systems, a sense of welcoming, and community safety. Strategies included in the Plan that support social wellbeing include:

- public realm improvements in the form of beautification, increased accessibility, adoption of CPTED principles, ensuring views on to public spaces, and creating opportunities for public art and cultural expression;
- potential building sites that create opportunity for more amenity spaces and programmatic activity that encourages social mixing;
- synergistic relationships between open spaces and potential building sites to improve safety, generate activity, and provide ease of accessibility as the campus develops;
- design guidelines that reinforce a sense of safety by recommending transparent materials at the ground-level to provide opportunities for 'eyes on the street';
- universal accessibility improvements through operational recommendations, well-connected pathways, and rerouted transit stops;
- active transportation improvements that make it easier for pedestrians and cyclists to access the campus which improves physical health; and,
- lighting recommendations to provide a sense of safety, campus vitality through the seasons, and ease of wayfinding.

The **political domain** considers, in part, how people are included in planning processes. Through purposeful engagement, the implementation of the Plan can provide meaningful opportunities for individuals and the campus community as a whole to contribute to their well-being through integration, collaboration and a sense of ownership and stewardship. Strategies in the Plan that support political well-being include:

- ongoing engagement activities as the Plan's policy is implemented; and,
- ongoing evaluations of the physical

campus (housing, cycling facilities, charging stations, open spaces, etc.) to ensure their success.

The **cultural domain** considers how the Plan can support cultural activity, create opportunity for cultural programming, and/or promote recreational activities by providing spaces for cultural interpretation, activity, art, and recreation. The cultural domain considers how people learn, play, have a sense of cultural vitality and a sense of belonging within the Built Form, Open Space and Mobility Frameworks. Strategies in the Plan that support cultural wellbeing include:

- work with UNBC's internal and external communities to identify elements of cultural expression to be included on campus, including past and present indigenous culture;
- recommendations for traditional uses, public art, and cultural expression within the open space framework;
- support for programming opportunities that activate open spaces year-round; and,
- additional trails that connect the surrounding regional trails with the pedestrian network on campus and encourage participation in outdoor recreation year-round.

The **economic domain** considers how the built environment can contribute to more socially and economically equitable and sustainable communities. Strategies included in the Plan that support economic wellbeing include:

- consider a full life-cycle costing for ongoing and future initiatives throughout campus, having regard for capital, operating, maintenance, and disposal costs;
- create opportunities on campus for incubating and supporting entrepreneurship and local talent and business;
- exploration of partnership opportunities to implement the Built Form Framework and create synergies between the research action plan and industry trends; and,
- proposal of a land trust on campus to grow the University's endowment, provide necessary community amenities to the growing campus population, and develop market housing in close proximity to where people work, play, and study.

The well-being of the environment and of natural systems is intricately linked to the well-being of people. This domain considers delight and enjoyment in the environment, natural systems, and resilience. The **environmental domain** is supported in this Plan through the following strategies:

- the conservation and enhancement of natural systems and ecosystem services;
- enhancing the presence, and views to, of vegetation, natural ventilation, and sunlight, within interior spaces;
- having regard for climate adaptation in the management of campus lands and buildings;
- recommendation of plant species that are adaptable to a changing climate;
- priority given to replanting open spaces that are currently planted with lawn grass with plants that are native sub-boreal spruce biogeoclimatic zone of the campus;
- improved active transportation circulation to reduce reliance on GHG emitting vehicles;
- introduction of plants such as trees and shrubs that can amplify ecosystem services such as carbon sequestration, animal habitat, sun-shading, weather protection and beautification;
- protection of riparian areas; and,
- recommendation of additional studies to evaluate the ecological impact of future development.



6.23 Community Wellbeing Framework

Part 3:

Implementation



7.0 Implementation

7.1 Implementation

This Campus Master Plan articulates the shared collective vision for the future of UNBC and is to be used as a Framework for future decision making about development on campus. This vision was shaped through collaboration – extensive engagement with both internal and external stakeholders was an integral part of the Plan process. As such, this plan is owned by the broader campus community. It will take a collective effort to see the vision articulated in these pages become reality.

7.1.1 Governance

This plan will be implemented by Facilities Management and Capital Planning. Oversight will be provided by the Executive Steering Committee comprised of the President, Provost & VP Academic, VP Finance and Business Operations, VP Research and Graduate Programs, the VP University Advancement, First Nations Advisor and the Deans. Land Use approvals related to zoning will be governed through the City of Prince George.

7.1.2 Using this Plan

The Plan is an integral document in shaping the future of UNBC, in concert with the Strategic road Map that reflects UNBC's "Signature Areas" (Environment and Natural Resources; First Nations and Indigenous priorities; Health and Quality of Life; Northern Community Sustainability and Development; Innovative and Quality Distributed Delivery Programs) and the Academic Plan. Together, these three documents with inform future decision making.

