

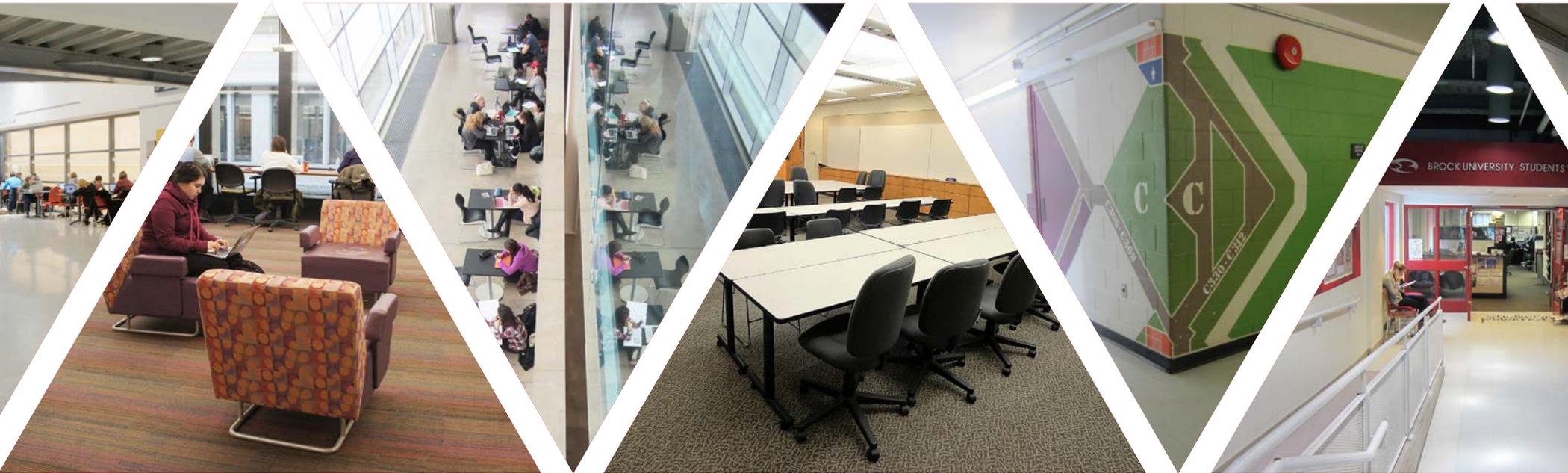
BROCK UNIVERSITY

Facility Needs and Priorities Study

December 2017

**URBAN
STRATEGIES
INC**







BROCK UNIVERSITY

The Facility Needs and Priorities Study

This Facility Needs and Priorities Study was prepared by Urban Strategies and Educational Consulting Services as an update to the original 2006 Study. It is intended to provide high-level facility planning direction to Brock University in its continued efforts to align University facilities with its academic mission.

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Overview of the FNPS

This chapter provides an overview of the Facility Needs and Priorities Study Update and the planning process that was undertaken to develop this document. It also outlines the Study Area.

1.1 Introduction

Brock University's facilities are the critical infrastructure in which the University operates and its academic mission is realized. The 2017 Facility Needs and Priorities Update provides direction for space planning and facility investment for the next 10 years.

The University maintains numerous facilities within the main campus in St. Catharines, which are key to supporting the University's academic mission. The University is well known for providing a memorable, high-quality campus experience, and the places to learn, teach, research, study and socialize play no small role. Campus facilities are also a significant financial asset that represent decades of physical investment and ongoing maintenance costs. Aligning Brock's facilities with its space needs is therefore a fundamental objective for both the academic and financial health of the institution.

Together with the Campus Plan, the Facility Needs and Priorities Study (FNPS) establishes a framework to review and confirm both current and future facility needs and priorities and provides a guide on how to assign, develop and redevelop Brock's built environment. It does this by evaluating space use and considering long-range development strategies, opportunities and emerging challenges on the campus. The document provides recommendations on which space types are most in demand and should be expanded, where new transformative investment can achieve multiple objectives, and where new construction or retrofits are warranted. It also highlights the right places to build community to enhance the university experience for which Brock is well known.

Brock University was previously guided by the 2006 Facility Needs and Priorities Study, which provided a comprehensive campus development strategy and guidelines for the distribution of university uses and common spaces. The 2017 FNPS updates this work by reviewing needs and priorities and responding to contemporary enrolment projections. Greater focus is placed on facility renewal and the efficient, sustainable use of existing space. Whether through use of existing facilities or the introduction of new spaces, a critical objective of the Facility Needs and Priorities Study is to lay the groundwork for an attractive and functional campus that meets the needs of talented students, faculty and staff.

Based on extensive review and stakeholder direction, the Brock FNPS provides a comprehensive strategy for the renewal and upgrading of Brock's facilities in response to the needs, priorities and goals for a sustainable 21st century campus.

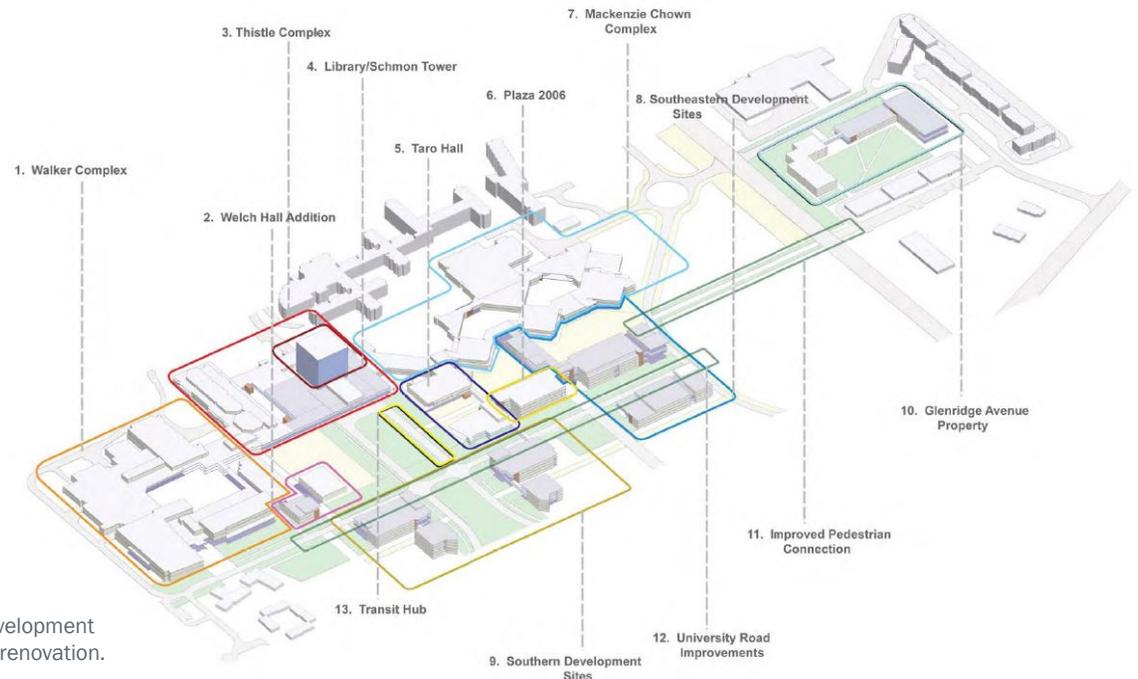
1.2 Update to the 2006 Facility Needs and Priorities Study

The 2006 Facility Needs and Priorities Study was developed as a framework to guide facility growth and development on Brock's campus. The Study identified a series of priority needs based on stakeholder interviews and workshops, an analysis of the space inventory and utilization, and a review of issues and opportunities on the campus. Based on this background work, the study identified that the priority needs on Brock's campus were:

- Increasing the capacity in utility infrastructure
- Providing more small classrooms and wet research labs
- Expanding the offering of administrative office space as well as faculty and graduate student offices
- Providing more library study space
- Offering a greater number of lounges
- Improving the Thistle teaching spaces
- Consolidating student services
- Addressing faculty fragmentation and identity

In order to address these priority needs, the 2006 Study introduced a comprehensive development strategy. The strategy proposed new and redeveloped buildings, improved circulation networks, a hierarchy of common spaces, and future pedestrian bridge connections. The document also proposed guidelines for the distribution of campus precincts and introduced a new University Centre at the heart of campus as well as a Transit Hub on the east side of Brock Mall.

A decade has passed since the drafting of this plan, and with shifting enrolment projections, updating the 2006 Facility Needs and Priorities Study has become a prudent next step.



> The 2006 Facility Needs and Priorities Study introduced a Development Strategy made up of new buildings, facility additions and space renovation.

1.3 The Planning Process

The 2017 Facility Needs and Priorities Study (FNPS) process began in the summer of 2016 and was completed in the fall of 2017. Urban Strategies Inc. and Educational Consulting Services Inc. were the project consultants who, armed with intimate knowledge of the 2006 Facility Needs and Priorities Study and the recently completed Campus Plan, provided expertise on space needs and their location on the campus.

The process began with a series of meetings with university stakeholders, including senior administrative staff, deans, faculty and staff, to determine the most pressing issues and opportunities, and chart a direction for the Facility Needs and Priorities Study. This was followed by a comprehensive analysis of Brock's existing space inventory, and a determination of the University's existing and projected space requirements. Key members of the Brock community participated at a visioning workshop to review these space requirements and confirm key planning principles and directions. This paved the way for the development of a series of facility planning opportunities for the future of the campus.

The FNPS planning process was underpinned by a commitment to thorough engagement and regular conversations with the Brock community. The project was overseen by the Project Steering Committee, who provided feedback and helped refine findings. The Advisory Committee on Space, Board of Trustees Capital Infrastructure Committee, the Senior Administrative Council and Senate IT&I also received regular updates and were given the opportunity to provide input. In addition to key milestone consultation sessions, the consultant team also had conversations with academic, administrative and Board of Trustee members. The input and feedback received from the entire Brock community played a critical role in developing the final Facility Needs and Priorities Study.

Consultant Team

Urban Strategies
Educational Consulting Services

Steering Committees

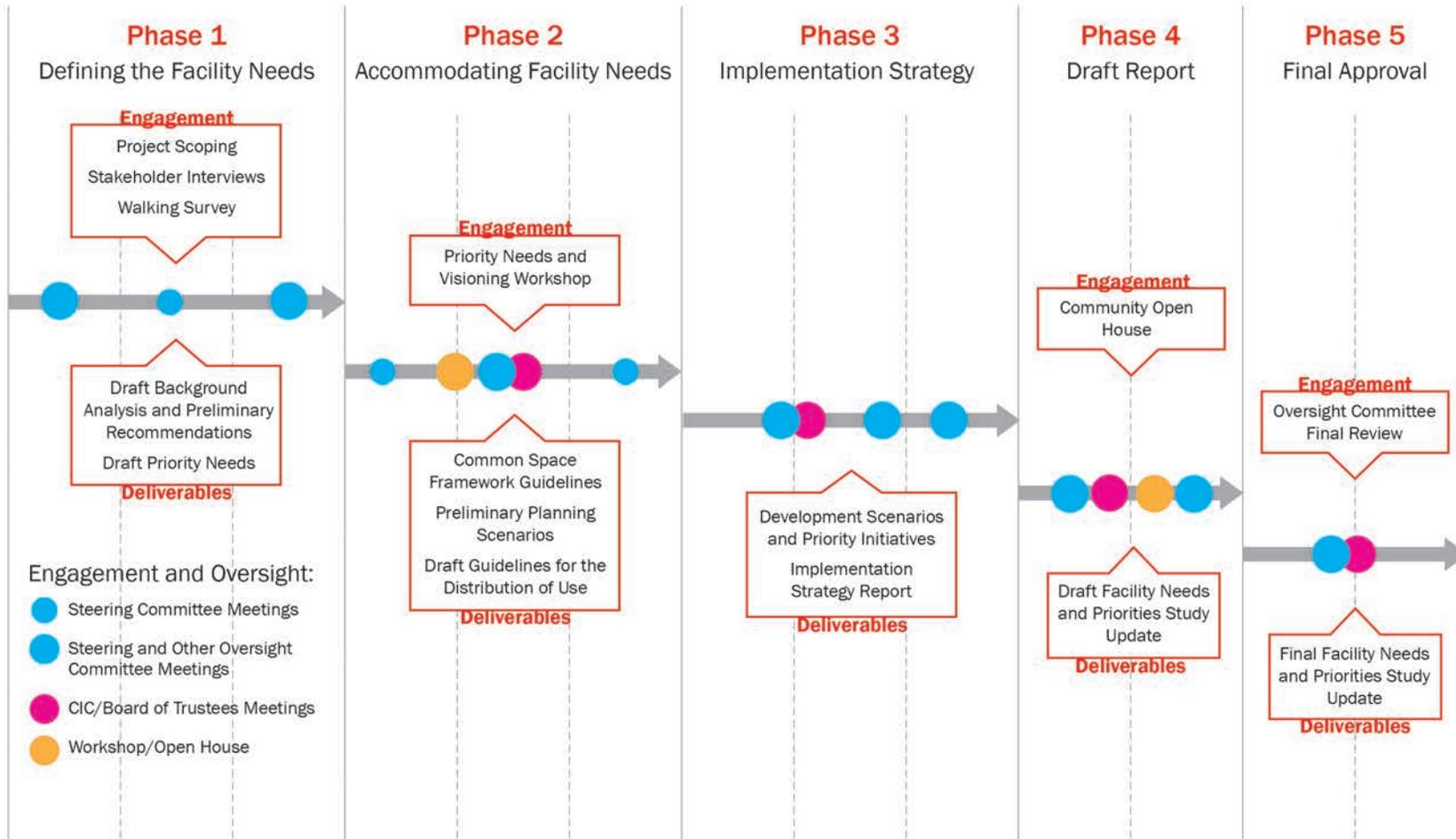
Project Steering Committee
Advisory Committee on Space
Working Group on Space

Other Engagement

Senate IT&I
Senior Administrative Council
Board of Trustees
Public

May 2016

November 2017



1.4 How to Read the Plan

The Facility Needs and Priorities Study is divided into six chapters that outline how the Plan was developed, the data that underlies the recommendations, and the facility planning opportunities. More specifically, this Plan is divided into the following chapters:

CHAPTER 1



Overview of the FNPS

This chapter sets the stage for the Plan by outlining its intent and introducing the planning process that led to the creation of the FNPS.

CHAPTER 2



Brock's Facilities

This chapter provides an overview of the existing conditions on Brock's campus by reviewing building conditions, presenting a fit to function analysis, and discussing recent initiatives and anticipated directions.

CHAPTER 3



Space Needs

This chapter provides enrolment projections, discusses current space utilization and identifies space needs for different space types.

CHAPTER 4



• Facility Planning Directions

This chapter introduces the documents that guide campus development and evolution, and discusses the stakeholder input on what works and what needs to be addressed on Brock's campus. Along with an understanding of space needs, this lays the groundwork for the robust set of planning principles and the planning directions for the future evolution of campus facilities.

CHAPTER 5



• Facility Planning Opportunities

This chapter introduces a menu of potential capital initiatives on campus. A discussion of common, academic, and administrative space opportunities is further unpacked to propose a campus environment that truly meets the needs of both current and future students, faculty and staff.

CHAPTER 6



• Implementation

Translating the planning framework on the ground is discussed in the last chapter. This chapter provides details on specific pathways to implementation and highlights how to follow the FNPS in future capital planning initiatives.





CHAPTER

02

Brock's Facilities

Brock's campus facilities reflect the university. This chapter describes the existing facilities and spaces, and discusses their physical condition and current suitability. The chapter concludes with a look ahead at the university's future capital initiatives.

2.1 Brock's Facilities

Brock University was founded in 1964, as a small, mostly undergraduate institution with a few graduate programs. Its unique location along the Niagara Escarpment contributed to an inspiring campus with a strong public realm. Over the next thirty years, the campus continued to develop as a compact, integrated academic community with a core, interconnected cluster of buildings grouped around Schmon Tower. In the late 1990s, Brock's enrolment grew drastically and it became a comprehensive educational and research institution with a full range of undergraduate and graduate programs and a focus on research innovation. For a decade, Brock has had the second-highest growth of students of any Ontario university, and has seen the construction of the Plaza Building, the Cairns Family Health and Bioscience Research Complex and the International Centre, among other capital projects.

In recent years, the University has expanded to include experiential learning opportunities in its undergraduate, graduate and doctoral programs, and has introduced one of Canada's largest co-op programs. Brock has also differentiated itself by offering transdisciplinary, community-based research and is supporting the region's emerging industry clusters, including bio-manufacturing, digital media, green technology and life sciences.

Since its founding, Brock's academic facilities have primarily been located on the Main Campus, with Schmon Tower as a distinct feature. The tower contains the main campus library, some classrooms and student services and is a focal point and anchor to the Brock Mall open space. It is also the primary point of arrival for those commuting to campus, making it the front door to the institution. Schmon Tower, and the Thistle Complex at its base, are connected to other facilities on the Main Campus through a strong internal circulation network of corridors and hallways. All facilities are listed in the map to the right.



> The Library in Schmon Tower provides ample space to study



> Brock's corridor system connects the university's facilities but is also a place to socialize in its own regard



> Market Hall, located in the Thistle Complex, has multiple roles, and is a place to eat, study and socialize

FIGURE 2.1: THE CAMPUS FACILITIES



> The Study Area includes non-residential facilities on the Main Campus and East Campus, as well as Marilyn I. Walker School of Fine and Performing Arts, Brock Research and Innovation Centre, Theal House, Rodman Hall, and Hamilton Campus.

- | | | | |
|--------------------------------|-----------------------------|--|--------------------------------|
| 1 Walker Sports Complex | 8 Mackenzie Chown B | 15 Mackenzie Chown J | 21 Harrison Hall |
| 2 South Block | 9 Mackenzie Chown C | 16 Inniskillin Hall | 22 Kenmore Centre |
| 3 Robert S.K Welch Hall | 10 Mackenzie Chown D | 17 Taro Hall - Goodman School of Business | 23 573 Glenridge Avenue |
| 4 David S Howes Theatre | 11 Mackenzie Chown E | 18 Alumni Student Centre | 24 International Centre |
| 5 Thistle Complex | 12 Mackenzie Chown F | 19 Plaza Building | 25 East Academic |
| 6 Schmon Tower | 13 Mackenzie Chown G | 20 Cairns Family Health and Bioscience Research Complex | 26 DeCew Residence |
| 7 Mackenzie Chown A | 14 Mackenzie Chown H | | |
- Not shown: Theal House, Brock Research and Innovation Centre, Marilyn I. Walker School of Fine and Performing Arts, Rodman Hall.*



> Brock has several tiered classrooms, including the Thistle Lecture Theatre



> A classroom in 573 Glenridge Avenue can accommodate innovative teaching and learning methods



> Study areas in the Library are flexible places to learn



> While seminar-type classrooms are located throughout Brock, more such small spaces are needed



> Seminar rooms in the Plaza Building provide moveable seating, whiteboards and wireless technology



> Places to study and socialize are scattered throughout the campus and many are informal spaces

2.2 Facility Assessment

Building Condition

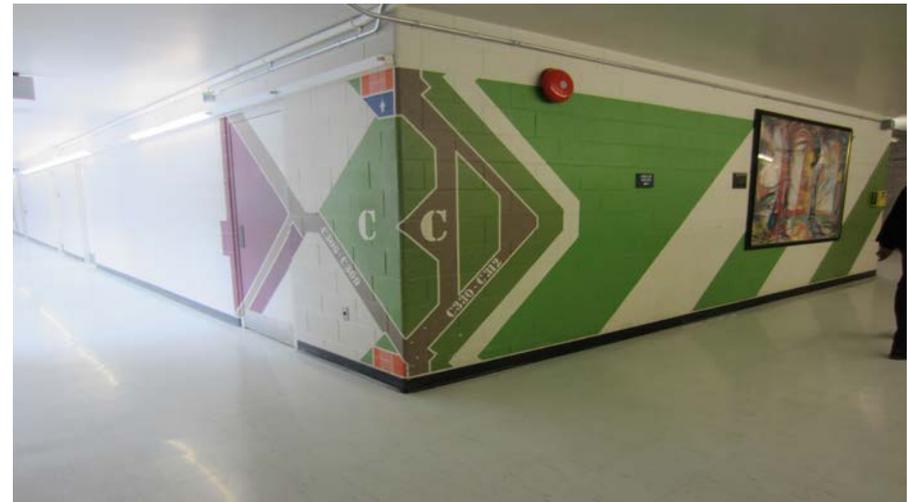
Understanding future required capital initiatives and renovation efforts starts with an assessment of building conditions. This is an important component of the Facility Needs and Priorities Study as it helps determine where continued maintenance is needed and highlights the places where renovation, retrofit, decommissioning or new construction may be considered. Renovation and new facilities can provide the opportunity to respond to new teaching and learning methods, provide needed space, build greater flexibility into the facility inventory and improve space efficiency and usability.

The facility condition report compiled by VFA in 2017 identifies a number of Brock buildings with a high Facility Condition Index (FCI). The Facility Condition Index indicates the deferred maintenance cost of a building divided by the estimated replacement value. The FCI is noted on a scale from <0.1 (good building condition) to >0.4 (poor building condition). Because a new assessment was not completed in 2017, but instead, previous data was brought forward, the report did not take recent investments and renovations in the Walker Sports Complex and Taro Hall - Goodman School of Business into consideration.

As indicated in Figure 2.2, a large number of Brock's buildings are a priority for investment. The dark red buildings have an FCI over 0.4 and require significant renewal to improve their condition. This includes portions of Walker Sports Complex (0.44-0.55), Schmon Tower (0.4), the Alumni Centre (0.86), as well as large parts of Mackenzie Chown (0.44-0.58). Given their important function for the University, the condition of Schmon Tower and Mackenzie Chown are particularly important for their continued contribution to the University's academic mission.



> The Alumni Centre is heavily used by students, but it requires extensive maintenance and upgrading



> Most facilities in Mackenzie Chown are in poor condition

Fit to Function

A consideration of the FNPS is the fit-to-function of Brock's buildings in terms of their suitability to accommodate the activities and services they currently house. These assessments are based on two related questions:

- Is the basic building plan configuration capable of providing contemporary standards for teaching, research, or office environments?
- Can the existing building be upgraded to meet the modern building code and environmental standards for the current use?

Answers to these questions guide aspects of the FNPS.

Assessment Criteria

The criteria for fit-to-function assessments vary depending on the function being accommodated – instruction, research, or office. Considerations included:

For instructional space:

- Structural configuration and dimensions that have the capacity to provide properly proportioned volumes and sight-lines
- Room sizes that meet classroom station area standards
- Rooms that can accommodate full multimedia capabilities in an appropriate acoustic environment
- Circulation system of corridors and stairwells that provides sufficient informal gathering space to accommodate large numbers of students arriving and leaving at class change times

For wet and dry research laboratories and support spaces:

- Structural configuration and dimensions that allow for the creation of repeated modular multi-bay laboratory environments with floor dimensions that can accommodate support spaces located in proximity to the laboratory work areas

- Clear floor-to-floor dimensions that provide sufficient height to accommodate building mechanical systems that support laboratory environmental requirements

For office space:

- Configurations that support the creation of single occupancy cellular office spaces with natural light, and/or
- Configurations that support the creation of well-lit open workspaces furnished with modern system furniture

Other space:

- Configurations that include support spaces such as workshops, break rooms, lounge spaces, and storage areas

Ratings

Based on these criteria, Brock's facilities were placed in one of three categories:

Fit for Function

Building plan configuration and building systems generally suited for the current use

Deficient

Basic configuration and building systems suitable or adaptable for current use with significant investment in improvements

Unfit for Function

Investments in renovations would not provide suitable accommodation for the current use

Fit-to-function assessments do not consider the deferred maintenance condition of a building. A building deemed "fit-for-function" may need repairs or upgrades (roofs, windows, mechanical systems, etc.). A building deemed "deficient" on the other hand, may be in excellent physical condition.

As shown in Figure 2.2., most of Brock’s buildings, representing 83% of the total inventory (excluding residences), are deemed to be “fit-for-function.” These buildings were designed and, for the most part, continue to be used as originally intended in terms of the functions and the services they accommodate. The remaining inventory, including Schmon Tower, East Academic and portions of Mackenzie Chown are deemed deficient in the fit-to-function analysis. In terms of facility condition, portions of Walker Sports Complex, Schmon Tower, portions of Mackenzie Chown and the Alumni Student Centre have a high facility condition index, Buildings that require both extensive maintenance and are unfit for function, including Schmon Tower, Mackenzie Chown, East Academic, and the Brock Research and Innovation Centre, are facilities for priority consideration and therefore prime areas for reinvestment, redevelopment and transformation. This is elaborated on the next page.

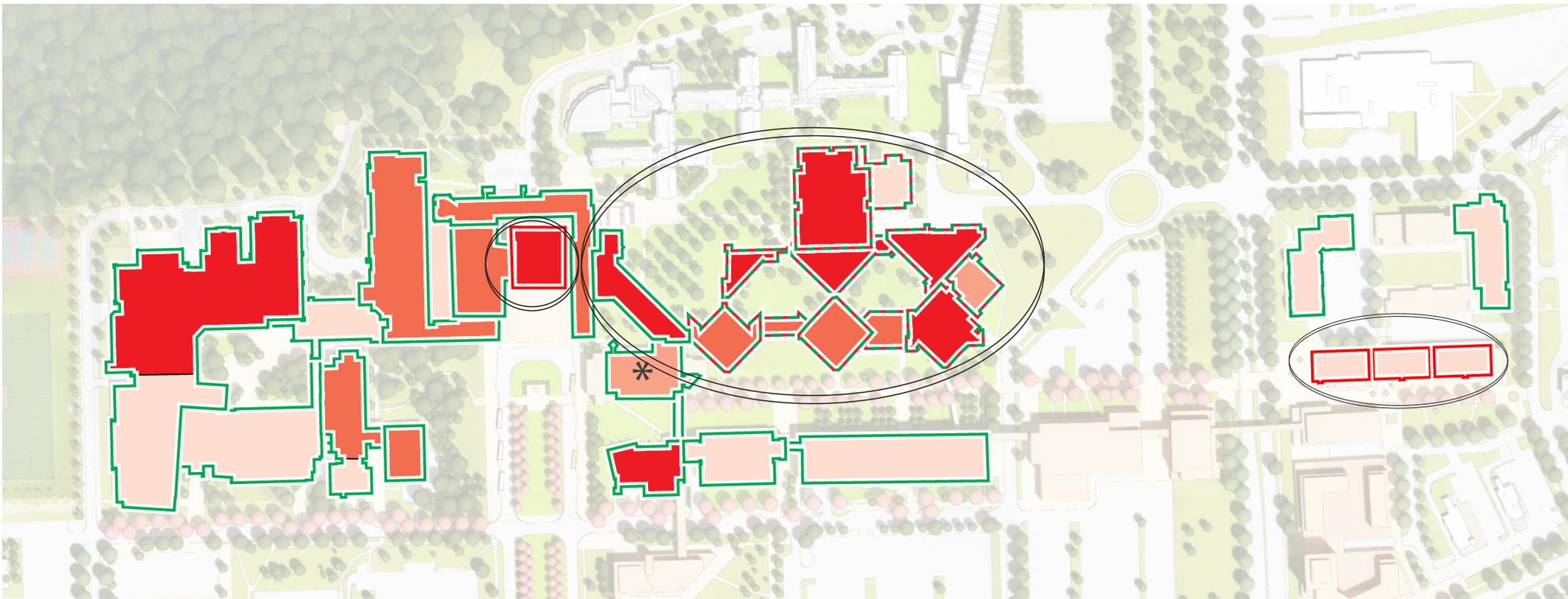


FIGURE 2.2: OUTCOMES OF FACILITY CONDITION AND FIT TO FUNCTION ASSESSMENT

Facility Condition Index

- >0.4
- 0.3-0.4
- 0.2-0.3
- 0.1-0.2
- <0.1

Fit-to-Function

- Fit to Function
- Deficient
- * Does not reflect recent/planned capital improvements
- Facilities for Priority Consideration

Facilities for Priority Consideration



Schmon Tower

The Library and Student Services functions located on floors 3 to 11 of Schmon Tower totaling approximately 7,500 gross square metres (GSM) lack the visibility and ease of access required and expected of an institution now serving over 17,000 students and expected to grow to 19,000 in the next 10 years.

Library, learner support and student services have substantially changed since the Tower was designed 50 years ago. It now appears impractical to expect that the Library will grow upwards onto the upper floors of Schmon Tower, for several reasons:

- Vertical circulation in Schmon Tower is a constant challenge. The Library elevators are not only overwhelmed but create operational challenges;
- In the digital age students and researchers do not have to be physically sitting near the printed materials they are consulting. Today, students look to access individual and group study space in convenient locations, often on an impromptu and short-term basis and on lower floors.

The location of key front-office student services functions on the third level of Schmon Tower is also deemed to be deficient for related reasons, including poor street-level visibility and functional fragmentation that is inherent in the Schmon Tower location (where each floor provides only 650 square meters of assignable space). Renovation and redevelopment should be considered.



Mackenzie Chown Complex

The classrooms, instructional laboratories and research space in blocks A to J of the Mackenzie Chown Complex and totaling approximately 9,628 Net Assignable Square Metres (NASM) have been deemed deficient. This assessment is based on two main factors:

- When compared to contemporary laboratory design standards, the diamond and triangular-shaped floorplates of the Mackenzie Chown Complex work against achieving laboratory suite configurations and dimensions that permit repeated modular multi-bay laboratory environments (such as the ones found in the Cairns Family Health and Bioscience Research Complex) with floor dimensions that can accommodate support spaces located in proximity to the laboratory work areas.
- Due to age and use, many of the laboratories are tired and in need of furniture and fixed equipment (fume hoods, etc.) upgrades.

The issue is amplified by the gradual erosion, with 40 years of adjustments and renovations, of the Complex's original organizational logic and cohesiveness. A staged and comprehensive program of renovation and upgrading of each floor of each block, in conjunction to building envelope and mechanical upgrades, will bring the building back to fit-for-function status.



East Academic Complex

The East Academic Complex totaling 1,835 gross square metres is made up of three one-level commercial structures housing classrooms, instructional laboratories and offices attached to the Faculty of Applied Health.

The deficient assessment of the East Academic Complex is based foremost on the utilitarian nature of the buildings and the absence of informal/social facilities and place-making spaces. The three buildings are essentially being used, and are perceived by users, as brick-clad portables that do not contribute to a student's campus experience and enjoyment. The Complex also isolates the academic staff located there from their peers.

The East Academic Complex would be assessed as fit-for-function if it housed activities or services that can operate relatively independently from the main campus (back office administration functions for example) or if it accommodated functions that benefit both from proximity to the campus and ease of access by the community (for example a business incubation centre).

Due to its facility condition and fit-for-function issues, East Academic is not intended for future upgrading and renovation. Instead, the space can be used as swing space prior to redevelopment of the Heritage Plaza site.



Brock Research and Innovation Centre

The Brock Research and Innovation Centre (BRIC) is a 1,450 gross square metre former one-level grade school built in 1968 and now used for instructional, clinical and outreach purposes, particularly by the Faculty of Applied Health Science.

BRIC is located on Lockhart Drive below the Niagara Escarpment and thus is considered to be somewhat off-campus. When built as a grade school, the building featured hexagonal classrooms and common spaces ranging in size from 60 to 100 square metres. Many of the walls defining these spaces are load bearing. Little could realistically be done to rationalize, in terms of flexibility and clarity, the overall layout of the building.

In view of its location and basic dimensions, BRIC is deemed to be deficient. BRIC would be assessed as fit-for-function if it housed activities or services that can operate relatively independently from the main campus or if it accommodated arm's length functions needing ease of access by community and/or clients (for example offices and meeting spaces related to social entrepreneurship initiatives).

Because of its poor facility condition and the fact that BRIC is located away from Main Campus, there is no intent to focus redevelopment efforts on the building. However, existing users may be moved to locations on either Main or East Campus.

2.3 Recent Initiatives and Pipeline Projects

In recent years, significant construction has been committed or commissioned to expand the campus by introducing the Cairns Family Health and Bioscience Research Complex, The Learning Commons and Market Hall, expanding Welch Hall to support the Faculty of Education, building a new International Centre and the Plaza Building.

The University is currently investing in Taro Hall to realize the Goodman School of Business Building. This renovation and expansion project will deliver much needed space to support the School's important role in the University.



> The Taro Hall Goodman School of Business Building will offer new places to learn, meet and teach within the business school

The Learn, Innovative, Network and Commercialize (BrockLINC) Building has been recently funded and will be located at the base of Schmon Tower to foster a culture of innovation. The building will contain maker and collaborative space, a digital scholarship lab, as well as a welcome desk. Many of its new spaces complement the functions of the adjacent Matheson Learning Commons and digital gaming labs. Though Schmon Tower is a campus anchor, and in many ways the front door to the campus, it is somewhat disconnected, congested and without amenity space. The new BrockLINC building will be a more inviting university focal point and hub for students, faculty, staff and visitors. This space will also contribute to the university-specific goal for a more innovative institution that caters to the 21st Century Learner.

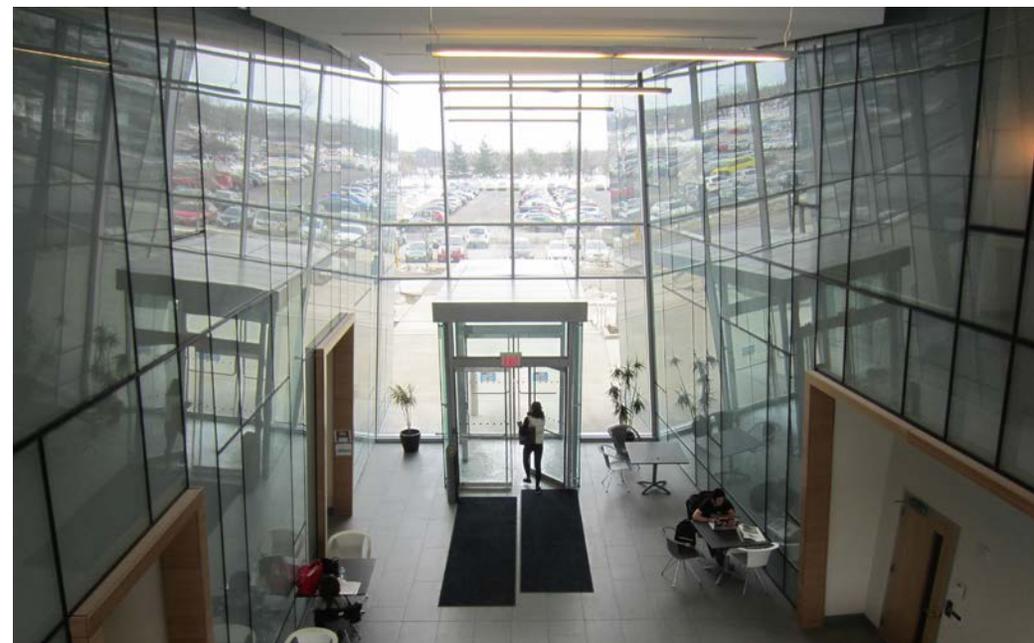


> The new BrockLINC Project will offer space to collaborate and foster innovation



> Through the Classroom Modernization Initiative, numerous Brock facilities now provide interactive teaching and learning opportunities and are equipped with cutting-edge wireless technology

On a smaller scale, the University has been investing in classroom modernization to develop more accessible and flexible classrooms, and increase collaborative and experiential learning opportunities. Since the start of the program, several classrooms and seminar rooms have been renovated, with a major renovation occurring at the Sean O’Sullivan theatre. Considerations in room modernization have specifically focused on creating environments for active learning through moveable and flexible furniture, group learning configurations, and clear sightlines, providing more accessible spaces and introducing robust wireless technology. Modernization of the University’s tiered classrooms will be difficult however. As such, building new, high-capacity, flat-floor classrooms is a more plausible solution rather than making existing tiered classrooms flexible and accessible.



> The Cairns Family Health and Bioscience Research Complex was built in 2012 and offers new teaching and research space as well as informal places to study





CHAPTER

03

Space Inventory and Needs

This chapter focuses on Brock's facility space needs by outlining the future enrolment projections and assessing current space use. Together with an analysis of the evolution of Brock's facilities, this chapter sets the stage for the facility planning directions.

3.1 Enrolment Projections

The planning horizon of the FNPS spans ten years, from 2016 to 2026. During that time, Brock University projects that its undergraduate and graduate student population is anticipated to increase according to the following approximate trajectories:

- **4.6% from 2016 to 2021**, from approximately 17,600 to 18,460 full-time equivalent (FTE) students (University projection)
- **9.3% from 2016 to 2026**, from approximately 17,600 to 19,400 FTE students (FNPS planning projection)

The projection for the first five years (2016-2021) was provided by the University based on its own assessments, program development plans and commitments to funding agencies (including for example the University's Strategic Mandate Agreement agreed with Ontario's Ministry of Advanced Education and Skills Development). These enrolment projections are a means of determining a general planning target and do not inform specific directions and planning opportunities.

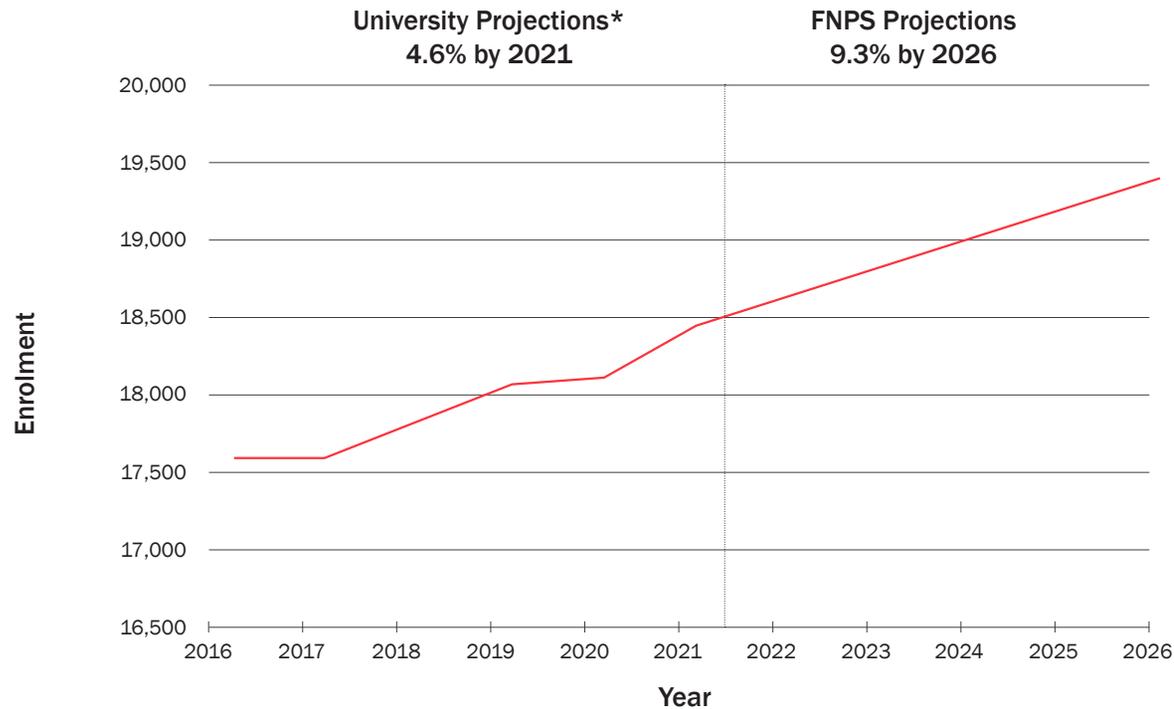


FIGURE 3.1: BROCK UNIVERSITY ENROLMENT PROJECTIONS

*Based on faculty initiatives/program development. Subject to ongoing refinement.

The projection for the second five years (2022 to 2026) is linear. A generic 1% per year rate of growth was applied from 2022 figures onwards to 2026. The purpose of this latter projection is to inform the FNPS process in terms of potential impact of growth on key services and functions such as learner support and food services. The overall 10-year enrolment projections were developed as general planning targets for the FNPS and are not intended to represent official University enrolment targets.

