



University College of the Cariboo
Working Paper #3:
Foundations &
Guidelines



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1.0 Introduction

Working Paper #3: Foundations and Guidelines establishes the foundations on which the 2003 version of the *Campus Plan* is based. It also identifies guidelines where appropriate that will help to establish the *Campus Plan* as it develops over time. This working paper addresses the following areas:

1.1 Campus Demographics

This includes future growth in students, academic staff and support staff including a description of any anticipated changes in the demographic mix and assessing how the changes may impact the Campus Plan.

1.2 Vehicle Circulation

Given the impact of transportation related issues on the Campus Plan, informed assumptions regarding traffic levels, transit utilization, parking and use of alternative transportation strategies including the role of transportation demand management (TDM) are critical.

1.3 Pedestrian Access, Circulation and Open Space

The creation of a campus that is accessible and comfortable for pedestrians and has a variety of interesting open spaces is critical to a positive campus experience for students, staff and faculty.

1.4 Landscape

An enjoyable landscape that reflects the uniqueness of the Kamloops region is essential to creating a lasting impression on students, staff and faculty and can, in its own right, serve as an important tool for recruiting and retaining high quality staff and students. Landscape Guidelines are not included in this working paper but are described in detail in Working Paper #4: Campus Design Concepts.

1.5 Campus Facilities

Understanding how well the existing campus facilities work, or not as the case may be, is crucial to making informed decisions regarding the amount, type and location of new space that must be created to support the UCC's mission. A high level review of existing capacity and its ability to support future activity levels is required in order to determine future space requirements, identify opportunities, constraints and existing critical pressure points. Proposed construction projects are identified and assessed regarding their ability to meet the intent of the Campus Plan.

1.6 Campus Development Concepts

Two alternative development strategies are examined: continuing with the current pattern of development and one, which examines the impact of consolidating density in the campus core. Three tactical scenarios are also developed, based on the recommended development strategy, that examine the impacts on space typology and its preferred location on campus for three levels of student enrollment: 10,000 FTE, 13,000 FTE and 16,000 FTE. Impacts on phasing and infrastructure are identified.

2.0 Campus Demographics

2.1 Introduction

Future growth will impact both the amount of physical space and the type of space required in the future at UCC. Growth in enrollment will drive growth in faculty and support staff. Changes in student demographics resulting from an aging population as well as changes in academic direction such as new academic programs for graduate students will affect the type of space required in the future.

2.2 Enrollment Growth

The Education Plan (see Working Paper #2: Project Parameters) identifies that UCC will be providing education and training to approximately 9,600 student FTE's by 2010. Although detailed planning beyond has not been undertaken, UCC is anticipating continued growth and has identified tactical planning scenarios of 10,000 FTE, 13,000 FTE and 16,000 FTE.

Table 2.1 Enrollment Growth to the Year 2010

Planning Horizon	Year	FTE target (AVED)- 3% growth after 04/05	FTE target plus ELTT and Apprenticeship - 3% growth after	New Cont. Studies (CS) FTEs 3% growth after 05/06 (non-Masters)	New FTEs in Masters' Degree programs (CS)	New FTEs from Reallocation and Tuition 3% growth after 05/06	Inter. Ed. FTEs	FTE target (total inc. Inter. Ed.)	Percent. Increase (annual)	Cum. % incr. over 01/02
Short Term	01/02	5,030	712	0	0	0	800	6,542		
	02/03	5,288	712	77	0	95	850	7,022	7.34%	7.34%
	03/04	5,430	712	198	51	154	850	7,567	7.76%	15.67%
	04/05	5,570	712	140	61	175	900	8,133	7.48%	24.32%
Medium Term	06/07	5,737	733	115	40	118	950	8,644	6.28%	32.13%
	07/08	5,909	756	16	5	16	1050	8,976	3.84%	37.20%
	08/09	6,086	779	16	5	17	1200	9,364	4.32%	43.13%
	09/10	6,269	801	17	5	17	1200	9,607	2.61%	46.86%
Total growth over 01/02		1,239	1,328	579	167	592	400	3,065		

2.2.1 Changing Student Demographics

Beginning in the early 1980's a significant shift in student demographics became apparent¹. These shifts have continued into the new century and are characterized by:

- Decline in the population in the youth cohorts,
- Significant numbers of students over the age of 25 including significantly higher numbers of adult learners,
- Growth in the participation rate of young women,
- Increased numbers of part-time students,
- Higher ratio of visible majorities,
- Increased numbers of international students,
- Decline in participation rates relative to international competitors.

There is reason to believe that these trends will continue and that to maintain international competitiveness post-secondary institutions will respond by ensuring that their campuses are attractive to a diverse mix of students, including more of the youth cohort, older adult learners, graduate students, distance learners, students from less advantaged economic backgrounds as well as international students. The UCC Campus Plan will acknowledge this changing and increasingly diverse student population by creating a broad range of internal and external spaces supportive of different activities. Places to work, to deliver a range of social and retail services, and recreate on campus will become as important as places to learn and conduct research. This will help to ensure that, as new student needs are identified, there will be the space to respond to them and create a vibrant and engaging campus life.

2.3 Academic Staff Growth

Over the last five years the ratio of students to academic staff at VCC has been stable as increases in enrollment have been matched proportionately with increases in academic staff (59 to 1170 respectively) and is currently at 16.6:1. Nationally, there has been a trend to a higher ratio of students to faculty with 50% growth over the last two decades.² It is expected that this will continue to some degree due to funding and recruitment issues. The Table 2.2 summarizes the academic staffing levels required to support the three tactical planning scenarios based on a standard of 18.5 FTE students per FTE faculty.

¹ Trends in Higher Education 2002, Association of Universities and Colleges of Canada, Ottawa, pp. 2-6.

² Trends in Higher Education 2002, Association of Universities and Colleges of Canada, Ottawa, p. 30.

Table 2.2: Academic Staffing Projections

	FTE Enrollment	FTE Faculty Required	Increased Faculty Requirements
<i>Current 2001/02</i>	6,244	377	0
<i>Tactical scenario #1</i>	10,000	541	164
<i>Tactical scenario #2</i>	13,000	703	162
<i>Tactical scenario #3</i>	16,000	865	162
		Total	488

The impact of projected enrollment increases are significant with a 44% increase in faculty required by the end of the decade. This projected increase will have a significant impact on both academic support space as well as research space.

2.4 Administrative Staff Growth

The ratio of students to administrative staff has decreased significantly over the last five years from 84:1 to its current 112:1. Overall there has been a decrease of 4 administrative staff during this period. It is expected that this will continue to some degree primarily due to funding issues as resources are diverted toward program delivery as much as possible. The following table summarizes the administrative staffing levels required to support the three tactical planning scenarios based on a standard of 120 FTE students per FTE administrative staff.

Table 2.3: Administrative Staffing Projections

	FTE Enrollment	FTE Administrative Staff Required	Increased Staff Requirements
<i>Current 2001/02</i>	6,244	61	0
<i>Tactical scenario #1</i>	10,000	83	22
<i>Tactical scenario #2</i>	13,000	108	25
<i>Tactical scenario #3</i>	16,000	133	25
		Total	72

The impact of projected enrollment results in a 36% increase in faculty required by the end of the decade. This will have a moderate impact on administrative support space requirements.

2.5 Support Staff Growth

The ratio of students to support staff has been relatively stable over the last five years moving from 36:1 to the current 40:1. Overall there has been an increase in support staff of 16. It is expected, however, this trend will not continue due to decreased funding.

Table 2.4 summarizes the support staffing levels required for each of the three tactical planning scenarios based on a standard of 44 FTE students per FTE support staff.

Table 2.4: Support Staffing Projections

	FTE Enrollment	FTE Support Staff Required	Increased Support Staff Requirements
<i>Current 2001/02</i>	6,244	162	0
<i>Tactical scenario #1</i>	10,000	227	65
<i>Tactical scenario #2</i>	13,000	295	68
<i>Tactical scenario #3</i>	16,000	364	68

The impact of projected enrollment increases are significant with a resultant 40% increase in support staff required by the end of the decade. This projected increase will also have a significant impact on space requirements.

2.5.1 Academic Directions/Impacts

Projected growth and change in academic programs over the period 2001/2002 to 2009/2010 will have a significant impact on the demographics of the student population and consequently on the type of academic and support space required. The table 2.5 summarizes the anticipated changes in academic programs and the impact these changes will have on space requirements and the Campus Plan.