Each new planning or development project should be informed by the Plan and should support the overall vision articulated in these pages. This document should be widely distributed to Board Members, members of the executive, students, staff and other community members.

7.1.3 Measuring Success

This Plan was designed to be implementable. At the beginning of the project, a strong physical baseline assessment was generated to act as a benchmark from which success can be measured. The implementation of this plan should be evaluated annually, and a methodology for this evaluation should be generated.

This plan should be revised in the year 2029, and updated every ten years subsequently.

7.1.4 Phasing

The phasing of the implementation of the Campus Master Plan is subject to the University's priorities as described in UNBC's Strategic Roadmap, Academic Action Plan, Strategic Research Plan, Aboriginal Service Plan, and 5-year Capital Plan, all of which work together to achieve UNBC's Mission. Some of the recommendations outlined in the Plan have already been initiated, others require some supporting studies. All of them will require future consultation, coordination and funding.

The following outlines the general phasing of the Plan recommendations and the supporting and additional studies that will complement the Plan. These have been grouped into three areas: high priority projects, ongoing project initiatives, and short- and mid-term initiatives.

Approved in Principle - Awaiting Funding

These projects currently have budget allocation and include:

- Student Residence location analysis
- Engineering building renovations
- A new engineering building
- A health sciences building
- A facilities and maintenance building
- Renewal of the Agora
- Student Housing
- David Douglas Botanical Garden Expansion
- Land Trust Planning
- Prince George campus enrollment projections

Immediate Initiatives

These projects and initiatives should be prioritized next as soon as funding becomes available. Immediate Priority projects prioritize use analysis and operational plans that will set the foundation for implementing the Campus Master Plan. These include:

- Feasibility Study of 2018-2023 Capital Plan projects
- Snow management operations plan
- Sustainability strategy
- Regional enrollment projects and growth strategy
- Space needs analysis
- Transportation survey
- Wayfinding strategy
- Net-Zero Campus Strategy
- Landscape Master Plan
- Public Art Strategy
- Joint Memorandum of Understanding between BC Transit, and the City of Prince George to ensure optimal scheduling, route patterns, and incentivization of transit use

Priority Projects

Priority projects relate to the improvement of the campus public realm as it relates to beautification, naturalization, safety, and transit access. They should be addressed within the context of a Landscape and Public Realm Plan and include:

- Replanting the lawn in any areas designated as "Meadow" by the Open Space Framework as a meadow with native plantings (see Figure 6.2)
- Implementing the design of the Special

Landscaped Areas
- Implementing a design of the Frontage Plaza
- Streetscape improvements to the Ring Road
    - Planting street tree clusters internal to the Ring Road
    - Installing a sidewalk internal to the Ring Road
- Creating pedestrian-prioritized street crossings
- Rerouting public transit
- Creating parking bulges
- Implement CPTED principles
- Universal accessibility
- Improving and creating multi-use trails

Long-Term Projects

Long-term projects include the development of infill buildings on the Prince George campus and will be undertaken as space needs warrant and as funding becomes available. Proposed building sites in close proximity to existing buildings should be prioritized to ensure compact growth of the campus.

- Expansion of existing buildings where appropriate
- Infilling on suggested development sites
- Expanding physical presence in Downtown Prince George

Ongoing Initiatives

Throughout the life of the Plan, the University will continually need to pursue and update the following initiatives:

- Ongoing Student housing needs assessments
- Space needs analysis updates
- Feasibility study of ongoing Capital Plans
- Enrollment projections for the Prince George and Regional campuses
- Transportation survey
- Communication and engagement of the Plan's initiatives with stakeholders including the City of Prince George, BC Transit, BC Hydro, local businesses and organizations, the David Douglas Botanical Garden Society, and of course, the campus community comprised of students, faculty, staff, and alumni.

7.1.4 Ongoing Engagement

Importantly, the implementation of this plan will require continuous and meaningful collaboration and engagement with stakeholders over the life of this plan. If the plan is amended, it should be done so after a thorough consultation process.

7.1.5 The Regional Campuses

The Regional Campuses enable UNBC to deliver on northern, regional and First Nations mandates. As part of the implementation of the Vision and Objectives set forth in this Plan, which relate to UNBC as a whole, additional studies and planning work will need to be undertaken on the Regional Campuses. The information included in these additional studied would inform any strategic decision making about the physical locations of the regional campuses. These might include:

- Student enrollment projections
- Identification of potential future programs
- Space Utilization analysis
- Strategic assessment of Community College co-location