The University's graduate student population will grow by 13.8% between 2016 and 2021, compared to a growth rate 4.1% of its undergraduate student population. The difference attests to Brock's continued transition from a primarily-undergraduate status to one that is comprehensive.

The University projects 7% to 15% growth for its faculties of Applied Health Sciences, Mathematics & Science and the Goodman School of Business from 2016 to 2021. Enrolment in the faculties of Education, Social Sciences and Humanities will remain generally stable.

This projected enrolment growth will not equally impact all space types. With an increase in student enrolment, the need for study space, classrooms and student service space will rise. There will be a nominal increase in required office space to accommodate the additional faculty and staff that will accompany this growth in the student population.

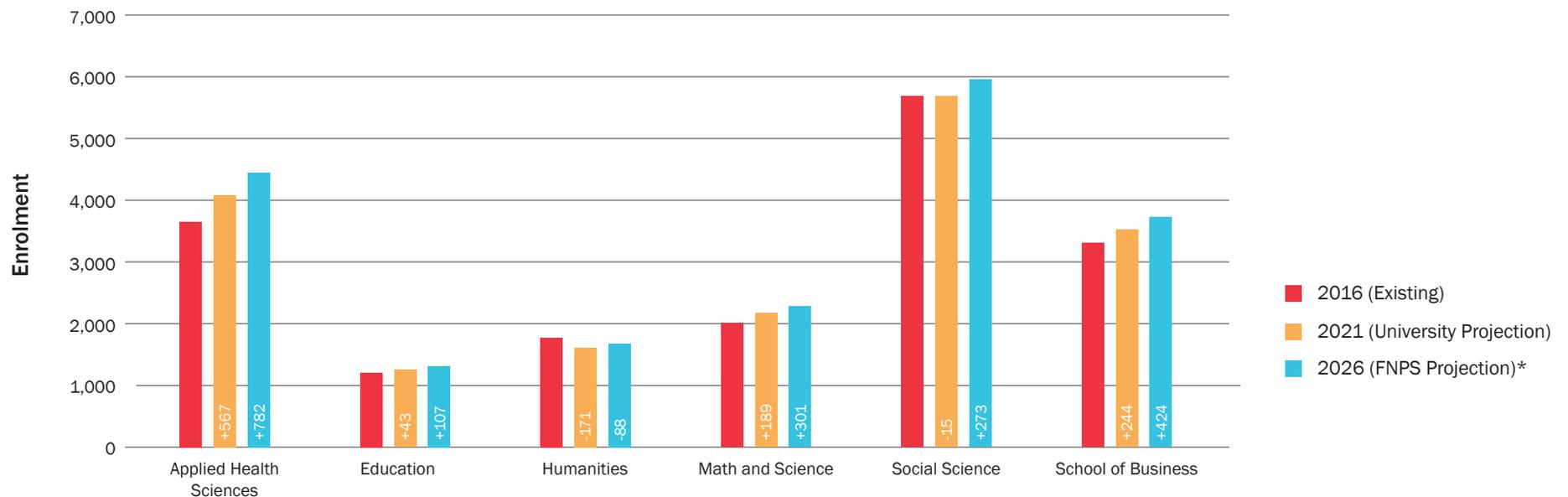


FIGURE 3.2 ENROLMENT PROJECTIONS BY FACULTY, 2016-2026

*10-year enrolment projections were developed as general planning targets for the FNPS and are not intended to represent official University enrolment targets

3.2 Instructional Space Utilization and Needs

The assessment of instructional space needs is carried out in two broad categories in the FNPS:

Classroom space, which is a generic descriptor of rooms used for theory teaching not requiring special equipment. The category includes seminar rooms, classrooms and lecture halls in any configuration, from traditional, formal and fixed (typically instructor-centred) to active and flexible (typically student-centred).

Classrooms are central to the learning experience of students and to the core teaching mandate of the University. Brock University counts approximately 13,097 net assignable square metres (NASM) of classroom space at its St. Catharines and Hamilton campuses. Yet, at 7.6%, classrooms represent a relatively small percentage of the total space inventory of the University (excluding residences). Given how important they are and the relatively small size of their footprints, the institution should ensure its classrooms are closely aligned to its scheduling needs and pedagogical objectives.

Of note, 36% of this space consists of lecture halls and rooms with tiered or sloped floor at Brock. These are typically large-capacity rooms that are not easily reconfigured to other uses given how they are designed, built and accessed.

Undergraduate teaching laboratories occupy 10,370 NASM and 6.0% of the University's total space inventory in 2016. Teaching laboratories require special purpose equipment or are so arranged that use is restricted to a narrow field of study. Activities in these facilities include student participation, experimentation, observation or practice. Chemistry and Biology teaching laboratories are typical examples of such facilities. Brock also counts in its teaching laboratory inventory, on a prorated basis, parts of facilities such as gymnasia when these are used for instructional purposes.

Utilization of St. Catharines Campus Classrooms in Fall 2015

The classroom utilization assessment is based on a detailed analysis of how rooms were scheduled in a typical week of the Fall Semester (November 2 to November 8, 2015).

In Fall 2015, the utilization of Brock St. Catharines campus' 120 classrooms averaged 73% out of the 45 weekly daytime hours available for scheduling (Monday to Friday, from 8:00 AM to 5:00 PM) for a total of 3,946 hours of classroom instruction.

The analysis shows that Brock is now approaching a utilization threshold whereby additional space is required, or new scheduling parameters must be put in place to absorb some of the additional activity generated in future by enrolment growth at its St. Catharines campus.

¹ Based on Brock University COU 2016-17 Triennial Survey exclusive of residence buildings. This ratio is typical in Canadian comprehensive and research-intensive universities.

² Ibid

TABLE 3.1: CLASSROOM UTILIZATION, 45-HOUR WEEK

Room Capacity Range (Seats)	Daytime Hours per Week Scheduled	Number of Rooms	Daytime Utilization (Based on 45-hour week)
1 to 8			
9 to 16	18.0	2	20%
17 to 24	1,926.5	60	71%
25 to 32	126.0	6	47%
33 to 40	270.5	9	67%
41 to 48	393.5	10	87%
49 to 60	289.0	9	71%
61 to 80	342.5	9	85%
81 to 100	160.0	4	89%
101 to 120	39.5	1	88%
121 to 140	43.0	1	96%
141 to 160	40.0	1	89%
161 to 180	84.0	2	93%
181 to 200			
201 to 240	74.0	2	82%
241 to 280			
281 to 320	42.5	1	94%
321 to 360			
361+	97.0	3	72%
TOTAL	3,946	120	73%

The Council of Ontario Universities (COU) deems that 75% utilization is the threshold of daytime scheduling utilization at which more space is required. As shown here, the bulk of the mid-to-large capacity rooms at Brock reach utilization averages ranging between 82% and 96%, where the bulk of the University's classroom seat capacity is provided.

In view of the above, the University must rely more and more on evening instruction to absorb the demand for classroom time. Some evening instruction is scheduled by choice and caters to students and clients interested in taking classes then. But the Registrar states that the majority of the 890 hours of evening instruction at Brock are scheduled by necessity in the evening given the non-availability of space in daytime.

As per Table 3.2, the rate of utilization of the classroom pool would be calculated at 71% if the University used instead the 57-hour per week daytime and evening baseline recommended by COU, considering that 4,836 daytime and evening hours would be spread over a longer scheduling window.

Table 3.3 shows that the rate of utilization would decrease to 61% if Brock were to be scheduled over an even longer 66-hour weekly scheduling window. The feasibility of using a 66-hour baseline for assessing classroom space requirements is currently being evaluated by the University, this in conjunction with a room utilization target of 72% that suggests that each classroom would be used on average 47.7 hours a week during daytime and evening.

TABLE 3.2: CLASSROOM UTILIZATION, 57 HOUR WEEK

Room Capacity Range (Seats)	Hours per Week	Number of Rooms	Day/Evening Utilization (Based on 57-hour Week)
1 to 8			
9 to 16	21.0	2	18%
17 to 24	2,119.5	60	62%
25 to 32	153.0	6	45%
33 to 40	368.5	9	72%
41 to 48	533.0	10	94%
49 to 60	402.0	9	78%
61 to 80	465.0	9	91%
81 to 100	210.5	4	92%
101 to 120	56.5	1	99%
121 to 140	50.0	1	88%
141 to 160	55.0	1	96%
161 to 180	110.5	2	97%
181 to 200			
201 to 240	104.0	2	91%
241 to 280			
281 to 320	54.5	1	96%
321 to 360			
361+	133.0	3	78%
TOTAL	4,836	120	71%

TABLE 3.3: CLASSROOM UTILIZATION, 66 HOUR WEEK

Room Capacity Range (Seats)	Hours per Week	Number of Rooms	Day/Evening Utilization (Based on 57-hour Week)
1 to 8			
9 to 16	21.0	2	16%
17 to 24	2,119.5	60	54%
25 to 32	153.0	6	39%
33 to 40	368.5	9	62%
41 to 48	533.0	10	81%
49 to 60	402.0	9	68%
61 to 80	465.0	9	78%
81 to 100	210.5	4	80%
101 to 120	56.5	1	86%
121 to 140	50.0	1	76%
141 to 160	55.0	1	83%
161 to 180	110.5	2	84%
181 to 200			
201 to 240	104.0	2	79%
241 to 280			
281 to 320	54.5	1	83%
321 to 360			
361+	133.0	3	67%
TOTAL	4,836	120	61%

Seat Utilization

The FNPS assessment also looked at seat utilization in the scheduled rooms. A 50-seat room scheduled for a 3-hour class delivered to a group of 20 students is not used to its full potential.

The analysis of the Fall 2015 classroom schedules indicates that 54% of the classroom instructional hours took place in rooms with more seats than needed in relation to the number of students using the room at that time. Low seat utilization suggests a latent capacity to grow the University student population, with a very important caveat that absorbing additional students by increasing the size of classes impacts learning experience and instructor workloads.

Future Classroom Needs

The above analysis puts the University at a decision point in the context of the FNPS. Assuming no changes to the classroom space inventory, and based on the above benchmarks and recommended targets, more and more classroom instruction will occur during evening hours and the overall rates of classroom utilizations will therefore increase.

As indicated above, a portion of the growth of approximately 1,800 students by 2026 can be absorbed by higher seat utilization, with the caveat that this approach impacts on student learning experience and some aspects of instructor workloads. For the purposes of the FNPS, it is assumed that 1/3 of the growth will be absorbed in this way. This leaves 1,200 additional students to accommodate in some form of classroom accommodations, either existing (implying more evening classes) or new ones (allowing more daytime classes).

New classroom space will be required if the University intends to absorb this additional load during daytime hours only. The area required for these new facilities are estimated as follows:

- **1,200 student averaging 12 weekly contact hours of classroom instruction per week = 14,400 weekly contact hours generated**
- **45-hour daytime weekly scheduling window used at 75% room utilization and 80% seat utilization**
- **30 square feet of space per seat assuming that the new classroom space will be configured in active learning configurations (a need identified during the FNPS process)**

In combination, these factors generate a requirement for approximately 1,500 NASM of additional classroom space, calculated as follows:

$$\frac{2.8 \text{ NASM per seat}}{45 \text{ hours} \times 75\% \text{ room} \times 80\% \text{ seat}} \times 14,400 \text{ weekly contact hours} = 1,500 \text{ NASM}$$

As previously mentioned, consideration should be given to ensuring that some of these classrooms are high-capacity, accessible learning spaces. It is more cost-effective and less disruptive to build new flexible, large-scale classrooms rather than modernize the University's existing tiered ones.

Utilization of Instructional Undergraduate Laboratories in Fall 2015

The following assessment is based on a detailed analysis of how instructional undergraduate laboratories were scheduled in a typical week of the Fall Semester (November 2 to November 8, 2015).

Except for general computer laboratories, the rooms that comprise this space category are fairly specialized. The activities they host are not readily interchangeable in the way lectures taking place in classroom facilities can be.

The utilization thresholds that determine when more laboratories should be provided are lower than those typically recommended for classroom facilities. Further, based on current human resources limitations, the University deems that the evening use of teaching laboratories creates operational challenges and safety concerns around the workload of technicians and the availability of first responders.

The University considers that the threshold of utilization that warrants additional undergraduate laboratories is 60% of a 45-hour daytime-only scheduling window. This corresponds to 27 hours a week of actual use per room. For reference, the same COU baseline is set at 18 hours a week.

The rates of teaching laboratory utilization achieved in November 2015 averaged 53%, with three types of laboratories exceeding the 60% threshold (Biology, Kinesiology and Communications).

TABLE 3.4: LABORATORY UTILIZATION, 45 HOUR WEEK

Laboratory/ Studio Type (Average)	% Daytime Utilization (Based on 45-hour Week)
Computer Lab	48
Biological Sciences	62
Chemistry	56
Chemistry/ Biological Sciences	47
Communications, Pop Culture and Film	91
Dramatic Arts	41
Earth Sciences	50
Geography	30
Health Sciences/Kinesiology	76
Performing Arts Centre/Humanities	46
Kinesiology	71
Oenology & Viticulture	39
Physics	37
Psychology/Neurology	60
Recreation Services/Kinesiology	58
Visual Arts	40
TOTAL	53



> Teaching laboratories need to better reflect future enrolment growth projections in the Faculty of Applied Health Sciences and the Faculty of Mathematics and Science

Future Undergraduate Teaching Laboratory Needs

Two of the three faculties earmarked to grow in the next 10 years (Faculty of Applied Health Sciences and Faculty of Mathematics and Science) depend on access to teaching laboratories. The Goodman School of Business is less reliant on them, and will benefit from the expansion of Taro Hall and the nearby BrockLINC, both set to be completed in 2018.

The undergraduate teaching laboratories of the Faculty of Applied Health Sciences are quite varied, ranging from low fidelity patient care laboratories, high-fidelity patient care simulation suites, wet life science laboratories, exercise physiology laboratories, gymnasia, etc. These facilities are distributed across the entire campus and do little to give the Faculty an identifiable presence.

The University, under the aegis of the FNPS study, is considering a capital initiative that would see the physical consolidation of some of the Faculty's teaching, research, office and clinical accommodations in a new building. The University is also looking at the renewal of the Mackenzie Chown Complex where many undergraduate teaching laboratories are located. Both initiatives afford opportunities to the University to re-calibrate and adjust the Faculty of Applied Health Sciences inventory of teaching laboratories, taking into its growth and program plans to 2026.

Similarly, many of the Faculty of Mathematics and Science's undergraduate teaching laboratories are in the Mackenzie Chown Complex. The renewal of the buildings also affords the opportunity for the University to adjust the types and the capacities of dedicated wet teaching laboratories needed by the Faculty. This should be done in conjunction with the notional surplus of research space assigned to the Faculty, some of this research space being located in the same building as well as in the Cairns Family Health and Bioscience Research Complex.

3.3 Research Facilities

Research space includes facilities used for laboratory applications, research or training in research methodology which requires special-purpose equipment for staff or graduate student experimentation or observation and preparation, service and other rooms directly serving these facilities.

Brock University counts 12,662 NASM of research space corresponding to 11.9% of its total space inventory. Research space takes a variety of forms depending on the nature of the investigation, the funding available, the structure of the research team, etc. Brock has opted to use the same method and standards as COU's to evaluate its research space allocations and future needs.

When considering Brock's 2016 staffing and graduate student counts by faculty and by CIP designations the COU methodology generates the following normative allocations in relation to actual allocations:



> Most faculties are generally within their research space allocation with the exception of the Faculty of Mathematics and Science

TABLE 3.5: RESEARCH SPACE ALLOCATION BY FACULTY

Faculty	Research Space Generated NASM	Total Research Space Allocated NASM	Variation NASM	Variation %
Applied Health Sciences	2,893	2,010	-883	-44
Education	283	138	-145	-105
Humanities	314	328	14	+4
Social Sciences	2,156	1,934	-222	-11
Goodman School of Business	465	98	-367	-376
Mathematics & Science	4,219	6,607	2,388	+36
Research	11	1,247	1,236	+99
TOTAL	10,340	12,361	2,021	+16

The Faculty of Mathematics and Science posts a substantial surplus of 2,388 NASM. The main reason for this notional surplus of space is the addition in 2012 of the Cairns Family Health and Bioscience Research Complex that provided an additional 2,600 NASM of research space to the Faculty.

Future Research Facility Needs

Additional research facility needs are not required in the near-term. Within the Faculty of Mathematics and Sciences, it is assumed that the Faculty now enjoys latent capacity in its allocation of research space and can, for the foreseeable future, grow its research enterprise from within. The area figures also suggest that the FNPS should explore ways to leverage this latent capacity, particularly in scenarios that propose a series of major renovations for the Mackenzie Chown Complex. A phased renovation plan of the Mackenzie Chown Complex creates a need for swing space or temporary accommodations that could be absorbed in the noted overage.

3.4 Academic and Administrative Offices

Academic and administrative offices at Brock total 29,363 NASM, distributed as follows:

- Academic Offices and Related Support Areas 16,484 NASM
- Graduate Student Offices 3,151 NASM
- Administrative Offices and Related Support Areas 9,728 NASM

The University is currently evaluating the use of a methodology and of space allocation standards to evaluate its office needs. It considers the number of staff to be accommodated, their employment status (full-time, part time, contract, etc.) and the type and size of office accommodations deemed appropriate to their role.

This proposed new Brock-specific methodology is finer-grained than COU's.

Academic Offices – Including Graduate Student Offices

Highlights of the Brock-specific and finer-grained methodology used in the evaluation of academic and graduate office space requirements below include:

- Basic allocation of 11 NASM per full-time employee instead of the 12 NASM used by COU. But depending on the position and time spent on campus the basic space allocation for an employee ranges in fact between 4 and 24 NASM on a shared or dedicated basis.
- Distinction between thesis-stream graduate students (3 NASM per FTE) and professional-stream graduate students (0.6 NASM per FTE). This differentiation is observed at most Canadian universities.

Detailed calculation worksheets based on Brock's space allocation standards are provided in the Appendix. Table 3.6 below shows the result of the application of the proposed Brock-specific standards for the allocation of office and related support facilities:

TABLE 3.6: ACADEMIC OFFICE ALLOCATION BY FACULTY

Faculty	Academic & Graduate Office Generated as per Brock Standards NASM	Academic and Graduate Office Allocated NASM	Variation NASM	Variation %
Applied Health Sciences	2,734	3,068	+334	+11
Education	1,805	2,980	+1,174	+39
Humanities	2,439	3,442	+1,004	+29
Social Sciences	4,278	4,452	174	+4
Goodman School of Business	2,371	1,746	-626	-36
Mathematics & Science	2,585	3,107	+522	+17
Graduate Studies	144	337	+193	+57
Research	249	290	+42	+14
International/ESL	231	213	-19	-9
TOTAL	16,836	19,635	+2,799	+14

Graduate Student Offices

Table 3.7 isolates the graduate student offices, and the Goodman School of Business figures stand out. There are notable surpluses in the faculties of Humanities and Mathematics and Sciences, which point to opportunities for re-allocation from within these units, or re-allocations to other uses entirely.

Administrative Offices

The evaluation of administrative office needs is discussed with regard to the organization of student services. Quantitatively, the amount of space allocated to administrative functions is aligned with both COU standards and the proposed Brock-specific space standards.

Future Academic Office Needs

The Goodman School of Business Building addition and Taro Hall renovation addresses a demonstrated need for office space. It is also anticipated that the nearby BrockLINC will contribute to a better campus experience for its graduate students. Quantitatively, the other faculties post figures that are higher than the proposed Brock standard. This being said, it may not be possible to recoup some of the notional surplus of the academic office space. For example, some private offices may exceed the normative 11 NASM allocation by 1 or 2 NASM. It would not be realistic or even feasible in many instances to reassign this space in a meaningful way. The surpluses in graduate student office spaces can however be re-allocated from within certain faculties, or to other uses.

TABLE 3.7: GRADUATE OFFICE ALLOCATION BY FACULTY

Faculty	Sum of Graduate	Space Generated as per Brock Standards NASM	Total Graduate Office Space Allocated NASM	Variation NASM	Variation %
Applied Health Sciences	170	509	628	120	+19
Education	187	112	161	48	+30
Humanities	80	241	512	272	+53
Social Sciences	325	974	825	-149	-18
Goodman School of Business	477	286	127	-160	-126
Mathematics & Science	150	449	820	371	45
Graduate Studies			78	78	+100%
TOTAL	1,388	2,571	3,151	580	18

3.5 Student Services

Student services currently occupy approximately 3,180 NASM distributed across campus. Brock University has worked to co-locate front-line services for students in the Schmon Tower/Thistle precinct. A Welcome Desk was recently positioned in the Schmon Tower foyer to assist students and visitors, and marked improvements have been made on the third floor of Schmon Tower in the Registrar's front-office service areas. A need for further consolidation and improvements to the delivery of student services on campus has been identified as highly desirable.

Future Student Services Space Needs

The 3,180 NASM area allocation was used as a starting point in determining the facility planning opportunities, supplemented by a contingency allowance of 200 NASM to account for enrolment growth over the Study's 10-year planning horizon as well as 300 NASM to accommodate a much-needed multi-faith centre.



> Student services have started to be consolidated at the Brock Central Student Services Hub, which offers a student-friendly, accessible environment

3.6 Study Space

The University counts 7,286 NASM of study space in the more formal setting of the Library and distributed more informally (i.e. open access) elsewhere on campus.

- | | | |
|---|------------|-----|
| • Study space under the jurisdiction of the Library | 2,706 NASM | 38% |
| • Non-Library study space | 4,446 NASM | 62% |

Future Study Space Needs

The 38% : 62% ratio of Library and Non-Library study space stands out in relation to other institutions, where the ratio is the opposite or is closer to 50% : 50%. There is a need to explore scenarios whereby the ratio shifts in favour of providing more space under the jurisdiction of the Library.

In addition, the growth of the University's student population in the next 10 years, in combination with changes to the way courses are delivered, puts pressure on providing additional quality study space on campus.

An additional 775 NASM will be required to maintain the current ratio of 0.43 NASM per FTE student as the student population increases between now and 2026.

The planned addition of BrockLINC the foot of Schmon Tower presents opportunities to address aspects of the points above in the FNPS scenarios, namely how to provide more study space in the formal setting of the Library, and how to increase the overall quantity of study space provided on campus to meet the needs of an increased student population.

Space Needs Summary

Enrolment Growth

There will be 4.6% enrolment growth over 5 years and 9.3% over 10 years.

Instructional Space

There is good utilization of instructional space, but some latent capacity in classroom sizes and need to re-calibrate teaching labs.

Academic Offices

There is a surplus of 2,799 NASM (14%) in academic office space as per the Brock standard.

Research Facilities

There is a surplus of 2,021 NASM (16%) in research space, but there are large discrepancies in distribution.

Study Space

The ratio of Library/Non-Library study space stands out when compared to other Ontario universities.

Admin Offices

Administrative office space allocation is generally aligned with COU standards.

Student Services

There are issues of fragmentation and easy access to student services.

Fit to Function

Schmon Tower, the instruction and research facilities in Mackenzie Chown and the Brock Research and Innovation Centre building are deficient in terms of fit to function.





CHAPTER

04

Facility Planning Directions

Sustainable, efficient and high quality facilities are key to a successful university. This chapter provides planning principles, future planning directions and priority needs to help achieve this goal and create a blueprint for future facilities planning.

4.1 University Planning

Strategic Mandate Agreement

Brock University places significant emphasis on providing a high-quality student learning experience and conducting cutting-edge research. Brock is strong in the fields of undergraduate teaching excellence, small-group learning, excellence in research and a contribution to the wellbeing and development of the Niagara Region. Recognizing these strengths, Brock's Strategic Mandate Agreement with the Province of Ontario sets out three priority objectives for the future of the University, including:

1. Serving the 21st-Century Learner – Putting Students First, Efficiencies, Productivity and Benefits
2. Establishing Transdisciplinary Research Hubs and Developing New Graduate and Undergraduate Programs
3. Building a Network of Partnerships that Promote Prosperity through Entrepreneurship, Innovation, and Creativity

The Strategic Mandate Agreement recognizes that in order to maintain its strengths, Brock must provide new ways to teach, learn, research and collaborate. The University must also focus on providing more flexible spaces that can respond to changing needs or pedagogical directions but enable an outstanding student experience.

2016 Campus Plan

The 2016 Campus Plan provides the framework for a compact, connected campus with the core as a focal point of university life. It envisions that the core will be reinforced through the renewal and redevelopment of high quality academic facilities. A second centre of activity will be developed on East Campus, which will emerge as a lively, mixed-use node with a variety of supporting uses. A Long-Term Demonstration Plan illustrates how the future campus could develop over the next 50 years or more.

To realize this long-term vision and provide a foundation for the Campus Plan, the document puts forward seven key directions. These key directions align the University's strategic priorities and needs with broader city-building opportunities to achieve the Strategic Mandate objectives and realize the University's full potential. These directions include:

1. Expand and renew the Core
2. Improve and integrate East Campus
3. Renew facilities
4. Renew the campus setting
5. Improve movement and connections
6. Integrate with the surrounding cities
7. Create partnership opportunities

The Campus Plan identifies a broad campus structure and the location of a variety of uses. According to the Plan, academic activities should be concentrated at the heart of campus in the "Academic Zone," from the Walker Sports Complex to Mackenzie Chown Complex, with a few buildings on East Campus. Various academic departments and social spaces are located in these interconnected buildings which make up the compact core that is so central to the Brock experience. Most of the lands within the academic area have been developed, but many house facilities that require renewal.

The Plan also identifies buildings for redevelopment in central locations. These new buildings can address issues of poor facility condition while providing an environment for the 21st Century Learner and enhancing the student experience. New development sites are envisioned at the edges of the academic zone as well as on the East Campus and South Campus. New buildings have the potential to expand existing activities or to allow new ones to develop. With this Long Term Demonstration Plan, the 2016 Campus Plan lays the foundation for future growth and the evolution of an innovative, vibrant campus.



> The key directions in the 2016 Brock Campus Plan are an important piece of future facilities planning. Buildings in white are in existence, those in orange are proposed.

4.2 Stakeholder Input

At the outset of the project, the Consultant Team held over 20 one-on-one interviews with a range of members from the Brock community, including Vice Presidents, Associate Vice Presidents, Deans of all the faculties, Directors, as well as Brock University Student Union and Graduate Student Association Presidents. In February 2017, an on-campus workshop was held to confirm the early study findings and identify preliminary directions for the FNPS study.

Members of the Brock community expressed that there are key challenges on the campus that need to be addressed by the Facility Needs and Priorities Study, including:

- Some academic faculties are fragmented. There is a need to create centres of gravity to enhance faculty and program clusters, as well as student-faculty interaction and foster operational efficiency.
- Student services are dispersed, and a one-stop-shop is needed to enhance the student experience.
- Many classrooms and lecture halls are inflexible and should promote student-centred, active, technology-enabled learning experiences.
- There is a need for distributed flexible places for study, socializing, collaboration, and community outreach to create sense of belonging and identity in activity clusters.
- Transdisciplinary learning and research space is needed.
- The future of the library could change, but it should remain and grow at the centre of campus.
- There is a need to define the best use for legacy buildings that do not provide 21st century learning, research and work environments, including Schmon Tower and Mackenzie Chown.
- Brock needs to implement transparent, evidence-based, equitable processes, practices and policies for space allocation.
- Providing a more approachable, accessible campus is important.



> Several classrooms are not conducive to collaborative, active learning, as was expressed during the stakeholder interviews

4.3 Planning Principles

The Planning Principles provide a framework for the Facility Needs and Priorities Study. They were used to guide the study process, review and refine the facility planning opportunities, and to provide direction for future space use. Preliminary draft planning principles were provided by university stakeholders at the outset of the project, but were refined based on directions in the Campus Plan, extensive data analysis and thorough consultation with the Brock community. The principles are not mutually exclusive, and work in concert to guide facility planning and decision-making. These principles will also be important in evaluating future projects and initiatives.



1: Foster a high-quality student experience.

- Provide space and facilities that meet diverse teaching and learning needs.
- Provide informal learning spaces to enhance the image and identity of Brock.
- Maximize opportunities for socializing and student interaction throughout the campus.
- Ensure student services are prominent and easy to access.
- Ensure that campus spaces are inclusive, welcoming and accessible.
- Respond to the unique needs of undergraduate and graduate students.



2: Ensure good quality and equitably distributed facilities.

- Ensure that facilities and spaces demonstrate excellence in learning, teaching and research.
- Prioritize facility renewal or replacement to address facility conditions and/or new pedagogical styles.
- Provide adequate and appropriate spaces and facilities.



3: Use space and facilities efficiently.

- Adopt space management guidelines that address allocation practices and focus on efficient, equitable use of space.
- Prioritize facility renewal and replacement that enhances the usability of buildings and creates operating efficiencies.
- Support department and program clustering and collaboration to create intra- and inter-faculty synergies and efficiencies and to reduce fragmentation.



4: Ensure sustainability.

- Prioritize building maintenance and renewal to minimize operating costs and maximize building life expectancy.
- Pursue greening initiatives and energy use reduction in facility operations, building renewal and new development.
- Protect the campus and natural setting in all facility initiatives.
- Provide the necessary facilities to meet the campus life needs of students, faculty and staff.



5: Align with institutional plans and priorities.

- Ensure that new development supports the directions and initiatives of the Campus Plan.
- Support transdisciplinary and interdisciplinary learning, collaboration and research.
- Align program enhancements with facility and space needs to achieve transformative capital projects.
- Prioritize capital projects that respond to academic goals and priorities and anticipate future needs.
- Ensure the campus and facilities provide an inclusive and welcoming experience to the university and broader communities.

4.4 Key Planning Directions

Building on the planning principles, the six key directions set the stage for a more efficient, successful campus. They outline the space and facility concerns and identify key next steps to help determine the priority needs. The key directions are based on input from the Brock community, assessment of facility needs and the University's strategic planning documents including the Campus Plan.

1. Consider strategies for best use, upgrading or divesting of poor quality facilities.

The building condition and fit to function assessment highlighted that a significant number of facilities at Brock are deficient and in poor physical condition. In particular, Schmon Tower, the Mackenzie Chown Complex and East Academic are not fit for function, and require significant investment to address building condition issues. Renewing or decommissioning poor quality facilities is a key move not only to improve the space inventory, but also to provide an opportunity to offer flexible spaces that respond to various methods of teaching, learning and research.



> Many seminar rooms, such as this one in the Thistle Complex, require significant renewal, redevelopment and modernization

2. Reduce the physical fragmentation of faculties and departments, as appropriate.

The 2006 Facility Needs and Priorities Study identified locations for distinct campus precincts. Faculties were to occupy separate parts of the main campus, but would overlap in key locations to allow inter-faculty collaboration. This objective of interspersing departments and accommodating collaboration came at the expense of department cohesion however. As shown on Figure 4.1, today, faculty space clusters are dispersed throughout the Main Campus, with the most fragmentation occurring in the Faculty of Applied Health Sciences, Social Sciences, and Humanities. These diagrams show that the space occupied by these three faculties is spread out on separate floors or in different campus buildings.

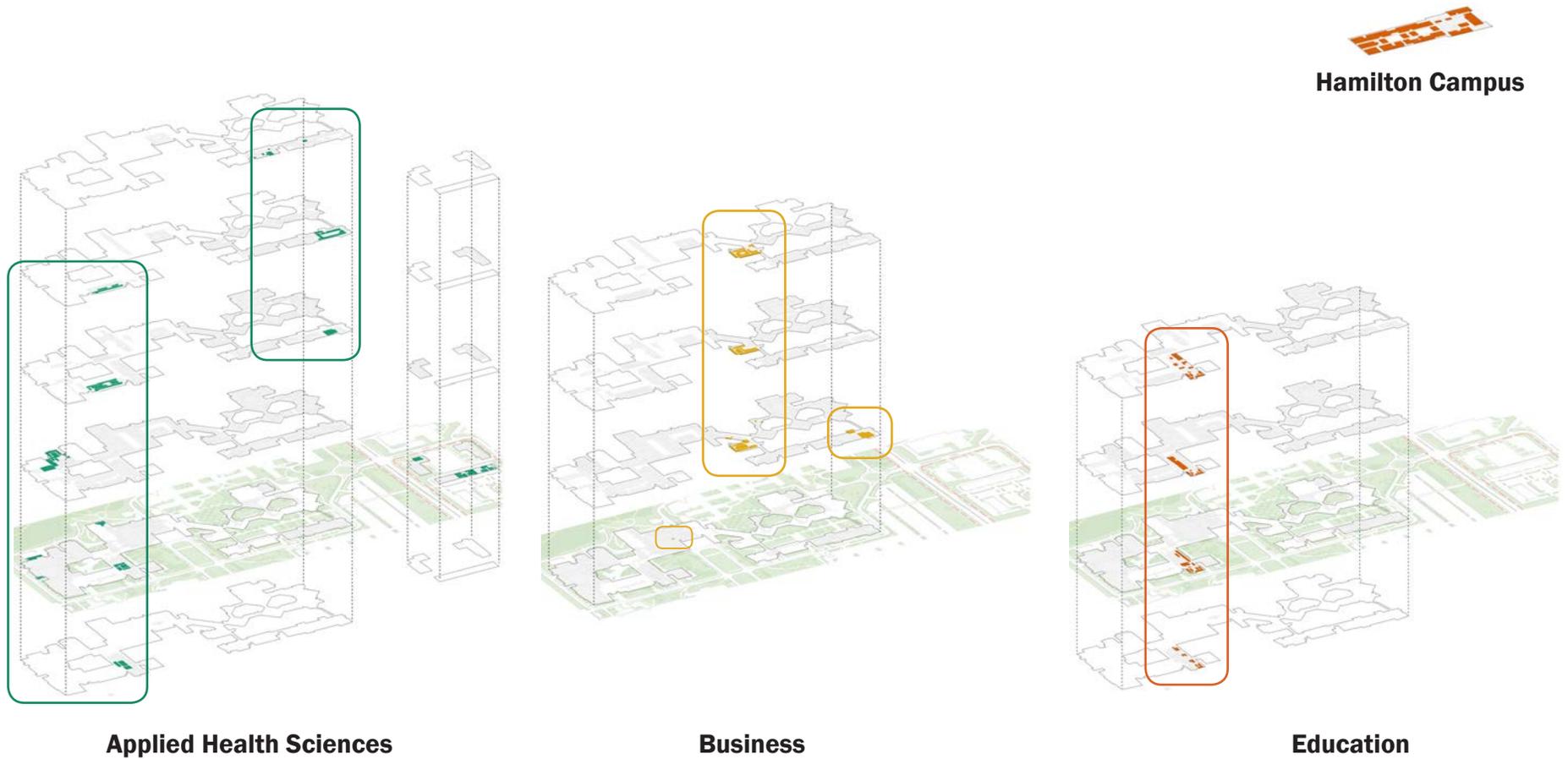
A new approach to promoting transdisciplinarity is required. The University will support relationships without dictating specific locations for each activity or faculty. Reinforcing a compact core is a critical first step. When faculties are in close proximity to one another and are well connected, synergies can easily develop and flourish.

The University will also accommodate supporting uses in key locations whenever new buildings or development initiatives are contemplated. These supporting uses can take the form of facilities, amenities and social spaces sprinkled throughout the campus where students, faculty and researchers can come together to collaborate or interact.

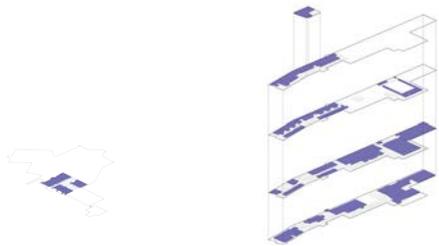


> Among other uses, the Walker Sports Complex houses the highly fragmented Faculty of Applied Health Sciences

FIGURE 4.1: SPACE OCCUPIED BY EACH FACULTY

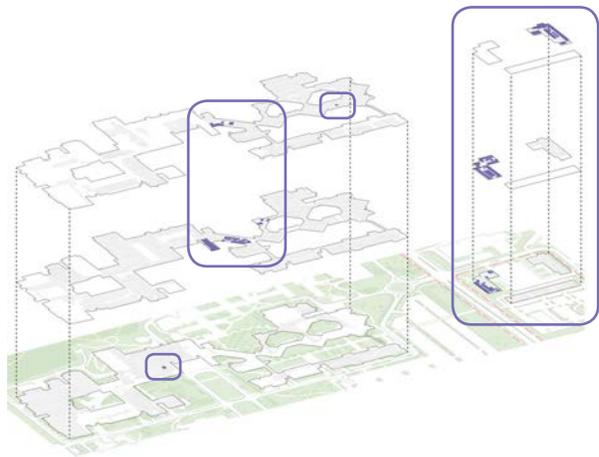


> The Faculties of Applied Health Sciences, Humanities and Social Sciences in particular face fragmentation issues

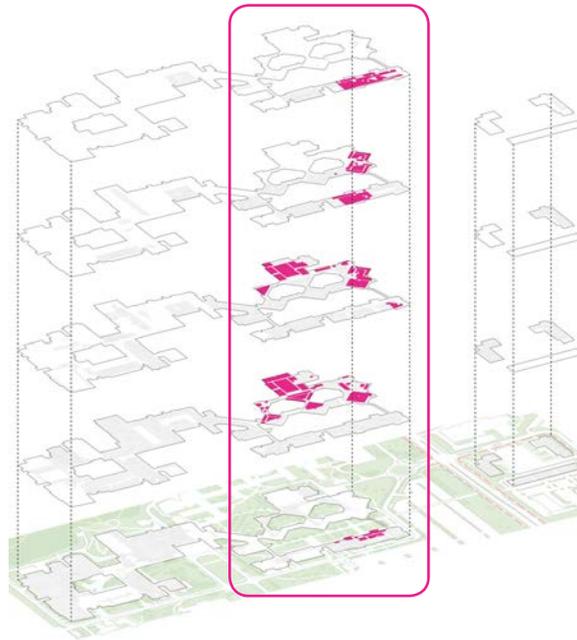


Rodman Hall

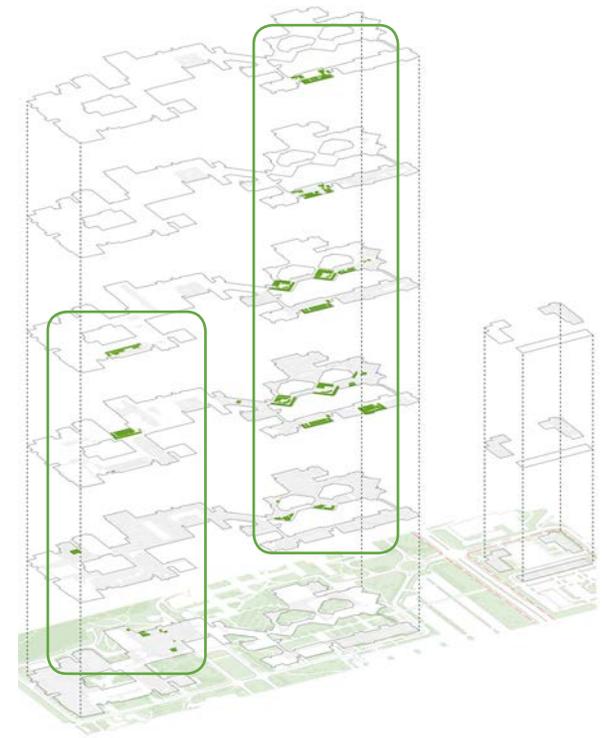
**Marilyn I. Walker School
of Fine and Performing
Arts**



Humanities



Mathematics and Science



Social Sciences

3. Consolidate the library and create new study spaces to meet the needs of future-ready students.

Across post-secondary institutions, there have been significant changes to the role of libraries. No longer simple repositories for books, libraries have become distinct places to learn and study outside of the classroom. Currently, Brock's library occupies the first floor of the Thistle Complex and stretches from floors five to ten of Schmon Tower. This not only makes library operations difficult, it also breaks up the flow of student study space. Though efforts have been made to provide informal, innovative study spaces in the library through the Matheson Learning Commons and the Computer Commons, more such spaces are required.