Table 2.5 Impact of Academic Change

Academic Change	Enrollment/Staff	Impacts	
		Space	Campus Plan
New Graduate Programs	166 FTE increase	Offices	Family housing, additional academic office space
International Education	400 FTE increase	Classrooms/ language labs/ computer labs	International conference center, new classrooms
Continuing Studies	579 FTE increase	No impact	Additional classrooms, residences for international professionals
New Era Programs	1328 FTE increase	Classrooms/ teaching labs/ computer labs	New space
Research Programs	Support and administrative staff	Accommodated within new research /academic facilities.	New space
Technology Transfer	Support and administrative staff	Accommodated within new incubator facilities.	New space
Year Round Programming (tri-semester programs)	Support and administrative staff	Increased utilization will offset new classroom/ teaching lab space to some degree but little impact on research, faculty, administrative and support space.	New classroom/ teaching lab space will be planned for based on 21% efficiency factor.

3.0 Vehicle Circulation

3.1 Introduction

As is the case with the majority of post-secondary institutions, the majority of staff and students live off campus and therefore must travel via private vehicle or public transit to the campus. As the campus grows vehicle trips will also grow and issues related to traffic and parking will increase accordingly. The objective of the Campus Plan is to identify and incorporate strategies that will accommodate significantly increased growth over the next ten years of the campus population without compromising the quality and experience of the campus environment.

A number of transportation studies have been completed over the last several years which have a direct bearing on the UCC including:

1. Travelsmart, Summary Report, City of Kamloops, October 1999: Travelsmart is a broadly-based program that integrates land use and transportation system planning management on a city-wide basis. The program attempts to optimize existing infrastructure and make best use of additional facilities while balancing community expectations regarding mobility. It identifies transportation demand management (TDM) strategies and is inclusive of all modes of travel. The plan accommodates growth up to the 120,000 population threshold.
2. McGill Corridor Transportation Strategy (Draft Report) November 20, 2002, Urban Systems: This study is designed to shape and influence land use and transportation planning along the McGill corridor, the primary access route to the UCC. Based on planned development, it provides a comprehensive assessment of factors and impacts based on a doubling of traffic generated by the UCC. Safety is an explicit objective in shaping the planning, design and management of the McGill Road corridor.
3. Kamloops Official Transit Plan, BC Transit Municipal Systems Program, April 2000: This plan identifies intermediate and long term requirements for the transit system and links these with the city's land use planning process. One of its key strategies is closer planning with the UCC to improve transit utilization.
4. Kamloops Bicycle Master Plan, Urban Systems, July 2002: This study identifies the components of an implementable, effective plan to develop a comprehensive and safe bicycle network for the city. It proposes the development of new on and off road routes that tie directly to UCC.

3.2 Vehicles

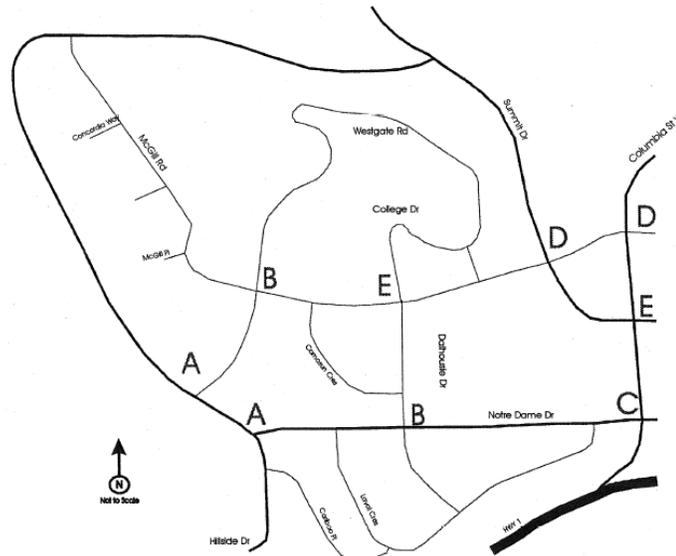
3.2.1 Current Conditions

The McGill Corridor Transportation Strategy indicates that there will be significant growth in traffic volumes as Kamloops grows and the McGill Road area is developed. Total traffic volumes will increase between 20% and 75% with the highest growth anticipated along McGill Road. The Hillside Drive extension is anticipated to accommodate much of the growth in external traffic volumes and will reduce the demand for through travel on Notre Dame drive, Dalhousie Drive and McGill Road.

Nonetheless, the afternoon peak hour is forecast to increase by 76% on McGill Road with the majority of the growth attributable to planned growth of UCC.

Figure 3.1 and table shows considerable degradation of quality occurs (LOS less than C) at a number of key intersections along the McGill road corridor.

Figure 3.1 Current LOS Without Improvements

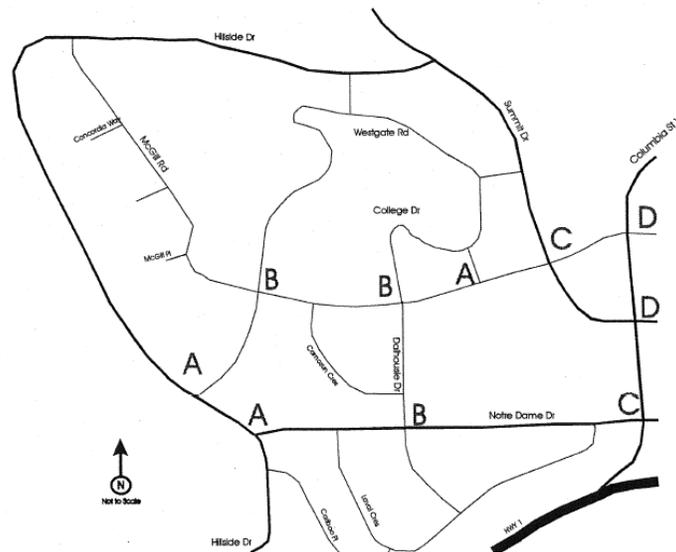


These results indicate there will be increased congestion and delay as growth occurs throughout the City and in the UCC area itself. According to this study, there will be four major intersections performing at level of service (LOS) D or poorer, three of which are located along the McGill Road corridor. At this level of service, significant delays at peak periods can be anticipated.

3.2.2 Campus Plan Initiatives

The study reviews three options, only one of which makes a significant improvement on LOS at key intersections accessing the UCC. This option combines elements of the first two including implementation of a U-pass program and significant travel demand management (TDM) initiatives as well as a new north access road. It also adds another new east access road from Summit Drive along with upgrading at the existing UCC east access off of McGill Road to an all turns signalized intersection. With the combination of all of these changes, acceptable LOS is maintained and improved at all major intersections servicing UCC.

Figure 3.2 Recommended LOS



3.2.3 Campus Plan Guidelines

UCC should implement a TDM program in cooperation with other key stakeholders, the City of Kamloops and BC Transit. The following section gives an overview of TDM measures that could be implemented through a TDM program. Currently UCC does not have a formal TDM program. Implement traffic calming measures to slow traffic speed on Campus roads.

3.2.4 Transportation Demand Management

TDM measures are used to encourage people to make more efficient use of the transportation system. This is achieved by reducing the number of trips, shifting the time of travel, and shifting the demand to other modes of travel such as transit and bicycles, by making these modes more attractive relative to the automobile.

Effective TDM requires a significant level of organization and cooperation between UCC, the City of Kamloops and BC Transit. Roles and responsibilities regarding the implementation of TDM for travel to and from the UCC campus will need to be established. At the very least, a working group comprised of major stakeholders will need to be developed. Although many TDM measures can be implemented at little or no cost, the issue of funding, where required, will need to be addressed. Funding sources will need to be identified and pursued.

An expansion of other uses on campus, such as sports and recreation, would take advantage of increased transit capacity as well providing improved campus life activities for campus residents.

TDM measures can either be punitive, that is they discourage automobile travel, or rewarding by encouraging alternative transportation modes. Table 3.1 identifies potential TDM measures that should be incorporated into the Campus Plan or otherwise adopted by UCC.