There is the potential to centralize library functions and build on recent investments at the base of Schmon Tower. This means moving the library down in the tower to better combine library functions and offer more formal and informal study spaces.

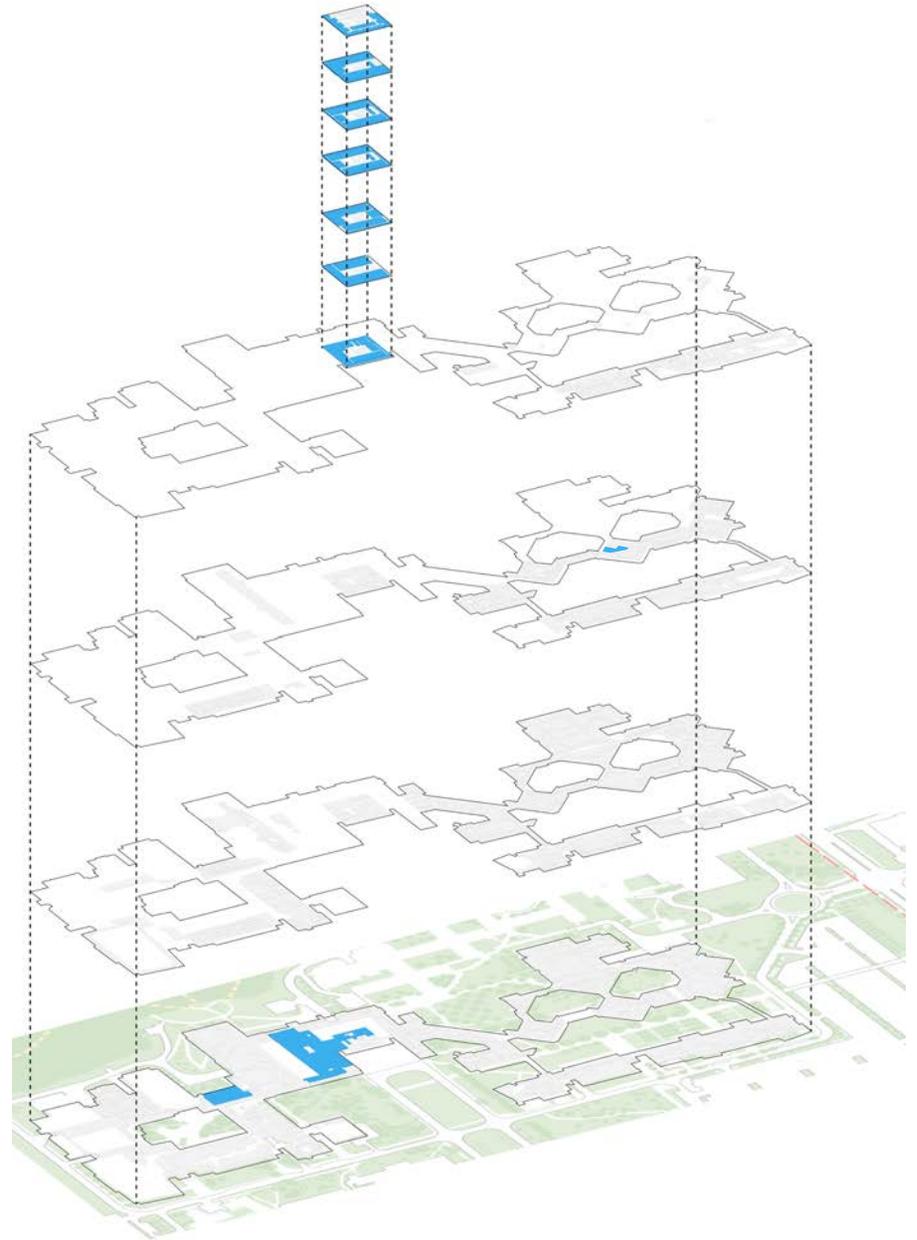


FIGURE 4.2: LOCATION OF THE LIBRARY

> Brock's library is dispersed on different floors of Schmon Tower

4. Create flexible classrooms, teaching labs and informal learning spaces that support student-centred, active learning and technology-enabled learning experiences.

Classrooms and teaching labs are evenly distributed across Brock's campus. Teaching labs are largely clustered in the eastern portion of the main campus, particularly in the upper level of Mackenzie Chown. There is also large cluster of mainly tiered classrooms on the west side of campus, in the Thistle Complex, South Block and Welch Hall. In the eastern part of campus, classrooms are more dispersed and smaller in size.

Non-tiered classrooms provide the greatest opportunity to introduce more flexibility into the learning space inventory. They can easily be transformed to meet diverse needs and introduce new technologies without large capital investments. The University has already undertaken an initiative to modernize existing classrooms and offer opportunities for active learning, greater accessibility and access to wireless technology, all to accommodate new pedagogical methods and foster greater collaboration. Brock will continue to provide suitable classroom space with multimedia capabilities, as well as teaching and project space to support core courses and student research.

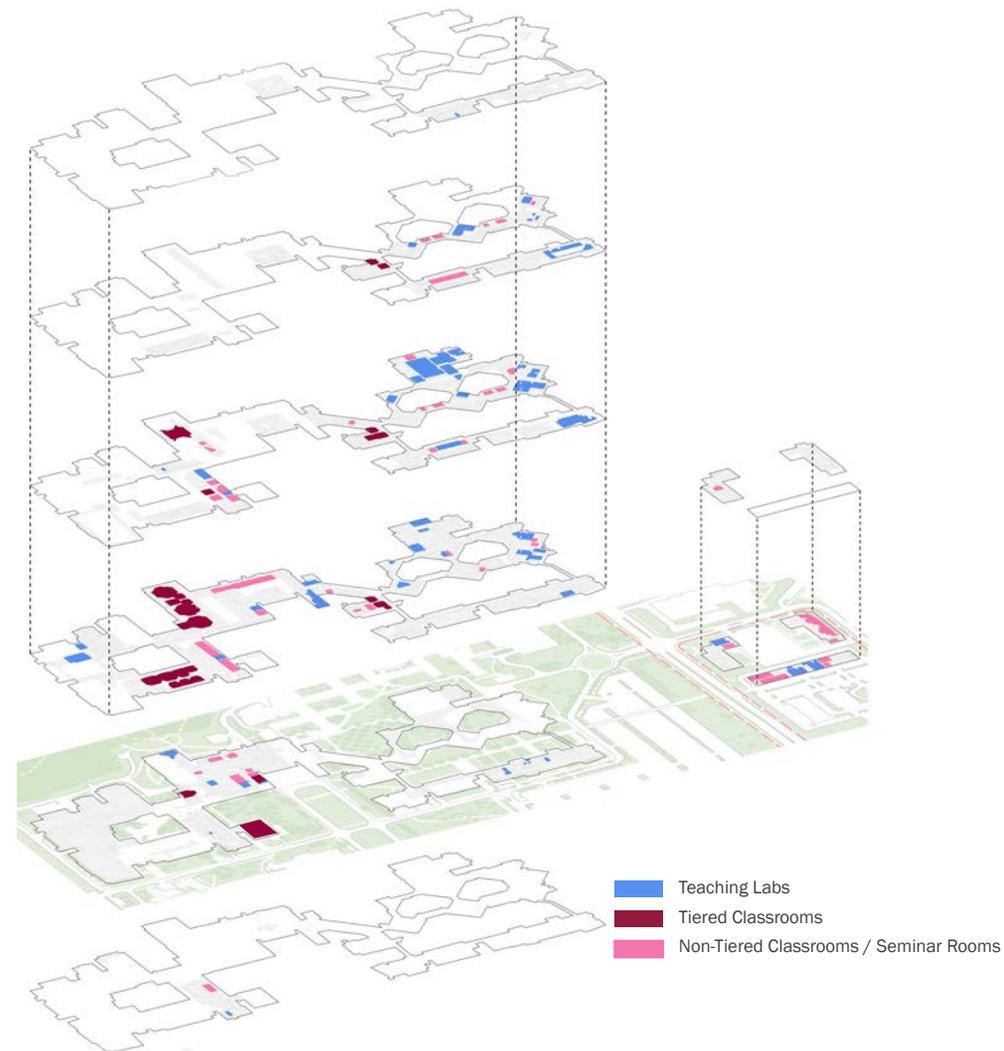


FIGURE 4.3: LOCATION OF CLASSROOMS AND TEACHING LABORATORIES

> Non-tiered classrooms and some teaching labs provide the greatest opportunity for renewal and redevelopment

5. Consolidate and centralize front-of-house student services, as appropriate.

The 2016 Campus Plan notes that the campus core should be renewed as the focal point for learning, amenity space and student services. Brock's student services are currently located throughout Thistle Complex and Schmon Tower. There is no clear theory to the location of these services, which require students to travel between floors and to different parts of the building. To remedy this dispersal, Brock has introduced Brock Central, a one-stop-shop to meet student needs. Brock Central consolidates the offices of the Registrar, Accounts, Financial Aid, Admissions and issues Student ID. Though a great initiative, the facilities are not located in a prominent place on the campus and lack visibility. Furthermore, Health Services, Accessibility, Student Development, Aboriginal Student Services as well as Co-op and Career Services are also not part of this one-stop-shop, thereby cementing the fragmentation of student services.

To continue to provide a stellar student experience, more attention needs to be paid to offering a comprehensive, easily accessible student services hub. Locating these student services at the entrance to the campus for example, would not only make them easy to access but would signal the University's central concern for student experience.

Another important planning consideration is to co-locate student services and functions but to carefully separate front-office functions (accessed by students and client) from back-office functions used only by staff, which could be located elsewhere on campus. Finally, certain services such as health and counselling, could benefit from placement in less public and more discrete locations.

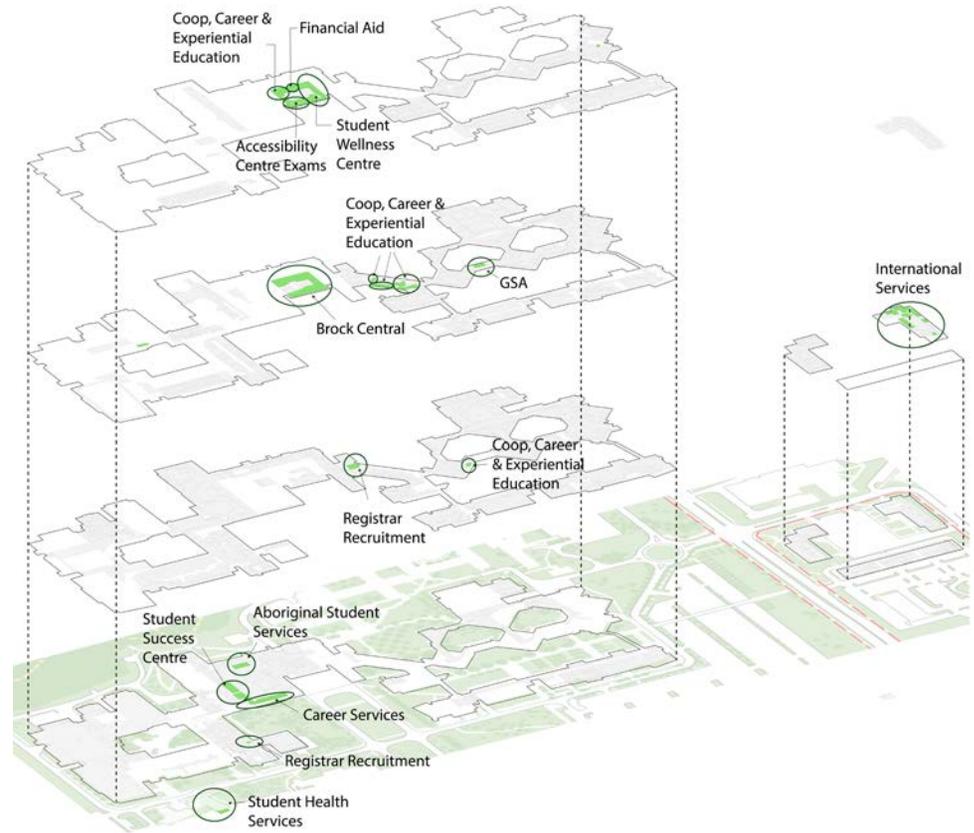


FIGURE 4.4: LOCATION OF STUDENT SERVICES

> Student services are dispersed throughout the Thistle Complex and Schmon Tower
 Note: The Multi-Faith Centre and Human Rights and Equity are located in DeCew Residence.

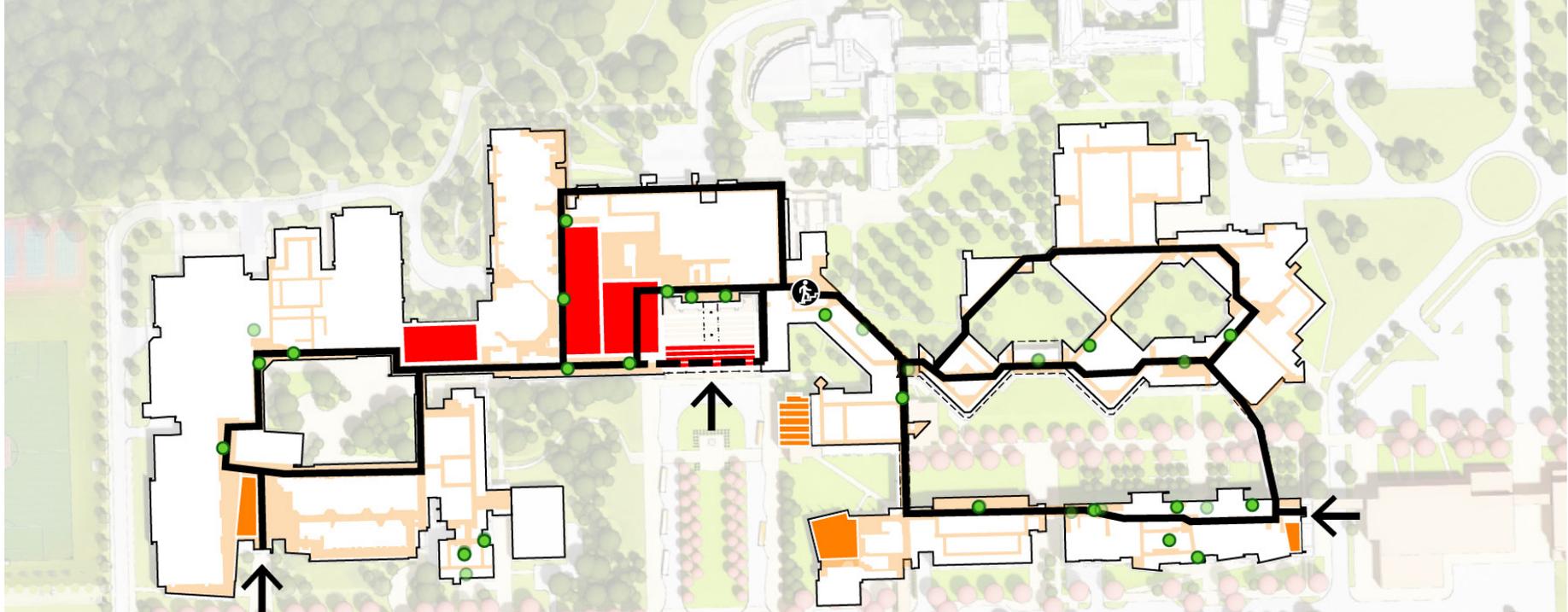


FIGURE 4.5: LOCATION OF COMMON SPACES

> Common spaces are located throughout the campus, but there is a gap in Secondary Common Spaces on the eastern portion of Main Campus.

6. Create distributed, flexible places that support collaboration, socializing and transdisciplinarity.

Learning is increasingly occurring outside of the classroom and other formal learning spaces. Social and informal learning spaces are critical to enhancing both the student experience and Brock's image. The University has a variety of common spaces that allow students to collaborate, socialize and study throughout campus. These common spaces can be divided into a hierarchy of Primary Common Spaces (Matheson Learning Commons, Market Hall), Secondary Common Spaces (Student Alumni Centre, Computer Commons and Walker Sports Complex Food Court) and Tertiary Common Spaces (lounges). Connecting these various common spaces is an internal circulation route, which also offers more informal places to meet friends, socialize before class, and study. Many of these circulation routes take on this role when they are located close to major lecture halls, student amenities (such as places to buy food) or they offer space to sit and mingle. Figure 4.5 shows the existing internal circulation route, as well as the future primary circulation route once the BrockLINC facilities are built. All new buildings will connect to this circulation network and all paths will continue to be designed as welcoming places with a dual role.

- Existing Primary Internal Circulation Route
- - - Future Primary Internal Circulation Route
- Existing Primary Common Space
- ▨ Future Primary Common Space
- Existing Secondary Common Space
- ▨ Future Secondary Common Space
- Tertiary Common Space

Figure 4.5 also shows the existing and planned primary common spaces. These places serve a wide range of students, and are located in the central portion of Main Campus, at the heart of Brock. Secondary Common Spaces are less formalized places to study and gather, but provide comfortable seating and power outlets. With their less central role, Secondary Common Spaces are more dispersed throughout the campus. Tertiary Common Spaces include Brock's lounges. As the least formal kind of common space that come in a wide variety of sizes, the Tertiary Common Spaces are evenly distributed throughout the campus.

Despite the large number of common spaces, demand for them is increasing and a Multi-Faith Centre is needed. More social and amenity spaces can be provided in new buildings as well as through the renewal of existing facilities, especially in the eastern portion of campus. Providing these spaces is key to remaining a student-centered institution.

7. Implement space management procedures.

Stakeholders have expressed that Brock lacks an equitable, transparent and comprehensive method for allocating space. To truly be a cutting edge contemporary institution that accommodates all users and makes efficient use of space, Brock will adopt space allocation guidelines that are specific to the institution. These are standards that reflect the University context and the institution's key priorities. They contain scheduling windows and targets as well as space allocation benchmarks for academic and administrative offices as well as research space. Following these initial standards, the University's Space Management Framework should continue to be developed and refined to cover policies, procedures and allocation criteria as further capital initiatives are undertaken.



> Many more classrooms need to be redeveloped into flexible learning spaces

4.5 Planning Priority Needs

The draft priority needs describe demand for space and identify the most pressing facility needs and issues facing the University. These needs have to be addressed as part of the Facility Needs and Priorities Study in order to help achieve a more efficient, innovative and overall successful campus.

- 1. Consider strategies for best use, upgrading or divesting of poor quality facilities.**
 - Undertake phased renewal and reallocation of space in Schmon Tower and Mackenzie Chown to ensure high-quality facilities and fit to function.
- 2. Reduce the physical fragmentation of faculties and departments, as appropriate.**
 - Consolidate fragmented faculties, including Applied Health Sciences, Humanities and Social Sciences.
 - Consolidate academic activities by integrating academic uses from the East Campus and the Brock Research and Innovation Centre into the Main Campus.
 - Provide informal spaces and amenities to support faculty and student collaboration and transdisciplinarity.
- 3. Consolidate the library and create new study spaces to meet the needs of future-ready students.**
 - Consolidate the library at the base of Schmon Tower and in Thistle Complex.
 - Increase library study space to achieve a better distribution of library and informal study space.
- 4. Create flexible classrooms, teaching labs and informal learning spaces that support student-centred, active learning and technology-enabled learning experiences.**
 - Prioritize the renewal of classroom spaces to provide flexible, active-learning settings.
 - Increase classroom spaces in the eastern portion of the Main Campus.
 - Provide dedicated exam facilities to accommodate students with special needs.
- 5. Consolidate and centralize front-of-house student services, as appropriate.**
 - Provide a centrally located, one-stop-shop for student services within or near the Schmon Tower and/or Thistle Complex.
 - Consolidate, expand and modernize current student health and wellness space.
 - Provide welcoming, prominent recruitment space.
 - Provide an accessible, welcoming multi-faith centre.
- 6. Create distributed, flexible places that support collaboration, socializing and transdisciplinarity.**
 - Continue to provide common spaces and places to study in line with enrolment growth.
 - Provide a higher-order common space in the eastern portion of the Main Campus.
- 7. Implement space management procedures.**
 - Provide efficient, equitable space through Brock-specific, customized space allocation standards.
 - Target the equitable allocation of research and office space.





CHAPTER 05

Facility Planning Opportunities

This chapter outlines a series of initiatives and related capital projects which could collectively realize the planning directions and priority needs identified in Chapter 4. Organized around the seven planning directions, the chapter outlines a range of opportunities to renew, upgrade and expand Brock's facilities in response to facility needs.

5.1 Facility Planning Opportunities

The facility planning opportunities are a series of capital and space planning initiatives that support the realization of the planning directions and priority needs.

While the specific initiatives are coordinated and inter-related, they are not necessarily sequential. In some cases, identified capital projects may represent two alternate approaches to address a key direction and priority need. This approach allows for flexibility in capitalizing on potential funding opportunities and responding to the most pressing space needs as they arise. While some capital projects have the potential to address multiple key directions and priority needs at once, they are ultimately guided by two objectives: 1) investing in academic space to better implement the University's mission, and 2) investing in University infrastructure to support future-ready students.

Capital projects include renewal and renovation of existing buildings, additions to existing buildings and construction of new facilities. The capital projects represent a menu of options to respond to opportunities, and are not intended as a complete list of projects to realize this Plan. Capital projects consist of the following initiatives, which are described in more detail in the

Renewal Projects

A Mackenzie Chown A,C,D,F,G,H,J

B Schmon Tower

New Projects

C David S. Howes Addition

D BUSU Student Centre

E Interprofessional Health Building

F Mackenzie Chown B + E

G Library Addition

H Brock Active Living Complex

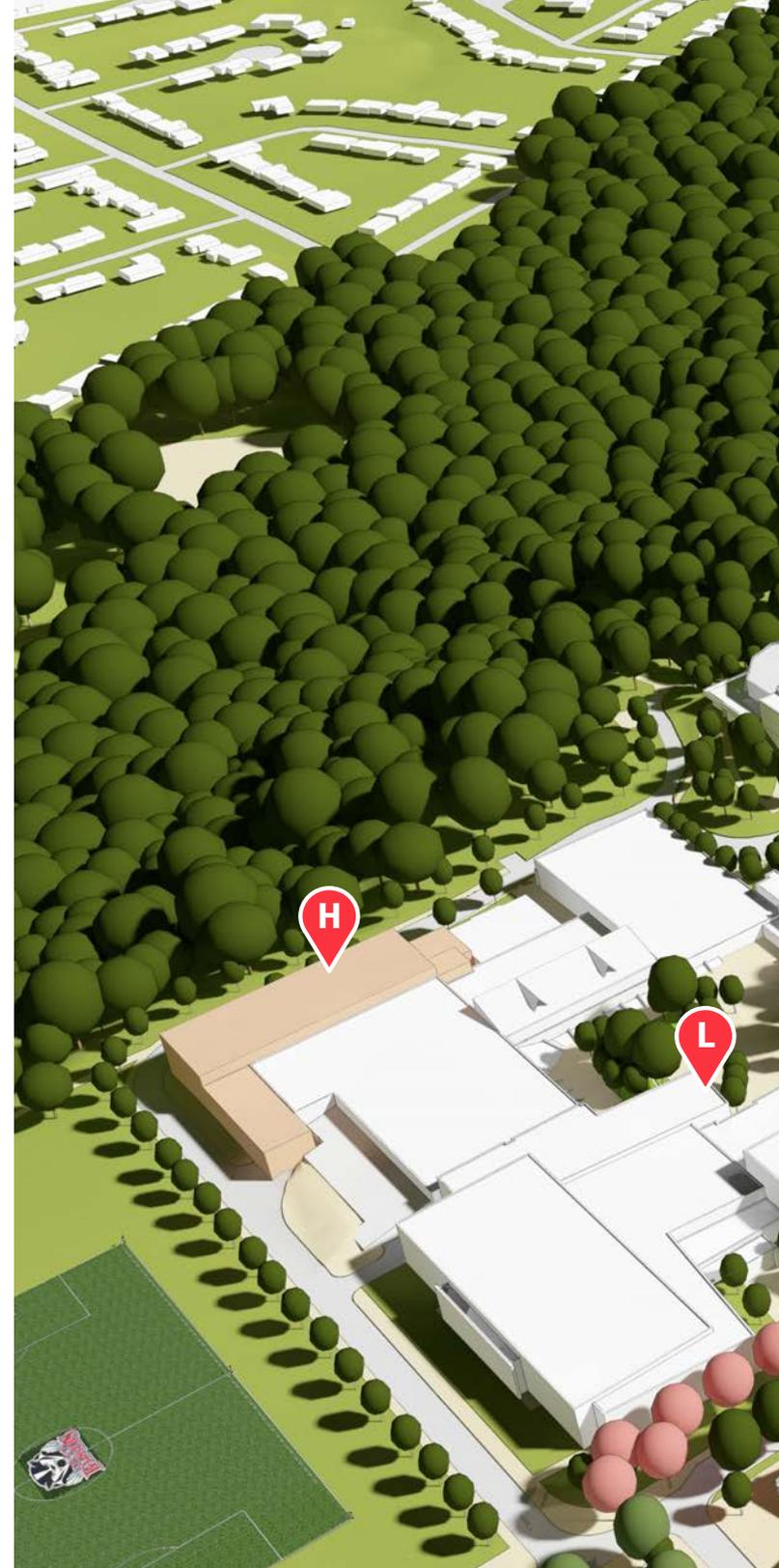
I International Centre Phase 2

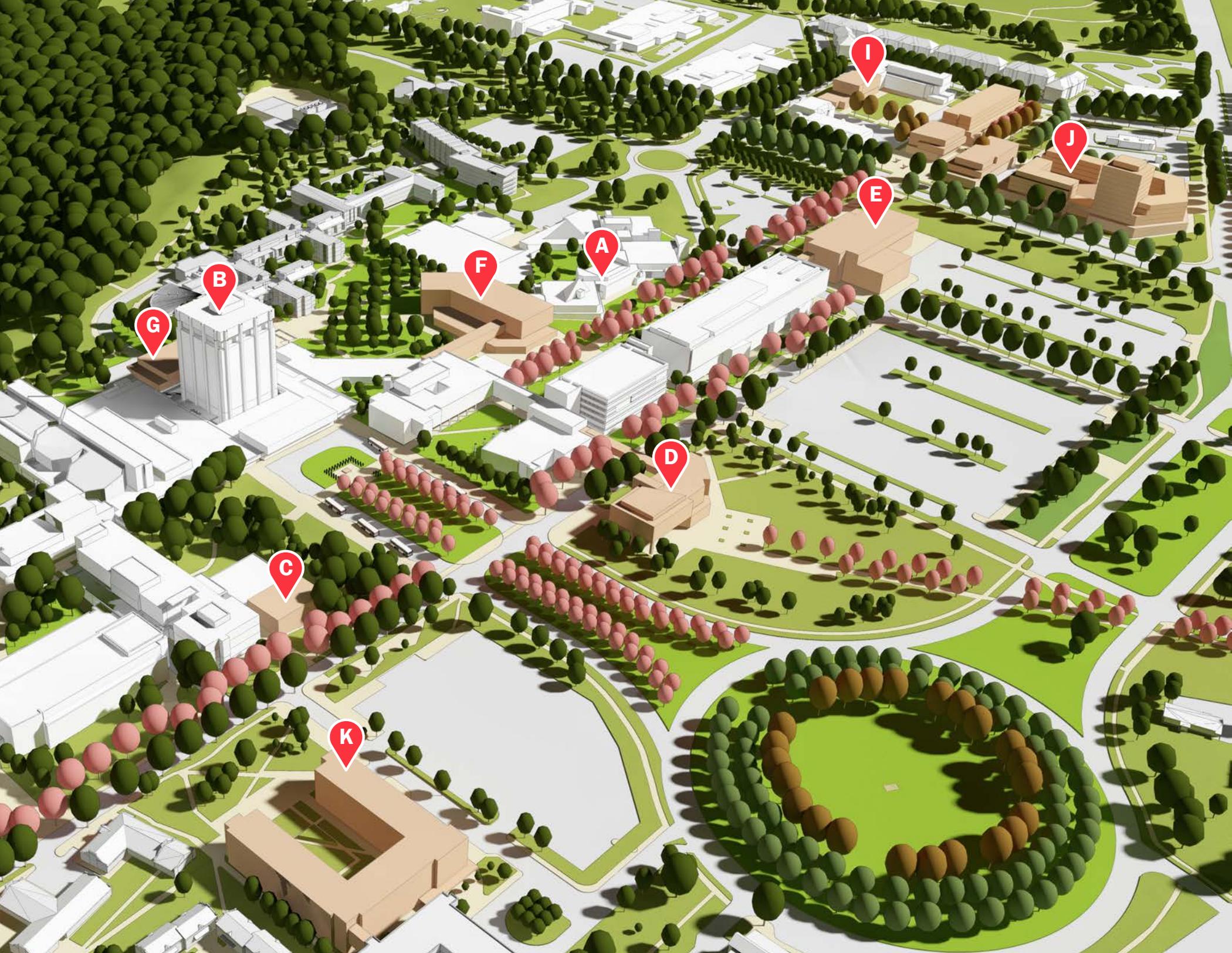
J Heritage Plaza

Other Capital Projects

K Student Housing

L Zone Expansion





G

B

F

A

I

J

E

D

C

K

Renewal of Mackenzie Chown A, C, D, F, G, H and J

A considered program of upgrading within Mackenzie Chown blocks A, C, D, F, G, H and J will be undertaken to support faculty defragmentation, provide additional instructional space, and achieve building renewal. This initiative can be undertaken through a phased approach, whereby block H is renovated first, as it faces the greatest facility condition and fit-to-function issues, followed by Mackenzie Chown blocks A, C, D, F, G and J.

Space Opportunities: More efficient use of existing facilities

Programs: Academic Space
Instructional Space
Common Space

- Key Directions:**
1. Consider strategies for best use, upgrading or divesting of poor quality facilities.
 2. Reduce fragmentation of faculties and departments.
 4. Create flexible classrooms, teaching labs, and informal learning spaces.
 6. Create flexible places for collaboration, socializing and transdisciplinarity.

Schmon Tower Renewal

Despite its important symbolic and functional role within the campus, Schmon Tower faces building condition issues and is in need of significant renewal. Schmon Tower renewal would allow for the consolidation of the library within a more contemporary setting at the base of the tower, and offer a large, consolidated area within its upper portions for faculty and/or administrative space.

Space Opportunities: 3,000 NASM – 4,800 NASM

Programs: Offices
Administrative Space
Instructional Space

- Key Directions:**
1. Consider strategies for best use, upgrading or divesting of poor quality facilities.
 2. Reduce fragmentation of faculties and departments.
 3. Consolidate the library and create new study space.
 4. Create flexible classrooms, teaching labs, and informal learning spaces.

David S. Howes Addition

The David S. Howes building is a theatre reconfigured to serve as a classroom space, which has the potential to offer between 350 NASM through renovation and 1,000 NASM of additional space through an addition to the south side of the building. The David S. Howes expansion can accommodate new instructional space or health and wellness uses.

Space Opportunities: 350 NASM (renovation) - 1,000 NASM (full addition)

Programs: Student Services (Health and Wellness)
Instructional Space

- Key Directions:**
4. Create flexible classrooms, teaching labs, and informal learning spaces.
 5. Consolidate and centralize front-of-house student services.

BUSU Student Centre

To accommodate student services such as health and wellness uses or a multi-faith centre, a new facility managed by the Brock Undergraduate Students Union (BUSU) can be developed on Weather Station Field to provide over 3,000 NASM of space. Alternatively, BUSU's existing building can be renovated and expanded to accommodate student services.

Space Opportunities: 3,300 NASM (new facility)

Programs: Student Services (Health and Wellness)

- Key Directions:**
5. Consolidate and centralize front-of-house student services.

Interprofessional Health Building

The Interprofessional Health Building can offer approximately up to 6,000 NASMs of space at the entrance to the University, adjacent to the Cairns Family Health and Bioscience Research Complex. The building could consolidate Applied Health Science departments and centres into one building, allowing Brock to expand the academic and research space offerings associated with its health programs and broadening opportunities for collaboration within the immediate community. The project also provides an opportunity to deliver University infrastructure in the form of new classrooms and common spaces.

Space Opportunities: 6,000 NASM

Programs: Academic Space (Applied Health Sciences):
Kinesiology
Nursing
Centre for Applied Disability Studies
Centre for Health and Wellbeing
Classrooms
Common Space

Vacated Space: Thistle Complex
East Academic
Welch Hall
Walker A

- Key Directions:**
2. Reduce fragmentation of faculties and departments.
 4. Create flexible classrooms, teaching labs, and informal learning spaces.
 6. Create flexible places for collaboration, socializing and transdisciplinarity.

Mackenzie Chown B&E

Mackenzie Chown blocks B and E are candidates for divestment to protect for a long-term building site. The development site could accommodate a building of up to 5,100 NASMs that houses a range of uses including additional instructional space, new academic program needs, new student services close to the heart of campus and administrative functions. The new building will reinforce connectivity to and the profile of the remaining Mackenzie Chown Complex by extending clear connections to the internal circulation network and supporting its integration into the campus fabric. By reducing the overall size of the Mackenzie Chown Complex, existing issues of building legibility and wayfinding can be mitigated.

Space Opportunities: 5,100 NASM

Programs: Instructional Space
Offices
Common Space

- Key Directions:**
1. Consider strategies for best use, upgrading or divesting of poor quality facilities.
 2. Reduce fragmentation of faculties and departments.
 4. Create flexible classrooms, teaching labs, and informal learning spaces.
 6. Create flexible places for collaboration, socializing and transdisciplinarity.

Library Addition

Contemporary, horizontally-oriented library space can be delivered through the expansion of the library over the northern portion of the Thistle Complex. The project entails a large floorplate addition at levels 3 and 4 that cantilevers over the Thistle Complex loading area with views to the Niagara Escarpment. This initiative has the potential to deliver an additional 1,800 NASM of new library space. It also supports further consolidation of the library, eliminating the challenges of a vertical library and freeing up an additional 1,800 NASM of space within the Tower to accommodate other uses.

Space Opportunities: 1,800 NASM (can free up additional 1,200 NASM in Schmon Tower)

Programs: Library and Study Space

- Key Directions:** 3. Consolidate the library and create new study space.

Brock Active Living Complex

A new Brock Active Living Complex could be located adjacent to the Walker Sports Complex and the existing athletic and recreation area at the western edge of campus, and take advantage of direct access to the existing gymnasiums, pool and field resources. The new 4,800 NASM facility can accommodate related academic space and provides an opportunity to consolidate the Faculty of Applied Health Sciences, supporting programmatic linkages between athletic facilities and the health sciences.

Space Opportunities: 4,800 NASM

Programs: Academic Space (Applied Health Sciences):
Kinesiology
Sport Management
Brock Sport Offices
Brock Sport Performance Centre
Brock Sports – Sport Medicine Clinic

Note: an additional 930 NASM of space might be required to accommodate Brock Combative Sports.

Construction of the second phase of the International Centre, adjacent to the existing facility, could accommodate faculty space or back-of-house administrative functions currently on the Main Campus. The facility could also be constructed as a flexible space that accommodates a diversity of users over time and could even serve as swing space.

Vacated Space: Welch Hall
Thistle Complex
Cairns Family Health and Bioscience Research Complex
BRIC
East Academic

Key Directions: 2. Reduce fragmentation of faculties and departments.

International Centre Phase 2

The International Centre could be expanded by adding a wing to the western portion of the facility and creating a courtyard space that connects to the existing campus circulation network. This new facility would introduce approximately 2,700 NASM of space, and provide faculty space or back-of-house administrative functions which are currently located on the Main Campus.

Space Opportunities: 2,700 NASM

Programs: Faculty Space
Back of House Administrative Space

Key Directions: 2. Reduce fragmentation of faculties and departments.
5. Consolidate and centralize front-of-house student services.

Heritage Plaza

Heritage Plaza could be redeveloped into a “University Village” that serves as a mixed-use centre for the residences and university uses on and around the eastern part of the campus. The project can bring together high-quality University services with the amenities of private sector development, and could accommodate health and wellness uses within its overall building program.

Space Opportunities: 32,000 GSM

Programs: Student Services (Health and Wellness)

Key Directions: 5. Consolidate and centralize front-of-house student services.

Transformative Capital Projects

The University will aspire to undertake transformative capital projects in all major facility investments. Transformative capital projects may address space needs or condition issues while achieving multiple other objectives, such as aligning space with appropriate users, responding to strategic University priorities, supporting implementation of multiple Key Directions and/or priority needs, and supporting the realization of facility planning objectives beyond the boundaries of the project itself. Ensuring that major capital investment could lead to transformative projects was an important consideration in the identification of capital projects, and should continue to be a critical consideration in detailed planning at the time of implementation.

Capital projects should:

- **Consider need for university infrastructure (e.g. common space, instructional space, etc.)**
- **Be constructed for resiliency and operational sustainability.**
- **Be designed with consideration for long-term flexibility to respond to changing priorities and support future adaptation.**

Key Planning Direction #1:

Consider strategies for best use, upgrading or divesting of poor quality facilities.

Mackenzie Chown Complex and Schmon Tower play an important role in both supporting the University's academic mission and defining the University's character and identity. Faced with significant deferred maintenance issues and fit-to-function issues, major capital investment is required to bring these facilities to a higher standard and renew their place within the campus.

Mackenzie Chown Renewal

The Mackenzie Chown Complex faces considerable challenges in large part due to age and facility condition issues. These challenges are compounded by the difficulty in providing contemporary laboratory facilities that meet modern standards, and floorplans that lack an organizational logic. Through this capital initiative, the University will address multiple facility priorities, including supporting faculty defragmentation, potentially providing additional instructional space, and achieving building renewal.

A considered program of upgrading will be undertaken in the Mackenzie Chown Complex to align space with appropriate uses, and enable a more efficient use of the facilities. This initiative will be undertaken through a phased approach, whereby blocks of Mackenzie Chown are renovated first, with a priority on the areas facing the greatest facility condition and fit-to-function issues (see Figure 5.1). Other portions of Mackenzie Chown, buildings B and E in particular, will undergo long-term strategic disinvestment to set the stage for future capital initiatives. This capital project will be initiated with a detailed space programming exercise for the entire complex and its users, supported by a comprehensive phasing strategy.

In realizing greater efficiencies in space, there will be opportunities to reclaim excess research space to support phased renewal. The steel frame construction of the complex is flexible enough to support this realignment. To facilitate implementation of this renewal program without the need for swing space, it is anticipated that the first phase, renewal of H building, will occur through a rolling renewal that allows for continued occupancy. This first phase of renewal will concentrate all fume hood related laboratory uses from buildings within the complex into the H building. In freeing up

space through this first phase, subsequent phases of renewal are expected to occur through a more efficient process of vacating individual buildings for comprehensive renewal. In this manner, phasing and relocation will be largely contained within the complex itself, and is not expected to yield vacancies that could accommodate new uses.

Mackenzie Chown H

Mackenzie Chown H requires immediate renovation to address significant facility condition issues, particularly in the mechanical systems critical to its research function. Through a detailed space programming study for the entire complex, research functions requiring fume hoods will be relocated to this building. Renewal will target increased efficiency in research space, particularly in the Faculty of Mathematics and Science which has a surplus of research space (see Section 3.3). Achieving greater efficiencies in research space allocation within this building will allow research uses to be decanted from other buildings within the complex to support subsequent renewal projects. To facilitate renewal without significantly impacting users, a rolling renovation of the building is anticipated that allows it to be occupied during renovation.

Mackenzie Chown A, C, D, F, G and J

Following renewal of Mackenzie Chown H, renewal of each of the Mackenzie Chown buildings A, C, D, F, G and J will be undertaken through a phased approach over a longer period of time. Under this strategy, users will be relocated from individual buildings to other locations within the complex to allow for comprehensive renewal. Increased efficiency in use, including better alignment with University space standards, is expected to free up space to both accommodate programs that have been displaced and to house new users. Due to the flexibility of the steel structure of the Mackenzie Chown complex, the renewed spaces have the capacity to accommodate a range of uses that include instructional space. The comprehensive space programming exercise should consider opportunities to increase classroom uses within the eastern portion of campus to address this priority need.

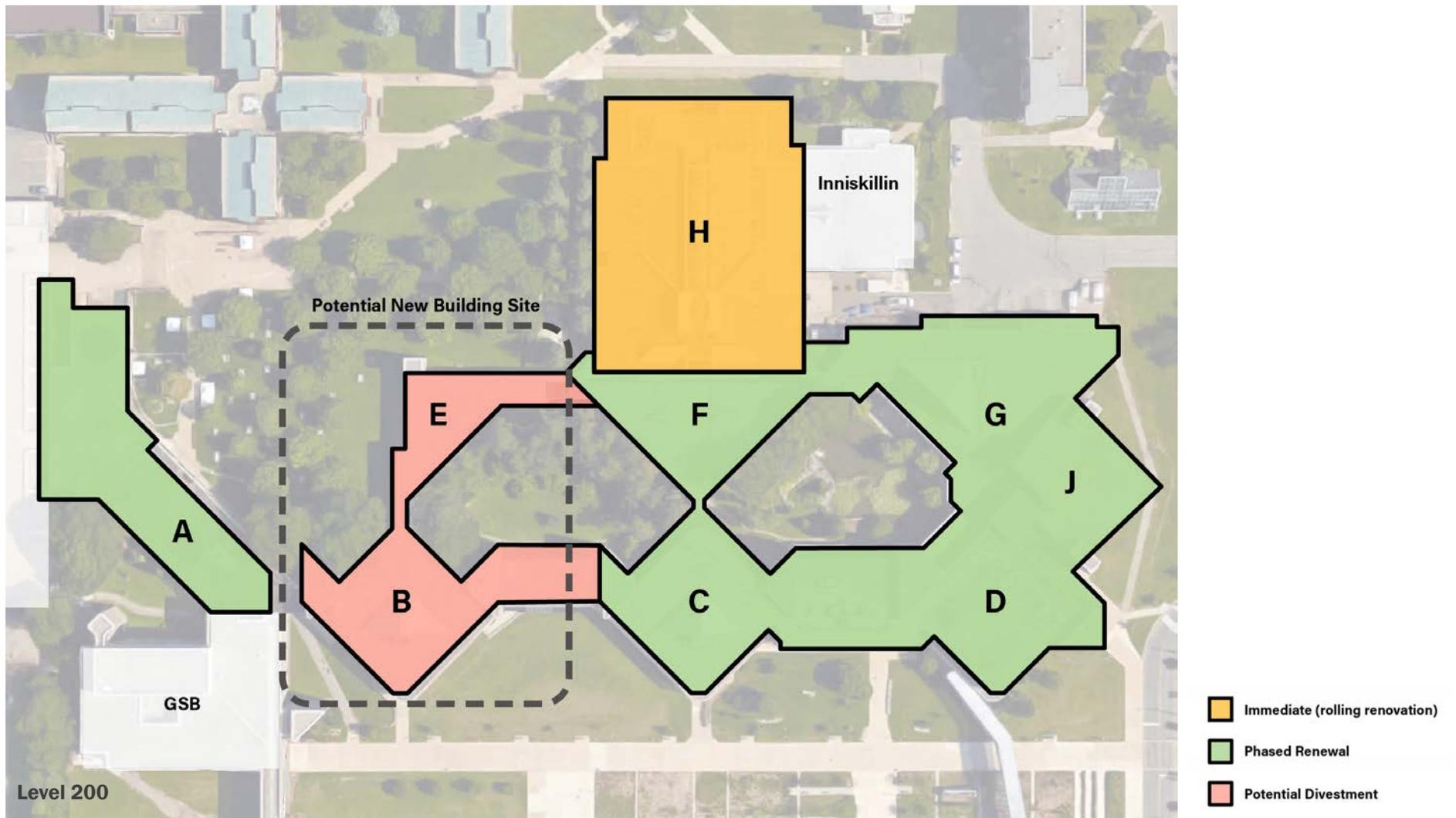


FIGURE 5.1: PHASING OF MACKENZIE CHOWN RENEWAL

> Mackenzie Chown block H is appropriate for immediate renovation, whereas a phased approach should be taken to renovating blocks A, C, D, F, G, and J. Potential divestment of Mackenzie Chown B and E would enable the construction of a new facility on this site. Phased renewal will address numerous priority directions, including building renovation, defragmentation and the provision of instructional space.

Mackenzie Chown B & E

Located near the heart of campus, Mackenzie Chown buildings B and E sit within a larger site that should be considered for long-term redevelopment (Figure 5.2). Buildings B and E will not be a priority for renewal, rather, they are candidates for divestment to protect for a building site that could be realized in the long-term (beyond the 10-year horizon of this Plan). Space programming for the remainder of the Mackenzie Chown Complex should consider the potential to accommodate displaced uses from buildings B and E in the later phases of renewal.



FIGURE 5.2: MACKENZIE CHOWN B AND E DEVELOPMENT SITE

> A new development site that houses a building of up to 5,100 net square metres can be accommodated through potential divestment of Mackenzie Chown B and E.

The long-term development site could accommodate a building of up to 5,100 net square metres. The building could house a range of uses including additional instructional space, new academic program needs, new student services close to the heart of campus and administrative functions. The new building will reinforce connectivity to and the profile of the remaining Mackenzie Chown Complex by extending clear connections to the internal circulation network and supporting its integration into the campus fabric.

Schmon Tower Renewal

Renewal of Schmon Tower will address space and building condition issues while supporting library consolidation (See Key Planning Direction #3). Library consolidation can remove library functions from levels 9 to 11, coming close to vacating the entire upper portion of Schmon Tower for renewal. Assuming the potential relocation of administrative office functions within levels 11 to 13, almost the entire upper portion of the Tower can be vacated, yielding 3,000 NASM of space, to potentially address issues of faculty fragmentation.

The Schmon Tower renewal is complicated by the organization of the original building mechanical systems. Levels 1 to 8 are fed from a mechanical system within the basement, whereas levels 8 to 13 are fed from a rooftop mechanical system (Figure 5.5). Renewal and repurposing of the spaces within the Tower, and particularly the potentially vacated upper floors, may require vacating half of the Tower. Further detailed investigation by a qualified mechanical engineer is required to assess the opportunities to undertake a comprehensive program of building renewal.

Due to vertical circulation constraints, the upper portion of the Tower should continue to be used for less intensive functions. This renewal initiative can provide modernized space for faculty academic or administrative office functions or may provide opportunities to further consolidate the Faculty of Social Sciences. Instructional space or student service functions require more intensive vertical circulation infrastructure and are generally not appropriate for the upper portion of the Tower.

Key Planning Direction #2:

Reduce the physical fragmentation of faculties and departments, as appropriate.

As discussed in Chapter 4, issues of faculty fragmentation are primarily faced within the Faculty of Applied Health Sciences, the Faculty of Social Sciences, and the Faculty of Humanities. The offices and research spaces associated with these faculties are distributed throughout the Brock campus and on different building floors, making simple interactions difficult and negatively affecting faculty cohesion and collaboration. Targeted facility renewal and new capital projects can address fragmentation issues to more appropriately consolidate these faculties and contribute to academic success

Faculty of Applied Health Sciences

A. Brock Active Living Complex

The Brock Active Living Complex facility could be located adjacent to the Walker Sports Complex and the existing athletic and recreation area at the western edge of campus, and take advantage of direct access to the existing gymnasiums, pool and field resources. The new facility can also accommodate related academic space and provides an opportunity to consolidate the Faculty of Applied Health Sciences, supporting programmatic linkages between athletic facilities and the health sciences. This project will help partially implement the Escarpment Edge project from the Campus Plan (University Project L11), as well as the Ring Road project (University Project M4). It will also help expand the primary circulation corridors within the Walker Sports Complex.

TABLE 5.1: BUILDING PROGRAM FOR THE BROCK ACTIVE LIVING COMPLEX

Total Space Created	~4,800 NASM
Programs Under Consideration	
Kinesiology and Sports Management	3,000 NASM
Brock Sports Offices	460 NASM
Brock Sport Performance Centre	650 NASM
Brock Sport Medicine Clinic	700 NASM

Note: An additional 930 NASM of space might be needed to accommodate Brock Combative Sports.

B. Interprofessional Health Building

The Faculty of Applied Health is one of the University's fastest growing faculties with an increasing profile. Currently, the Faculty experiences fragmentation issues, with assigned space located throughout the campus and within the Brock Research and Innovation Centre (BRIC) on Lockhart Drive. Space constraints make it difficult to expand these uses, and the dispersal and fragmentation within departments causes inefficiencies and hinders successful collaboration. Some of the spaces currently occupied by Applied Health Sciences are in need of investment, or are better suited to other types of uses. With limited academic space, infrastructure that needs investment and fragmentation between departments, Brock cannot pursue cutting-edge research or respond to immediate health and wellness needs.

The Inter-Professional Health Sciences Building will cluster Applied Health Science uses such as kinesiology, nursing, as well as academic space associated with these departments and thereby play an important role in the defragmentation of this faculty. The Centre for Applied Disability Studies and the Brock-Niagara Centre for Health and Wellbeing could potentially be accommodated in this building. Locating the Interprofessional Health building adjacent to the Cairns Family Health and Bioscience Research Complex will enable building visibility at the entrance to the campus, facilitate easy public access and allow collaboration with users in Cairns (Figure 5.3). The Centre for Health and Wellbeing which is currently located in the BRIC building, would also have a more public profile and provide enhanced access for the local community. To make this project possible, Parking Lot A will have to be reconfigured, and a new location will have to be provided for displaced parking. In being realized, the IHS project will lead to the partial implementation of the East Campus Walk Landscape Project from the Campus Plan.

TABLE 5.2: BUILDING PROGRAM FOR INTERPROFESSIONAL HEALTH BUILDING

Total Academic Space Created	6,000 NASM
Programs Under Consideration	~6,000 NASM
Kinesiology	2,300
Nursing	800
Brock-Niagara Centre for Health and Wellbeing	1,900
McMaster	920
Vacated Space	2,900 NASM
Thistle Complex	370
East Academic	800
Welch Hall (to accommodate CADS)	690
Walker A	1,000

Faculty of Social Sciences

C. Mackenzie Chown Renewal

Renewal of Mackenzie Chown buildings A, C, D, F, G and J can promote increased efficiency in use, including better alignment with University space standards. It is expected to free up space to both accommodate programs that have been displaced and to house new users. In particular, there may be an opportunity to further consolidate the Faculty of Social Sciences within the space program for the complex.

Other Faculties

D. International Centre Phase #2

The International Centre could be expanded by adding a wing to the western portion of the facility and creating a courtyard space that connects to the existing campus circulation network. This new facility would introduce approximately 2,700 NASM of space, and accommodate administrative space for the offices of Finance, Alumni Services, Procurement, Internal Audit as well as Institutional Analysis. Consolidating and shifting these users to East Campus, into Phase 2 of the International Centre building can free up space in the upper portions of Schmon Tower, as well as in Mackenzie Chown, and Thistle Complex. Within Schmon Tower, approximately 1,500 NASMs of space can be vacated for renovation and potential occupancy by back-of-house student services.

Transdisciplinarity

While the University continues to prioritize transdisciplinarity in both research and teaching, campus-wide distribution of individual faculties has not had the desired effect. Faculty fragmentation has not necessarily led to cross-faculty collaboration and discovery. Opportunities for transdisciplinary learning will continue to be supported through the creation of collision spaces outside of faculty spaces. This includes investment in an intentional pattern of collaborative, flexible spaces for informal learning and socializing that are easily accessible to multiple faculties and the broader university community. Opportunities for intentional programmatic refinements, such as the potential creation of academic clusters, may continue to be explored within the facility planning opportunities identified in this Plan.

Importantly, the new building addition can provide an opportunity for defragmentation. Currently occupied space within the Mackenzie Chown Complex can be freed up to accommodate growth of the Goodman School of Business. This project could help implement plans for the Precinct A: East Precinct development scheme outlined in the Campus Plan.

International Studies

At the outset of the FNPS study it was noted that International Studies, located in the East Campus, are fragmented from the Main Campus. Upon further discussion, it was determined that ESL students studying at the International Centre are well accommodated in their current location. The facility offers the kinds of seminar classrooms and most importantly, the critical mass of other foreign students, that makes the English as a Second Language program successful. However, International Student Services will be consolidated with other core student services to better serve the entire international community (see Key Planning Direction #5).



FIGURE 5.3: POTENTIAL LOCATIONS TO SUPPORT FACULTY DEFRAGMENTATION

> The Faculty of Social Sciences, the Faculty of Applied Health Sciences and the Faculty of Humanities can be better internally consolidated through select building initiatives, including the Brock Active Living Complex (A), the Interprofessional Health Building (B), Mackenzie Chown Renewal (C), and International Centre Phase 2 (D).

Key Planning Direction #3: Consolidate the library and create new study spaces to meet the needs of future-ready students.

Challenged by small floorplates and vertical circulation issues, the disconnected nature of the library creates operational challenges beyond building condition issues. While the entrance to the library is located at ground level, the remaining areas are located on floors 5-10. With a limited number of elevators within the library area and an inability to provide direct stair access, the vertical circulation network poses challenges for successful library operations. In terms of the space, the current library layout within numerous small tower floorplates is inefficient and outdated. Contemporary university libraries tend to be spread out horizontally, allowing individuals to research and study within larger, more flexible spaces. The proposed resolution of these issues includes both short and long-term solutions.

Short-Term Opportunity – Library Consolidation

The primary student interface with Brock's library occurs at the ground floor (200 Level) in the Matheson Learning Commons. The BrockLINC project will increase the space within this floor dedicated to common research and study space, further reinforcing the base of the Tower as the front door for the library. In the near-term, library functions within the upper floors of the Tower will shift down. This will free up the upper portions of Schmon Tower for renewal and move one step closer to a more cohesive library without a loss in overall library space (Figure 5.5).

Relative to other Ontario institutions, a larger portion of the University's informal study and lounge space is located outside of the library. While consolidation of the library and creation of contemporary study space does not anticipate significant growth in the overall space requirement for the library, library staff are currently undertaking a program to reduce the space dedicated to traditional stacks in favour of more contemporary individual and group study space. Any further increase in library space may be driven by minor increases in space allocation due to the impact of enrolment growth and application of space standards. With the library consolidated, opportunities to enhance vertical circulation should be pursued, including improved elevator service and more transparent and welcoming stair access up through the library levels.

Long-Term Opportunity - Library Addition

While consolidation addresses numerous issues facing the library today, it does not fully address the challenge of integrating contemporary library functions into a traditional library tower. In the long-term, potential expansion of the library over the northern portion of the Thistle Complex can help deliver contemporary, horizontally-oriented library space. The project considers a large floorplate addition at levels 3 and 4 that cantilevers over the Thistle Complex loading area with views to the Escarpment, similar in form to the BrockLINC project (Figure 5.4). Direct bridge connections to Schmon Tower would provide a direct relationship to other library spaces. This project has the potential to deliver an additional 1,800 NASM of new library space. It would support further consolidation of the library within levels 2-5 of Schmon Tower and the Thistle Complex, eliminating the challenges of a vertical library and freeing up an additional 1,200 NASM of space within levels 6 and 7 of the Tower, for a total of 4,800 NASM to accommodate other uses (Figure 5.5).



FIGURE 5.4: SCHMON TOWER LONG-TERM LIBRARY EXPANSION

> By expanding the library space on Levels 3 and 4 of Schmon Tower through a cantilever addition, Brock can add 1,800 NASM of contemporary library and informal study space.

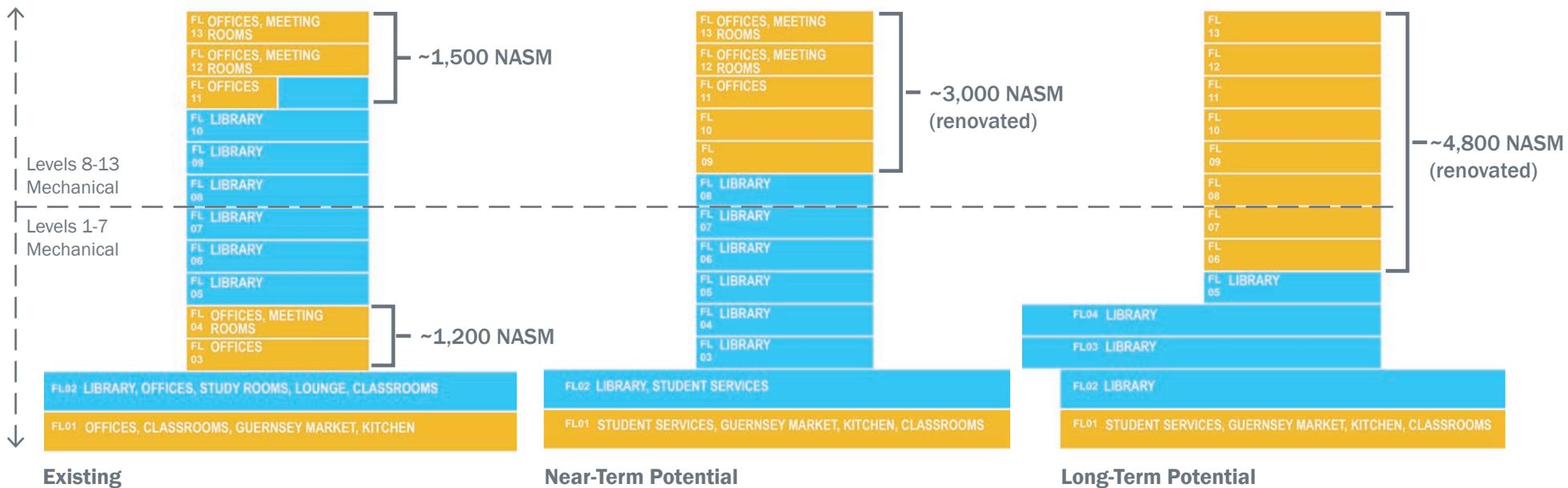


FIGURE 5.5: CROSS SECTION SHOWING CURRENT AND PROPOSED LIBRARY OCCUPANCY IN SCHMON TOWER

> The University library is currently dispersed on floors 2, 5 to 10 and 11 of Schmon Tower. Through consolidation, the library can be moved down in the Tower, freeing up space within the tower for renovation and eventual re-purposing. Note that Figure 5.5. is intended to as a conceptual illustration and does not represent a defined space program.

Key Planning Direction #4: **Create flexible classrooms, teaching labs and informal learning spaces that support student-centred, active learning and technology-enabled learning experiences.**

The University's classrooms and teaching labs represent a small portion of Brock's total space inventory but are the most instrumental in realizing its academic mission. Instructional space will continue to be critical to the University's function, and continued investment is needed to modernize classrooms, address accessibility issues, better distribute classrooms throughout the campus and increase capacity.

Classroom spaces have a high utilization rate, and in particular, many large classroom spaces exceed 90% utilization. Instructional laboratories have a lower utilization rate, in part due to specialization of individual spaces, and do not face the same inventory issues as do classrooms. Section 3.2 of this Plan provides a detailed analysis of instructional space utilization and considerations.

With expected increases in enrolment, the University anticipates the need to add approximately 1,500 NASM of classroom space to its inventory. Instructional spaces also face ongoing pressure to address evolving needs that have the potential to impact capacity. Modernization and an increase in active learning environments can reduce the number of seats within classrooms, as can much-needed improvements to address accessibility. Further, some instructional spaces may be impacted by the implementation of other capital projects identified in this Plan, including the elimination of two instructional spaces in Level 1 of the Thistle Complex to accommodate student service uses. While instructional laboratories do not face the same pressure for growth, renewal and consolidation is required to deliver high quality, contemporary instructional spaces. The following directions outline a program to enhance instructional space and expand classrooms, particularly in the eastern portion of the Main Campus, where new classroom investment is needed.

New Classroom Space

Increasing classroom space should be considered within each new capital project as new buildings provide an opportunity to deliver high-capacity, contemporary instructional spaces. This Plan includes four potential opportunities to significantly expand the existing inventory of instructional space (Figure 5.6), in addition to smaller scale enhancements within renewal and capital projects.

A. Mackenzie Chown Renewal

Renewal of the Mackenzie Chown Complex provides an opportunity to modernize and renovate existing instructional labs and classrooms. Through the reconfiguration of floorplans, new classrooms can be created, contributing to the inventory of classroom spaces in the eastern portion of the Main Campus. Opportunities for new classrooms will be balanced against the need to accommodate faculty and research space within the phased renewal project. These opportunities will be evaluated through a detailed space programming study conducted in advance of renewal.

B. David S. Howes Addition

The addition to the David S. Howes building, itself a theatre reconfigured to serve as a classroom space, has the potential to add approximately 1,000 NASM of contemporary instructional space through an addition on the south side of the building and by repurposing the under-utilized portion of the stage area. The David S. Howes expansion is also considered a potential candidate for expansion of the health and wellness component of student services.

C. Inter-Professional Health Building

As a new capital project in the eastern portion of the Main Campus, the Interprofessional Health Building project is expected to deliver new classroom space in the base of the building. The project provides an opportunity to construct high capacity, contemporary tiered-floor classrooms that are most in demand.

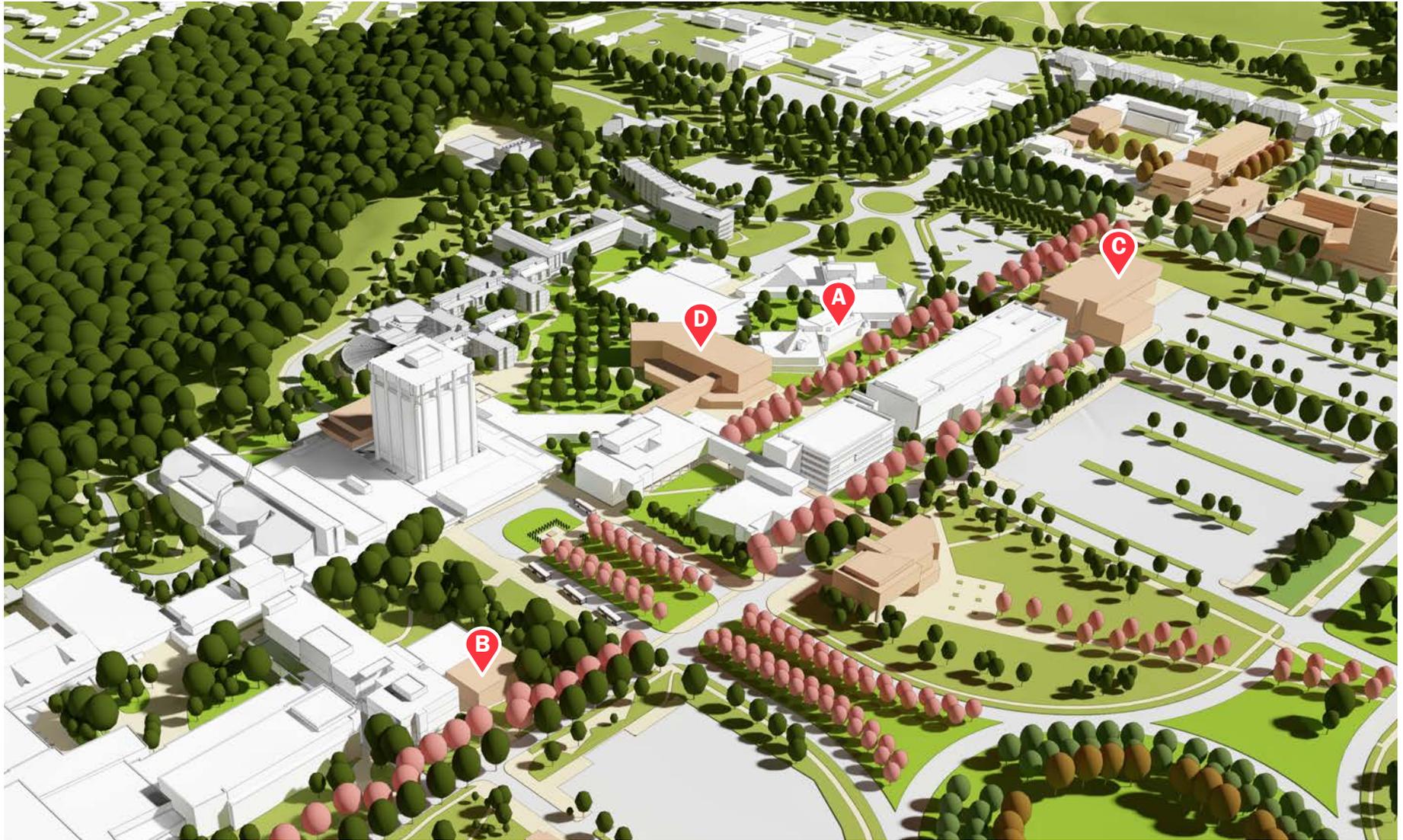


FIGURE 5.6: POTENTIAL INSTRUCTIONAL SPACE OPPORTUNITIES THROUGHOUT CAMPUS

> There are several potential capital initiatives that can introduce more instructional space on campus including Mackenzie Chown renewal (A), the David S. Howes expansion (B), the Interprofessional Health Building (C) and development on the Mackenzie Chown B and E site (D).

D. Mackenzie Chown B and E Site

This long-term capital project site provides opportunities to accommodate a range of programmatic needs for the University, including the provision of new classroom space.

Instructional Space Modernization

The University's ongoing classroom modernization initiative will continue to address the renewal of existing classroom spaces. This includes expanding opportunities to increase the number of active learning classrooms, which offer flexible configurations and embedded technology to support group and interactive study. It also includes offering diverse multimedia capabilities and improving conditions within traditional classroom settings. The Facilities Management office will continue to carry out space assessments to determine which classrooms require modernization. Priority will be given to classrooms that are heavily used and are in locations that are highly accessible.

Classroom modernization will also target accessibility improvements to dated instructional spaces, including the tiered classrooms in the west wing of the Thistle Complex. Accessibility improvements within the Thistle Complex are expected to eliminate or reduce the capacity of some classroom spaces, which will require replacement elsewhere on the campus. Given that high-capacity classrooms are among the most heavily utilized, this increases the priority of delivering replacement classroom spaces elsewhere on campus. Instructional labs will see a similar program of renewal, one which is implemented through targeted building renewal. Renewal of the Mackenzie Chown Complex provides an opportunity to better align instructional labs with the requirements of the users and increase efficiency in utilization, particularly in the Faculty of Mathematics and Science. Creation of a new home for the Faculty of Applied Health in the Interprofessional Health Building or Brock Active Living Complex would provide an opportunity to consolidate their instructional labs. This would have the effect of reducing the need for similar spaces within other buildings across campus, freeing up space for new uses.



> Modernization initiatives have been undertaken in several classrooms and should continue, with priority given to classrooms that are heavily used or in locations that are easily accessible.

Key Planning Direction #5:

Consolidate and centralize front-of-house student services, as appropriate.

Student services currently occupy approximately 3,180 NASM of space distributed across the campus. They are made up of broad clusters of services that can be grouped in the following four service categories. The four service categories are intended for planning purposes only, and do not include space managed by the Brock University Student Union (BUSU).

1. **Core Student Services:** services required on a regular basis by most students to effectively engage in University functions.
2. **Health and Wellness:** services related to physical, mental and spiritual health.
3. **Recruitment and Co-operative Education:** outward-facing services that require effective engagement with external communities.
4. **Back-of-House Administration:** administrative functions for the above student service clusters that do not require a direct physical relationship to the core services.

Table 5.3 outlines the distribution of student services by category.

TABLE 5.3 : DISTRIBUTION OF STUDENT SERVICES BY CATEGORY

Category	Total NASM
1 Core Student Services	1,405
Registrar	165
Career Services	260
Student Success Centre	435
Aboriginal Student Services	90
Graduate Student Services	185
International Student Services	70
Contingency	200
2 Health and Wellness	1,320
Student Accessibility Centre - Exams	250
Campus Ministries	100
Health Services	600
Human Rights and Equity	70
Multi-Faith Centre	300
3 Recruitment and Co-op	500
Co-op, Career and Experiential Education	300
Recruitment	200
4 Back of House	455
Back of House Registrar	350
Student Awards and Financial Aid	105

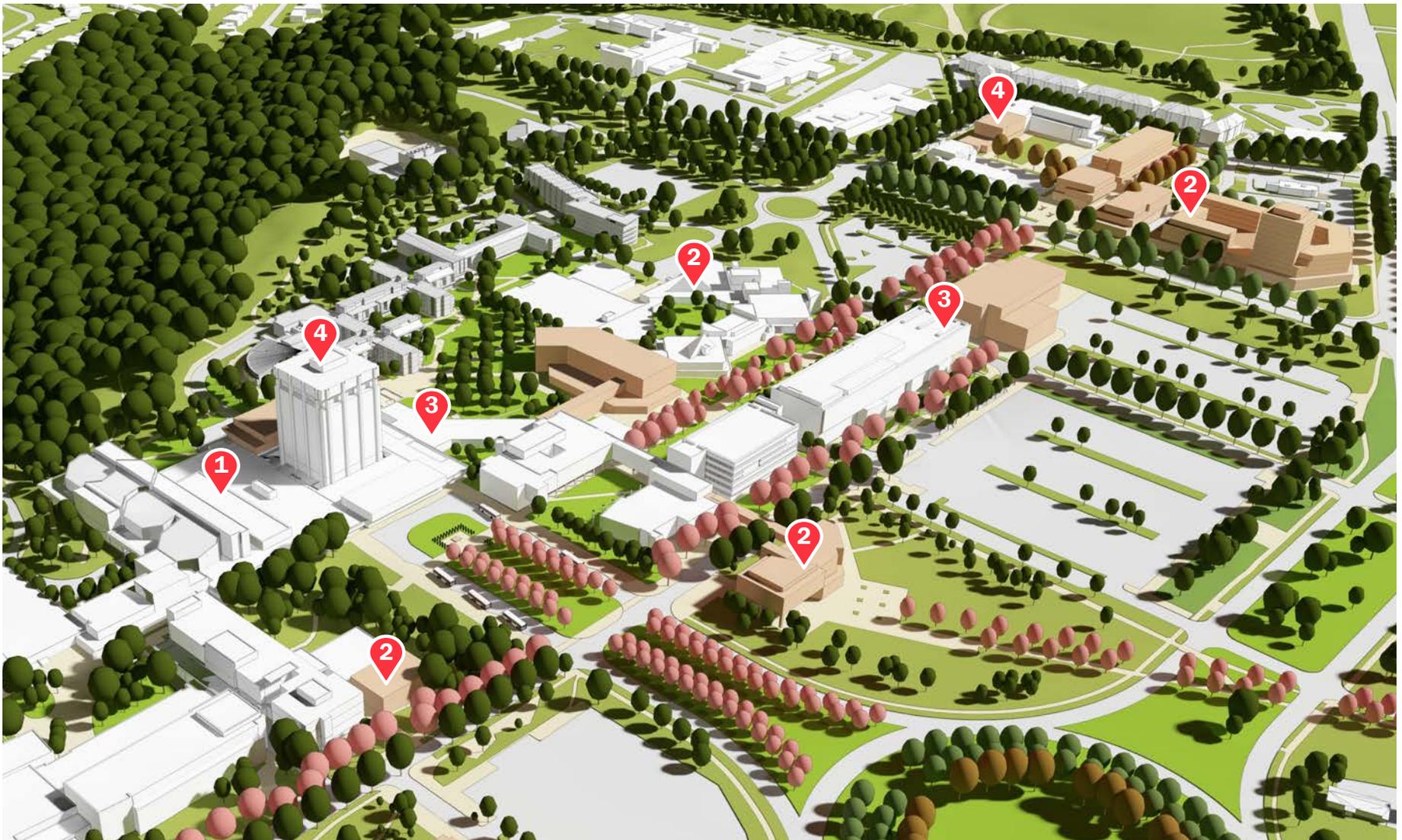


FIGURE 5.7: POTENTIAL LOCATIONS FOR STUDENT SERVICES

> Different student services should be accommodated in distinct locations on campus. The numbers correspond to student service categories on the previous page and in Table 5.3.

1. Core Student Services

Core student services best meet learner needs when they are located in central and convenient locations. Furthermore, consolidating these uses will increase profile and create efficiencies in the delivery of services. To consolidate student services, the University will establish a core student service hub on Level 100 of the Thistle Complex, organized around Market Hall. New student services will be clustered around the edges of Market Hall, mimicking a traditional downtown market square with service uses surrounding a central meeting place. Existing core student services totaling 800 NASMs of space are already located on Level 100 of the Thistle Complex, which will be supplemented by 600 NASMs of student services located elsewhere on campus.

A high-profile triage desk will be created within Market Hall to serve as the first point of contact for all users. Similar to the recently created Brock Central model, waiting times will be managed electronically to eliminate traditional waiting areas. Market Hall itself may be modified to support this role. Modifications may include a one-storey addition that infills the southern portion of the space, providing opportunities for a more formal reception area on Level 100 while offering a new flexible space on Level 200 that overlooks Market Hall. It may also see the expansion of Market Hall to the north to increase available space while enhancing the relationship to the Niagara Escarpment.

TABLE 5.4: SERVICE PROGRAM FOR CORE STUDENT SERVICES

Core Student Services	~1,405 NASM
Existing Student Services	~800 NASM
Career Education Student Success Centre Aboriginal Services	
Other Student Services	~ 600 NASM
Displaced Uses	~550 NASM
Centre for Applied Disability Services Centre for Pedagogical Innovation Instructional Labs IT Space	

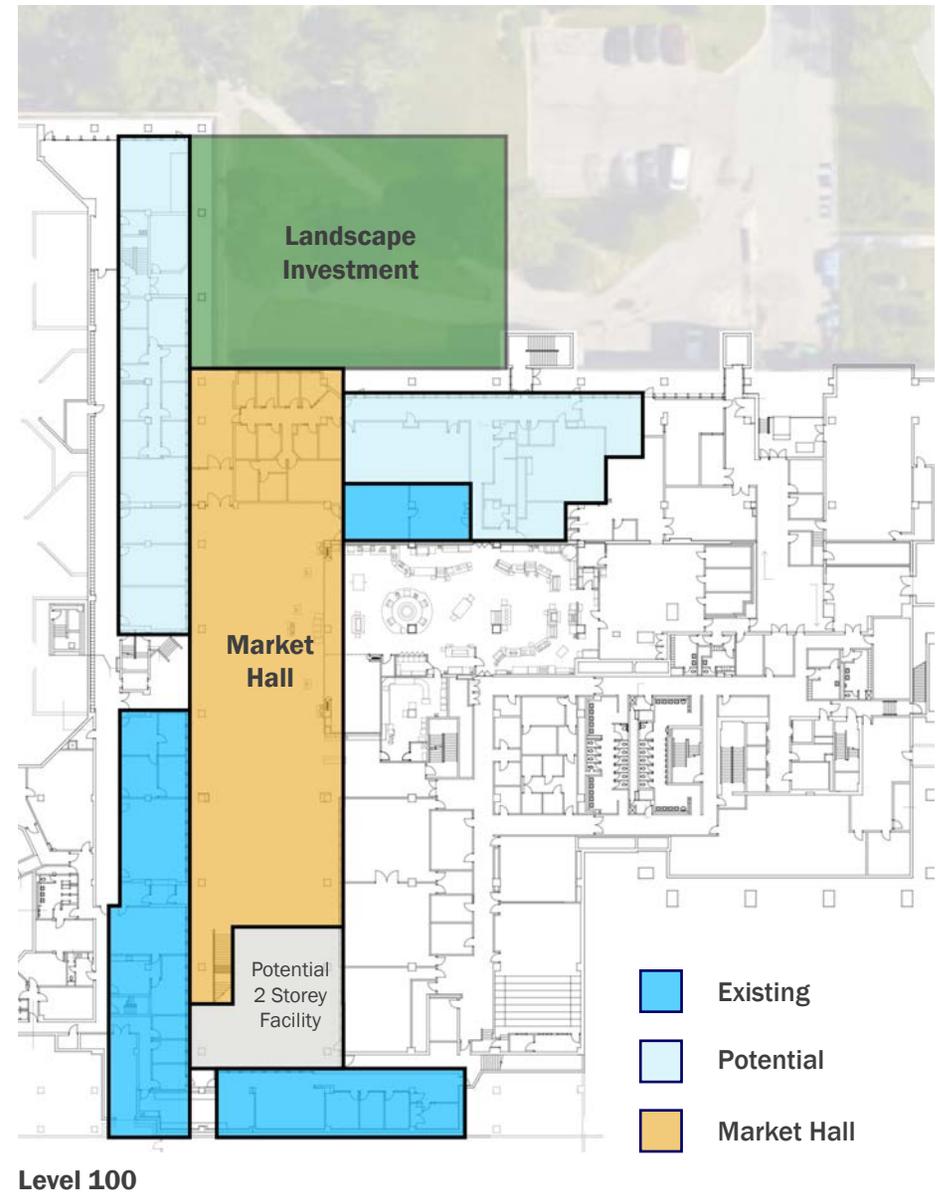


FIGURE 5.8: CORE STUDENT SERVICES WILL BE CONSOLIDATED AROUND MARKET HALL

2. Health and Wellness

Student health and wellness services are becoming an ever more important component of the student experience. A total of 1,320 NASM of space is required to accommodate health and wellness uses, though these uses do not require consolidation in one location. Health and wellness uses are organized under the following three categories:

Physical Health: Currently located in Harrison Hall, Student Health Services needs have outgrown the existing space and would benefit from improved adjacencies with supporting functions.

Mental Health: Demand for mental health services and counselling is growing rapidly, along with dedicated exam facilities to accommodate students with special needs.

Spiritual Health: The increasingly diverse student body is driving the need of a multi-faith centre - a flexible spaces for meditation, prayer, ministry and faith meetings.

Health and wellness services are generally best located in central areas of campus that are proximate to areas where students congregate in the greatest numbers. In the case of physical health services, location considerations should also include opportunities to co-locate with related users and services outside of the scope of student services, including paramedical services and a pharmacy. Spaces to accommodate physical and mental health delivery should be designed for discretion. The following projects provide opportunities to enhance the delivery of health and wellness services:

BUSU Student Centre

The Alumni Student Centre is a hub of student and social activity that faces facility condition and size constraints. The Campus Plan proposes a new home for the student centre close to the heart of campus on Weather Station Field, and BUSU is also exploring the expansion of its current facility. The new facility or the expanded building may provide an opportunity to accommodate a multi-faith centre or other health and wellness services.

David S. Howes Expansion

The David S. Howes expansion provides an opportunity to accommodate student health and wellness uses, including a multi-faith centre. The expansion can introduce approximately 350 NASMs of additional space through renovation of the space, or 1,000 NASM of space through a three-storey addition. The David S. Howes expansion is also considered a potential candidate for expansion of the classroom space.

Heritage Plaza

The University is exploring a redevelopment partnership of Heritage Plaza as a “University Village” that will serve as a mixed-use centre for the residences and university uses on and around the eastern part of the campus. The project will bring together high-quality University services with the amenities of private sector development, in what could be the first phase of a larger mixed-use node. The proposed redevelopment provides an opportunity to accommodate an expanded student health services program that can benefit from co-location with a pharmacy, medical offices and other paramedical services.

3. Recruitment and Co-operative Education

Recruitment and co-op functions are outward-facing services that require a location and space that allows for effective engagement with external communities. A total of 500 NASM of space are required in a location that is easy to locate and provides simple access and parking for visitors or potential employers. Recruitment functions can be relocated to the Cairns Family Health and Bioscience Research Complex in the space vacated by BioLinc, which features a very public profile. Co-op will be further consolidated within Mackenzie Chown A adjacent to the new front door to the University created by the BrockLINC project. Clear signage and wayfinding will ensure these spaces are visible and accessible for visitors to campus.

4. Back-of-House Administration

Many of the administrative functions for student service clusters do not require a direct physical relationship to core services. These include behind-the-scenes offices that offer student services and support core uses, including the registrar, admissions, and financial aid, and represent approximately 455 NASM of space.

In some cases, these uses need to be located close to front-line services. Proximate back-of-house functions may be located in the upper levels of the renovated Schmon Tower (approximately 1,500 NASM), which are intended to accommodate faculty or administrative space. Where proximate adjacency is not necessary for back-of-house uses, alternate locations may be considered including areas off of the Main Campus, such as the International Centre.