Table 3.1 Potential UCC TDM Measures

TDM Measure	Expected Outcome
Ridesharing	Increased average vehicle occupancy
• Car pools	Ridesharing in private vehicle
• Van pools	Ridesharing in van provided by UCC
Inter-modal Trips	Provide flexibility to provide transit for part of the trip.
• Park-and-Ride	People drive and park at transit stops at key feeder locations.
• Bike-and-Ride	People cycle to transit stops provided with bicycle storage.
Parking Management	Measures to manage supply and demand for parking.
• Reduced parking supply	On a proportional basis reduce parking supply over time.
• Increased parking costs	Operate parking on cost recovery basis.
• Differential parking fees	Close in parking should cost more.
• Preferential parking for high occupancy vehicles(HOV)	Reserve the most desirable parking for car and van pools.
Promotion of cycling	Measures to encourage bicycles as transportation
• Bicycle facilities at destination	Provide secure storage, change and shower facilities.
• Bicycle racks on buses	Gives cyclists choice of taking bikes on bus.
UCC Programs	Management initiatives to encourage less private vehicles
• TDM administrator	Coordinates all TDM programs to reduce single occupant vehicle trips.
• Bus passes ("U pass")	Annual bus passes for students as part of student fees. Employees as part of payroll deduction.
• Guaranteed ride home	Employee guaranteed ride home if working late.
• Telecommuting	Allows employees to work at home one or more days a week.
Campus Planning	Campus Plan initiatives to reduce transportation demand.
• More on-campus housing	Develop additional undergraduate and family housing on campus
• Increased campus life activities	Recreation, retail, entertainment venues should be planned for on campus or closely adjacent.

3.3 Transit

3.3.1 Current Conditions

UCC is currently serviced by four transit routes, #3 Aberdeen, #4 Pacific Way, #8 Battle and #9 Gleneagles. There is a supplement from the Thompson Park Mall exchange directly to the campus.

3.3.2 Campus Plan Initiatives

BC Transit proposes the following service enhancements that would directly impact UCC:

1. A shuttle bus between the Sahali Exchange and UCC operating at 15 minutes during peak periods.
2. The addition of two new bus routes directly servicing UCC: the Arrowstone and Python routes.
3. An increase of 37 transit trips per day during the week.
4. The development of a transit “station” adjacent to the Campus Activity Centre in 2003.

The Python, Battle and Arrowstone buses will be used to create a new route that shuttles students from the Sahali exchange to the Westgate stop by the Campus Activity Centre. This along with the new shuttle service will give students a multitude of options to access the campus directly or via stops on the perimeter of the campus.

3.3.3 Campus Plan Guidelines

UCC should, on an annual basis, review with the City of Kamloops and BC Transit opportunities to improve transit service to the Campus.

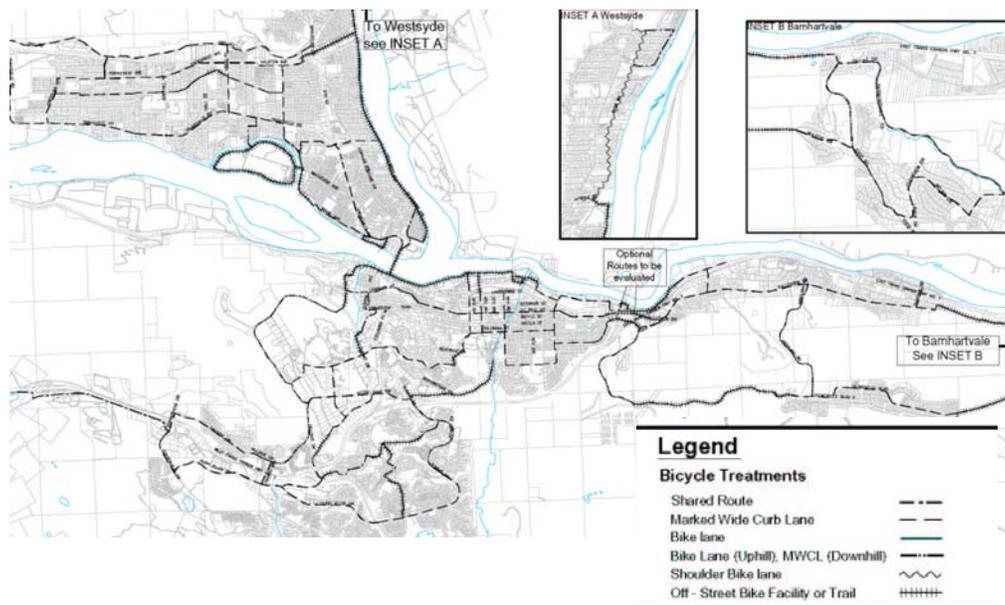
3.4 Bicycle

3.4.1 Current Conditions

The City of Kamloops has recently completed a comprehensive master plan for its on and off road bicycle system. The UCC is an integral part of this system through the existing designation of McGill Road. In the future with the development of the Hillside Drive extension there will be a direct connection to the North Shore via the Overlander Bridge.

Currently there are limited secure facilities for bicycle parking and change/shower facilities for cyclists on Campus.

Figure 3.3 Proposed Bike System



3.4.2 Campus Plan Initiatives

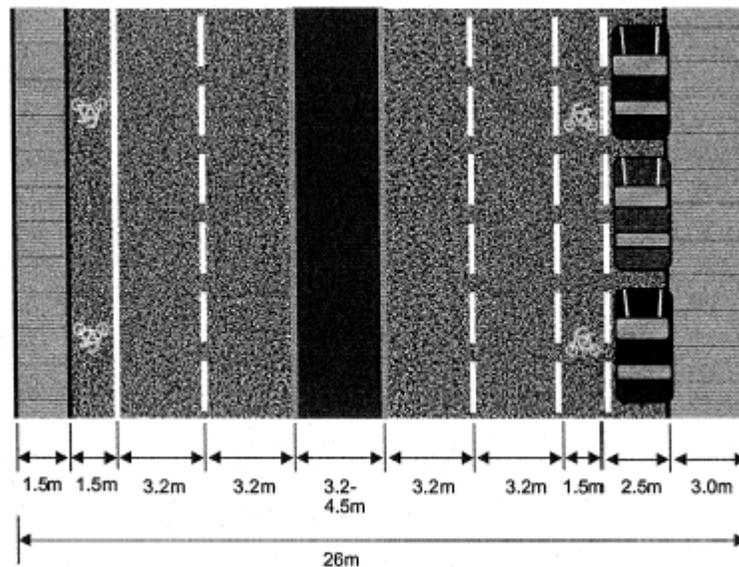
The Campus Plan will establish an internal bike path system based on existing and new roadways. New bike paths alone or in combination with roadways will need to align with the City Master Plan. As new roads are developed they will conform to the city standard for combined vehicle and bicycle accommodation.

3.4.3 Campus Plan Guidelines

The following strategies should be incorporated into the Campus Plan:

1. New roads should accommodate bicycle lanes in both directions unless one way.
2. Where UCC and City pathways connect, consistency in materials and dimensions should be considered.
3. A minimum of 75 secure bicycle parking stalls per 1,000 students should be provided.
4. Shower and change facilities should be incorporated into all new campus development.
5. Marked wide curb lane roadways as recommended by the Kamloops Bicycle Master Plan should be used for future roads. On street parking may or may not be incorporated.
6. Appropriate signage should be installed on all campus roadways.

Figure 3.4 Recommended River Roadway



3.5 Parking

3.5.1 Current Conditions

UCC parking is accommodated through 24 separate surface parking lots scattered across the campus providing a total of 2275 parking stalls. There is currently no structured or underground parking on campus. The current parking ratio is 1 stall per 3.6 student FTE or 1 stall (staff and students) per 20.4 assignable square meter (ASM). Typically most municipal bylaws require 1 stall per 35 to 40 ASM of new suburban commercial/retail development. Most universities have a ratio of between 3 and 4 stalls per FTE student.

Table 3.2 Current Parking Stall Distribution

Lot	Location	Student	Staff	Handicap	Reserved	Visitor	Service Vehicles	Loading Zones	Motor cycle	Total
A1	Large Old Main	391	22	1			5	1	13	433
A2	Small Old Main (staff)		100	6						106
B	East A&E Building		46	6						52
C	West FTC		71	5	6	6	1		14	103
D	Dalhousie Drive	34								34
E	East Gate	144								144
F	Facilities/Stores		16							16
G	South Gym			3			1	1		5
H	East Visual Arts						4	4		8
I	East University Drive			2		21				23
J	North CAC/Houses	103	11		14					128
K	CAC			2	5	20	2	1		30
L	East/South Library	130	69	4	6		2			211
M	McGill Road	208								208
N	North University Drive	92								92
P	Old Visual Arts		39	2	4					45
Q	South A Block			2		5	1			8
R	East Science		12	2			1	1		16
S	South Science	57	57		2					116
T	Trades & Technology		50	3	1	1				55
U	University Drive	70								70
V	Old Main (Visitor)			1		24	1			26
W	West Gate	328							8	336
	College Drive					2	5	3		10
	Total	1557	493	39	38	79	23	11	35	2275

3.5.2 Campus Plan Initiatives

There is a need to balance the availability of convenient, reasonably priced parking with the Strategic Objectives of the Campus Plan to support and enhance the quality of

campus life and create a pedestrian friendly environment. There is no single strategy to achieve this objective, rather a multi-faceted approach should be developed which combines incentives as well as disincentives to reduce parking demand and encourage the use of alternative transportation. Table 3.3 summarizes the impact of parking for each of the tactical scenarios on surface area required to accommodate future parking needs based on the recommended guidelines.

Table 3.3 Surface Area Parking Requirements

	FTE Enrollment	100% Surface Parking Area (Ha)	25% Structured Parking (Ha)*	Number of parking stalls	Number of Parkades	Comments
<i>Current 2001/02</i>	6,244	6.8	NA	2275	0	Current ratio
<i>Tactical scenario #1</i>	10,000	7.5	5.6	3,333	1	Proposed guideline
<i>Tactical scenario #2</i>	13,000	9.8	7.3	4,333	2	
<i>Tactical scenario #3</i>	16,000	12.0	9.0	5,333	3	

*Structured parking assumes 200 stalls per floor plate.

Based on the analysis in table 3.3, surface parking lot area will double if the current 100% surface parking approach is continued. In order to keep the total parking lot footprint closer to the current allocation of land a parking structure will need to be built when the student FTE reaches 10,000, with another added at the 13,000 threshold. At least one more will be required when a population of 16,000 FTE is reached.

3.5.3 Campus Planning Guidelines

The following guidelines will be recommended for implementation in the Campus Plan:

1. Keep all parking with the exception of limited short term parking outside of core campus development zones.
2. Parking lots in excess of 20 stalls should be located on the periphery of the campus.
3. Ensure parking rates provide full cost recovery of capital and operating costs.
4. Peripheral roads should be developed to accommodate one or two lanes of parking.
5. Over time decrease the ratio of stalls per student to 1 stall per 4 students (1 to 3 for staff, students and visitors).
6. New development should include in its plan the means to accommodate its required parking complement.
7. Surface parking lots should be replaced with structured parking as surface lots are redeveloped for new facilities.
8. Parking lots should have connecting pathways for pedestrians and use landscaping to provide visual screening. Large parking lots should be broken up with landscaping to help reduce visual impacts.

4.0 Pedestrian Access, Circulation and Open Space

4.1.1 Current Conditions

The UCC campus is traversed by numerous paved pathways, some of which follow the existing road system while others cross landscaped open space connecting the entrances and doorways of buildings. The result is a multitude of criss-crossing paths some of which are very pleasant walks through the landscape, others that simply parallel the road system with little consideration given to the experience of walking. In some cases, in the central part of the campus, roadways are also used as walkways. The lack of legible structure to the path system combined with the similar lack of structure in the road system contribute to a sense of disorientation especially for first time users.

Open space on campus ranges from the well-defined and enclosed quadrangle space between the Clock Tower and Old Main to very open, undefined spaces between the Old Main and the service buildings to the west. The open plaza space south of the CAC and the gardens behind the houses on University Drive are also good examples of active and pleasant open spaces on campus. However much of the open space is simply defined by roadway and limited opportunity taken to incorporate the mature indigenous stands of pine and other native landscaping.

Figure 4.1 Campus Scale

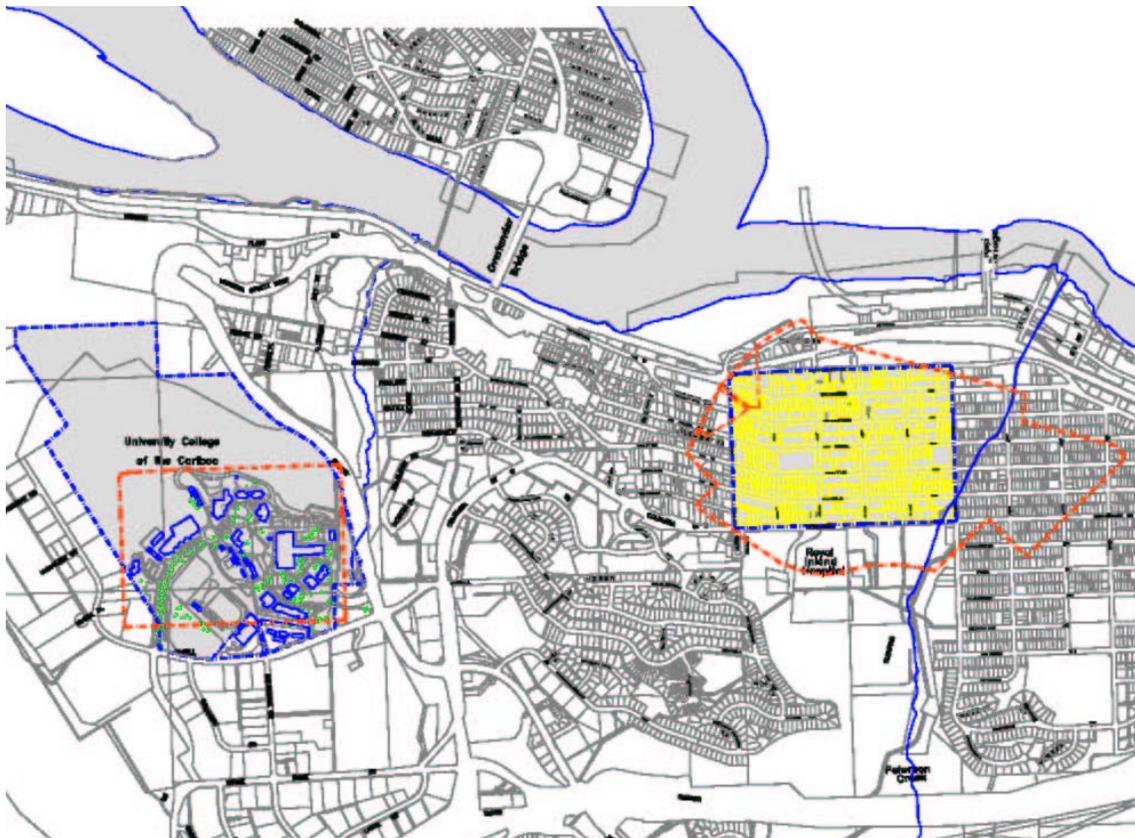
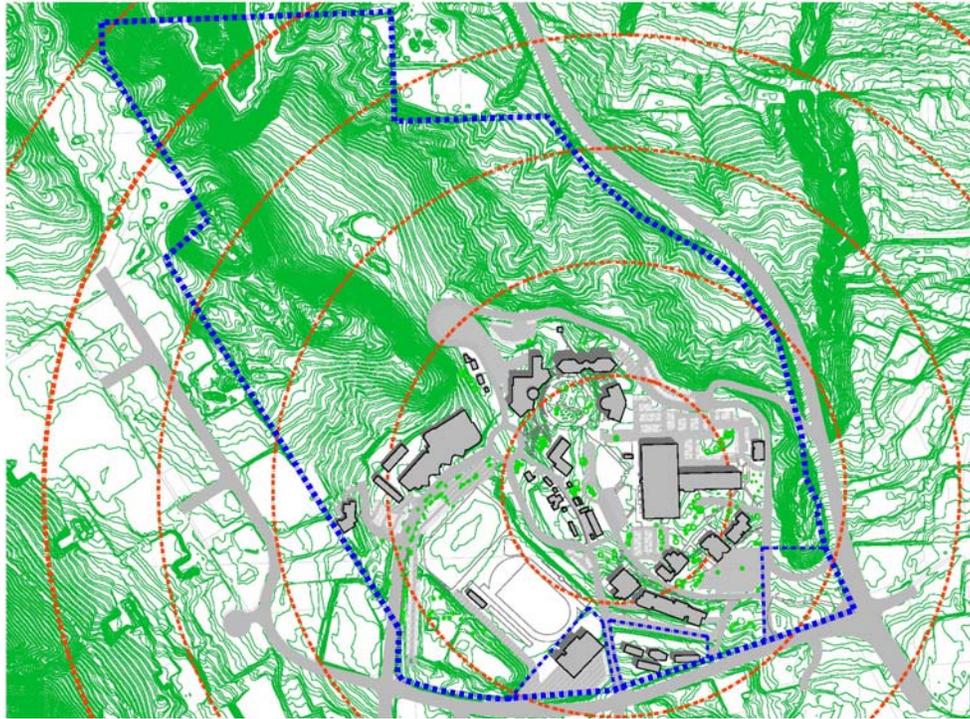