Key Planning Direction #6:

Create distributed, flexible places that support collaboration, socializing and transdisciplinarity.

Flexible, collaborative spaces provide the places for study, socializing and community building. They also provide informal places for learning, and serve as collision space for transdisciplinary discovery. Facility renewal and campus growth will consider the expansion of a distributed network of flexible spaces.

In future, the BrockLINC facility will provide a primary common space in the central portion of Brock, whereas the Taro Hall - Goodman School of Business addition can be a good quality, future secondary common space. More Secondary Common spaces are needed as the University grows, especially in the eastern portion of campus. Such space can be provided in the Pond Inlet or the new Interprofessional Health building (see Figure 5.9). Providing these spaces is key to remaining a student-centered institution.

The location and design of common spaces will respond to and support the larger circulation strategies on campus. The commonly used spaces, such as cafeterias and lounge spaces as well as large assembly uses and classrooms, will be accessed directly from the highest order pedestrian corridors (see figure 5.10). Where the primary common pedestrian circulation level is at ground level (200 level), facilities such as student and campus services, large assembly uses and classrooms, amenities and lounges will be located at ground level. Facilities that either do not need or benefit from higher profile or volume access, such as offices, will not take precedence over these uses.

Where the primary common pedestrian circulation level is at the second level (300 level), it will have priority for common spaces and other places that need high profile and volume accessibility. Ground floors in this area will also have a relatively greater amount of common spaces. Vertical circulation areas between the ground and second levels will become key places for common facilities such as lounges and other uses that can provide orientation within the pedestrian circulation network.

When planning places to gather, the University will remain flexible enough to allow for unforeseen opportunities and to allow relationships to form among faculties, without dictating transdisciplinary connections. Instead, regard will also be given to locating supporting uses in key locations within new capital projects.

As new facilities are created and Brock grows, it will also reserve enough “elbow room” for departments and faculties to expand while at the same time ensuring spaces for each are relatively contiguous. As one faculty expands, the University will ensure that new facilities for one faculty do not encircle other faculties, leaving them “land-locked” without any means for contiguous expansion, resulting in a patchwork of places and departments.

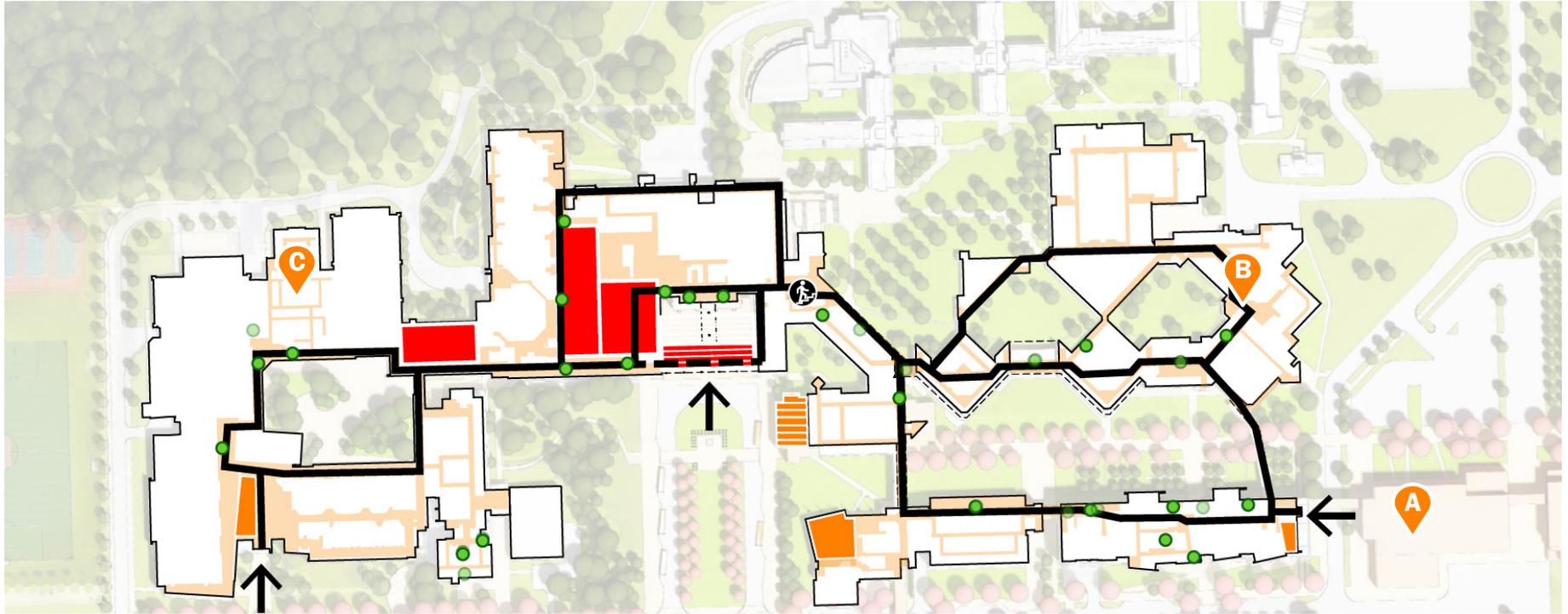


FIGURE 5.9: POTENTIAL NEW COMMON SPACES

- A** Interprofessional Health Building
- B** Mackenzie Chown (Pond Inlet)
- C** Walker Sports Complex

- Existing Primary Internal Circulation Route
- - - Future Primary Internal Circulation Route
- Existing Primary Common Space
- ▨ Future Primary Common Space
- Existing Secondary Common Space
- ▨ Future Secondary Common Space
- Tertiary Common Space

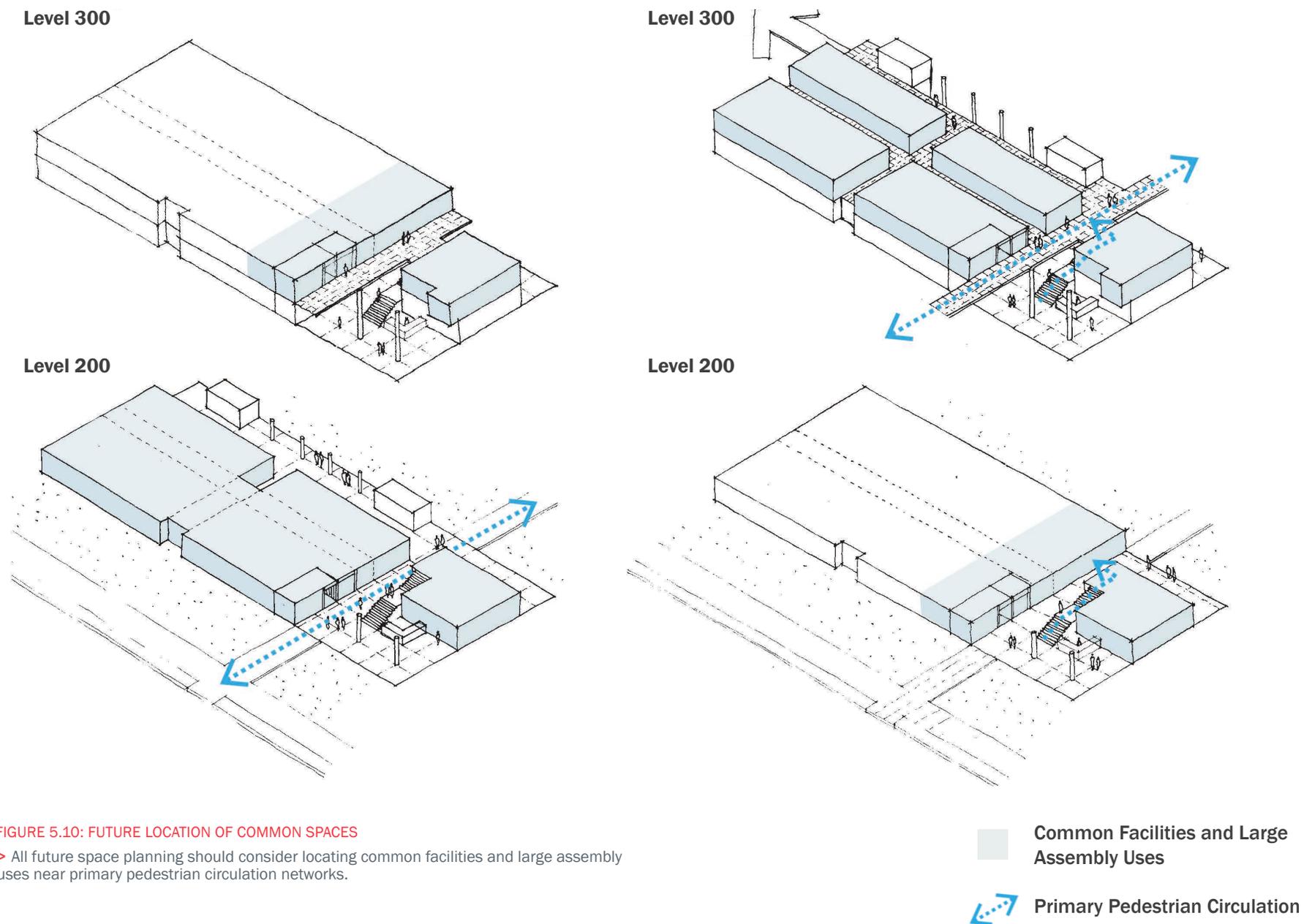


FIGURE 5.10: FUTURE LOCATION OF COMMON SPACES

> All future space planning should consider locating common facilities and large assembly uses near primary pedestrian circulation networks.

Key Planning Direction #7: Implement space management procedures.

Brock's space is a valuable resource and should be managed as such. The University will plan, allocate, use and manage this essential resource using transparent processes and procedures consistent with best practices in higher-education facilities management. The University's space allocation standards, policies and procedures will guide space planning and decision-making (see Appendix for these documents).

Space Allocation Standards

The University has an obligation to provide space for academic staff, administrative staff and students that is appropriate and sufficient to support activities that are part of the University's mandate. Space can be reallocated to meet changing needs and priorities in consultation with the affected space users and in accordance with Space Management Procedures.

For all users and all categories of space, space standards will be used to allocate space based on assessed need. These space standards may be adjusted in accordance with the total amount of space available, and an overall space shortage or surplus can be resolved fairly. However, any reallocation, renovation, or provision of new building space shall conform to the University space standards as closely as possible. The current space allocation standards are discussed below. Space allocations are to be reviewed periodically and, at least, once every five years.

Classroom Facilities

The need for classrooms space should be evaluated based on the number of class-hours that must be scheduled into a given set of rooms, considering the number of students in a class and a pre-set room utilization target. The target per room is set at 47.7 hours out of 66.0 hours per week in daytime, late afternoon and evening.

Instructional Labs

The need for instructional laboratory space should also be evaluated based on the number of class-hours that must be scheduled in rooms sharing the same physical attributes and equipment (wet-bench science laboratories, computer laboratories, etc.). The room utilization target for specialized laboratories is set at 27.0 hours out of 45.0 daytime hours a week.

Academic and Administrative Offices

Brock-specific worksheets should be used to evaluate the office space needs of a given academic or service unit. The proposed worksheets account for the differences between these groups: academic units, library services and administrative units.

Research Facilities

For research facilities, Brock will use the COU methodology to evaluate the need for research space at the University, with no modification.

Other facilities should be monitored and evaluated using the benchmarks achieved in relation to other Ontario universities, particularly institutions Brock deems to be similar in terms of program offerings and size (Wilfrid Laurier University for example).

The following indicators and institutional planning inputs should also be considered in all facility planning decisions:

- Alignment and benefits of a space allocation in relation to the University's strategic, academic and business plans.
- Results of general or of targeted user satisfaction surveys, including but not limited to annual Key Performance Indicator (KPI) results directly or indirectly linked to the service or amenity provided or considered.
- Relevant reports and data sets describing existing conditions, issues, opportunities and trends in the delivery or configuration of services and amenities.

- Compliance of the University in providing the service or the amenity space allocations in relation to standards set externally by regulators and accrediting bodies.

Space Management Procedures

Up-to-date and accurate information on space allocation and utilization is a key element in effective planning and management of space. Space management tools include:

Building Space Audits

Facilities Management (FM) commissions audits on a revolving basis to assess how Brock University space is used. These assessments use inputs such as enrolment, hours of instruction and staff establishment and compare them to space utilization targets, allocation guidelines and provincial university benchmarks. Different metrics and analysis techniques are used for different categories of space, as outlined in the University's Space Allocation Standards.

Space Inventory Data and Floor Plans

Facilities Management maintains a central record of space inventory in all buildings using ARCHIBUS, a facility management computer application. ARCHIBUS provides information on room floor areas (NASM), COU categorization (primary and secondary), occupant capacity and allocation of space (department and division). The information is updated on a regular basis by FM with input from academic and administrative users.

Space Allocation Requests

Five broad criteria are used to evaluate and prioritize space requests:

- Alignment with University Plans and Standards
- Excellence, Innovation, Creativity and / or Inclusiveness
- Benefits
- Stewardship and Sustainability
- Investment and Risk

The Appendix provides the details of the criteria framework and evaluation rubric. The consistent and continued application of the five criteria to evaluate space allocation requests promotes transparent, priority-driven and evidence-based space allocation decisions.

The process to evaluate major space requests follows the steps and decisions points outlined in the Space Allocation Request Flowchart. The process begins with the submission of a short-form application to FM. A determination is then made by FM that the request is either a Space Renovation, Minor Space Request or Major Space Request. These procedures are further detailed in the accompanying document contained in the Appendix.

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Implementation

The Facility Needs and Priorities Study provides a framework for future academic and related development through a series of facility renewal projects and larger capital initiatives. The following chapter outlines potential immediate next steps and provides guidance on how to implement and update the FNPS.

6.1 Plan Implementation

The Facility Needs and Priorities Study introduces a series of capital projects that range in size and timeframe for implementation. Some initiatives are small in scale and can be realized through a few simple moves and minimal capital expenditures. Others are significant investments that unlock multiple opportunities, and may not be realized within the horizon of this plan.

All decisions regarding deferred maintenance, renovation, major capital projects, or other campus-building initiatives, will be guided by the Planning Principles and Key Directions. If there are alterations to the identified capital projects or opportunities for new initiatives through funding or university partnerships, respecting the Planning Principles and Key Directions will be critical to upholding the vision for the campus and appropriately responding to priority needs.

Implementation of the FNPS will require extensive coordination, planning and prioritization because of its 10-year planning horizon, the interconnected nature of these projects, and their important role in campus development. To ensure a smooth implementation process that best responds to priority needs, the plan will be centrally implemented and managed by Facilities Management. Tools such as the Space Management Framework document as well as regular conversations with the Brock community will be critical in ensuring a transparent, evidence-based implementation process.

6.2. Pathways to Implementation

Chapter 5 identifies a series of opportunities to address Priority Needs, which are organized around the themes outlined in the seven Key Directions. Realization of these Priority Needs can occur through implementation of specific capital projects and space reorganization.

This section traces the possible pathways to implementation by identifying potential near-term steps to address priority needs. These steps are not intended to be a manual for implementation. Rather, they outline opportunities for specific near-term improvements that support potential realization of broader long-term plan outcomes.

With no space immediately available to accommodate displaced users, near-term steps may result in temporary disruption to the Brock community. In most instances, temporary or permanent accommodation of displaced users should be carefully planned in advance of undertaking the steps identified in the following pathways. The University should also consider planning the pathways outlined below in greater detail prior to implementation in order to minimize disruption.

The following near-term implementation opportunities are explored in this section:

- Classroom Modernization
- Mackenzie Chown Renewal
- Schmon Tower Renewal
- Other Standalone Projects

Modernization of Tiered Classrooms

Flexible, accessible classrooms are an important piece of Brock's future classroom inventory. Currently, many of Brock's tiered classrooms do not accommodate innovative pedagogical teaching and learning methods and are not barrier-free. Modernization renovations could include introducing mobile tables with chairs at the lower and/or upper portion of the room, and cutting and infilling existing platforms to create larger shared spaces at the front of classrooms. A study may be undertaken to further understand the viability of the renovation process and how to accommodate the current users of these facilities during any planned renovations.

These renovations would be too disruptive and costly within some classrooms in the Thistle Complex and Welch Hall. In these classrooms, presentation areas are not appropriately configured, and seating areas are too steep. In the short-term, seating should continue to be provided at the back of these classrooms. A more robust and lasting solution is to consider providing flexible, flat-floor classrooms that are easily reconfigured, within all new buildings.

Mackenzie Chown Renewal

Renewal of the Mackenzie Chown complex provides an opportunity to comprehensively address building condition, fit to function, wayfinding and profile issues, while providing opportunities to better align facilities with space needs. The following steps provide a potential high-level roadmap for undertaking Mackenzie Chown renewal:

1. Initiate a Detailed Renewal Study

Key Planning Direction #1 in Chapter 5 proposes first renewing Mackenzie Chown H, while deferring maintenance of Mackenzie Chown B and E. The University should undertake a detailed study to confirm this direction, which includes assessing the facility condition in more detail. In addition to this physical assessment, the study should develop a detailed space programming plan which identifies opportunities to better align faculty and research space with space needs. It should also highlight opportunities to expand and modernize classroom and teaching lab space, and propose a potential location for a new collaborative social space with supporting amenities. Most importantly, the Study should provide a detailed, comprehensive phasing strategy that outlines the University's immediate next steps, and proposes a renewal work plan that allows users to relocate within the complex or to other facilities, while redevelopment is taking place. The initial focus should be to analyze University research space to identify which research and teaching lab needs should be accommodated in Mackenzie Chown H and identify potential space efficiencies.

2. Undertake Renewal of MC-H

Key Planning Direction #1 in Chapter 5 proposes first renewing Mackenzie Chown H, while deferring maintenance of blocks B and E. The University should undertake a detailed study to confirm this direction, which includes assessing the facility condition in more detail. In addition to this physical assessment, the study should develop a detailed space programming plan which identifies opportunities to better align faculty and research space with space needs. It should also highlight opportunities to expand and modernize classroom and teaching lab space, and propose a potential location for a new collaborative social space with supporting amenities. Most importantly, the Study should provide a detailed, comprehensive phasing strategy that outlines the University's immediate next steps, and proposes a renewal work

plan that allows users to relocate within the complex or to other facilities, while redevelopment is taking place.

3. Undertake Renewal of MC-A, C, D, F, G, J

Following renewal of Mackenzie Chown H, the University may consider initiating renewal of blocks A, C, D, F, G, J in phases. Users would be relocated to renewed spaces or other temporary locations as required. Renewal of these blocks may also be an opportunity to optimize currently used space as per the newly developed Space Management Framework document. With the space that is made available through more efficient space use, the University could potentially provide renovated instructional space that better accommodates new pedagogical methods and meets accessibility standards. Renewal could also provide an opportunity to repurpose the Pond Inlet into a new social space on the eastern portion of Main Campus or to introduce a Multi-Faith Centre.

4. Consolidate the Faculty of Social Sciences

Through the renewal process, the Faculty of Social Sciences (FOSS) could be further consolidated within the Mackenzie Chown complex to address current fragmentation issues. This could also create opportunities to backfill vacated space for other programmatic needs in the Cairns Family Health and Bioscience Research Complex, the Plaza building, South Block, Scotiabank Hall, Thistle Complex, or the Walker Sports Complex. Additional space needs for FOSS may also be consolidated within upper levels of Schmon Tower if required.

Key Directions

1. **Consider strategies for best use, upgrading or divesting of poor quality facilities.**
2. **Reduce the physical fragmentation of faculties and departments, as appropriate.**
3. Consolidate the library and create new study spaces
4. **Create flexible classrooms and teaching labs.**
5. Consolidate and centralize front-of-house student services
6. **Create flexible places for collaboration, socializing and transdisciplinarity.**
7. **Implement space management procedures.**

Schmon Tower Renewal

At the heart of campus, Schmon Tower and the Thistle Complex are a priority for renewal and for the consolidation of student services and library functions. These objectives trigger a series of key, interrelated moves that address multiple Key Directions. The near-term steps for this project could include the following:

1. Free Up Level 100 of Thistle Complex

To relocate and consolidate core student services from Schmon Tower and other locations, the University would first free up the space currently occupied by other users around Market Hall. This includes relocating the Centre for Pedagogical Innovation (CPI) and the Centre for Applied Disability Studies (CADS). These are smaller users that may be temporarily accommodated within available spaces throughout the campus. Long-term accommodation of CADS could occur through space made available by either the proposed Interprofessional Health Building or the Brock Active Living Complex project. Long-term accommodation of CPI may occur in vacated space within Schmon Tower or other appropriate locations.

2. Consolidate Core Student Services around Market Hall

Core student services may be relocated to Market Hall, with building improvements to create a more public-oriented interface and a central triage desk similar to Brock Central. This move would vacate a large portion of levels 300 and 400 in Schmon Tower, facilitating library consolidation.

3. Relocate Accessibility Centre Exam Space

Located in level 400 of Schmon Tower, the Accessibility Centre could be relocated to facilitate library consolidation. The Centre is included within the health and wellness cluster of student services, and could ultimately find a home in the facility selected to accommodate the full cluster of related uses. Short-term accommodation may be required within another location reasonably proximate to the centre of campus.

4. Consolidate the Library

With Schmon Tower levels 300 and 400 vacated, the library could be consolidated on its lower floors, in turn freeing up the upper portions for renovation. The library may see a temporary reduction in space to facilitate renewal of the upper levels of Schmon Tower.

5. Undertake Renewal of Schmon Tower

As the library is potentially consolidated on the lower floors of Schmon Tower, its upper levels would be freed up for renovation. A comprehensive renewal project for levels 8-13 would require temporary or permanent relocation of remaining administrative uses. A phased renewal would allow remaining uses to be relocated to improved space within the Tower itself. Once fully renovated, the upper floors of Schmon Tower may be occupied by either administrative or faculty academic uses.

Key Directions

1. **Consider strategies for best use, upgrading or divesting of poor quality facilities.**
2. **Reduce the physical fragmentation of faculties and departments, as appropriate.**
3. **Consolidate the library and create new study spaces**
4. Create flexible classrooms and teaching labs.
5. **Consolidate and centralize front-of-house student services**
6. Create flexible places for collaboration, socializing and transdisciplinarity.
7. **Implement space management procedures.**

Faculty Defragmentation (Faculty of Applied Health Sciences)

The Faculty of Applied Health Science (AHS) faces significant fragmentation issues, which may be addressed through the construction of a new facility. The near-term steps to realize this facility planning opportunity include:

1. Undertake Space Programming and Capital Planning

A current space programming exercise for the consolidation of AHS should be completed to refine space needs and potential accommodations. The exercise should consider opportunities to deliver a transformative capital project, which would include external benefits that can address other University space needs. Other space needs include the potential to deliver new large classrooms in the eastern portion of the Main Campus and opportunities for new collaborative spaces.

2. Option A: Interprofessional Health Building

If the University constructs the Interprofessional Health Building as discussed under Key Planning Direction #2 in Chapter 5, AHS could relocate from the Walker Sports Complex - Physical Education Centre, Thistle Complex, East Academic, Welch Hall and the Cairns Family Health and Bioscience Research Complex. Space programming and capital planning should consider large, contemporary classrooms at or near the ground level and a new university common space.

3. Option B: Brock Active Living Complex

If the University constructs the Brock Active Living Complex adjacent to the Walker Sports Complex, this initiative would provide the opportunity to consolidate users in the Faculty of Applied Health Sciences from the Walker Sports Complex - Physical Education Centre and Welch Hall, along with providing space for Brock Sports offices. Space programming and capital planning may consider a new University common space and exterior improvements to enhance the building's relationship to the Niagara Escarpment and athletic fields.

4. Renew Walker Sports Complex - Physical Education Centre

Following relocation of AHS users, available space within the Walker Sports Complex - Physical Education Centre would be freed up for renewal and re-purposing. Back-filled space may accommodate a University common space and additional athletics studios.

5. Utilize East Academic for Swing Space

East Academic may potentially be demolished for intensification of Heritage Plaza. However, following relocation of nursing, East Academic could become available as a flexible space that temporarily accommodates diverse users that are displaced due to facility renewal projects.

Key Directions

1. Consider strategies for best use, upgrading or divesting of poor quality facilities.
2. **Reduce the physical fragmentation of faculties and departments, as appropriate.**
3. Consolidate the library and create new study spaces
4. **Create flexible classrooms and teaching labs.**
5. Consolidate and centralize front-of-house student services
6. **Create flexible places for collaboration, socializing and transdisciplinarity.**
7. **Implement space management procedures.**

Other Standalone Opportunities

The near-term opportunities that have been discussed represent a series of key moves that work together to address multiple objectives at once. There are also several standalone opportunities that are not dependent on preceding moves and could be realized in the short-term. Opportunities include the following:

A. Integration of Health and Wellness Student Services

A new facility could provide sufficient space to accommodate all users within this health and wellness student service category. These uses should be considered for either the BUSU Student Centre, the David S. Howes addition or within a future Heritage Plaza development. In addition to timing of construction and space opportunities within the new facilities, service providers should consider which location best meets both operational needs and those of Brock students.

B. Expand Teaching Space

The provision of around 1,000 net assignable square metres of space through the David S. Howes addition could provide an opportunity to expand teaching space on the Main Campus. The project has a moderate capital cost and will face few implementation hurdles. This initiative would reduce potential locations for health and wellness student service uses.

C. Consolidate the Faculty of Humanities in East Campus

The Faculty of Humanities is fragmented throughout both Main and East Campus. Evaluation of academic office space, currently allocated to Humanities, has identified opportunities for re-assignment of space within the Faculty. These changes could result in more efficient use of space and work towards further consolidation of the Faculty offices. The reassignment of space in the International Centre and the 573 Glenridge building would require minor renovations, however, there is potential to free up space within the Mackenzie Chown Complex that would allow for the

accommodation of other Faculty and University needs. Accommodation of Humanities in the East Campus beyond academic offices would require the construction of Phase 2 of the International Centre.

D. Construct International Centre Phase 2

Construction of the second phase of the International Centre, adjacent to the existing facility, could accommodate faculty space or back-of-house administrative functions currently on the Main Campus. The facility could also be constructed as a flexible space that accommodates a diversity of users over time and could even serve as swing space.

Key Directions

1. Consider strategies for best use, upgrading or divesting of poor quality facilities.
2. **Reduce the physical fragmentation of faculties and departments, as appropriate.**
3. Consolidate the library and create new study spaces
4. **Create flexible classrooms and teaching labs.**
5. **Consolidate and centralize front-of-house student services**
6. Create flexible places for collaboration, socializing and transdisciplinarity.
7. **Implement space management procedures.**

6.3 Plan Administration

This Plan is an important tool to responding to Brock's current and emerging space needs. The FNPS should be used to guide all future decisions about facility renewal and new capital development. Whenever projects are pursued, they will be subject to more detailed study to understand their cost, infrastructure needs and implications for the larger campus environment.

In addition to being consulted on all future capital initiatives, the FNPS should be regularly updated to ensure that it continues to meet the needs of the University as they evolve over time. As the baseline data and assumptions upon which this plan is based reflect a certain period in time, it is recommended that the FNPS is subject to a 10-year comprehensive review that provides the opportunity to elaborate or amend the Study to reflect the most current needs. The University should revisit the inputs to this plan, including building condition, space utilization, growth assumptions and other relevant factors that may have an impact on space need. The decision to review the plan should be based on the recommendations of the Annual Reports of the Office of Campus Planning, Design and Construction Services.

Comprehensive updates will ensure that the plan remains relevant and continues to provide appropriate direction for the renewal and growth of Brock's campus. It is through continued investment in its facilities that Brock will continue to support its academic mission and reinforce the campus as desirable place to learn, collaborate, teach and research.



APPENDIX

Committee Membership

Space Inventory Analysis

Space Allocation Standards

Space Management Procedures

Committee Membership

PROJECT STEERING COMMITTEE

Bryan Boles	Associate Vice-President, Ancillary Services
Faisal Hejazi	President, Brock University Students' Union
Brian Hutchings	Vice-President, Administration
Scott Johnstone	Associate Vice-President, Facilities Management
Nota Klentrou	Associate Dean, AHS, Senate IT&I Committee Representative
Anna Lathrop	Vice-Provost, Teaching and Learning
Jamie Mandigo	Vice-provost, Enrollment Management & International
Roland Mech	Associate Director, Space Management and Planning
Joffre Mercier	Interim, Vice-President, Research
Mark Roberston	University Librarian
Paul Smeltzer	Interim Director, Campus Planning and Project Management
Barry Wright	Interim Dean, Goodman School of Business

Space Inventory Analysis

Fit-to-Function

A consideration of the FNPS is the fit-to-function of Brock's buildings in terms of their suitability to accommodate the activities and services they currently house. These assessments are based on two related questions:

- Is the basic building plan configuration capable of providing contemporary standards for teaching, research, or office environments?

Fit to Function	Building	Classroom			Instruct. Labs			Research			Academic Offices		
		Area (SM)	% of Total Inventory	% of Space Category	Area (SM)	% of Total Inventory	% of Space Category	Area (SM)	% of Total Inventory	% of Space Category	Area (SM)	% of Total Inventory	% of Space Category
Fit for Function	106 Ormond Street												
Fit for Function	573 Glenridge	749	0.4%	5.7%	151	0.1%	1.5%				2,074	1.2%	10.6%
	Alan Earp Residence												
	Alphie's Trough												
	Alumni Greenhouse												
	Arnie Lowernberger Residence												
	Arthur Schmon Tower	671	0.4%	5.1%	77	0.0%	0.7%				59	0.0%	0.3%
	Cairns Research Complex				550	0.3%	5.3%	991	0.6%	15.8%	2,242	1.3%	11.4%
	Carpentry Shop												
	Central Utilities Building												
	Decew Residence												
	Gateway Residence												
	Harrison Hall												
	Heritage Place Plaza												
	Inniskillin Hall				123	0.1%	1.2%				194	0.1%	1.0%
	Kenmore Centre												
	Mackenzie Chown Complex - A										533	0.3%	2.7%
	Mackenzie Chown Complex - B										804	0.5%	4.1%
	Mackenzie Chown Complex - C										596	0.3%	3.0%
	Mackenzie Chown Complex - D										1,074	0.6%	5.5%
	Mackenzie Chown Complex - E										198	0.1%	1.0%
	Mackenzie Chown Complex - F										463	0.3%	2.4%
	Mackenzie Chown Complex - G										70	0.0%	0.4%
	Mackenzie Chown Complex - H										21	0.0%	0.1%
	Mackenzie Chown Complex - J										684	0.4%	3.5%
	Marilyn Walker School	216	0.1%	1.6%	2,197	1.3%	21.2%				789	0.5%	4.0%
	Plaza Building	409	0.2%	3.1%	206	0.1%	2.0%				1,272	0.7%	6.5%
	Robert Welch Hall	2,064	1.2%	15.8%	345	0.2%	3.3%				2,121	1.2%	10.8%
	Rodman Hall										84	0.0%	0.4%
	Rosalind Blauer Centre												
	Scotiabank Hall				8	0.0%	0.1%				585	0.3%	3.0%
	Service Tunnels												
	South Block	1,260	0.7%	9.6%							1,441	0.8%	7.3%
	Student-Alumni Centre												
	Taro Hall	892	0.5%	6.8%							1,639	0.9%	8.3%
	Theal House												
	Thistle Complex	3,356	1.9%	25.6%	313	0.2%	3.0%				295	0.2%	1.5%
	Vallee Residence												
	Walker Complex				1,908	1.1%	18.4%				954	0.5%	4.9%
Fit for Function Total		9,618	5.5%	73.4%	5,877	3.4%	56.7%	991	0.6%	15.8%	18,194	10.4%	92.7%
Deficient	Arthur Schmon Tower	58	0.0%	0.4%									
	East Academic	541	0.3%	4.1%	426	0.2%	4.1%				374	0.2%	1.9%
	Mackenzie Chown Complex - A	86	0.0%	0.7%	113	0.1%	1.1%						
	Mackenzie Chown Complex - B				169	0.1%	1.6%	539	0.3%	8.6%			
	Mackenzie Chown Complex - C	427	0.2%	3.3%	183	0.1%	1.8%	606	0.3%	9.7%			
	Mackenzie Chown Complex - D	209	0.1%	1.6%	862	0.5%	8.3%	792	0.5%	12.6%			
	Mackenzie Chown Complex - E				114	0.1%	1.1%	237	0.1%	3.8%			
	Mackenzie Chown Complex - F							109	0.1%	1.7%			
	Mackenzie Chown Complex - G	74	0.0%	0.6%	32	0.0%	0.3%	455	0.3%	7.3%			
	Mackenzie Chown Complex - H	85	0.0%	0.6%	1,713	1.0%	16.5%	2,077	1.2%	33.2%			
	Mackenzie Chown Complex - J	155	0.1%	1.2%	475	0.3%	4.6%	17	0.0%	0.3%			
	Research & Innovation Centre							345	0.2%	5.5%	199	0.1%	1.0%
	Hamilton Campus	1,845	1.1%	14.1%	404	0.2%	3.9%				870	0.5%	4.4%
Deficient Total		3,480	2.0%	26.6%	4,493	2.6%	43.3%	5,275	3.0%	84.2%	1,442	0.8%	7.3%
Grand Total		13,098	7.5%	100.0%	10,370	5.9%	100.0%	6,266	3.6%	100.0%	19,636	11.2%	100.0%

- Can the existing building be upgraded to meet the modern building code and environmental standards for the current use?

Answers to these questions guide aspects of the FNPS.

Fit to Function	Building	Library & Study Space			Student Services & Admin Offices			Other			Building Services			Total Area (\$M)	Total % of Total Inventory	Total % of Space Category
		Area (\$M)	% of Total Inventory	% of Space Category	Area (\$M)	% of Total Inventory	% of Space Category	Area (\$M)	% of Total Inventory	% of Space Category	Area (\$M)	% of Total Inventory	% of Space Category			
Fit for Function	106 Ormond Street				281	0.2%	2.9%							281	0.2%	0.2%
	573 Glenridge	122	0.1%	1.1%	825	0.5%	8.5%	283	0.2%	0.8%	2,261	1.3%	3.3%	6,466	3.7%	3.7%
	Alan Eap Residence	189	0.1%	1.7%	295	0.2%	3.0%	83	0.0%	0.2%	2,262	1.3%	3.3%	2,829	1.6%	1.6%
	Alphie's Trough				88	0.1%	0.9%	223	0.1%	0.6%	150	0.1%	0.2%	461	0.3%	0.3%
	Alumni Greenhouse										182	0.1%	0.3%	182	0.1%	0.1%
	Arnie Lowernberger Residence	118	0.1%	1.1%	4	0.0%	0.0%	902	0.5%	2.5%	2,263	1.3%	3.3%	3,287	1.9%	1.9%
	Arthur Schmon Tower	2,081	1.2%	18.9%	1,763	1.0%	18.1%	987	0.6%	2.7%	3,360	1.9%	4.9%	8,999	5.2%	5.2%
	Cairns Research Complex	437	0.3%	4.0%	318	0.2%	3.3%	4,478	2.6%	12.4%	5,939	3.4%	8.7%	14,955	8.6%	8.6%
	Carpentry Shop							134	0.1%	0.4%				134	0.1%	0.1%
	Central Utilities Building				393	0.2%	4.0%	893	0.5%	2.5%	1,820	1.0%	2.7%	3,106	1.8%	1.8%
	Decew Residence	528	0.3%	4.8%	357	0.2%	3.7%	1,376	0.8%	3.8%	3,534	2.0%	5.2%	5,795	3.3%	3.3%
	Gateway Residence							11	0.0%	0.0%	481	0.3%	0.7%	492	0.3%	0.3%
	Harrison Hall							435	0.2%	1.2%	38	0.0%	0.1%	473	0.3%	0.3%
	Heritage Place Plaza							915	0.5%	2.5%	9	0.0%	0.0%	924	0.5%	0.5%
	Inniskillin Hall							1,102	0.6%	3.0%	689	0.4%	1.0%	2,109	1.2%	1.2%
	Kenmore Centre				351	0.2%	3.6%	10	0.0%	0.0%	108	0.1%	0.2%	469	0.3%	0.3%
	Mackenzie Chown Complex - A	126	0.1%	1.1%	499	0.3%	5.1%	109	0.1%	0.3%	1,322	0.8%	1.9%	2,589	1.5%	1.5%
	Mackenzie Chown Complex - B				20	0.0%	0.2%	6	0.0%	0.0%	1,083	0.6%	1.6%	1,912	1.1%	1.1%
	Mackenzie Chown Complex - C	266	0.2%	2.4%				135	0.1%	0.4%	1,595	0.9%	2.3%	2,592	1.5%	1.5%
	Mackenzie Chown Complex - D	76	0.0%	0.7%	304	0.2%	3.1%	88	0.1%	0.2%	1,830	1.0%	2.7%	3,373	1.9%	1.9%
	Mackenzie Chown Complex - E				19	0.0%	0.2%	8	0.0%	0.0%	989	0.6%	1.4%	1,214	0.7%	0.7%
	Mackenzie Chown Complex - F				558	0.3%	5.7%	143	0.1%	0.4%	1,129	0.6%	1.7%	2,293	1.3%	1.3%
	Mackenzie Chown Complex - G				37	0.0%	0.4%	1,332	0.8%	3.7%	1,135	0.7%	1.7%	2,574	1.5%	1.5%
	Mackenzie Chown Complex - H							2	0.0%	0.0%	1,792	1.0%	2.6%	1,815	1.0%	1.0%
	Mackenzie Chown Complex - J							22	0.0%	0.1%	618	0.4%	0.9%	1,325	0.8%	0.8%
	Marilyn Walker School	423	0.2%	3.8%	75	0.0%	0.8%	1,312	0.8%	3.6%	2,378	1.4%	3.5%	7,391	4.2%	4.2%
	Plaza Building	229	0.1%	2.1%	5	0.0%	0.1%	2,185	1.3%	6.0%	2,943	1.7%	4.3%	7,248	4.2%	4.2%
	Robert Welch Hall	139	0.1%	1.3%	114	0.1%	1.2%	1,055	0.6%	2.9%	3,223	1.8%	4.7%	9,062	5.2%	5.2%
	Rodman Hall				199	0.1%	2.0%	1,056	0.6%	2.9%	395	0.2%	0.6%	1,734	1.0%	1.0%
	Rosalind Blauer Centre							426	0.2%	1.2%	69	0.0%	0.1%	494	0.3%	0.3%
	Scotiabank Hall	578	0.3%	5.2%	31	0.0%	0.3%	77	0.0%	0.2%	1,173	0.7%	1.7%	2,452	1.4%	1.4%
	Service Tunnels										3,032	1.7%	4.4%	3,032	1.7%	1.7%
	South Block	176	0.1%	1.6%				2,005	1.1%	5.5%	1,462	0.8%	2.1%	6,344	3.6%	3.6%
	Student-Alumni Centre							1,710	1.0%	4.7%	800	0.5%	1.2%	2,510	1.4%	1.4%
	Taro Hall	34	0.0%	0.3%				172	0.1%	0.5%	1,817	1.0%	2.7%	4,553	2.6%	2.6%
	Theal House				226	0.1%	2.3%				31	0.0%	0.0%	257	0.1%	0.1%
	Thistle Complex	899	0.5%	8.1%	1,413	0.8%	14.5%	1,721	1.0%	4.8%	5,175	3.0%	7.6%	13,172	7.5%	7.5%
	Vallee Residence	33	0.0%	0.3%	219	0.1%	2.2%	38	0.0%	0.1%	2,379	1.4%	3.5%	2,668	1.5%	1.5%
	Walker Complex	163	0.1%	1.5%	574	0.3%	5.9%	9,175	5.3%	25.4%	4,186	2.4%	6.1%	16,958	9.7%	9.7%
Fit for Function Total		6,616	3.8%	60.0%	8,971	5.1%	92.2%	34,606	19.8%	95.7%	63,653	36.5%	93.2%	148,525	85.1%	85.1%
Deficient	Arthur Schmon Tower	4,156	2.4%	37.7%	736	0.4%	7.6%	300	0.2%	0.8%	2,008	1.2%	2.9%	7,257	4.2%	4.2%
	East Academic							32	0.0%	0.1%	463	0.3%	0.7%	1,835	1.1%	1.1%
	Mackenzie Chown Complex - A										296	0.2%	0.2%	296	0.2%	0.2%
	Mackenzie Chown Complex - B										708	0.4%	0.4%	708	0.4%	0.4%
	Mackenzie Chown Complex - C										1,217	0.7%	0.7%	1,217	0.7%	0.7%
	Mackenzie Chown Complex - D										1,863	1.1%	1.1%	1,863	1.1%	1.1%
	Mackenzie Chown Complex - E										351	0.2%	0.2%	351	0.2%	0.2%
	Mackenzie Chown Complex - F										109	0.1%	0.1%	109	0.1%	0.1%
	Mackenzie Chown Complex - G										561	0.3%	0.3%	561	0.3%	0.3%
	Mackenzie Chown Complex - H										3,875	2.2%	2.2%	3,875	2.2%	2.2%
	Mackenzie Chown Complex - J										648	0.4%	0.4%	648	0.4%	0.4%
	Research & Innovation Centre							708	0.4%	2.0%	192	0.1%	0.3%	1,443	0.8%	0.8%
	Hamilton Campus	259	0.1%	2.3%	22	0.0%	0.2%	504	0.3%	1.4%	1,955	1.1%	2.9%	5,859	3.4%	3.4%
Deficient Total		4,415	2.5%	40.0%	758	0.4%	7.8%	1,543	0.9%	4.3%	4,618	2.6%	6.8%	26,023	14.9%	14.9%
Grand Total		11,031	6.3%	100.0%	9,729	5.6%	100.0%	36,149	20.7%	100.0%	68,270	39.1%	100.0%	174,548	100.0%	100.0%

Research Space as per COU Standards

Research space allocation by facility, determined by comparing the demand and supply of space.