Figure 4.2 – 5 minute walk (200m radius)



4.1.2 Campus Plan Initiatives

A hierarchical network of open space and pathways should be developed to create a visually appealing open space system connected by pleasant walkways. Opportunities to create shade in the summer through landscaping and building placement as well as shelter from winter winds should be found as the campus continues to develop. Strong gateways should signal and cue pedestrians arriving from transit stops and parking lots to building entrances. Use of cognitive mapping through more landscape features that can speak to the uniqueness of the UCC experience such as its strong international programs, should be implemented. All variety of open space should be used including:

- Plazas-major and minor meeting places where people meet and activities occur.
- Quadrangles and courtyards- formal designed spaces that function as central parks for buildings and groups of buildings with associated pathways.
- Gardens- formal green spaces that are developed adjacent to buildings.
- Incidental open space- open and green space associated with pathways, roads, storm water management or vestigial space that are natural or landscaped with public art/sculptures.
- Internal open space- areas in buildings that serve as meeting or amenity space
- Recreation space- for formal and informal sports.
- Natural areas.

4.1.3 Campus Plan Guidelines

Pathways and open spaces should use low maintenance, natural materials as much as possible.

A high proportion of open space excluding natural areas and recreation space, approximately 35% of the total campus area, should be achieved.

5.0 Campus Facilities

5.1.1 Current Conditions

The campus has been built over the course of the last 30 years in a series of stand-alone buildings. Some wartime housing that was on the site, a former army base, has been incorporated to provide space for a variety of functions. Overall the quality of space is good to excellent with most buildings relatively new and well maintained.

Deferred maintenance is not considered an issue at this time due to adequate funding being provided to date by the Provincial government and the existence of a formal preventative maintenance program.

Although a detailed utilization analysis is outside of the scope of this study, numerous comments were made during the interview/questionnaire process that indicated there is a significant shortfall of space especially for student and academic support, in particular faculty office space and student study space, on campus.

Academic Space

Information supplied by UCC indicates that the larger section sizes have the highest utilization of classrooms and labs (section sizes greater than 50 have 84% utilization, less than 50 have 60%). Given the longer-term trend of increased section sizes this will become an ever increasing problem. As well, as UCC moves to a trimester system, inherent capacity due to under utilization will be soaked up. Comments were received from interviews that classrooms are undersized for some course sections.

Other academic space issues identified included:

1. Specialized teaching environments including new high technology teaching
2. Professional Schools
3. Academic Research space
4. Continuing integration of programs and increased collaboration
5. Larger lecture theatres for larger class sections
6. Increased role of distance learning will need specialized facilities

Research Space

Currently dedicated research space is comprised of approximately 1500 Sq feet in converted World War II housing. This space has no gases or specialized utilities or power. There is no space dedicated to research transfer where faculty may pursue commercialization of IP in collaboration with business partners. A dedicated incubator facility with wet and dry labs and high-speed connectivity is required. There are plans to develop new research centres in natural resources science (Grasslands Institute), sleep and respiratory therapy and manufacturing excellence, however no dedicated space is available for these proposed research centres.

Library

The library is currently undersized for current collections and does not have enough individual or group study space. There is also insufficient space for electronic resources and use, including sufficient Internet accessible workstations. The library also does not have adequate meeting and support space. The introduction of master level programs

will generate new demand for special collections and archives. Benchmarking with accepted industry standards suggests a current shortfall of approximately 4800 assignable square meters based on a collection of 500,000 volumes.

Faculty Support

A significant number, approximately 80 faculty offices, are in portable structures. As discussed in Working Paper #2, recruitment and retention issues are becoming more important as UCC recruits new staff to meet enrollment growth and thus maintain quality. The provision of a high quality working environment with best practice workplace tools for all faculty will be a required strategy in this regard. Lack of adequate offices for faculty has been identified as a concern. A shortage of childcare space has also been identified.

Student Support

The Campus Activity Centre has undergone a recent expansion and offers a broad range of campus life services and activities. Comments were received that there is a lack of study space for students on both a group and individual level. This is exacerbated by the space constraints found in the existing library.

Institutional Support

Institutional support space is located centrally on campus in some of the oldest space including several WWII era residences. Although location is acceptable for current purposes it is not well located for expansion to serve a larger campus. Current space is inadequate and disjointed and shared with other support functions that may contribute to operational inefficiencies. A consolidated grounds maintenance area is required. Capital planning and Projects is located in trailer space. Support space has been eroded over-time for short term savings however this simply defers the costs of additional space for a later time.

5.1.2 Current UCC Capital Development Program

UCC has an on-going capital development program that is based on developing the appropriate infrastructure to achieve institutional goals. Currently UCC is in the design stage for a new International Building that will also house additional classroom space.

The current capital development program makes considerable progress towards addressing a number of the issues that have been identified in the process of updating the UCC Campus Plan and all of the projects will to some degree support the plan. However, it does not address several key areas including additional student housing, including family-style housing, dedicated research space, and support space that may be displaced to accommodate new campus development such as the library (Information Commons). In addition the amount of space being planned may not be sufficient to address long-range needs as defined by each of the three tactical scenarios for student, staff and faculty space.

A revised 10-years Capital Plan, including roadway, parking and utility costs based on the approved 2003 Campus Plan should be developed.

The Table 6.1 summarizes the proposed five-year capital plan as of September 16, 2002.

Table 6.1 Current UCC Five-Year Capital Plan 2003-2008

FISCAL YEAR 2003/2004				
Ranking	Request Type	Project # and Description	Year Requested	Project Cost
1	Major	Relocation and Construction of Stores/Purchasing Warehouse Building	2003	\$1,815,000
2	Major	Relocation of Library - New Building Retrofit of Old Library Retrofit of Classrooms Demolish Visual Arts Building Retrofit of Science Building for additional labs	2003	\$37,293,000
1	Minor	Completion of University Drive, Westgate Entrance	2003	\$1,360,000
			Total:	\$40,468,000
FISCAL YEAR 2004/2005				
1	Minor	Horticulture Building Expansion-instructional laboratory	2004	\$250,000
			Total:	\$250,000
FISCAL YEAR 2005/2006				
1	Major	Design and Construction Costs of the New Trades Facility	2005	TBA
1	Minor	Professional Cook Training Laboratory	2005	TBA
			Total:	TBA
FISCAL YEAR 2006-2007				
1	Major	Classroom and Faculty Office Building replacement of portables and additional classrooms	2006	TBA
			Total:	TBA
FISCAL YEAR 2007-2008				
2	Major	Kamloops Campus Road Development north entrance to campus	2007	TBA
			Total All Capital Project 2001-2008:	\$40,718,000

5.1.3 Campus Plan Initiatives and Guidelines

Increased space will be required to accommodate planned growth in both the academic and research areas. Additionally student housing will be required, as will more support space. The Campus Plan will identify initiatives in support of each campus program and service area including:

Academic and Research

The Campus Plan will identify potential development sites that will address faculty expansion requirements for teaching and research. Priority will be given to a new centrally located library facility, expanded wet lab research space and additional centrally located computer laboratories as well as classrooms capable of supporting emerging trends in pedagogical practice. Sufficient space will be planned for in all new development to allow for the creation of research centres, semi-autonomous entities created to focus on a particular avenue of research in partnership with others.

Student Housing

Additional student housing to serve the broad spectrum of demands resulting from undergraduate, graduate and international/professional style programs will be developed in several locations in the northeast, and along McGill Road on UCC land, potentially in conjunction with new recreational space. Consideration will be given to development of family style housing, potentially in conjunction with a private developer. On-campus housing should be provided for at least 10% of the student population.

Retail and Commercial Services and Facilities

Retail and commercial services and facilities will continue to be developed to serve students faculty and staff. The focus of development will continue to be the Campus Activity Centre, however other development will be integrated as appropriate on campus. In addition significant potential exists for commercial development in partnership with the private in support of the hospitality sector education and training programs. The purpose of retail and commercial development should be to enhance and complement the quality of campus life including students and others who live on campus for extended periods.

University Support Services

Student, staff, and faculty services and campus life services should be developed centrally in association with new and existing facilities. They should as much as possible be integrated with academic, research, recreational and student housing projects. University services including materials management, Shops, and Vehicle Pool should be relocated over time out of the central campus, preferably to a zone adjacent to the proposed technology park with independent access from McGill Road.

Recreation Facilities and Fields

The locus of recreational development should continue to be the southwest corner of the campus where existing facilities exist. The UCC needs to maintain an inventory of recreation fields and facilities that can provide a broad range of activities. Sufficient land should be retained that will support the future development of academic programming. In planning and developing recreation facilities the needs of the surrounding community should be considered. Co-development opportunities with the City of Kamloops and other partners, including the private sector should be explored.

Research and Technology Partners

Research and technology partners will be accommodated on a dedicated part of the northwest campus that is easily accessible from McGill Road yet close enough to the rest of the campus so that students and faculty can walk. Partners are defined as a private company, a technology transfer firm, a joint venture with outside agencies or a joint venture amongst Faculties with a strong affinity to UCC research and development. Land should be developed as required to accommodate research and technology partners. Ownership of the land will be retained by UCC. A research transition facility (RTF) should be developed on the technology lands to support partnerships and facilitate the development of intellectual property (IP).

Long-term Revenue Generation

Campus land, deemed to be surplus to long term needs (excluding natural preservation) should be set aside for the development of long-term revenue generating projects preferably in partnership with the private sector. Land located on the northwest and northeast of the campus should be considered for these purposes.

6.0 Campus Development Concepts

6.1 Introduction

This section examines alternative development strategies as well as plans for three levels of student enrollment. A recommended development strategy is identified and, based on it, tactical scenarios for three levels of student enrollment examined.

6.2 Alternative Futures

Two different approaches or strategies have been identified as follows:

1. Maintain the Current Pattern of Development: Based on the 1991 Campus Plan UCC has maintained a low-rise, (no more than 3 storeys in height), grouped around a green space or common approach to campus development. This strategy has until now served the UCC well, however given the planned growth in both numbers of students as well as new programs in research, graduate studies and international studies, it may not be sustainable. In particular, this is a land rich approach to development not unlike a suburban development style or pattern that if followed to its ultimate conclusion may compromise other land uses.

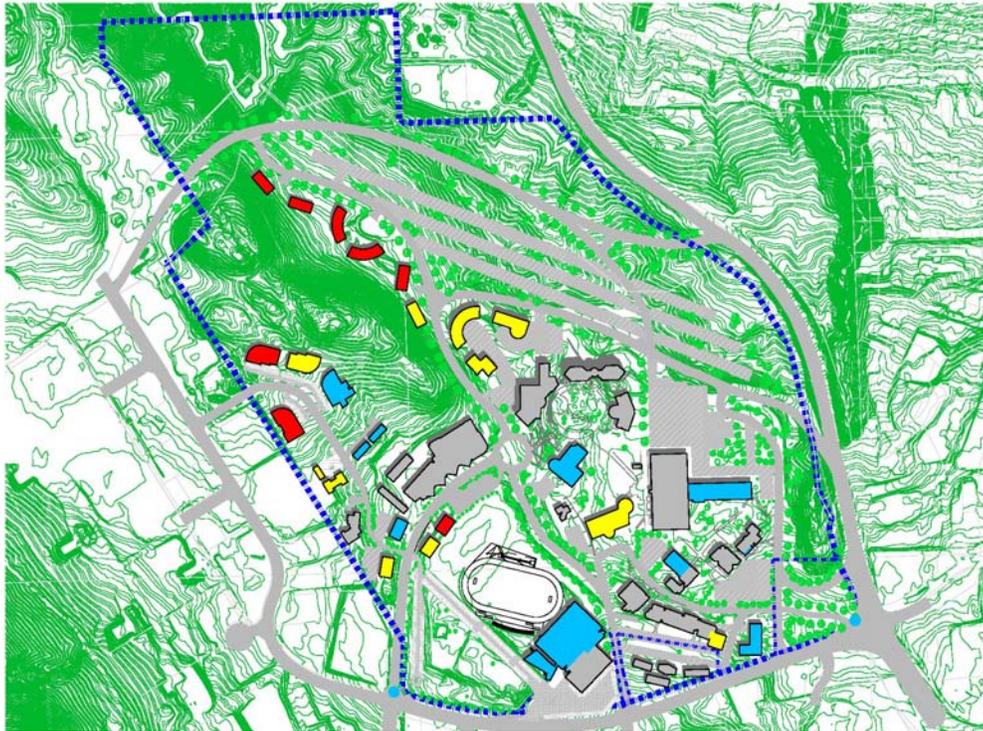
Advantages:

- Maintains the current low rise, park-like campus setting.
- Allows for development of research and technology zone.

Disadvantages:

- Central services for students, faculty and staff may become too far removed as campus develops.
- Walking distance between classes will become longer.
- Development for one purpose may preclude development for other purposes.
- Infrastructure costs will be higher e.g. utilities, due to longer distances.
- Campus security may be more difficult with increased travel distances between buildings.

Figure 7.1 Current pattern of development



2. Adopt a Consolidated Approach to Development: This approach proposes somewhat of a departure from the current planning strategy. By allowing density to increase slightly through increasing the building height to allow for one or two more levels, there is the opportunity to maintain the academic core within a relatively short walking distance, no more than five minutes, and reserve land for long term development including long term revenue generation opportunities. It would also allow more land to support a larger recreational zone that would allow for not only campus life related recreation but also facility expansion in support of potential programming in the future. Densification over time can be achieved and can be dealt with effectively through the creation of improved pedestrian environments.

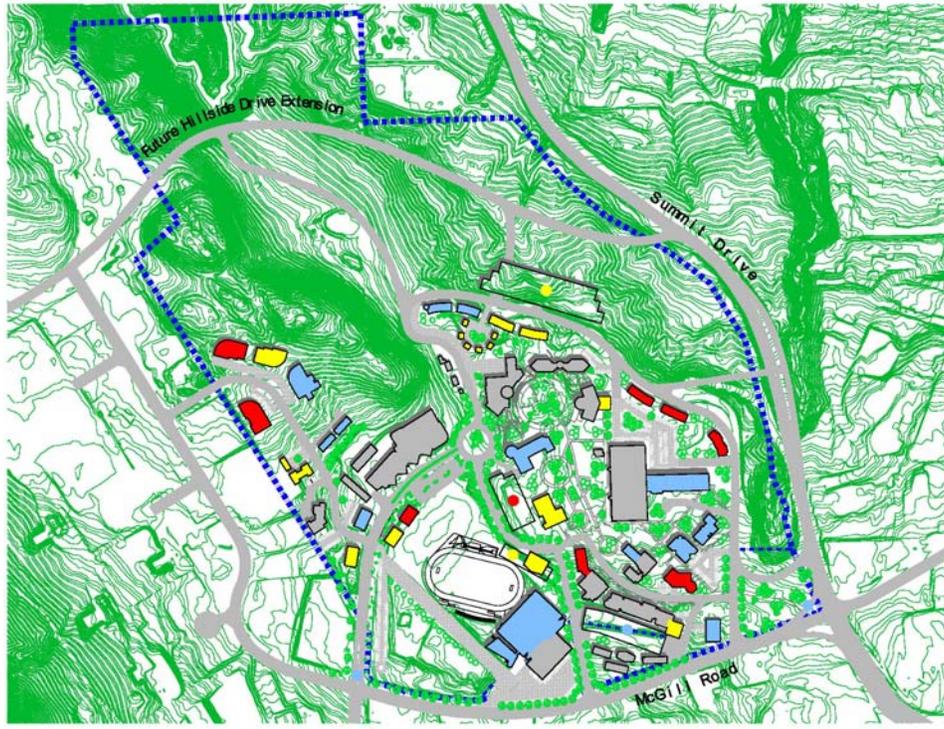
Advantages

- Maintains accessibility to central services for students, staff and faculty.
- Maintains acceptable walking distance between classes.
- Allows for development of research and technology zone, “development reserve” and enhanced recreational zone.

Disadvantages

- Increase in density and building height may be seen as undesirable.