Research Space as per COU Standards - Summary

Faculty	Research Generated	Total Research Allocated	Variation	Research
	NASM	NASM	NASM	
Applied Health Sciences	2,893	2,010	-883	-44%
Education	283	138	-145	-105%
Humanities	314	328	14	+4%
Social Science	2,156	1,934	-222	-11%
Goodman School of Business	465	98	-367	-376%
Mathematics & Science	4,219	6,607	2,388	+36%
Graduate Studies				
Research	11	1,247	1,236	+99%
International / ESL				
Grand Total	10,340	12,361	2,021	+16%

Research Space as per COU Standards - Details

Faculty	Demand / Supply	Department Name	CIP Code	COU Research Group	Research Group				Graduate Students FTE	Research Generated NASM	Total Research Allocated NASM	
					Allocation NASM	Tenure & Tenure Track Faculty FTE	Post-Doctoral Fellows FTE	Research Associates FTE				
Applied Health Sciences	Demand	Health Science & Kinesiology	CIP 51.22	G	2							
		Health Sciences	CIP 51.22	D	20	20.0	0.6	1.0	46.5	881		
		Kinesiology & Sport Management	CIP 31.05	D	20	45.0	1.0	1.3	102.0	1,943		
		Leave The Pack Behind Program	CIP 51.22	G	2							
		Nursing	CIP 51.38	G	2	10.0			2.3	22		
		Recreation and Leisure Studies	CIP 31.01	G	2	14.0			18.8	47		
	Demand Total					89.0	1.6	2.3	169.6	2,893		
	Supply									2,010		
	Supply Total									2,010		
Applied Health Sciences Total												
Education	Demand	Graduate and Undergraduate Studies	CIP 13.01	G	2	22.0			186.7	231		
		Teacher Education (Pre-Service)	CIP 13.12	G	2	24.0				48		
		Tecumseh Centre for Aboriginal Research and Education	CIP 13.12	G	2	1.0				2		
		The Centre for Continuing Teacher Education (In-Service)	CIP 13.12	G	2	1.0				2		
	Demand Total					48.0			186.7	283		
	Supply									138		
	Supply Total									138		
Education Total												
Humanities	Demand	Archaeology	CIP 45.03	D	20							
		Canadian Studies	CIP 5.01	G	2	12.8				35		
		Centre For Digital Humanities	CIP 50.07	F	5	2.0		0.0	9.0	10		
		Classics	CIP 16.12	G	2	9.5			20.3	39		
		Dramatic Arts	CIP 50.05	F	5	7.0				35		
		English Language and Literature	CIP 23.01	G	2	19.0		2.7	6.3	47		
		History	CIP 54.01	G	2	21.0			10.0	52		
		Medieval and Renaissance Studies	CIP 30.13	G	2							
		Music	CIP 50.09	G	2	5.5				11		
		Philosophy	CIP 38.01	G	2	9.0			34.6	53		
		Visual Arts	CIP 50.01	F	5	6.5				33		
		Demand Total					92.3		2.7	80.2	314	
			Supply									328
		Supply Total									328	
Humanities Total												

Research Space as per COU Standards - Details (continued)

Faculty	Demand / Supply	Department Name	CIP Code	COU Resarch Group	Research Group		Post-Doctoral Fellows FTE	Research Associates FTE	Graduate Students FTE	Research Generated NASM	Total Research Allocated NASM	
					Allocation NASM	Tenure & Tenure Track Faculty FTE						
Social Science	Demand	Applied Disability Studies	CIP 19.07	F	5	4.0			127.6	339		
		Applied Linguistics	CIP 16.01	G	2	11.0			7.0	29		
		Centre for Labour Studies	CIP 52.1	G	2	3.0				6		
		Child and Youth Studies	CIP 19.07	F	5	18.8	1.0		21.0	149		
		Communications, Popular Culture and Film	CIP 9.01	G	2	17.0			17.0	51		
		Economics	CIP 45.06	G	2	16.0			13.0	45		
		Environmental Sustainability Research	CIP 30.33	C	25	1.0		1.0		38		
		Geography & Tourism	CIP 45.07	E	15	18.0			15.6	387		
		Political Science	CIP 45.1	G	2	14.0		1.0		17.2	46	
		Psychology	CIP 42.01	D	20	23.0	2.0		5.0	42.6	956	
		Sociology	CIP 45.11	G	2	21.0	1.0		0.0	45.5	89	
		Women's and Gender Studies	CIP 5.02	G	2	2.0				18.0	22	
		Demand Total					148.8	5.0	6.0	324.5	2,156	
Supply										1,934		
Supply Total										1,934		
Social Science Total					148.8	5.0	6.0	324.5	2,156	1,934		
Goodman School of Business	Demand	Accounting	CIP 52.03	G	2	27.0			73.0	127		
		Business Administration	CIP 52.02	G	2	15.0			168.5	199		
		Finance, Operations and Information Systems	CIP 52.08	G	2	22.0			95.0	139		
	Demand Total					64.0			336.5	465		
Supply										98		
Supply Total										98		
Goodman School of Business Total					64.0			336.5	465	98		
Mathematics & Science	Demand	Biological Sciences	CIP 26.01	A	40	19.0	1.0	1.6	55.9	1,930		
		Chemistry	CIP 40.05	A	40	12.0	5.0	0.2	28.0	1,145		
		Computer Science	CIP 11.07	F	5	9.0			14.6	82		
		Earth Sciences	CIP 40.06	B	30	9.0			15.3	500		
		Mathematics	CIP 27.01	G	2	15.0			18.0	48		
		Physics	CIP 40.08	B	30	8.0		0.3	18.0	515		
		Tech Services	CIP 27.01	G	2							
		Demand Total					72.0	6.0	2.2	149.8	4,219	
Supply										6,607		
Supply Total										6,607		
Mathematics & Science Total					72.0	6.0	2.2	149.8	4,219	6,607		
Research	Demand	Lifespan Development Research Centre	CIP 42.01	D	20							
		Oenology and Viticulture	CIP 1.1	D	20			1.0	0.1	11		
	Demand Total							1.0	0.1	11		
Supply										1,247		
Supply Total										1,247		
Research Total							1.0	0.1		11	1,247	
Grand Total					514.1	13.6	13.3	1,247.3	10,340	12,361		

Graduate Student Offices

				A	B	C = A x B	D
				Brock Graduate Office	Graduate Students FTE	Graduate Office Space Generated NASM	Total Graduate Office Space Allocated NASM
Faculty	Demand / Supply	Department Name	CIP Code	Brock Graduate Office	Graduate Students FTE	Graduate Office Space Generated NASM	Total Graduate Office Space Allocated NASM
Applied Health Sciences	Demand	Health Science & Kinesiology	CIP 51.22	3.0			
		Health Sciences	CIP 51.22	3.0	46.5	140	
		Kinesiology & Sport Management	CIP 31.05	3.0	102.0	306	
		Leave The Pack Behind Program	CIP 51.22	3.0			
		Nursing	CIP 51.38	3.0	2.3	7	
		Recreation and Leisure Studies	CIP 31.01	3.0	18.8	56	
		Demand Total				169.6	509
	Supply						628
	Supply Total						628
Applied Health Sciences Total					169.6	509	628
Education	Demand	Graduate and Undergraduate Studies	CIP 13.01	0.60	186.7	112	
		Teacher Education (Pre-Service)	CIP 13.12	3.00			
		Tecumseh Centre for Aboriginal Research and Education	CIP 13.12	3.00			
		The Centre for Continuing Teacher Education (In-Service)	CIP 13.12	3.00			
		Demand Total				186.7	112
	Supply						161
	Supply Total						161
Education Total					186.7	112	161
Humanities	Demand	Archaeology	CIP 45.03	3.0			
		Canadian Studies	CIP 5.01	3.0	9.0	27	
		Centre For Digital Humanities	CIP 50.07	3.0			
		Centre for Studies in Arts and Culture	CIP 50.99	3.0			
		Classics	CIP 16.12	3.0	20.3	61	
		Dramatic Arts	CIP 50.05	3.0			
		English Language and Literature	CIP 23.01	3.0	6.3	19	
		History	CIP 54.01	3.0	10.0	30	
		Medieval and Renaissance Studies	CIP 30.13	3.0			
		Music	CIP 50.09	3.0			
		Philosophy	CIP 38.01	3.0	34.6	104	
		Visual Arts	CIP 50.01	3.0			
		Demand Total				80.2	241
	Supply						512
	Supply Total						512
Humanities Total					80.2	241	512

Graduate Student Offices (continued)

Faculty	Demand / Supply	Department Name	CIP Code	Brock Graduate Office	A	B	C = A x B	D
					Graduate Students	Graduate Office Space Generated	Total Graduate Office Space Allocated	
					FTE	NASM	NASM	
Social Science	Demand	Applied Disability Studies	CIP 19.07	3.0	127.6	383		
		Applied Linguistics	CIP 16.01	3.0	7.0	21		
		Centre for Labour Studies	CIP 52.1	0.6				
		Child and Youth Studies	CIP 19.07	3.0	21.0	63		
		Communications, Popular Culture and Film	CIP 9.01	3.0	17.0	51		
		Economics	CIP 45.06	3.0	13.0	39		
		Environmental Sustainability Research	CIP 30.33	3.0				
		Geography & Tourism	CIP 45.07	3.0	15.6	47		
		Political Science	CIP 45.1	3.0	17.2	52		
		Psychology	CIP 42.01	3.0	42.6	128		
		Sociology	CIP 45.11	3.0	45.5	137		
		Women's and Gender Studies	CIP 5.02	3.0	18.0	54		
		Demand Total				324.5	974	
	Supply							825
Supply Total							825	
Social Science Total					324.5	974		825
Goodman School of Business	Demand	Accounting	CIP 52.03	0.6	73.0	44		
		Business Administration	CIP 52.02	0.6	168.5	101		
		Finance, Operations and Information Systems	CIP 52.08	0.6	95.0	57		
		Marketing, International Business & Strategy	CIP 52.14	0.6	140.9	85		
		Demand Total			477.4	286		
	Supply						127	
Supply Total							127	
Goodman School of Business Total					477.4	286		127
Mathematics & Science	Demand	Biological Sciences	CIP 26.01	3.0	55.9	168		
		Chemistry	CIP 40.05	3.0	28.0	84		
		Computer Science	CIP 11.07	3.0	14.6	44		
		Earth Sciences	CIP 40.06	3.0	15.3	46		
		Mathematics	CIP 27.01	3.0	18.0	54		
		Physics	CIP 40.08	3.0	18.0	54		
		Tech Services	CIP 27.01	3.0				
	Demand Total			149.8	449			
Supply						820		
Supply Total							820	
Mathematics & Science Total					149.8	449		820
Research	Demand	Lifespan Development Research Centre	CIP 42.01	3.0				
		Oenology and Viticulture	CIP 1.1	3.0				
		Office of Research	CIP	3.0				
	Demand Total							
Supply								
Supply Total								
Research Total								
Grand Total					1,388.2	2,571		3,073

Academic and Graduate Student Offices

Area allocated for academic and graduate student offices by title per faculty.

School / Department / Group Name:		Applied Health Sciences							
	A	B	C	D	E = A x B x C x D				
Title or Title Equivalent	Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)	Area Allocated (NASM)				
Full-Time									
Dean	1	x	1	x	1	x	24	24	
Associate Dean	2	x	1	x	1	x	15	30	
Department Chair/ Program Director	5	x	1	x	1	x	15	75	
Full-time Faculty	78	x	1	x	1	x	11	858	
Research Appointment (Post-Doctoral)	8	x	1	x	1	x	11	88	
Administrative Director/Manager	2	x	1	x	1	x	11	22	
Administrative Employee	21	x	1	x	1	x	6	126	
Student Advisor	4	x	1	x	1	x	11	44	
Support & Technical Employee	7	x	1	x	1	x	6	42	
							Sub-total	1,309	F
Term / Contract / Part-Time									
LTA/ILTA Faculty	3	x	1	x	1	x	11	33	
CUPE Instructors	47	x	0.1	x	1	x	6	28	
Teaching Assistant	348	x	0.03	x	1	x	4	42	
Administrative Employee	8	x	1	x	1	x	6	48	
Support & Technical Employee	7	x	1	x	1	x	6	42	
Student Employee	18	x	0.5	x	1	x	5	45	
							Sub-total	238	G
Contractor / Alternative Status									
3 or 4 Days a Week Work on Campus		x	0.8	x	1	x	6	0	
2 Days a Week Work on Campus		x	0.4	x	1	x	6	0	
1 Day a Week Work on Campus		x	0.2	x	1	x	6	0	
Off-Site Clinical/Placement Faculty/Staff		x	1	x	0.2	x	4	0	
Multi-Campus Employee		x	1	x	0.2	x	4	0	
							Sub-total	0	H
FTE Graduate Student									
Thesis	169.6	x	1	x	1	x	3	509	
Professional		x	1	x	0.2	x	3	0	
							Sub-total	509	I
Offices and Workstations Space Allocated							2,056	J = F + G + H + I	
25% Office Support Space Allocated							678	K = (J x 0.33) - J	
TOTAL ALLOCATION – Excluding Internal Circulation							2,734	L = J + K	

School / Department / Group Name:

Education

Title or Title Equivalent	A		B		C		D	E = A x B x C x D
	Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)	Area Allocated (NASM)			

Full-Time

Dean	1	x	1	x	1	x	24	24
Associate Dean	2	x	1	x	1	x	15	30
Department Chair/ Program Director	6	x	1	x	1	x	15	90
Full-time Faculty	40	x	1	x	1	x	11	440
Research Appointment (Post-Doctoral)	0	x	1	x	1	x	11	0
Administrative Director/Manager	7	x	1	x	1	x	11	77
Administrative Employee	26	x	1	x	1	x	6	156
Student Advisor	4	x	1	x	1	x	11	44
Support & Technical Employee	5	x	1	x	1	x	6	30
Sub-total								891

Term / Contract / Part-Time

LTA/ILTA Faculty	9	x	1	x	1	x	11	99
CUPE Instructors		x	0.1	x	1	x	6	0
Teaching Assistant	60	x	0.03	x	1	x	4	7
Administrative Employee	49	x	1	x	1	x	6	294
Support & Technical Employee	6	x	1	x	1	x	6	36
Student Employee	2	x	0.5	x	1	x	5	5
Sub-total								441

Contractor / Alternative Status

3 or 4 Days a Week Work on Campus		x	0.8	x	1	x	6	0
2 Days a Week Work on Campus		x	0.4	x	1	x	6	0
1 Day a Week Work on Campus		x	0.2	x	1	x	6	0
Off-Site Clinical/Placement Faculty/Staff		x	1	x	0.2	x	4	0
Multi-Campus Employee		x	1	x	0.2	x	4	0
Sub-total								0

FTE Graduate Student

Thesis		x	1	x	1	x	3	0
Professional	186.7	x	1	x	0.2	x	3	112
Sub-total								112

Offices and Workstations Space Allocated **1,444** J = F + G + H + I

25% Office Support Space Allocated **361** K = (J x 0.33) - J

TOTAL ALLOCATION – Excluding Internal Circulation **1,805** L = J + K

School / Department / Group Name:

Goodman School Of Business

	A	B	C	D	E = A x B x C x D
Title or Title Equivalent	Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)	Area Allocated (NASM)
Full-Time					
Dean	1	x	1	x	24
Associate Dean	2	x	1	x	15
Department Chair/ Program Director	4	x	1	x	15
Full-time Faculty	75	x	1	x	11
Research Appointment (Post-Doctoral)	0	x	1	x	11
Administrative Director/Manager	9	x	1	x	11
Administrative Employee	19	x	1	x	6
Student Advisor	3	x	1	x	11
Support & Technical Employee	2	x	1	x	6
				Sub-total	1,197 F
Term / Contract / Part-Time					
LTA/ILTA Faculty	14	x	1	x	11
CUPE Instructors	52	x	0.1	x	6
Teaching Assistant	116	x	0.03	x	4
Administrative Employee	8	x	1	x	6
Support & Technical Employee	0	x	1	x	6
Student Employee	21	x	0.5	x	5
				Sub-total	300 G
Contractor / Alternative Status					
3 or 4 Days a Week Work on Campus		x	0.8	x	6
2 Days a Week Work on Campus		x	0.4	x	6
1 Day a Week Work on Campus		x	0.2	x	6
Off-Site Clinical/Placement Faculty/Staff		x	1	x	0.2
Multi-Campus Employee		x	1	x	0.2
				Sub-total	0 H
FTE Graduate Student					
Thesis		x	1	x	3
Professional	477.4	x	1	x	0.2
				Sub-total	286 I
				Offices and Workstations Space Allocated	1,783 J = F + G + H + I
				25% Office Support Space Allocated	588 K = (J x 0.33) - J
TOTAL ALLOCATION – Excluding Internal Circulation				2,371 L = J + K	

School / Department / Group Name:

Humanities

	A	B	C	D	E = A x B x C x D
Title or Title Equivalent	Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)	Area Allocated (NASM)

Full-Time

Dean	1	x	1	x	1	x	24	24
Associate Dean	2	x	1	x	1	x	15	30
Department Chair/ Program Director	12	x	1	x	1	x	15	180
Full-time Faculty	81	x	1	x	1	x	11	891
Research Appointment (Post-Doctoral)	0	x	1	x	1	x	11	0
Administrative Director/Manager	1	x	1	x	1	x	11	11
Administrative Employee	15	x	1	x	1	x	6	90
Student Advisor	2	x	1	x	1	x	11	22
Support & Technical Employee	10	x	1	x	1	x	6	60
							Sub-total	1,308

Term / Contract / Part-Time

LTA/ILTA Faculty	2	x	1	x	1	x	11	22
CUPE Instructors	133	x	0.1	x	1	x	6	80
Teaching Assistant	264	x	0.03	x	1	x	4	32
Administrative Employee	12	x	1	x	1	x	6	72
Support & Technical Employee	2	x	1	x	1	x	6	12
Student Employee	27	x	0.5	x	1	x	5	68
							Sub-total	285

Contractor / Alternative Status

3 or 4 Days a Week Work on Campus		x	0.8	x	1	x	6	0
2 Days a Week Work on Campus		x	0.4	x	1	x	6	0
1 Day a Week Work on Campus		x	0.2	x	1	x	6	0
Off-Site Clinical/Placement Faculty/Staff		x	1	x	0.2	x	4	0
Multi-Campus Employee		x	1	x	0.2	x	4	0
							Sub-total	0

FTE Graduate Student

Thesis	80.2	x	1	x	1	x	3	241
Professional		x	1	x	0.2	x	3	0
							Sub-total	241

Offices and Workstations Space Allocated **1,834** J = F + G + H + I

25% Office Support Space Allocated **605** K = (J x 0.33) - J

TOTAL ALLOCATION – Excluding Internal Circulation **2,439** L = J + K

School / Department / Group Name:

Mathematics & Science

	A	B	C	D	E = A x B x C x D
Title or Title Equivalent	Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)	Area Allocated (NASM)
Full-Time					
Dean	1	x	1	x	24
Associate Dean	2	x	1	x	15
Department Chair/ Program Director	9	x	1	x	15
Full-time Faculty	58	x	1	x	11
Research Appointment (Post-Doctoral)	7	x	1	x	11
Administrative Director/Manager	1	x	1	x	11
Administrative Employee	12	x	1	x	6
Student Advisor	3	x	1	x	11
Support & Technical Employee	31	x	1	x	6
				Sub-total	1,206 F
Term / Contract / Part-Time					
LTA/ILTA Faculty	5	x	1	x	11
CUPE Instructors	61	x	0.1	x	6
Teaching Assistant	517	x	0.03	x	4
Administrative Employee	4	x	1	x	6
Support & Technical Employee	8	x	1	x	6
Student Employee	25	x	0.5	x	5
				Sub-total	288 G
Contractor / Alternative Status					
3 or 4 Days a Week Work on Campus		x	0.8	x	6
2 Days a Week Work on Campus		x	0.4	x	6
1 Day a Week Work on Campus		x	0.2	x	6
Off-Site Clinical/Placement Faculty/Staff		x	1	x	0.2
Multi-Campus Employee		x	1	x	0.2
				Sub-total	0 H
FTE Graduate Student					
Thesis	149.8	x	1	x	3
Professional		x	1	x	0.2
				Sub-total	449 I

Offices and Workstations Space Allocated **1,944** J = F + G + H + I

25% Office Support Space Allocated **641** K = (J x 0.33) - J

TOTAL ALLOCATION – Excluding Internal Circulation **2,585** L = J + K

School / Department / Group Name:

Social Sciences

	A	B	C	D	E = A x B x C x D
Title or Title Equivalent	Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)	Area Allocated (NASM)

Full-Time

Dean	1	x	1	x	1	x	24	24
Associate Dean	2	x	1	x	1	x	15	30
Department Chair/ Program Director	13	x	1	x	1	x	15	195
Full-time Faculty	139	x	1	x	1	x	11	1,529
Research Appointment (Post-Doctoral)	5	x	1	x	1	x	11	55
Administrative Director/Manager	0	x	1	x	1	x	11	0
Administrative Employee	24	x	1	x	1	x	6	144
Student Advisor	3	x	1	x	1	x	11	33
Support & Technical Employee	3	x	1	x	1	x	6	18
							Sub-total	2,028 F

Term / Contract / Part-Time

LTA/ILTA Faculty	3	x	1	x	1	x	11	33
CUPE Instructors	145	x	0.1	x	1	x	6	87
Teaching Assistant	854	x	0.03	x	1	x	4	102
Administrative Employee	9	x	1	x	1	x	6	54
Support & Technical Employee	2	x	1	x	1	x	6	12
Student Employee	4	x	0.5	x	1	x	5	10
							Sub-total	298 G

Contractor / Alternative Status

3 or 4 Days a Week Work on Campus		x	0.8	x	1	x	6	0
2 Days a Week Work on Campus		x	0.4	x	1	x	6	0
1 Day a Week Work on Campus		x	0.2	x	1	x	6	0
Off-Site Clinical/Placement Faculty/Staff		x	1	x	0.2	x	4	0
Multi-Campus Employee		x	1	x	0.2	x	4	0
							Sub-total	0 H

FTE Graduate Student

Thesis	183.9	x	1	x	1	x	3	552
Professional	140.6	x	1	x	0.2	x	3	84
							Sub-total	636 I

Offices and Workstations Space Allocated **2,963** J = F + G + H + I

25% Office Support Space Allocated **978** K = (J x 0.33) - J

TOTAL ALLOCATION – Excluding Internal Circulation **3,940** L = J + K

Academic Offices

School / Department / Group Name:

		Graduate Studies					
		A	B	C	D	E = A x B x C x D	
Title or Title Equivalent		Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)	Area Allocated (NASM)	

Full-Time

Dean	Dean	1	x	1	x	1	x	24	24
Associate Dean	Associate Dean		x	1	x	1	x	15	0
Department Chair/ Program Director	Chair		x	1	x	1	x	15	0
Full-time Faculty	Faculty		x	1	x	1	x	11	0
Research Appointment (Post-Doctoral)	Research		x	1	x	1	x	11	0
Administrative Director/Manager	Manager		x	1	x	1	x	11	0
Administrative Employee	Admin EE	14	x	1	x	1	x	6	84
Student Advisor	Student Advisor		x	1	x	1	x	11	0
Support & Technical Employee	Support		x	1	x	1	x	6	0
Sub-total								108	F

Term / Contract / Part-Time

LTA/ILTA Faculty	LTA		x	1	x	1	x	11	0
CUPE Instructors			x	0.1	x	1	x	6	0
Teaching Assistant			x	0.03	x	1	x	4	0
Administrative Employee	Admin EE		x	1	x	1	x	11	0
Support & Technical Employee	Support		x	1	x	1	x	6	0
Student Employee	Student		x	0.5	x	1	x	5	0
Sub-total								0	G

Contractor / Alternative Status

3 or 4 Days a Week Work on Campus			x	0.8	x	1	x	6	0
2 Days a Week Work on Campus			x	0.4	x	1	x	6	0
1 Day a Week Work on Campus			x	0.2	x	1	x	6	0
Off-Site Clinical/Placement Faculty/Staff			x	1	x	0.2	x	4	0
Multi-Campus Employee			x	1	x	0.2	x	4	0
Sub-total								0	H

FTE Graduate Student

Thesis			x	1	x	1	x	3	0
Professional			x	1	x	0.2	x	3	0
Sub-total								0	I

Offices and Workstations Space Allocated **108.00** **J = F + G + H + I**

25% Office Support Space Allocated **35.64** **K = (J x 0.33) - J**

TOTAL ALLOCATION – Excluding Internal Circulation **143.64** **L = J + K**

TOTAL ALLOCATION – Including 25% Internal Circulation Space Allocation **179.55** **M = L x 1.25**

Existing Allocated Area **259.39**

Academic Offices

School / Department / Group Name:

			ESL				
		A	B	C	D	E = A x B x C x D	
Title or Title Equivalent		Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)	Area Allocated (NASM)	

Full-Time

Dean	Dean		x	1	x	1	x	24	0
Associate Dean	Associate Dean		x	1	x	1	x	15	0
Department Chair/ Program Director	Chair		x	1	x	1	x	15	0
Full-time Faculty	Faculty		x	1	x	1	x	11	0
Research Appointment (Post-Doctoral)	Research		x	1	x	1	x	11	0
Administrative Director/Manager	Manager		x	1	x	1	x	11	0
Administrative Employee	Admin EE	28	x	1	x	1	x	6	168
Student Advisor	Student Advisor		x	1	x	1	x	11	0
Support & Technical Employee	Support		x	1	x	1	x	6	0
Sub-total								168	F

Term / Contract / Part-Time

LTA/ILTA Faculty	LTA		x	1	x	1	x	11	0
CUPE Instructors		10	x	0.1	x	1	x	6	6
Teaching Assistant			x	0.03	x	1	x	4	0
Administrative Employee	Admin EE		x	1	x	1	x	11	0
Support & Technical Employee	Support		x	1	x	1	x	6	0
Student Employee	Student		x	0.5	x	1	x	5	0
Sub-total								6	G

Contractor / Alternative Status

3 or 4 Days a Week Work on Campus			x	0.8	x	1	x	6	0
2 Days a Week Work on Campus			x	0.4	x	1	x	6	0
1 Day a Week Work on Campus			x	0.2	x	1	x	6	0
Off-Site Clinical/Placement Faculty/Staff			x	1	x	0.2	x	4	0
Multi-Campus Employee			x	1	x	0.2	x	4	0
Sub-total								0	H

FTE Graduate Student

Thesis			x	1	x	1	x	3	0
Professional			x	1	x	0.2	x	3	0
Sub-total								0	I

Offices and Workstations Space Allocated **174.00** J = F + G + H + I

25% Office Support Space Allocated **57.42** K = (J x 0.33) - J

TOTAL ALLOCATION – Excluding Internal Circulation **231.42** L = J + K

TOTAL ALLOCATION – Including 25% Internal Circulation Space Allocation **289.28** M = L x 1.25

Existing Allocated Area **212.59**

Academic Offices

School / Department / Group Name:

			Research						
			A	B	C	D	E = A x B x C x D		
Title or Title Equivalent		Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)		Area Allocated (NASM)		
Full-Time									
Dean	Dean		x	1	x	1	x	24	0
Associate Dean	Associate Dean		x	1	x	1	x	15	0
Department Chair/ Program Director	Chair		x	1	x	1	x	15	0
Full-time Faculty	Faculty		x	1	x	1	x	11	0
Research Appointment (Post-Doctoral)	Research	1	x	1	x	1	x	11	11
Administrative Director/Manager	Manager	10	x	1	x	1	x	11	110
Administrative Employee	Admin EE	4	x	1	x	1	x	6	24
Student Advisor	Student Advisor		x	1	x	1	x	11	0
Support & Technical Employee	Support	4	x	1	x	1	x	6	24
Sub-total								169	F
Term / Contract / Part-Time									
LTA/ILTA Faculty	LTA		x	1	x	1	x	11	0
CUPE Instructors			x	0.1	x	1	x	6	0
Teaching Assistant			x	0.03	x	1	x	4	0
Administrative Employee	Admin EE		x	1	x	1	x	11	0
Support & Technical Employee	Support	3	x	1	x	1	x	6	18
Student Employee	Student		x	0.5	x	1	x	5	0
Sub-total								18	G
Contractor / Alternative Status									
3 or 4 Days a Week Work on Campus			x	0.8	x	1	x	6	0
2 Days a Week Work on Campus			x	0.4	x	1	x	6	0
1 Day a Week Work on Campus			x	0.2	x	1	x	6	0
Off-Site Clinical/Placement Faculty/Staff			x	1	x	0.2	x	4	0
Multi-Campus Employee			x	1	x	0.2	x	4	0
Sub-total								0	H
FTE Graduate Student									
Thesis			x	1	x	1	x	3	0
Professional			x	1	x	0.2	x	3	0
Sub-total								0	I
Offices and Workstations Space Allocated							187.00	J = F + G + H + I	
25% Office Support Space Allocated							61.71	K = (J x 0.33) - J	
TOTAL ALLOCATION – Excluding Internal Circulation							248.71	L = J + K	
TOTAL ALLOCATION – Including 25% Internal Circulation Space Allocation							310.89	M = L x 1.25	
Existing Allocated Area							368.66		

Academic Offices

School / Department / Group Name:

Goodman School Of Business

		A	B	C	D	E = A x B x C x D
Title or Title Equivalent		Employee Headcount	Headcount Employee to FTE Employee Conversion Factor	Ratio of FTE Employee or Student per Office or Desk	Area per Office or Station (NASM)	Area Allocated (NASM)

Full-Time

Dean	Dean	1	x	1	x	1	x	24	24
Associate Dean	Associate Dean	2	x	1	x	1	x	15	30
Department Chair/ Program Director	Chair	4	x	1	x	1	x	15	60
Full-time Faculty	Faculty	81	x	1	x	1	x	11	891
Research Appointment (Post-Doctoral)	Research	0	x	1	x	1	x	11	0
Administrative Director/Manager	Manager	10	x	1	x	1	x	11	110
Administrative Employee	Admin EE	11	x	1	x	1	x	6	66
Student Advisor	Student Advisor	3	x	1	x	1	x	11	33
Support & Technical Employee	Support	2	x	1	x	1	x	6	12
Sub-total									1226

Term / Contract / Part-Time

LTA/ILTA Faculty	LTA	15	x	1	x	1	x	11	165
CUPE Instructors		52	x	0.1	x	1	x	6	31.2
Teaching Assistant		116	x	0.03	x	1	x	4	13.92
Administrative Employee	Admin EE	8	x	1	x	1	x	11	88
Support & Technical Employee	Support	0	x	1	x	1	x	6	0
Student Employee	Student	21	x	0.5	x	1	x	5	52.5
Sub-total									350.62

Contractor / Alternative Status

3 or 4 Days a Week Work on Campus			x	0.8	x	1	x	6	0
2 Days a Week Work on Campus			x	0.4	x	1	x	6	0
1 Day a Week Work on Campus			x	0.2	x	1	x	6	0
Off-Site Clinical/Placement Faculty/Staff			x	1	x	0.2	x	4	0
Multi-Campus Employee			x	1	x	0.2	x	4	0
Sub-total									0

FTE Graduate Student

Thesis			x	1	x	1	x	3	0
Professional		477.4	x	1	x	0.2	x	3	286.44
Sub-total									286.44

Offices and Workstations Space Allocated **1863.06** J = F + G + H + I

25% Office Support Space Allocated **614.81** K = (J x 0.33) - J

TOTAL ALLOCATION – Excluding Internal Circulation **2477.87** L = J + K

TOTAL ALLOCATION – Including 25% Internal Circulation Space Allocation **3097.34** M = L x 1.25

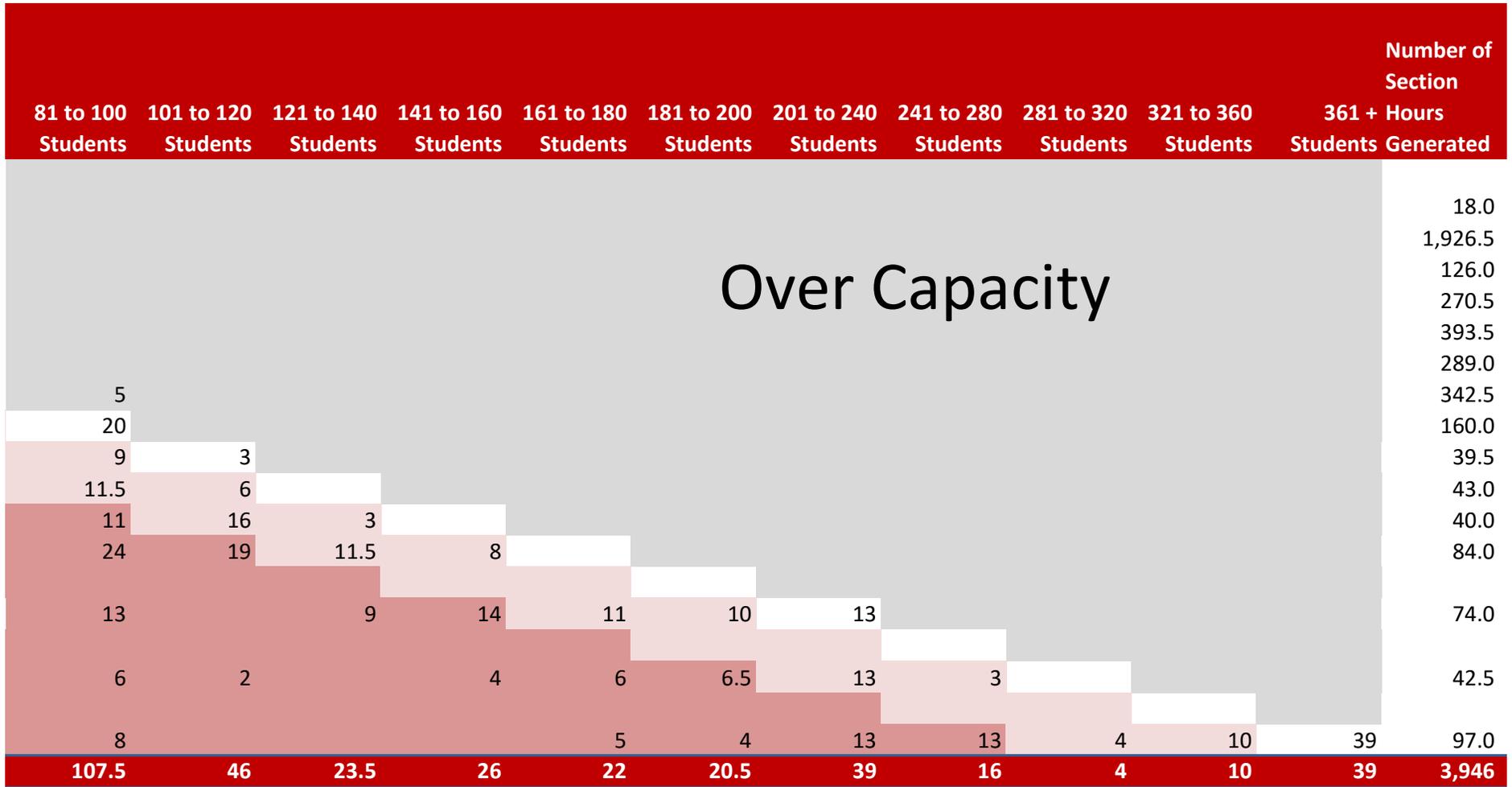
Existing Allocated Area **1619.46**

Brock Classroom Seat Utilization

Existing Room Capacity	1 to 8 Students	9 to 16 Students	17 to 24 Students	25 to 32 Students	33 to 40 Students	41 to 48 Students	49 to 60 Students	61 to 80 Students
1 to 8 Seats								
9 to 16 Seats	15		3					
17 to 24 Seats	317.5	259	1346	4				
25 to 32 Seats	33.5	62	23.5	7				
33 to 40 Seats	9	38.5	57	79	69	10.5		7.5
41 to 48 Seats	28.5	57	73.5	43.5	97	94		
49 to 60 Seats	14.5	45.5	41	39	44	41	62	2
61 to 80 Seats	12	16	18.5	40	57.5	35	66	92.5
81 to 100 Seats	1	1	16	5	23	12	41	41
101 to 120 Seats			2	5		1	6	13.5
121 to 140 Seats					5.5		2	18
141 to 160 Seats						2	3	5
161 to 180 Seats					1	2	6	12.5
181 to 200 Seats								
201 to 240 Seats							4	
241 to 280 Seats								
281 to 320 Seats	2							
321 to 360 Seats								
361 + Seats						1		
Number of Section Hours Gener	433	479	1580.5	222.5	297	198.5	190	192

Latent Capacity

1.3%	Hours of Use Whereby the Number of Students Exceeds the Capacity of the Classroom
44.2%	Hours of Use Whereby the Number of Students Matches the Capacity of the Classroom
34.2%	Hours of Use Whereby the Capacity of the Classroom Exceeds the Number of Students
20.2%	Hours of Use Whereby the Capacity of the Classroom Exceeds the Number of Students



Space Management Framework Documents



October 14th, 2017

1 - Space Management Procedures

ALLOCATION OF SPACE

- University building space is planned and allocated in a manner that best meets the Guiding Principles stated in the University's Space Management Policy.
- Space allocations are guided by the University's Space Allocation Standards described in Appendix 1.
- Space allocation decisions are based on the process and the decision points outlined in the Space Allocation Request Flowchart illustrated in Appendix 2.
- Space requests are evaluated and prioritized according to the Criteria for the Evaluation of Space Requests presented in Appendix 3.
- The University community's health, safety and universal accessibility are paramount considerations in planning, allocating and managing of space.

SPACE PLANNING INFORMATION

Up-to-date and accurate information on space allocations and utilization is a key element in effective planning and management of space. Space management tools include:

Building Space Audits

Facilities Management (FM) commissions audits on a revolving basis to assess how Brock University space is used. Utilization and allocation assessments evaluate the effective and equitable allocation of space. The assessments use inputs such as enrolments, hours of instruction and staff establishment and compare them to space utilization targets, allocation guidelines and provincial university benchmarks. Different metrics and analysis techniques are used for different categories of space, as outlined in the University's Space Allocation Standards (Appendix 1).