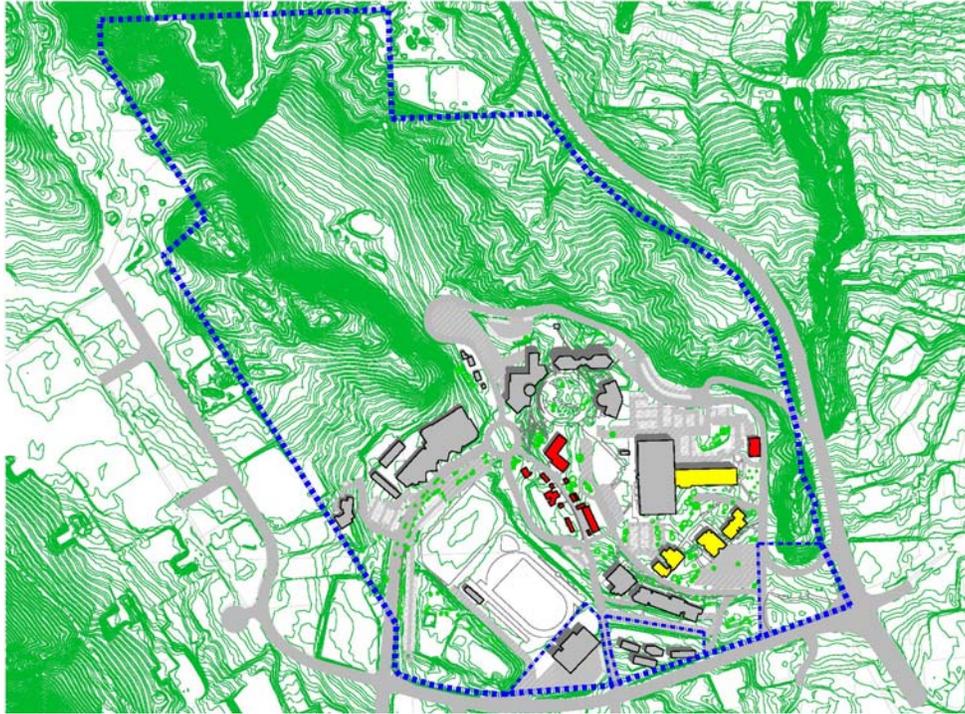
Figure 7.2 Consolidated pattern of development



6.3 Recommended Development Strategy

The recommended development strategy is to modestly increase the density of the academic core to prevent long-term development from becoming so spread out that it begins to adversely affect the quality of academic programs. This will also allow the UCC to preserve sufficient land to the north that can be used for other purposes including partnering with the private sector to create revenue generation in support of academic programs. Setting this land aside will in no way impinge or constrain the development of future academic facilities. This approach will also preserve a recreational zone that will have sufficient land to also support potential academic programs in sport and kinesiology. It will also allow for the development of a technology and research zone of sufficient size to support a critical mass of research and incubator facilities.

The recommended scenario continues to follow the planning/ design guidelines established in the 1991 version of the *Campus Plan* with the exception that an increased building height of two storeys (four storeys total) is allowed for buildings located in the central academic core.

Figure 7.3 Building Structure Replacement (10 to 15 years)

7.0 Tactical Scenarios

Based on the recommended development strategy, a concept plan has been developed for each tactical scenario of 10,000 FTE, 13,000 FTE and 16,000 FTE.

The following assumptions have been incorporated into the tactical scenarios:

1. Ratio of seminar/small classrooms to mid-sized classrooms to large classrooms remains the same.
2. Ratio of dry lab space to wet lab space remains the same.
3. Ratio of trade shops to industrial shops remains the same.
4. The Annual Student Contact Hours (ASCH) is currently approximately 3,700,000 and will increase proportionately for each tactical scenario.³
5. Migrating to a trimester system will increase utilization of classrooms and labs by 21%.
6. The ratio of graduate students to undergraduates will remain constant at the projected 2009 ratio of 2%.
7. Residence space is excluded from the space standard calculations however it is accounted for on the basis of 1 unit for 10 FTE students.

³ Space Standards Review, College University College and Institute System, The RPG Partnership, June 212000, p D.1.

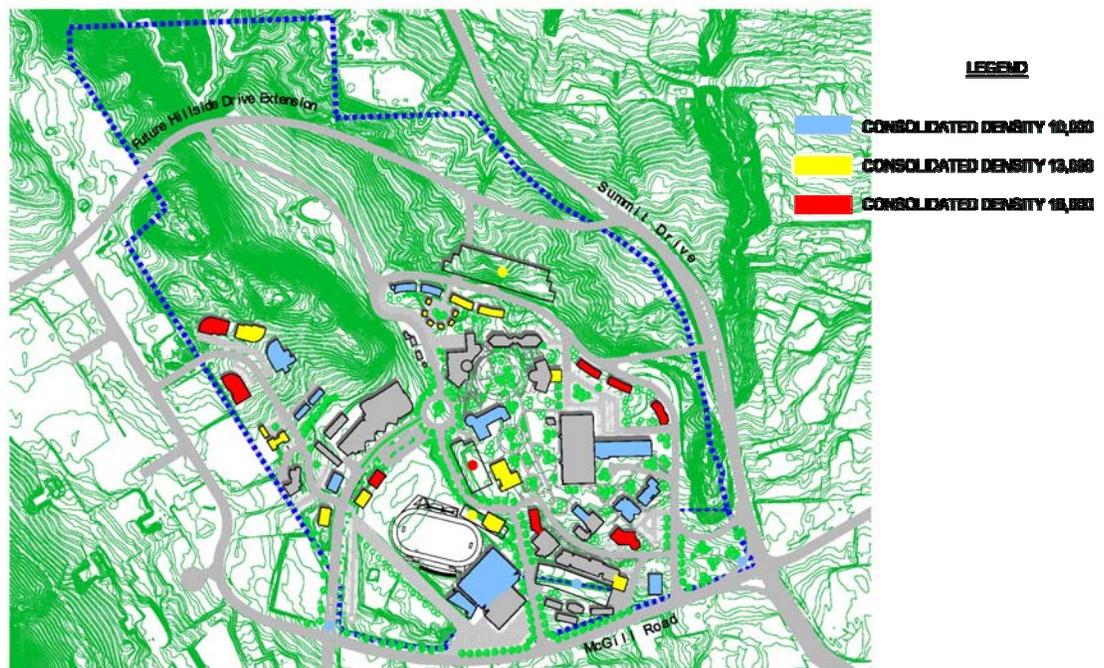
Groupings of space are based on the Ministry of Advanced Education proposed standards identified in Space Standards Review document June 21, 2000.

Space projections for each of the tactical scenarios is based on the standards published in the Council of Ontario Universities' (COU) *Building Blocks*, September 2001. This document is widely recognized nationally and internationally, including by the BC Ministry of Advanced Education, as a reputable standard for planning university facilities. Given the strategic direction of the UCC to become a "full-service" university with significantly increased research and a graduate student program, these standards are likely more appropriate than those proposed for in the Space Standards Review document, June 21, 2000 which is more focussed on traditional colleges and vocational institutes.

7.1 Student Population of 10,000

	Current Space ASM (includes support)	Recommended Space Allocation ASM	Variance	Comments
<i>Classroom/Lecture Theatre</i>	7,668	9,480	1,812	COU standard
<i>Instructional Laboratories</i>	5,742	6,200	458	COU standard
<i>Research Laboratories</i>	-	6,460	6,460	COU standard Group D
<i>Shops</i>	5,724	6,200	476	Modified COU
<i>Office Administration and Faculty</i>	7,718	12,262	4,544	COU standard
<i>Library, Reading Study, Lounge</i>	4,402	9,190	4,788	COU (500,000 volumes)
<i>Cafeteria/Food Services</i>	2,861	5,000	2,139	COU standard
<i>Additional Campus Activities</i>	12,184	9,300	(2,884)	COU (athletic, recreation and student)
Total	46,299	64,092	17,793	