Space Inventory Data and Floor Plans

FM maintains a central record of space inventory in all buildings using ARCHIBUS, a facility management computer application. ARCHIBUS provides information on room floor areas (NASM), COU categorization (primary and secondary), occupant capacity and allocation of space (department and division). The information is updated on a regular basis by FM with input from academic and administrative users.

CRITERIA FOR THE EVALUATION OF SPACE REQUESTS

Five broad criteria are used to evaluate and prioritize space requests:

- Alignment with University Plans and Standards
- Excellence, Innovation, Creativity and / or Inclusiveness
- Benefits
- Stewardship and Sustainability
- Investment and Risk

Appendix 3 provides the details of the criteria framework and evaluation rubric.

The consistent and continued application of the five criteria to evaluate space allocation requests promotes transparent, priority-driven and evidence-based space allocation decisions.

SPACE REQUEST PROCESS

The process to evaluate major space requests follows the steps and decisions points outlined in the Space Allocation Request Flowchart (Appendix 2).

The process begins with the submission of a short-form application to FM. A determination is then made by FM that the request is either a Space Renovation, Minor Space Request or Major Space Request.

Major Space Request vs. Minor Space Request

A space request with any of the following attributes is considered a Major Space Request:

- The change in the amount of space to allocated or renovated exceeds 1,000 square feet
- The functional classification of the space changes, as defined by the Council of Ontario Universities (COU) space categorization system
- The funding of the project is sourced externally to Brock University
- The estimated project cost exceeds \$100,000
- Any capacity change of an instructional space
- Significant (+50%) capacity change of non-instructional spaces

A Minor Space Request is defined as meeting none of the above attributes. FM will evaluate, manage and implement a Minor Space Request in consultation with its proponent(s) based on the Guiding Principles of the Space Management Policy, the University's Space Allocation Standards (Appendix 1), space availability and other related factors.

Evaluation of Major Space Requests

The proponent(s) of a Major Space Request complete a Long Form Application outlining the need and rationale for the space allocation, and its merits in relation to the Criteria framework (Appendix 3).

The Space Request Evaluation Committee evaluates the Major Space Requests against the criteria rubric and assigns a score between 0 and 100.

The Committee will meet twice a year to coincide with the development of the Long-Term Capital Plan (LTCP) and Budget review. The Committee shall meet in January and July of each year. Space requests that have scored high shall be evaluated within the LTCP Prioritization process used in the development of the LTCP, and as a result may or may not be funded through the LTCP.

Members of the Space Request Evaluation Committee include:

- 6 x Academic Faculty Representatives, including the Committee Chair
- 1 x Learning / Student Success Representative
- 1 x Facilities Management Representative
- 1 x Registrar's Office Representative
- 1 x Finance Representative
- 1 x Ancillary Services Representative

Members of the Space Request Evaluation Committee represent a cross-section of the University academic and administrative units. They have been trained to evaluate the requests consistently and from a University-wide perspective.

The Associate Director, Space Management and Planning supports the work of the Committee and coordinates its technical support.

Further Processing of Major Space Requests

Once evaluated, a Major Space Request is added and prioritized based on its score in relation to other past and current requests. Together, past and current requests form of cumulative pool of ranked requests evaluated from time to time by the University's senior leadership (PVP), who designates them as approved, postponed or dismissed.

A request can be held in the cumulative pool of ranked requests for no more than three years, after which the proponents of the request must resubmit it to the University or withdraw it.

Technical Support

Proponents of minor and major space requests and the Space Request Evaluation Committee can ask for technical support from FM, Information Technology Services, Registrar's Office, Institutional Analysis and Finance.

APPENDICES

Appendix 1 Space Allocation Process Flowchart

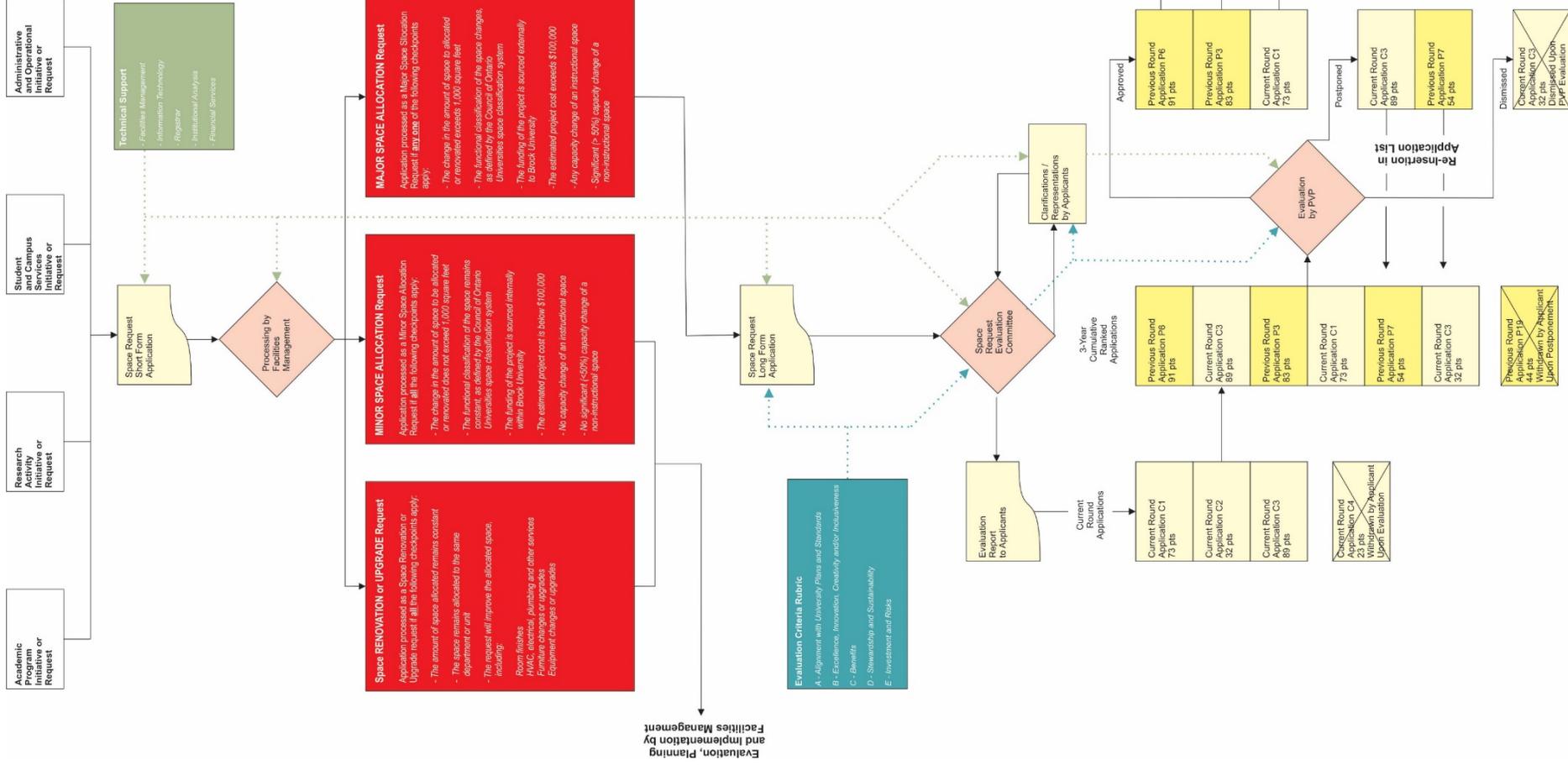
Appendix 2 Proceedings of Working Group on Space Standards

Appendix 3 Criteria for the Evaluation of Space Requests

Appendix 4 Space Request Short Form

Appendix 5 Space Request Long Form

Appendix 1 – Space Allocation Process Flowchart



Appendix 2 – Proceedings of Working Group on Space Standards

EXECUTIVE SUMMARY

Renewed Space Management and Allocation Practices at Brock University

In May 2016 Brock University initiated a planning and consultation process to update the 2006 Facilities Needs & Priorities Study (FNPS). A key deliverable of the FNPS is to strengthen Brock's current space management and space allocation practices. The University wishes to review and renew its practices to ensure they are evidence-based, transparent and equitable. One aspect of this change is the need to adopt space allocation standards that reflect Brock's operational realities and best practices in the sector.

A Working Group was assembled in November 2016 to study and report back to the FNPS Project Steering Committee on the definition of space allocation standards deemed appropriate in defining the space needs and priorities of the University. The Working Group met five times between November 2016 and March 2017 to discuss, evaluate and recommend to the FNPS Project Steering Committee space allocation standards and tools to evaluate space needs.

Recommendations of the Working Group on Space Standards

Classroom Facilities

The Working Group recommends that the need for classrooms space be evaluated based on the number of the number of class-hours that must be scheduled into a given set of rooms, considering the number of students in a class and a pre-set room utilization target.

The Working Group recommends that the target per room be set at 47.7 hours out of 66.0 hours per week in available in daytime, late afternoon and evening. This target exceeds the rate of utilization recommended by the Council of Ontario Universities (COU) as follows:

- Brock Recommended Total Weekly Scheduling Window and Room Utilization Rate: 66 hours x 72% = 47.7 hours per room
- COU Total Weekly Scheduling Window and Room Utilization Rate: 57 hours x 60% = 34.2 hours per room

The Working Group notes that the target should be viewed as a threshold

that alert the University to add or remove rooms from the classroom inventory.

Instructional Laboratories

The Working Group recommends that the need for instructional laboratory space also be evaluated based on the number of class-hours that must be scheduled into rooms sharing the same physical attributes and equipment (wet-bench science laboratories, computer laboratories, etc.).

The Working Group recommends that the room utilization target for general computer laboratories be the same as the one it recommends for classroom space.

The Working Group recommends that the room utilization target for specialized laboratories be set at 27.0 hours out of 45.0 daytime hours a week. This target exceeds the rate of utilization recommended by the Council of Ontario Universities (COU) as follows:

- Brock Recommended Total Weekly Scheduling Window and Room Utilization Rate 45 hours x 60% = 27.0 hours per room
- COU Total Weekly Scheduling Window and Room Utilization Rate 45 hours x 40% = 18.0 hours per room

The Working Group notes that the utilization of instructional laboratories in the late afternoon and evening is possible, but creates operational and safety staffing challenges the University will have to consider before the room utilization target can be increased to account for the availability of the facilities at those times.

Academic (Including Graduate Student) and Administrative Offices

The COU methodology to evaluate office space needs is based on a generic space allocation per full-time allocation employee, with minor adjustments related to the status of the employee.

The Working Group has tested and recommends using Brock-specific worksheets to evaluate the office space needs of a given academic or service unit. The proposed worksheets account for the differences between these groups: academic units, library services and administrative units. This

finer-grained evaluation of needs considers:

- The full-time, part-time, contract and alternative status of the employee
- The need for office or workspace accommodation by non-full time employee when present on campus
- The nature of the employee's position in terms of confidentiality requirements
- The type and size of office or workspace accommodation based on the employee's role and responsibilities in the organization
- The Thesis vs. Professional status of graduate programs, this to determine how much space is allocated

Research Facilities

The Working Group recommends using the COU methodology to evaluate the need for research space at the University, with no modification.

The Working Group notes that using the COU methodology should not be literally applied to the actual design and configuration of research laboratories. Each research initiative is unique, and takes place in varying types of buildings providing very different research environments. Small variations between the COU standard and the actual space allocations will occur. Large variations, on the other hand, should draw the attention of the University and prompt an analysis of reasons and possible remediation measures.

Other Facilities

Other facilities include:

- Library Facilities & Study Space
- Central Services
- Non-Library Study Space
- Health Service Facilities
- Athletic / Recreation Space

- Common Use and Student Activity
- Food Services
- Assembly and Exhibition Facilities
- Bookstore / Merchandising

The Working Group recommends that Other Facilities be monitored and evaluated using the following benchmarks, indicators and institutional planning inputs:

Benchmarks Achieved in Relation to Other Ontario Universities

- Area per full-time equivalent student (SM / FTE) benchmarks achieved by the University in the space category being examined in relation to Ontario's other universities, particularly institutions Brock deems to be similar in terms of program offerings and size (Wilfrid Laurier University for example).

Indicators and Institutional Planning Inputs

- Alignment and benefits of a space allocation in relation to the University's strategic, academic and business plans.
- Results of general or of targeted user satisfaction surveys, including but not limited to annual Key Performance Indicator (KPI) results directly or indirectly linked to the service or amenity provided or considered.
- Relevant reports and data sets describing existing conditions, issues, opportunities and trends in the delivery or configuration of services and amenities.
- Compliance of the University in providing the service or the amenity space allocations in relation to standards set externally by regulators and accrediting bodies

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Section 1 - Introduction

Context

In May 2016 Brock University initiated a planning and consultation process to update the 2006 Facilities Needs & Priorities Study (FNPS).

The purpose of the FNPS is to guide mid-term (10 years) capital projects at the University based on academic, research and student services plans, recorded shortfalls or surpluses of space allocated to certain functions or user groups, and the condition of existing buildings. The updated version of the FNPS is also guided by the University's Campus Plan which sets broad land use, building placement and infrastructure development directions on a long-term basis (30-years).

Renewed Space Management and Allocation Practices at Brock University

A key deliverable requested by the University at the beginning of the FNPS is to strengthen Brock's current space management and space allocation practices. The University wishes to review and renew its practices to ensure they are evidence-based, transparent and equitable.

One aspect of this change is the need to adopt space allocation standards that reflect Brock's operational realities and best practices in the sector. The standards are not prescriptive. Rather, the standards are intended to enhance management of the University's valuable space resource when evaluating space current and future allocation priorities, planning major renovations in existing buildings and designing new facilities.

Space Allocation Standards Working Group

A Working Group was assembled in November 2016 to study and report back to the FNPS Project Steering Committee on the definition of space allocation standards deemed appropriate in defining the space needs and priorities of the University.

The following individuals (i.e. the Working Group) met five times between November 2016 and February 2017 to discuss, evaluate and recommend to the FNPS Project Steering Committee space allocation standards and tools to evaluate space needs. This document was prepared to report on the proceedings, considerations and recommendations of the Group regarding the adoption of Brock-specific space allocation standards.

Working Group Members

- Nota Klentrou - Chair Associate Dean, Applied Health Sciences
- Thomas Dunk - Interim Provost and Vice-President Academic
- Anna Lathrop - Vice-Provost, Teaching and Learning
- Cara Boese - Director, Co-op, Career & Experiential Education
- Geraldine Jones - Registrar
- Neil Culp - Associate Director, Organizational Development & Effectiveness
- Ed Wall - Director, Financial Strategy & Operations
- Julianna McCormick - Director, Campus Planning, Design & Construction Services

Advisors / University Resource Staff to the Working Group

- Roland Mech - Associate Director, Space Management and Planning
- Gloria Gallagher - Associate Registrar, Enrolment Management, Reporting & Systems
- Mark Robertson - University Librarian
- Jill Grose - Director, Centre for Pedagogical Innovation

Consultant / Facilitator

Michel de Jocas - Partner, Educational Consulting Services Corp.

Brock University Accessibility (AODA) Policy

The space allocation standards described in this document are aligned with the Brock University Accessibility (AODA) Policy. The standards thus consider, where applicable, the amount of space required to achieve barrier-free environments.

However, this document does not describe the detailed physical and design considerations needed to ensure that a space is universally accessible. The Working Group trust that these features and requirements are to be consistently applied by the University in compliance with the Policy, statutory requirements and best practices.

Section 2 - Classroom Facilities

Definition of Classroom Facilities

The Council of Ontario Universities (COU) defines a classroom facility as follows:

“A room primarily used for scheduled teaching purposes which does not require equipment of a kind that makes the room unsuitable for classroom instruction (i.e., laboratory benches) and rooms directly serving such facilities.”

Additionally, classroom facilities typically include or feature:

- Classrooms, seminar rooms, lecture halls and auditoria used for scheduled instruction and learning activity
- Breakout rooms, if they are used concurrently with scheduled classrooms
- Rooms scheduled centrally or locally by individual academic departments or administrative units
- Various configurations of fixed or movable types of chairs and tables
- Support spaces such as storage areas; front or rear projection facilities; IT/AV equipment rooms; sound/light vestibules and lobbies; stages, technical space, and demonstration areas

Classroom facilities typically exclude:

- Unscheduled breakout rooms used as student study rooms. These are considered learner support spaces (COU Category 11)
- Departmental, faculty or administrative meeting or conference rooms (COU Category 4 and Category 10)
- Large capacity performing arts spaces predominantly used for drama, music, etc. (COU Category 2)

COU Methodology for Assessing Classroom Facility Requirements

COU Methodology Overview

The COU methodology to assess classroom requirements relies, as its primary input, on the population of a university expressed in FTE students. This input is then multiplied by a space factor expressed in square meters (SM). For example:

- 1,000 FTE students enrolled at the University x 1.11 SM per FTE student = 1,110 SM of classroom facilities space generated

The value of the FTE student figure is based on exacting enrolment reporting protocols set between the University, COU and the Ministry of Advanced Education and Skills Development. This FTE figure accounts for all students enrolled at the University regardless of their need for classroom space. Thus, for example, the FTE figure will include students enrolled in online programs that never attend classes on campus.

COU arrives at the 1.11 square meter per FTE student space allocation based on the following assumptions and calculations:

Assumptions

- A (Area) – Average University classroom station size: 1.7 SM per station assuming a mix of classroom types and inclusive of classroom service space
- H (Hours) – Room utilization target per week: 34 hours out of 57 hours a week (60%) assuming 45 daytime weekly hours plus 12 evening weekly hours
- S (Seat) – Seat utilization target: 70% of the Seats Occupied when the room is used
- C (Contact Hours) – Contact hours per student: 16 hours (non-laboratory) per student per week

Calculation

- $A (1.7 \text{ SM}) \times C (16 \text{ hours}) = 1.11 \text{ SM per FTE Student H (34 hours)} \times S (70\%)$

Strengths of COU Methodology

- Convenience of using a single input (i.e. FTE student population) to estimate the amount of classroom facility space required on a University-wide basis.
- Consistency and comparability for benchmarking purposes with other Canadian universities that use the same COU methodology (including the majority of G15 institutions).

Weaknesses of COU Methodology

- The SM per FTE method does not account for the institution's practices, plans or needs in terms of section sizes, preferred room configurations and institution-specific room and seat utilization targets.
- The average of 16 contact hours per student is generous considering this figure does not include any laboratory hours. The 16 contact hours figure also does not account for emerging alternative instructional delivery modalities where students attend classes remotely, every other week, etc.
- The 1.7 SM per station allocation assumes that a fair portion of instructional hours is delivered in large sections in lecture halls and auditoria. This may or may not accurately reflect an institution's practices and does not inform decisions on optimizing an institution's classroom inventory in terms of the capacity of each room.
- The 60% room utilization target for a scheduling window of 57 hours a week is low. Many institutions, including Brock University, achieve higher utilization rates particularly during the prime daytime hours (8:00 AM to 3PM) that are preferred by students and faculty.

Proposed Framework for Assessing Classroom Facility Requirements at Brock University

The COU methodology is too broad-based to assist an institution plan or project its classroom space requirements with precision. A more detailed approach is required to assist in day-to-day space management and the scheduling / booking of these spaces. What follows describes the proposed framework for assessing classroom facility requirements at Brock University.

The primary determinants of demand for classroom space in a university setting are:

- The number of hours per day, per week or per semester that must be scheduled in that institution's pool of classrooms
- The size of the student groups that must be accommodated for each of the hours that must be scheduled in a given day, week or semester
- The types of classrooms (regular, lecture hall, active learning, etc.) in which the hours of instruction are or should be scheduled

The primary measure for describing demand for instructional space is the section-hour, calculated as per the following examples:

- 1 section of 60 students attending a 1-hour class 3 times per week in a regular classroom (table & chair) = 3 section-hours generated for sections of 60 students in a 60-seat regular (1 section x 1 hour x 3 times per week = 3 section-hours)
- 4 sections of 40 students attending separate 2-hour classes 1 time per week in active learning classrooms (mobile furniture) = 8 section-hours generated for sections of 40 students in a 40-seat active learning classroom (4 sections x 2 hours x 1 time per week = 8 section-hours)
- 2 sections of 60 students attending a joint 3 hour lass one time per week in a lecture hall (fixed furniture) = 3 section-hours generated for section of c120 students in a 120-seat lecture hall (1 section x 3 hours x 1 time per week = 3 section-hours)

Quantifying and categorizing the section-hours for classroom facilities (i.e. the demand for such space) can be done in several ways:

- Analysis of past or current scheduling records and room timetables to extract and quantify instructional activity expressed in section hours
- Calculation of future number of section hours based on the institution's academic and enrolment plans
- Combination of the two approaches

The facilities used by a university to accommodate the above-referenced section-hours can be characterized as its classroom supply. To inform space allocation and space planning decisions around the adequacy of this supply the following attributes are typically used:

- Room capacities in conjunction with types or configurations (flat floor, tiered, fixed furniture, loose furniture, etc.)
- Room availability for scheduling, usually expressed in hours per day, per week or per semester, often referred to as the scheduling window. For example, most universities in Ontario have adopted a 45-hour daytime weekly scheduling window based on a 5-day week (Monday to Friday) and a 9-hour day (8:00 AM to 5:00 PM).
- Utilization targets, i.e. the number of section-hours scheduled within a given scheduling window. For example, an institution may set a utilization target whereby on average rooms of certain types are used 75% of the 45-hour scheduling window. Space planning decisions to add or remove rooms from the inventory will be based on whether the utilization is approaching or not the target set by the University.

Framework for Assessing Classroom Facility Requirements at Brock University

In view of the above, the worksheet outlined below is to be used to reconcile the demand inputs (expressed in section-hours) and the supply inputs (expressed as the number of a certain type of room by capacity):

Classroom Facility Requirement Worksheet Proforma

	A	B	C.O = A/B	D = A/B	E	F = E - D
G	Daytime Weekly Scheduling Window - Hours or Periods:	—.				
H	Daytime Room Utilization Target - Percentage:	—%				
I	Afternoon Weekly Scheduling Window - Hours or Periods:	—.				
J	Afternoon Room Utilization Target - Percentage:	—%				
K	Evening Weekly Scheduling Window - Hours or Periods:	—.				
L	Evening Room Utilization Target:	—%				
M = (GxH)+(IxJ)+(KxL)	Weekly Scheduling Target per Room:	##.#				
	Number of Section Hours to Accommodate per Week	M	Number of Rooms Required (Rounded to One Decimal)	Carried Over to the Next Highest Room Capacity as Appropriate)	Number of Rooms in Inventory	Variation
	1 to 8 Students / Occupants	—.	—.	—.	—.	—.
	9 to 16 Students / Occupants	—.	—.	—.	—.	—.
	17 to 24 Students / Occupants	—.	—.	—.	—.	—.
	25 to 32 Students / Occupants	—.	—.	—.	—.	—.
	33 to 40 Students / Occupants	—.	—.	—.	—.	—.
	41 to 48 Students / Occupants	—.	—.	—.	—.	—.
	49 to 60 Students / Occupants	—.	—.	—.	—.	—.
	61 to 80 Students / Occupants	—.	—.	—.	—.	—.
	81 to 100 Students / Occupants	—.	—.	—.	—.	—.
	101 to 120 Students / Occupants	—.	—.	—.	—.	—.
	121 to 140 Students / Occupants	—.	—.	—.	—.	—.
	141 to 160 Students / Occupants	—.	—.	—.	—.	—.
	161 to 180 Students / Occupants	—.	—.	—.	—.	—.
	181 to 200 Students / Occupants	—.	—.	—.	—.	—.
	201 to 240 Students / Occupants	—.	—.	—.	—.	—.
	241 to 280 Students / Occupants	—.	—.	—.	—.	—.
	281 to 320 Students / Occupants	—.	—.	—.	—.	—.
	321 to 360 Students / Occupants	—.	—.	—.	—.	—.
	361 + Students / Occupants	—.	—.	—.	—.	—.
	Total		Total			

The worksheet can be used on a campus-wide basis, or for any sub-sets of the space inventory and/or faculty or departmental instructional activity being evaluated. The values for the relevant inputs - section-hours, utilization targets and number of rooms in the inventory - are placed in areas highlighted in yellow. Users then compute the space requirements as per the alphabetic notations and formulas shown on the top and left of the worksheet.

Example of Classroom Facility Requirement Worksheet

The two worksheets example shown below are representative of the Fall 2015 scheduling activity at the University's Saint Catharines campus.

Daytime and Evening Activity

The first example looks at daytime and evening hours of instructional activity (column A, i.e. demand) and the optimal capacities of the classrooms needed to absorb this activity (column D, i.e. supply). The number of rooms required is a function of the weekly scheduling target set, which in this instance assumes daytime and evening scheduling windows used as per target rates shown on lines G to M.

	A	B	C.O = A/B		D = A/B	E	F = E - D		
G	Daytime Weekly Scheduling Window - Hours or Periods:	45.0							
H	Daytime Room Utilization Target - Percentage:	75%							
I	Afternoon Weekly Scheduling Window - Hours or Periods:	9.0							
J	Afternoon Room Utilization Target - Percentage:	75%							
K	Evening Weekly Scheduling Window - Hours or Periods:	12.0				Number of Rooms Required (Decimals)			
L	Evening Room Utilization Target:	60%				Carried Over to the Next Highest Room Capacity as Appropriate)			
M	$M = (G \times H) + (I \times J) + (K \times L)$ Weekly Scheduling Target per Room:	47.70				Number of Rooms Required (Rounded to One Decimal)	Number of Rooms in Inventory		
							Variation		
	Number of Section Hours to Accommodate per Week	M							
	1 to 8 Students / Occupants	488.0 /	47.7 Hours or Periods per Week	10.2	10.2	0.2	10	0	-10
	9 to 16 Students / Occupants	640.5 /	47.7 Hours or Periods per Week	13.4	13.7	0.7	13	2	-13
	17 to 24 Students / Occupants	1768.0 /	47.7 Hours or Periods per Week	37.1	37.7	0.7	37	60	+23
	25 to 32 Students / Occupants	304.5 /	47.7 Hours or Periods per Week	6.4	7.1	0.1	7	6	-1
	33 to 40 Students / Occupants	387.0 /	47.7 Hours or Periods per Week	8.1	8.2	0.2	8	9	+1
	41 to 48 Students / Occupants	283.5 /	47.7 Hours or Periods per Week	5.9	6.2	0.2	6	10	+4
	49 to 60 Students / Occupants	244.0 /	47.7 Hours or Periods per Week	5.1	5.3	0.3	5	10	+5
	61 to 80 Students / Occupants	263.5 /	47.7 Hours or Periods per Week	5.5	5.8	0.8	5	9	+4
	81 to 100 Students / Occupants	132.5 /	47.7 Hours or Periods per Week	2.8	3.6	0.6	3	3	+0
	101 to 120 Students / Occupants	57.0 /	47.7 Hours or Periods per Week	1.2	1.8	0.8	1	1	+0
	121 to 140 Students / Occupants	31.0 /	47.7 Hours or Periods per Week	0.6	1.4	0.4	1	1	+0
	141 to 160 Students / Occupants	38.0 /	47.7 Hours or Periods per Week	0.8	1.2	0.2	1	1	+0
	161 to 180 Students / Occupants	30.0 /	47.7 Hours or Periods per Week	0.6	0.9	0.9	0	2	+2
	181 to 200 Students / Occupants	23.5 /	47.7 Hours or Periods per Week	0.5	1.3	0.3	1	0	-1
	201 to 240 Students / Occupants	50.0 /	47.7 Hours or Periods per Week	1.0	1.4	0.4	1	2	+1
	241 to 280 Students / Occupants	21.0 /	47.7 Hours or Periods per Week	0.4	0.8	0.8	0	0	+0
	281 to 320 Students / Occupants	6.0 /	47.7 Hours or Periods per Week	0.1	1.0	1.0	0	1	+1
	321 to 360 Students / Occupants	13.0 /	47.7 Hours or Periods per Week	0.3	1.2	0.2	1	0	-1
	361 + Students / Occupants	55.0 /	47.7 Hours or Periods per Week	1.2	1.4	0.4	2	3	+1
	Total	4836.0	Total	101.4	110.2	9.2	102	120	+18

Daytime-Only Activity – All Classes that Started before 5:00 PM in Fall 2015

The second example looks at daytime hours of instructional activity (column A, i.e. demand) only and the optimal capacities of the classrooms needed to absorb this activity (column D, i.e. supply). The number of rooms required is a function of the weekly scheduling target set, which in this instance assumes a daytime-only scheduling window used as per target rate shown on lines G, H and M.

Other Considerations

The worksheet proforma can also be used to evaluate the classroom space needs of specific academic units of the University, including for example:

- The classroom requirements of the Faculty of Education at the Hamilton Campus
- The impact on classroom facilities of adding a new program(s) and / or new student cohort(s) that increase the number of section hours to be scheduled, or the size of the sections to be scheduled. A practical way of evaluating these changes is to overlay the new or modified section-hour values generated because of such initiatives over existing data sets, such as the one shown in worksheet example above.

	A	B	C.0 = A / B		D = A / B		E	F = E - D	
G	Daytime Weekly Scheduling Window - Hours or Periods:	45.0							
H	Daytime Room Utilization Target - Percentage:	75%							
I	Afternoon Weekly Scheduling Window - Hours or Periods:	9.0							
J	Afternoon Room Utilization Target - Percentage:	0%							
K	Evening Weekly Scheduling Window - Hours or Periods:	12.0							
L	Evening Room Utilization Target:	0%							
M	$M = (G \times H) \div (I \times J) + (K \times L)$ Weekly Scheduling Target per Room:	33.75							
	Number of Section Hours to Accommodate per Week	M	Number of Rooms Required (Rounded to One Decimal)	Number of Rooms Required to the Next Highest Room Capacity as Appropriate	Number of Rooms in Inventory	Variation			
	1 to 8 Students / Occupants	433.0 /	33.75 Hours or Periods per Week	12.8	12.8	0.8	12	0	-12
	9 to 16 Students / Occupants	479.0 /	33.75 Hours or Periods per Week	14.2	15.0	0.8	15	2	-13
	17 to 24 Students / Occupants	1580.5 /	33.75 Hours or Periods per Week	46.8	46.9	0.1	46	60	+14
	25 to 32 Students / Occupants	222.5 /	33.75 Hours or Periods per Week	6.6	7.4	0.8	7	6	-1
	33 to 40 Students / Occupants	297.0 /	33.75 Hours or Periods per Week	8.8	9.2	0.4	9	9	+0
	41 to 48 Students / Occupants	198.5 /	33.75 Hours or Periods per Week	5.9	6.1	0.2	6	10	+4
	49 to 60 Students / Occupants	190.0 /	33.75 Hours or Periods per Week	5.6	5.8	0.2	5	10	+5
	61 to 80 Students / Occupants	192.0 /	33.75 Hours or Periods per Week	5.7	6.4	0.7	6	9	+3
	81 to 100 Students / Occupants	107.5 /	33.75 Hours or Periods per Week	3.2	3.6	0.4	3	3	+0
	101 to 120 Students / Occupants	46.0 /	33.75 Hours or Periods per Week	1.4	2.0	0.6	1	1	+0
	121 to 140 Students / Occupants	23.5 /	33.75 Hours or Periods per Week	0.7	1.7	1.0	1	1	+0
	141 to 160 Students / Occupants	26.0 /	33.75 Hours or Periods per Week	0.8	1.5	0.7	1	1	+0
	161 to 180 Students / Occupants	22.0 /	33.75 Hours or Periods per Week	0.7	1.1	0.4	1	2	+1
	181 to 200 Students / Occupants	20.5 /	33.75 Hours or Periods per Week	0.6	0.7	0.1	0	0	+0
	201 to 240 Students / Occupants	39.0 /	33.75 Hours or Periods per Week	1.2	1.9	0.7	1	2	+1
	241 to 280 Students / Occupants	16.0 /	33.75 Hours or Periods per Week	0.5	1.3	0.8	1	0	-1
	281 to 320 Students / Occupants	4.0 /	33.75 Hours or Periods per Week	0.1	0.5	0.4	0	1	+1
	321 to 360 Students / Occupants	10.0 /	33.75 Hours or Periods per Week	0.3	0.8	0.5	0	0	+0
	361 + Students / Occupants	39.0 /	33.75 Hours or Periods per Week	1.2	1.9	0.7	2	3	+1
	Total	3946.0	Total	116.9	126.7	10.7	117	120	+3

Utilization Targets

The Working Group recommends the following utilization factors which, in combination, define the weekly utilization target for classroom facilities at Brock University:

- Daytime Scheduling Window – Monday to Friday 8:00 AM to 5:00 PM: 45 hours
- Daytime Room Utilization Target (%): 75%
- Daytime Utilization Target (Hours): 33.8 hours per room
- Afternoon Scheduling Window – Monday to Thursday 5:00 PM to 7:00 PM: 8 hours, Friday 5:00 PM to 6:00 PM: 1 hour
- Afternoon Room Utilization Target (%): 75%
- Afternoon Utilization Target (Hours): 6.7 hours per room
- Evening Scheduling Window – Monday to Thursday 7:00 pm to 10:00 PM: 12 hours
- Evening Room Utilization Target (%): 60%
- Evening % Utilization Target (Hours): 7.2 hours per room
- Total Weekly Scheduling Window: 66 hours
- Total Weekly Utilization Target (%): 72%
- Total Weekly Utilization Target (Hours): 47.7 hours per room

The above targets expressed in percentages and hours should be viewed as thresholds that alert the University to a need, for example, to shift delivery times between afternoon and evening, or to add or remove rooms from the classroom inventory.

When aggregated, the targets recommended by the Working Group match or exceed the COU standards outlined on page 2-2.

- COU Daytime Scheduling Window and Room Utilization Rate: 45 hours x 60% = 27.0 hours
- Brock Recommended Daytime Scheduling Window and Room Utilization Rate: 45 hours x 75% = 33.8 hours

- COU Evening Scheduling Window and Room Utilization Rate: 12 hours x 60% = 7.2 hours
- Brock Recommended Afternoon and Evening Scheduling Window and Room Utilization Rate: 21 hours x 66% = 13.9 hours
- COU Total Weekly Scheduling Window and Room Utilization Rate: 57 hours x 60% = 34.2 hours
- Brock Recommended Total Weekly Scheduling Window and Room Utilization Rate: 66 hours x 72% = 47.7 hours

These targets achieve a balance between good utilization of the rooms and the development of timetables that acknowledge student and faculty conflicts at certain times of the day and the need to maintain some availability for one-time bookings during semesters.

Of note, Brock achieved in Fall 2015 a 73% utilization average of its classroom pool in daytime, thus almost reaching the 75% target indicated above. The utilization rates of large-capacity rooms ranged between 75% and 90%.

In the coming years, the Working Group believes the overall daytime target could be set at 80%. However, the Working Group was advised by its consultant / facilitator that few universities in Canada achieve an overall utilization average of 80%, and that only one or two consistently achieves a rate of 85% across the entire range (in terms of seat capacities) of their room inventories.

Achieving rates higher than 85% consistently is difficult given the complexity and inter-dependency of many scheduling variables and constraints in play.

Quantitatively, such constraints include the removal of any margin (i.e. room availability) to adjust schedules once they are set, or to occasionally book a room for ad hoc one-time events. Further, as higher education makes the transition from semester-long courses to offering varying course delivery formats and lengths (hybrid, short-duration, etc.), it will become more difficult to achieve high rates of utilizations. Here is why: traditional delivery can be imagined as a set of uniform Lego blocks stacked neatly and regularly on a board (i.e. a room's weekly time grid). Emerging course delivery formats can be imagined as odd-shaped Lego blocks that vary

in size and duration from week to week stacked in combination with the previously described and uniform Lego blocks. There is bound to be some gaps (i.e. unused time) left between the Lego blocks in their final arrangement.

Qualitatively, scheduling variables and constraints include a variety of factors, including but not limited to the following:

- Policy-sanctioned, time-related accommodations for professors and instructors that dictate when a course can be scheduled. These may trigger cascading effects throughout many room, student and other instructor schedules.
- Like the above, the availability of highly-sought part-time lecturers may have the same type of cascading effects as described above.
- Sequencing and pacing of the courses for students over the course of a given week, with attention given to allowing them to create schedules that avoid, for example:
 - Having to travel to and from campus on a given day for a single one-hour class
 - Long gaps (4 hours or more) between classes during a given day
 - Having too many back-to-back classes in a given day when one is following the program of study recommended by a department
 - etc.

Area per Classroom Seat or Station

The Working Group recommends the following guidelines for estimating the size of classrooms based on both their intended capacity and configuration.

The areas per seat or station indicated above are inclusive of internal circulation (i.e. aisles) and the teaching / lecture area at the front of the room. The areas indicated above exclude specialized facilities sometimes associated with large capacity rooms such as projection and AV rooms or demonstration preparation rooms.

Type of Furniture	Loose Tables & Chairs	Fixed Tables & Seating	Theater Seat with Tablet Arms	Loose Chairs with Tablet Arms	Active Learning Classroom
Suitability as per Classroom Layout Designations	<ul style="list-style-type: none"> Classroom Layout (Exam / Traditional / Presentation) Discussion / Seminar Space 	<ul style="list-style-type: none"> Classroom Layout (Exam / Traditional / Presentation) 	<ul style="list-style-type: none"> Classroom Layout (Exam / Traditional / Presentation) 	<ul style="list-style-type: none"> Classroom Layout (Exam / Traditional / Presentation) Discussion / Seminar Space 	<ul style="list-style-type: none"> Active Learning Space Collaborative Technology Learning Space Adaptable / Flexible Learning Space
	SM per Seat or Station	SM per Seat or Station	SM per Seat or Station	SM per Seat or Station	SM per Seat or Station
up to 5 seats	2.6				
6 to 10 seats	2.5				
11 to 15 seats	2.4				
16 to 20 seats	2.4			1.6	3.3
21 to 25 seats	2.3			1.6	3.3
26 to 30 seats	2.2	1.7		1.6	3.0
31 to 35 seats	2.2	1.7		1.6	2.8
36 to 40 seats	2.1	1.6		1.5	2.8
41 to 50 seats	2.0	1.6		1.5	2.8
51 to 60 seats	1.9	1.6		1.5	2.8
61 to 70 seats	1.8	1.6		1.4	2.3
71 to 80 seats	1.7	1.5		1.4	2.3
81 to 90 seats		1.5		1.4	
91 to 100 seats		1.5			
100 +		1.5	1.1		

not recommended

Section 3 – Instructional Laboratories

Definition of Instructional Laboratory Facilities

The Council of Ontario Universities (COU) defines instructional laboratory facilities as follows:

“A room used for instruction of undergraduate students that requires special purpose equipment or is so arranged that use is restricted to a particular field of study; and rooms directly serving these facilities. Activities in these facilities would include student participation, experimentation, observation or practice in a field of study.”

Laboratory facilities as defined above include rooms scheduled centrally and room scheduled locally by individual academic departments or administrative units.

Instructional laboratory facilities typically exclude:

- Gymnasias, fitness rooms, physical training rooms, facilities shared between academic and recreational or varsity users, pools, day care facilities - unless they are used primarily for instructional purposes.
- Unscheduled, open laboratories, workshops or studios used for study or practice

COU Methodology for Assessing Instructional Laboratory Facility Requirements

COU Methodology Overview

The COU methodology to assess instructional laboratory requirements relies, as its primary input, on the number of contact hours accommodated during a typical academic week. These weekly student laboratory contact hours (WSLCH) are calculated as shown in the following example:

- 24 students in a Chemistry laboratory class x 3 hour class = 72 WSLCH generated

The amount of space required to accommodate these activities is tied to the discipline / subjects taught in the laboratory. COU classifies in groups W, X, Y and Z as listed below along with examples of the disciplines:

- Group W: Visual Arts, Communication, Popular Culture and Film, Computer Science
- Group X: Chemistry, Fine Arts, Geology, etc.
- Group Y: Anthropology, Geography, Psychology, etc.
- Group Z: Business, Mathematics, Sociology, etc.

As per the above example, the 72 WSLCH generated in a Chemistry laboratory belongs in Group X.