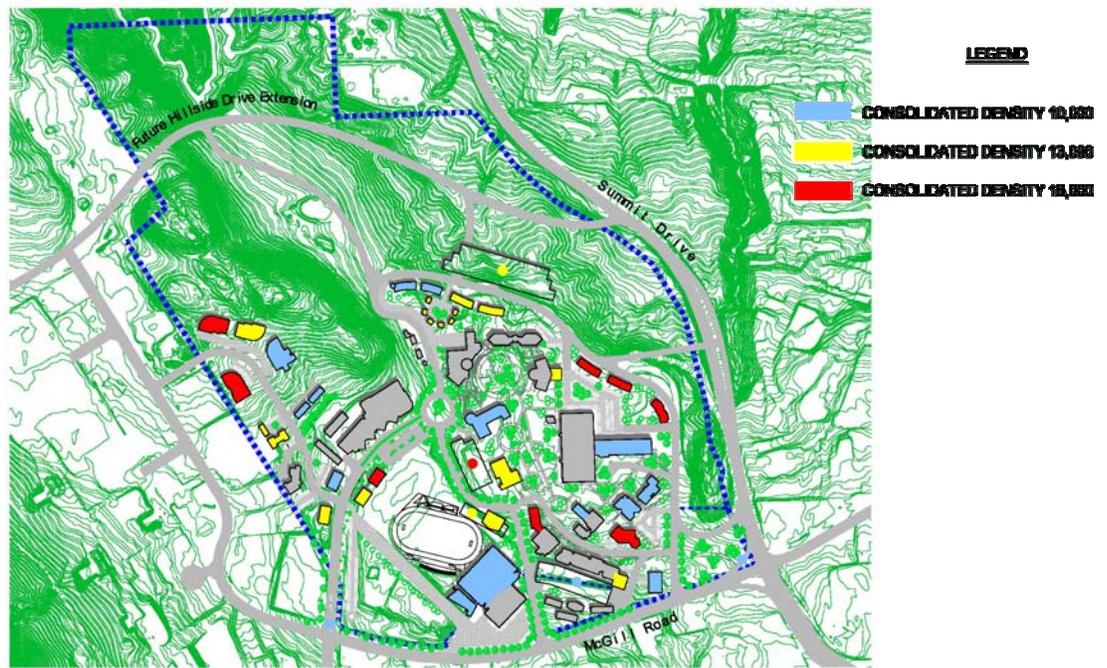
Figure 8.1 10,000 FTE Tactical Scenario



7.2 Student Population of 13,000

	Current Space ASM (includes support)	Recommended Space Allocation ASM	Variance	Comments
<i>Classroom/Lecture Theatre</i>	7,668	12,324	4,656	COU standard
<i>Instructional Laboratories</i>	5,742	8,060	2,318	COU standard
<i>Research Laboratories</i>	-	6,460	6,460	COU standard Group D
<i>Shops</i>	5,724	8,060	2,336	Modified COU
<i>Office Administration and Faculty</i>	7,718	15,920	8,202	COU standard
<i>Library, Reading Study, Lounge</i>	4,402	12,000	7,598	COU (650,000 volumes)
<i>Cafeteria/Food Services</i>	2,861	6,500	3,639	COU standard
<i>Additional Campus Activities</i>	12,184	12,090	(94)	COU (athletic, recreation and student)
Total	46,299	81,414	35,115	

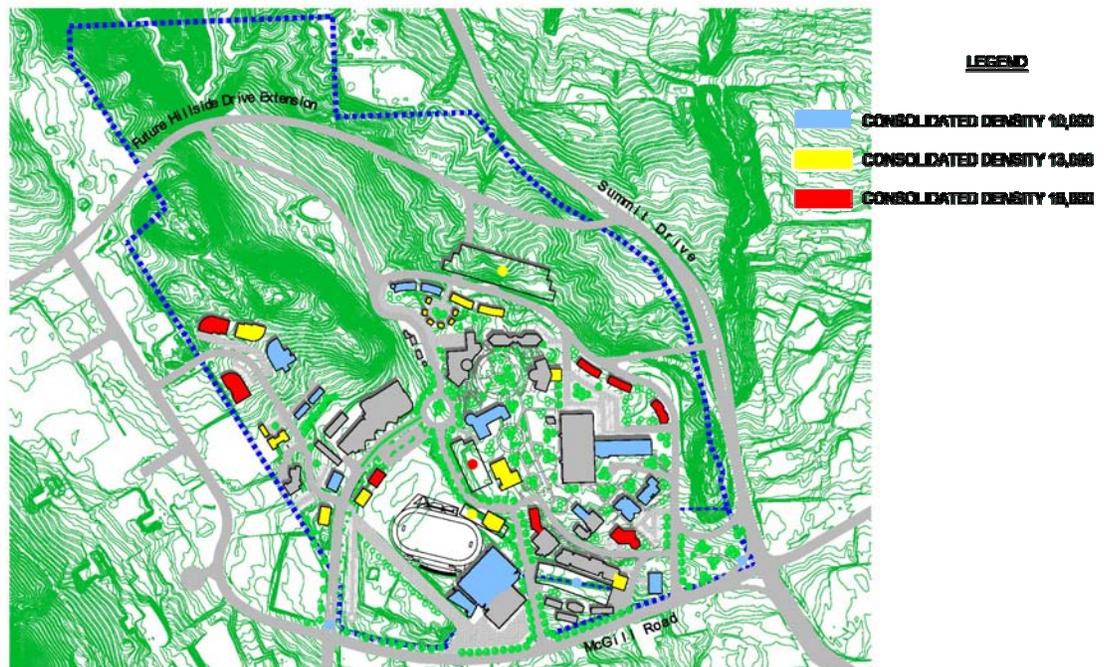
Figure 8.2 13,000 FTE Tactical Scenario



7.3 Student Population of 16,000

	Current Space ASM (includes support)	Recommended Space Allocation ASM	Variance	Comments
<i>Classroom/Lecture Theatre</i>	7,668	14,400	6,732	COU standard
<i>Instructional Laboratories</i>	5,742	9,300	3,558	COU standard
<i>Research Laboratories</i>	-	10,400	10,400	COU standard Group D
<i>Shops</i>	5,724	9,300	3,576	Modified COU
<i>Office Administration and Faculty</i>	7,718	19,578	11,860	COU standard
<i>Library, Reading Study, Lounge</i>	4,402	14,800	10,398	COU (800,000 volumes)
<i>Cafeteria/Food Services</i>	2,861	8,000	5,139	COU standard
<i>Additional Campus Activities</i>	12,184	14,880	2,696	COU (athletic, recreation and student)
Total	46,299	100,658	54,359	

Figure 8.3 16,000 FTE Tactical Scenario



8.0 Campus Plan Implementation and Administration

8.1 On-going review and change

The *Campus Plan* is a general framework to assist the Senior Administration and the Board in making the most appropriate decisions regarding development of UCC lands and facilities.

To be effective the UCC *Campus Plan* must have clear review and updating mechanisms that ensures it remains a relevant planning document that responds to both internal and external changes.

8.2 An approved updated and living plan

The Board, the Senior Administrative Team and Deans and other key campus stakeholders have participated in the development of UCC *Campus Plan* and have committed to it. The *Campus Plan* is a living document, constantly referred to and updated when necessary. Every development project initiated by the UCC must use the plan as a springboard. Every project brief will include reference to the Campus Plan. One of the first orienting meetings of every project steering committee and consultants will include a presentation and discussion of the guiding principles, objectives and strategies of the *Campus Plan*. Overall responsibility for the Campus Plan resides with the Vice-President Administration and Finance with the Director of Facilities having operational responsibility. A manager of Capital Planning and Projects who reports to the director facilities has day to day responsibility for managing capital projects.

8.3 Input at key stages

Capital Planning and Projects will review UCC capital projects at key stages to ensure fit with the Campus Plan. Each proposed project will be reviewed against the *Campus Plan* to ensure the guiding principles and strategic objectives are met.

8.4 Project conformance objectively measured

Campus Planning and Projects will conduct an objective review of every major capital project at key stages in light of its conformance with the Guiding Principles and Guidelines of the Framework.

8.5 Quality of projects encouraged

Planning and Design quality of each component of the *Campus Plan*, land, buildings and workplaces is given a high priority.

8.6 Sustainable Design

Incorporating sustainable design practices into the landscaping and buildings at UCC will require that a number of issues be addressed. First of all appropriate standards that can be achieved within available funding sources will need to be developed. A structure to administer these standards and ensure compliance will also need to be developed. Campus Planning and Projects should have a lead responsibility in this. Many

universities and other organizations are adopting the LEED (Leadership in Energy and Environmental Design) model for sustainability standards in green building design. The implementation of these standards may have a significant impact on capital and operating budgets and this needs to be assessed prior to them being adopted.

9.0 Bibliography

Roscoe Lewis, *Planning the Campus*. Amherst, Massachusetts: L&A Publications, 2000.

Dober, Richard P., *Campus Landscape*. New York: John Wiley & Sons, 2000.

Frej, Anne, et al. *Business Park and Industrial Development Handbook*. Washington D.C.: ULI-Urban Land Institute, 2001.