The number of WSLCH generated by laboratory instructional activity is assigned to one of the four groups (W, X, Y and Z), totaled, and multiplied by a space allocation factor as follows:

- 800 Group X WSLCH generated x 0.6 SM / WSLCH = 480 SM

The SM / WSLCH factors used by COU to evaluate space requirements are defined as follows:

Group W:	20.25 SM	18 Hours	75%	1.5 SM / WSLCH
Group X:	10.80 SM	18 Hours	75%	0.8 SM / WSLCH
Group Y:	6.75 SM	18 Hours	75%	0.5 SM / WSLCH
Group Z:	4.05 SM	18 Hours	75%	0.3 SM / WSLCH

Strengths of COU Methodology

- Based on actual activity taking place in the institution's laboratories.
- Space allocations per station include service space outside the laboratory and are generally adequate (8.10 SM for Group X for example).
- Consistency and comparability for benchmarking purposes with other Canadian universities that use the same COU methodology (including the majority of G15 institutions).

Weaknesses of COU Methodology

- The SM / WSLCH method does not account for the institution's practices, plans or needs in terms of section sizes, preferred room configurations and institution-specific room and seat utilization targets.
- The 18 hours per week room utilization rate is exceptionally low if one assumes a daytime delivery window of 45 hours a week (8:00 AM to 5:00 PM from Monday to Friday). The room utilization rate expressed in percentage is 40%.
- The 75% seat utilization rate is somewhat low, considering that the size of a student group scheduled in a laboratory is often set based on the capacity of the laboratory itself.

Proposed Framework for Assessing Instructional Laboratory Facility Requirements at Brock University

The proposed framework for assessing instructional laboratory facility requirements at Brock University is the same as the one proposed for the assessment of classroom space requirements.

In summary, the framework must reconcile demand inputs (expressed in section-hours) with supply inputs (expressed in the number of certain types of laboratory by capacity). Please refer to pages 2-3 and 2-4 where the concepts of demand and supply are described in more detail.

When using the framework Brock University will be able to broaden or narrow the analysis of instructional laboratory space requirements as it deems appropriate. For example, questions such as these ones can be asked:

- Does the University have sufficient wet bench life science laboratories for instructional needs in the following subjects: biology, anatomy, zoology, botany, etc.?
- What should be the capacity profile of the University's pool of general computer laboratories?

Framework for Assessing Instructional Facility Requirement at Brock University

In view of the above, the worksheet outlined below is to be used to reconcile the demand inputs (expressed in section-hours) and the supply inputs (expressed in the number of certain types of room by capacity):

Instructional Laboratory Facility Requirement Worksheet Proforma

The worksheet can be used on a campus-wide basis, or for any subset of the space inventory and/or faculty or departmental instructional activity being evaluated. The values for the relevant inputs - section-hours, utilization targets and number of rooms in the inventory - are highlighted in yellow. Users compute the space requirements as per the alphabetic notations and formulas shown on the top and left of the worksheet.

	A	B	C.0 = A / B	D = A / B	E	F = E - D
G	Daytime Weekly Scheduling Window - Hours or Periods:	—:—				
H	Daytime Room Utilization Target - Percentage:	—%				
I	Afternoon Weekly Scheduling Window - Hours or Periods:	—:—				
J	Afternoon Room Utilization Target - Percentage:	—%				
K	Evening Weekly Scheduling Window - Hours or Periods:	—:—			Number of Rooms	
L	Evening Room Utilization Target:	—%			Required (Decimals)	
M = (GxH)+(IxJ)+(KxL)	Weekly Scheduling Target per Room:	###.#			Number of Rooms to the Next Highest Room Capacity as Appropriate)	Number of Rooms in Inventory
	Number of Section Hours to Accommodate per Week	M	(Rounded to One Decimal)	Carried Over to the Next Highest Room Capacity as Appropriate)		Variation
	1 to 8 Students / Occupants	—:— / ###.# Hours or Periods per Week	—:—	—:—	—:—	—:—
	9 to 16 Students / Occupants	—:— / ###.# Hours or Periods per Week	—:—	—:—	—:—	—:—
	17 to 24 Students / Occupants	—:— / ###.# Hours or Periods per Week	—:—	—:—	—:—	—:—
	25 to 32 Students / Occupants	—:— / ###.# Hours or Periods per Week	—:—	—:—	—:—	—:—
	33 to 40 Students / Occupants	—:— / ###.# Hours or Periods per Week	—:—	—:—	—:—	—:—
	41 to 48 Students / Occupants	—:— / ###.# Hours or Periods per Week	—:—	—:—	—:—	—:—
	49 to 60 Students / Occupants	—:— / ###.# Hours or Periods per Week	—:—	—:—	—:—	—:—
	Total	Total				

Examples of Instructional Laboratory Facility Requirement Worksheets

The worksheet example shown below is representative of the Fall 2015 scheduling activity at the University's Saint Catharines campus.

General Computer Laboratories

	A	B	C.O = A / B		D = A / B	E	F = E - D		
G	Daytime Weekly Scheduling Window - Hours or Periods:	45.0							
H	Daytime Room Utilization Target - Percentage:	75%							
I	Afternoon Weekly Scheduling Window - Hours or Periods:	9.0							
J	Afternoon Room Utilization Target - Percentage:	75%							
K	Evening Weekly Scheduling Window - Hours or Periods:	12.0				Number of Rooms Required (Decimals Carried Over to the Next Highest Room Capacity as Appropriate)			
L	Evening Room Utilization Target:	60%							
M	$M = (G \times H) + (I \times J) + (K \times L)$ Weekly Scheduling Target per Room:	47.70							
	Number of Section Hours to Accommodate per Week	M	Number of Rooms Required (Rounded to One Decimal)			Number of Rooms in Inventory	Variation		
	1 to 8 Students / Occupants	/	47.7 Hours or Periods per Week	0.0	0.0	0	0	+0	
	9 to 16 Students / Occupants	/	47.7 Hours or Periods per Week	0.0	0.0	0	0	+0	
	17 to 24 Students / Occupants	152.0 /	47.7 Hours or Periods per Week	3.2	3.2	0.2	3	9	+6
	25 to 32 Students / Occupants	25.0 /	47.7 Hours or Periods per Week	0.5	0.7	0.7	0	1	+1
	33 to 40 Students / Occupants	86.0 /	47.7 Hours or Periods per Week	1.8	2.5	0.5	2	3	+1
	41 to 48 Students / Occupants	118.0 /	47.7 Hours or Periods per Week	2.5	3.0	1.0	3	3	+0
	49 to 60 Students / Occupants	/	47.7 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	Total	381.0	Total	8.0	9.4	2.4	8	16	+8

Chemistry Laboratories

	A	B	C.O = A / B		D = A / B	E	F = E - D		
G	Daytime Weekly Scheduling Window - Hours or Periods:	45.0							
H	Daytime Room Utilization Target - Percentage:	60%							
I	Afternoon Weekly Scheduling Window - Hours or Periods:	0.0							
J	Afternoon Room Utilization Target - Percentage:	0%							
K	Evening Weekly Scheduling Window - Hours or Periods:	0.0				Number of Rooms Required (Decimals Carried Over to the Next Highest Room Capacity as Appropriate)			
L	Evening Room Utilization Target:	0%							
M	$M = (G \times H) + (I \times J) + (K \times L)$ Weekly Scheduling Target per Room:	27.00							
	Number of Section Hours to Accommodate per Week	M	Number of Rooms Required (Rounded to One Decimal)			Number of Rooms in Inventory	Variation		
	1 to 8 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0	0	+0	
	9 to 16 Students / Occupants	93.0 /	27 Hours or Periods per Week	3.4	3.4	0.4	3	4	+1
	17 to 24 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.4	0.4	0	0	+0
	25 to 32 Students / Occupants	33.0 /	27 Hours or Periods per Week	1.2	1.7	0.7	2	1	-1
	33 to 40 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	41 to 48 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	49 to 60 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	Total	126.0	Total	4.7	5.6	1.6	5	5	

Biology Laboratories

	A	B	C.0 = A/B	D = A/B	E	F = E - D			
G	Daytime Weekly Scheduling Window - Hours or Periods:	45.0							
H	Daytime Room Utilization Target - Percentage:	60%							
I	Afternoon Weekly Scheduling Window - Hours or Periods:	0.0							
J	Afternoon Room Utilization Target - Percentage:	0%							
K	Evening Weekly Scheduling Window - Hours or Periods:	0.0			Number of Rooms Required (Decimals)				
L	Evening Room Utilization Target:	0%			Carried Over to the Next Highest Room Capacity as Appropriate)				
M = (GxH)+(IxJ)+(KxL)	Weekly Scheduling Target per Room:	27.00			Number of Rooms Required (Rounded to One Decimal)	Number of Rooms in Inventory			
	Number of Section Hours to Accommodate per Week	M				Variation			
	1 to 8 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0	+0		
	9 to 16 Students / Occupants	63.0 /	27 Hours or Periods per Week	2.3	2.3	0.3	2	+0	
	17 to 24 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.3	0.3	0	+0	
	25 to 32 Students / Occupants	133.0 /	27 Hours or Periods per Week	4.9	5.3	0.3	6	5	-1
	33 to 40 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	41 to 48 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	49 to 60 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	Total	196.0	Total	7.3	7.9	0.9	8	7	-1

Utilization Targets

General Computer Laboratory Utilization Target

The Working Group recommends the same utilization targets for general computer laboratories as recommended for classroom facilities – see page 2-6.

Specialized Instructional Laboratory Utilization Target

The Working Group deems that the use of instructional laboratories in the late afternoon (5:00 PM to 7:00 PM) and evening (7:00 PM to 10:00 PM) creates operational challenges and safety concerns around the work load of technicians and the availability of first responders. Based on current human resources limitations, the Working Group recommends the following utilization factors which, in combination, define the weekly utilization target for specialized instructional laboratories at Brock University:

- Daytime Scheduling Window – Monday to Friday 8:00 AM to 5:00 PM
45 hours
- Daytime Room Utilization Target (%) 60%
- Daytime Utilization Target (Hours) 27 hours per room

The Working Group notes that extending the utilization window of specialized laboratories in the afternoon and evening will require adjustments to the allocation of staff overseeing the operation and safety of the facilities. Use of afternoon and evening hours should be reconsidered if daytime hours are at capacity.

The utilization target of 27 scheduled daytime hours of use per week allows for nine 3-hour laboratory sessions that can be delivered as shown generically here:

Of note, the 27-hour daytime utilization target set by the Working Group is 33% longer than the 18-hour target set by COU.

Space Allocation Guidelines to Evaluate the Size of an Instructional Laboratory in Relation to Intended Capacity

The Working Group recommends using the following area figures to estimate the size of instructional laboratories based on type and intended capacity. The SM per laboratory station values shown in the table below apply to generic instructional laboratory configurations, inclusive of the spaces typically found to support them.

The area per laboratory station figures should prove useful in the early planning and evaluation stages of projects involving instructional laboratories, when the amount of space needed is not yet known.

The actual SM per workstation allocations will likely vary from the guideline given actual conditions (a renovation in an existing building for example), unique curricular requirements and special equipment in place. In view of this the SM per laboratory station figures are expressed as a range with lower and upper ends. Any space allocation that fall below or above this range should warrant particularly scrutiny as to the reasons why.

	Mon	Tue	Wed	Thu	Fri
8:00 AM to 9:00 AM	Set-up	Set-up	Set-up	Set-up / Maintenance	Set-up
9:00 AM to 12:00 PM	Lab Session	Lab Session	Lab Session		Lab Session
12:00 PM to 1:00 PM	Set-up / Clean Up	Set-up / Clean Up	Set-up / Clean Up		Set-up / Clean Up
1:00 PM to 4:00 PM	Lab Session	Lab Session	Lab Session	Lab Session	Lab Session
4:00 PM to 5:00 PM	Set-up / Clean Up	Set-up / Clean Up			

Laboratory, Workshop, Studio Description	SM per Laboratory Station, Including Support Areas	SM per Laboratory Station, Including Support Areas
	Low End of Range	High End of Range
Computer, General	3.3	3.7
Computer, Graphic or Specialized	4.2	4.6
Dry Lab (Humanities / Social Sciences / Business)	4.2	4.6
Electronics & Electrical / Automation	5.6	6.0
Wet Lab, Life Sciences	5.6	6.0
Wet Lab, Physical Sciences	5.6	6.0
Media Studio / Performance Arts Studio	5.6	6.0
Media Post-Prod. / Music Practice Suites	4.2	4.6
Fine Arts / Graphic Arts / Drafting	4.2	4.6
Patient Care / Simulation / Therapy / Dental	5.6	6.0
Daily Living / Counseling / OSCE / Briefing	4.2	4.6
Fitness / Exercise / Weight / Combat / Climbing Facility	7.4	8.0

Section 4 - Offices

Definition of Office Facilities

The Council of Ontario Universities (COU) defines offices in two broad categories:

Academic Departmental Offices and Related Space

“A room usually assigned to one or more individuals on a permanent basis, containing office-type equipment and used by faculty, departmental administrative and support staff, and students, or a room directly serving these facilities. Also included are general purpose offices and project rooms used for the conducting of research”.

Academic departmental offices typically accommodate all employees and graduate students attached to a faculty or school, up to and including its decanal offices. The space is further sub-categorized as follows:

- Academic offices
- Research office / project space
- Graduate student offices
- Departmental administrative and support employee offices
- Office support space

Central Administrative Offices and Related Space

“A room usually assigned to one or more individuals on a permanent basis containing office-type equipment and used by central administrative and support staff in non-academic departments/faculties/divisions, or a room directly serving these facilities.”

The Central Administrative Office space category is comprehensive and is meant to capture the needs of all non-academic employees of the institution, excluding the office space assigned to Library employees and to on-campus contracting employees not directly hired by the University. The space is further sub-categorized as follows:

- Office areas
- Office support space

COU Methodology for Assessing Office Space Requirements

COU Methodology Overview

The COU methodology to assess office space requirements relies, as its primary input, on employee and graduate student counts. The tallies are done as per the following two methods:

Academic Departmental Offices and Related Space

- Full-time equivalent faculty count
- Full-time equivalent post-doctoral fellows, research associates and funded research support employee count
- Full-time equivalent non-academic departmental support staff count
- Full-time equivalent graduate students

Depending on the category of staff/student, factors are applied to the counts to calculate area requirements. Full-time equivalent employee inputs (the total employee count) are multiplied by 12 square meters (SM); graduate student inputs are multiplied by 3 SM. An additional 25% is added to the area calculation to account for office support space requirements (meeting rooms, storage, etc.). A sample calculation is shown below:

- 12 full-time equivalent employee x 12 SM = 144 SM
- 24 full-time equivalent graduate student x 3 SM = 72 SM
- Office support areas 25% of above = 54 SM
- Total 270 SM

Central Administrative Offices and Related Space

- 100% of the full-time equivalent employee count

The employee inputs (the total employee count) is multiplied by 12 square meters (SM). An additional 50% is added to the area calculation to account for office support space requirements (meeting rooms, storage, etc.). A sample calculation is shown below:

- 15 full-time equivalent employee x 12 SM = 180 SM
- Office support areas: 50% of above = 90 SM
- Total 270 SM

Strengths of COU Methodology

- Consistency and comparability for benchmarking purposes with other Canadian universities that use the same COU methodology (including the majority of G15 institutions).
- Simplicity for estimating, at a high level, the space requirements of a given group of employees (an academic department, a service unit).

Weaknesses of COU Methodology

- The COU methodology does not provide a framework for the conversion of non-full time employee counts to full-time equivalent employee counts. This can prove problematic: the office space needs of a cadre of part-time employees are usually quite different from those of full-time employees. The problem is further compounded by the fact that part-time to full-time employee ratios may vary substantially from one faculty or administrative unit to the next.
- The use of a generic 12 SM allocation for all employees ignores the need to size office accommodations based on the position and responsibilities of a person. Student counsellors, for example, need access to dedicated or shared spaces where privacy can be achieved. Senior leaders of the University should have offices that befit their role in the organization and in which they can host small group meetings. In future, more and more University employees will telecommute and be on campus only occasionally, if not at all.
- The use of a generic 12 SM allocation leaves the impression among many stakeholders that their office space should exactly be of that size, and private.

Proposed Framework for Evaluating Office Space Requirement at Brock University

The Working Group has tested and recommends using the following three worksheets to evaluate the office space needs of a given academic or service unit of the University. The Working Group notes the following regarding the use of the worksheets:

- The worksheet can readily be used when planning new facilities or

major renovations in existing buildings to determine the amount of office space needed on a green field basis.

- When evaluating existing office space allocations, the worksheets should be used to calculate what the University considers to be the optimal amount of office space. The area figures generated in this way can then be compared to actual space allocations to determine if a unit is in a surplus or shortfall situation. Once that assessment is made key questions should be asked: Assuming a space surplus assessment: can the surplus be practically and economically recouped? Assuming a space shortfall assessment: can the shortfall be mitigated by reassigning facilities so that more employees are accommodated in spaces that meet the University's standards?
- The worksheet should not be viewed as a design standard that stipulates if employees should be accommodated in private offices or in suites of open offices. Overall both types of accommodations (private and open) require approximately the same amount of space when factoring the circulation space needed by private offices of various sizes (11, 15, 24SM) placed along a corridor. The size of workstations in an open office environment will tend to be more uniform (6 to 8 SM per station) with the balance of the space allocated in the worksheets on a per capita basis redirected to sought-after open office amenities (private interview rooms, coat rooms, coffee stations, etc.) above and beyond the 25% and 30% office support allocations embedded in the calculations.
- In some instances, the worksheets indicate if an allocation should be in a "Shared Office", or a "Station in Workroom". A "Shared Office" allocation suggests an enclosed office ranging in size between 11 and 24 SM occupied by two, three or four employees at their designated desks. A "Station in Workroom" allocation suggests an open office environment where desk space and related are not assigned to a given employee but are used instead on a first-come-first-serve basis(i.e. the hoteling model).
- Graduate offices follow the COU standard of allocating 3 SM per full-time equivalent student enrolled in thesis-based programs. However, the allocation of office space for professional graduate programs follows instead the trend observed in other Canadian universities whereby workrooms and group study spaces are made available rather than individual dedicated desk allocations. An allocation of 0.6 SM per student is proposed instead to dedicate individual and group study space to students enrolled in professional-stream programs. Of note, this allocation is above the general allocation of general study space made available on campus in the Library and elsewhere.

Examples of Instructional Laboratory Facility Requirement Worksheets

The worksheet example shown below is representative of the Fall 2015 scheduling activity at the University's Saint Catharines campus.

General Computer Laboratories

	A	B	C.0 = A / B		D = A / B		E	F = E - D	
G	Daytime Weekly Scheduling Window - Hours or Periods:	45.0							
H	Daytime Room Utilization Target - Percentage:	75%							
I	Afternoon Weekly Scheduling Window - Hours or Periods:	9.0							
J	Afternoon Room Utilization Target - Percentage:	75%							
K	Evening Weekly Scheduling Window - Hours or Periods:	12.0					Number of Rooms Required (Decimals Carried Over to the Next Highest Room Capacity as Appropriate)		
L	Evening Room Utilization Target:	60%						Number of Rooms in Inventory	
M	$M = (GxH)+(IxJ)+(KxL)$ Weekly Scheduling Target per Room:	47.70						Variation	
	Number of Section Hours to Accommodate per Week	M	Number of Rooms Required (Rounded to One Decimal)						
	1 to 8 Students / Occupants	/	47.7 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	9 to 16 Students / Occupants	/	47.7 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	17 to 24 Students / Occupants	152.0 /	47.7 Hours or Periods per Week	3.2	3.2	0.2	3	9	+6
	25 to 32 Students / Occupants	25.0 /	47.7 Hours or Periods per Week	0.5	0.7	0.7	0	1	+1
	33 to 40 Students / Occupants	86.0 /	47.7 Hours or Periods per Week	1.8	2.5	0.5	2	3	+1
	41 to 48 Students / Occupants	118.0 /	47.7 Hours or Periods per Week	2.5	3.0	1.0	3	3	+0
	49 to 60 Students / Occupants	/	47.7 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	Total	381.0	Total	8.0	9.4	2.4	8	16	+8

Chemistry Laboratories

	A	B	C.0 = A / B		D = A / B		E	F = E - D	
G	Daytime Weekly Scheduling Window - Hours or Periods:	45.0							
H	Daytime Room Utilization Target - Percentage:	60%							
I	Afternoon Weekly Scheduling Window - Hours or Periods:	0.0							
J	Afternoon Room Utilization Target - Percentage:	0%							
K	Evening Weekly Scheduling Window - Hours or Periods:	0.0					Number of Rooms Required (Decimals Carried Over to the Next Highest Room Capacity as Appropriate)		
L	Evening Room Utilization Target:	0%						Number of Rooms in Inventory	
M	$M = (GxH)+(IxJ)+(KxL)$ Weekly Scheduling Target per Room:	27.00						Variation	
	Number of Section Hours to Accommodate per Week	M	Number of Rooms Required (Rounded to One Decimal)						
	1 to 8 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	9 to 16 Students / Occupants	93.0 /	27 Hours or Periods per Week	3.4	3.4	0.4	3	4	+1
	17 to 24 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.4	0.4	0	0	+0
	25 to 32 Students / Occupants	33.0 /	27 Hours or Periods per Week	1.2	1.7	0.7	2	1	-1
	33 to 40 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	41 to 48 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	49 to 60 Students / Occupants	/	27 Hours or Periods per Week	0.0	0.0	0.0	0	0	+0
	Total	126.0	Total	4.7	5.6	1.6	5	5	+0

Academic Offices - Library

School / Department / Group Name: _____

Status	Title or Title Equivalent	A Employee Headcount	B Headcount Employee to FTE Employee Conversion Factor	C Ratio of FTE Employee or Student per Office or Desk	D Area per Office or Station (NASM)	E = A x B x C x D Area Allocated (NASM)
Full-Time						
	University Librarian	x	1.00	x	1.00	x 24
	Associate University Librarian	x	1.00	x	1.00	x 15
	Unit Head	x	1.00	x	1.00	x 15
	Full-time Librarian	x	1.00	x	1.00	x 11
	Administrative Director/Manager	x	1.00	x	1.00	x 11
	Administrative Employee	x	1.00	x	1.00	x 6 <i>Shared Office</i>
	Support & Technical Employee	x	1.00	x	1.00	x 6 <i>Shared Office</i>
					Sub-total	F
Term / Contract / Part-Time						
	Administrative Employee	x	1.00	x	1.00	x 6 <i>Shared Office</i>
	Support & Technical Employee	x	1.00	x	1.00	x 6 <i>Shared Office</i>
	Student Employee	x	0.50 (C1)	x	1.00	x 4 to 6 <i>Station in Workroom</i>
					Sub-total	G
Contractor / Alternative Status						
	3 or 4 Days a Week Work on Campus	x	0.80	x	1.00	x 6 <i>Shared Office</i>
	2 Days a Week Work on Campus	x	0.40	x	1.00	x 6 <i>Shared Office</i>
	1 Day a Week Work on Campus	x	0.20	x	1.00	x 6 <i>Shared Office</i>
	Multi-Campus Employee	x	1.00	x	0.20 (S1)	x 4 <i>Station in Workroom</i>
					Sub-total	H
					Offices and Workstations Space Allocated	I = F + G + H
					30% Office Support Space Allocated	J = (I x 1.43) - I
					TOTAL ALLOCATION - Excluding Internal Circulation	K = I + J
					TOTAL ALLOCATION - Including 25% Internal Circulation Space Allocation	L = K x 1.33

C1 Contracts range in number of hours

S1 2 Hours Use per FTE / 10 Hours AM or PM Weekly Window = 0.20

Administrative / Student Services Offices

School / Department / Group Name: _____

Status	Title or Title Equivalent	A Employee Headcount	B Headcount Employee to FTE Employee Conversion Factor	C Ratio of FTE Employee or Student per Office or Desk	D Area per Office or Station (NASM)	E = A x B x C x D Area Allocated (NASM)		
Full-Time - Administrative								
	President	x	1.00	x	1.00	x	50	
	Vice-President	x	1.00	x	1.00	x	24	
	Associate VP / Vice-Provost	x	1.00	x	1.00	x	15	
	Executive Director / Director	x	1.00	x	1.00	x	15	
	Associate Director / Manager	x	1.00	x	1.00	x	11	
	Administrative Employee - Confidential	x	1.00	x	1.00	x	11	
	Administrative Employee	x	1.00	x	1.00	x	6	Shared Office
	Support & Technical Employee	x	1.00	x	1.00	x	6	Shared Office
	Full-Time Student Employee	x	1.00	x	1.00	x	4 to 6	Shared Office
							Sub-total	F
Student Services – Confidential								
	Accessibility Employee	x	1.00	x	1.00	x	15	
	Counsellor / Student Advisor	x	1.00	x	1.00	x	11	
	Administrative Employee – Confidential	x	1.00	x	1.00	x	11	
	Full-time Student Employee	x	1.00	x	1.00	x	4 to 6	Shared Office
							Sub-total	G
Term / Contract / Part-Time								
	Administrative Employee - Confidential	x	1.00	x	1.00	x	11	
	Administrative Employee	x	1.00	x	1.00	x	6	Shared Office
	Support & Technical Employee	x	1.00	x	1.00	x	6	Shared Office
	Student Employee	x	0.5 (C1)	x	1.00	x	4	Station in Workroom
							Sub-total	H
Contractor / Alternative Status								
	3 or 4 Days a Week Work on Campus	x	0.80	x	1.00	x	6	Shared Office
	2 Days a Week Work on Campus	x	0.40	x	1.00	x	6	Shared Office
	1 Day a Week Work on Campus	x	0.20	x	1.00	x	6	Shared Office
	Multi-Campus Employee	x	1.00	x	0.20 (S1)	x	4	Station in Workroom
							Sub-total	I
							Offices and Workstations Space Allocated	J = F + G + H + I
							30% Office Support Space Allocated	K = (I x 1.43) – J
							TOTAL ALLOCATION – Excluding Internal Circulation	L = J + K
							TOTAL ALLOCATION – Including 25% Internal Circulation Space Allocation	M = L x 1.33

Section 5 - Research Facilities

Definition of Research Facilities

The Council of Ontario Universities (COU) defines research facilities as follows:

“A room used for laboratory applications, research or training in research methodology which requires special-purpose equipment for staff or graduate student experimentation or observation and preparation, service and other rooms directly serving these facilities.”

COU Methodology for Assessing Research Laboratory Facility Requirements

COU Methodology Overview

The COU methodology to assess research laboratory requirements relies, as its primary input, on staff and graduate student counts. The tallies are done based on the following designations and count adjustments:

- 100% of the full-time equivalent faculty count
- 50% of the full-time equivalent post-doctoral fellow count
- 50% of the full-time equivalent research associate count
- 50% of the full-time equivalent graduate student count

Of note, the staff counts used to assess research space requirements include both full-time and part-time staff and students, with the important caveat that the part-time staff and student counts must be converted into full-time equivalent (FTE) values. The staff counts exclude administrative staff.

The staff and graduate student counts are used to calculate space requirements using allocation factors that reflect the nature of the research being done. A list of the discipline groupings and allocations assigned based on their classification of instructional programs (CIP) codes and as defined by COU is provided on pages 5-4 to 5-6.

- Group A 40 NASM per FTE Staff
- Group B 30 NASM per FTE Staff

- Group C 25 NASM per FTE Staff
- Group D 20 NASM per FTE Staff
- Group E 15 NASM per FTE Staff
- Group F 5 NASM per FTE Staff
- Group G 2 NASM per FTE Staff

Based on the above inputs and factors, the research space requirements for a unit of the university can be calculated as per the following example describing a department attached to a faculty of science:

- Group A 8 FTE faculty x 1 x 40 NASM per FTE Staff = 320 NASM
- Group A 1 FTE postdoc x 0.5 x 40 NASM per FTE Staff = 20 NASM
- Group A 2 FTE RAs x 0.5 x 40 NASM per FTE Staff = 40 NASM
- Group A 13 FTE grads x 0.5 x 40 NASM per FTE Stud. = 260 NASM
- Group B 12 FTE faculty x 1 x 30 NASM per FTE Staff = 360 NASM
- Group B 3 FTE postdoc x 0.5 x 30 NASM per FTE Staff = 45 NASM
- Group B 1 FTE RAs x 0.5 x 30 NASM per FTE Staff = 15 NASM
- Group A 8 FTE grads x 0.5 x 30 NASM per FTE Stud. = 120 NASM
- Total 1,180 NASM

Strengths of COU Methodology

- Consistency and comparability for benchmarking purposes with other Canadian universities that use the same COU methodology (including the majority of G15 institutions).
- Each research undertaking is unique and calls for varying allocations of human, space and equipment resources. In view of this, the COU methodology achieves a balance between:
 - - the need to evaluate the space requirements of a research group (i.e. a faculty, a department, a team) at a high level vs.
 - - the need to describe in detail the specific space needs of that research group.

Weaknesses of COU Methodology

- The use of a “per FTE capita” count as the primary input to evaluate research space requirements does not consider key aspects of an institution’s research enterprise. When the demand or the expectations for research space exceeds supply, other criteria or parameters must be considered. These include, for example, the source and amount of funding support of a research undertaking, the alignment of the research activity with strategic directions of the institution, the support accorded by the institution to tenure-track faculty at the start of their research careers, etc.
- The “One-Size-Fits-the-Group” approach of the COU methodology is often poorly received by research stakeholders, particularly when there are perceived or real inequities in the allocation of space within a department, a faculty or a university.
- Proposed Framework for Evaluating Research Facility Space Requirement at Brock University
- For evaluating the overall demand for research space at Brock University, the Working Group recommends using the COU methodology as previously outlined, with no modification.
- Use of the COU methodology will inform Brock of trends and the benchmarks it achieves when compared to other institutions. Importantly, it will also inform the University on relative surpluses and shortfalls between faculties or departments using a neutral, third-party framework.
- The Working Group notes that using the COU methodology to inform space planning decisions around needs and priorities should not be literally applied to the actual design and configuration of research laboratories. Each research initiative is unique, and takes place in varying types of buildings providing very different research environments (Cairns vs. Mackenzie Chown vs. Walker for example). In other words, the COU methodology should be used to calculate the quantity of space deemed adequate to accommodate a given sets of researchers. Small variations between the COU standard and

Research Space Needs Evaluation Worksheet

Faculty / Department / Group Name: _____

the actual space allocations will occur. Large variations, on the other hand, should draw the attention of the University and prompt an analysis of reasons and possible remediation measures.

- Finally, the Working Group also notes that the allocation of research space to departments and faculties that predominantly fall in COU groups F and G will yield relatively small allocations. Typically, these 2 and 5 NASM “per capita” space allocations are aggregated in a way that allows a department or a faculty to dedicate space to a given research centre (a European Studies resource centre for example) or a given type of research activity (a Social Science room for focus group research for example).

COU Classification	Position Description	A FTE Count	B COU FTE Adjustment Factor	C COU Allocation per FTE (NASM)	D = A x B x C Area Requirement Evaluation (NASM)	
Group A1	Faculty	FTE	x 1.0	x 60	NASM	
	Post Doctoral Fellow	FTE	x 0.5	x 60	NASM	
	Research Associate	FTE	x 0.5	x 60	NASM	
	Graduate Student	FTE	x 0.5	x 60	NASM	
Group A2	Faculty	FTE	x 1.0	x 40	NASM	
	Post Doctoral Fellow	FTE	x 0.5	x 40	NASM	
	Research Associate	FTE	x 0.5	x 40	NASM	
	Graduate Student	FTE	x 0.5	x 40	NASM	
Group B	Faculty	FTE	x 1.0	x 30	NASM	
	Post Doctoral Fellow	FTE	x 0.5	x 30	NASM	
	Research Associate	FTE	x 0.5	x 30	NASM	
	Graduate Student	FTE	x 0.5	x 30	NASM	
Group C	Faculty	FTE	x 1.0	x 25	NASM	
	Post Doctoral Fellow	FTE	x 0.5	x 25	NASM	
	Research Associate	FTE	x 0.5	x 25	NASM	
	Graduate Student	FTE	x 0.5	x 25	NASM	
Group D	Faculty	FTE	x 1.0	x 20	NASM	
	Post Doctoral Fellow	FTE	x 0.5	x 20	NASM	
	Research Associate	FTE	x 0.5	x 20	NASM	
	Graduate Student	FTE	x 0.5	x 20	NASM	
Group E	Faculty	FTE	x 1.0	x 15	NASM	
	Post Doctoral Fellow	FTE	x 0.5	x 15	NASM	
	Research Associate	FTE	x 0.5	x 15	NASM	
	Graduate Student	FTE	x 0.5	x 15	NASM	
Group F	Faculty	FTE	x 1.0	x 5	NASM	
	Post Doctoral Fellow	FTE	x 0.5	x 5	NASM	
	Research Associate	FTE	x 0.5	x 5	NASM	
	Graduate Student	FTE	x 0.5	x 5	NASM	
Group G	Faculty	FTE	x 1.0	x 2	NASM	
	Post Doctoral Fellow	FTE	x 0.5	x 2	NASM	
	Research Associate	FTE	x 0.5	x 2	NASM	
	Graduate Student	FTE	x 0.5	x 2	NASM	
Total Space Generated					NASM	A
Total Space Allocated					NASM	B
Variation					NASM	C = A - B

COU Space Allocation Factors by Group and CIP Codes

CIP Code	CIP Name	COU Group	COU Space Allocation Factor (NASM)
CIP 1.09	Animal Sciences	Group A	60.0
CIP 1.10	Food Science and Technology	Group D	20.0
CIP 1.11	Plant Sciences	Group A	60.0
CIP 3.01	Natural resources and conservation	Group C	25.0
CIP 3.05	Forestry	Group C	25.0
CIP 4.02	Architecture	Group F	5.0
CIP 4.03	City/Urban, Community and Regional Planning	Group F	5.0
CIP 4.06	Landscape Architecture	Group F	5.0
CIP 5.01	Area studies	Group G	2.0
CIP 5.02	Ethnic, cultural minority, gender, and group studies	Group G	2.0
CIP 9.01	Communication and media studies	Group G	2.0
CIP 9.07	Radio, television and digital communication	Group G	2.0
CIP 11.01	Computer and information sciences, general	Group F	5.0
CIP 11.04	Information science/studies	Group F	5.0
CIP 11.07	Computer science	Group F	5.0
CIP 13.01	Education, General	Group G	2.0
CIP 13.02	Education, General	Group G	2.0
CIP 13.03	Curriculum and instruction	Group G	2.0
CIP 13.04	Educational administration and supervision	Group G	2.0
CIP 13.12	Teacher education and professional development, specific levels and methods	Group G	2.0
CIP 13.13	Teacher education and professional development, specific levels and methods	Group G	2.0
CIP 14.01	Engineering, general	Group C	25.0
CIP 14.02	Aerospace, aeronautical and astronautical /space engineering	Group C	25.0
CIP 14.05	Bioengineering and biomedical engineering	Group E	15.0
CIP 14.07	Chemical engineering	Group C	25.0
CIP 14.08	Civil engineering	Group C	25.0
CIP 14.09	Computer engineering	Group F	5.0
CIP 14.10	Electrical, electronics and communications engineering	Group E	15.0
CIP 14.12	Engineering physics/applied physics	Group E	15.0
CIP 14.18	Materials engineering	Group C	25.0
CIP 14.19	Mechanical engineering	Group D	20.0
CIP 14.21	Mining and mineral engineering	Group C	25.0
CIP 14.27	Systems engineering	Group E	15.0
CIP 14.35	Industrial engineering	Group D	20.0
CIP 15.15	Engineering related fields	Group E	15.0
CIP 16.01	Linguistic, comparative and related language studies and services	Group G	2.0
CIP 16.09	Romance languages, literatures and linguistics	Group G	2.0
CIP 16.12	Classics and classical languages, literatures and linguistics, general	Group G	2.0
CIP 16.17	Teacher education and professional development, specific levels and methods	Group G	2.0
CIP 19.01	Family and consumer sciences/human sciences, general	Group F	5.0
CIP 19.05	Foods, nutrition and related services	Group C	25.0
CIP 19.07	Human development, family studies and related services	Group F	5.0
CIP 23.01	English language and literature/letters	Group G	2.0
CIP 24.01	Liberal arts and sciences, general studies and humanities	Group G	2.0

COU Space Allocation Factors by Group and CIP Codes (continued)

CIP Code	CIP Name	COU Group	COU Space Allocation Factor (NASM)
CIP 26.01	Biology, general	Group A	40.0
CIP 26.02	Biochemistry/biophysics and molecular biology	Group B	30.0
CIP 26.03	Botany/plant biology, general	Group A	40.0
CIP 26.04	Cell/cellular biology and anatomical sciences	Group A	40.0
CIP 26.05	Microbiological sciences and immunology	Group B	30.0
CIP 26.07	Zoology/animal biology	Group A	40.0
CIP 26.08	Genetics	Group B	30.0
CIP 26.09	Physiology, pathology and related sciences	Group B	30.0
CIP 26.10	Pharmacology and toxicology	Group B	30.0
CIP 26.13	Ecology, evolution, systematics and population biology	Group G	2.0
CIP 27.01	Mathematics	Group G	2.0
CIP 27.03	Applied mathematics	Group G	2.0
CIP 27.05	Statistics	Group G	2.0
CIP 30.13	Medieval and renaissance studies	Group G	2.0
CIP 30.18	Natural sciences	Group G	2.0
CIP 30.20	International/global studies	Group G	2.0
CIP 30.22	Classics	Group G	2.0
CIP 31.01	Parks, recreation, leisure and fitness studies	Group G	2.0
CIP 31.05	Health and physical education/fitness	Group D	20.0
CIP 38.01	Philosophy, logic and ethics	Group G	2.0
CIP 38.02	Religion/religious studies	Group G	2.0
CIP 40.02	Astronomy and astrophysics	Group E	15.0
CIP 40.05	Chemistry	Group A	40.0
CIP 40.06	Geological and Earth sciences/geosciences	Group B	30.0
CIP 40.08	Physics	Group B	30.0
CIP 42.01	Psychology, general	Group D	20.0
CIP 44.07	Social work	Group G	2.0
CIP 45.01	Social sciences, general	Group E	15.0
CIP 45.02	Anthropology	Group D	20.0
CIP 45.03	Archaeology	Group D	20.0
CIP 45.04	Criminology	Group F	5.0
CIP 45.06	Economics	Group G	2.0
CIP 45.07	Geography and cartography	Group E	15.0
CIP 45.10	Political science and government	Group G	2.0
CIP 45.11	Sociology	Group G	2.0
CIP 45.12	Urban studies / affairs	Group F	5.0
CIP 50.01	Visual, digital and performing arts, general	Group F	5.0
CIP 50.04	Design and applied arts	Group G	2.0
CIP 50.05	Drama, theatre arts and stagecraft	Group F	5.0
CIP 50.06	Film/video and photographic arts	Group F	5.0
CIP 50.07	Fine arts and art studies	Group F	5.0
CIP 50.09	Music	Group G	2.0

COU Space Allocation Factors by Group and CIP Codes (continued)

CIP Code	CIP Name	COU Group	COU Space Allocation Factor (NASM)
CIP 51.00	Health Sciences	Group G	2.0
CIP 51.02	Communication disorders sciences and services	Group E	10.0
CIP 51.04	Dentistry	Group D	20.0
CIP 51.07	Health and medical administrative services	Group G	2.0
CIP 51.10	Clinical/medical laboratory science/research and allied professions	Group E	10.0
CIP 51.12	Medicine	Group A	40.0
CIP 51.16	Nursing	Group G	2.0
CIP 51.17	Optometry	Group B	30.0
CIP 51.20	Pharmacy, pharmaceutical sciences and administration	Group D	20.0
CIP 51.22	Public health	Group G	2.0
CIP 51.23	Rehabilitation and therapeutic professions	Group E	10.0
CIP 51.25	Veterinary biomedical and clinical sciences	Group A	40.0
CIP 52.01	Business/commerce, general	Group G	2.0
CIP 52.02	Business administration, management and operations	Group G	2.0
CIP 52.03	Accounting and related services	Group G	2.0
CIP 52.09	Hospitality administration/management	Group G	2.0
CIP 52.12	Management information systems and services	Group G	2.0
CIP 54.01	History	Group G	2.0

Section 6 - Other Facilities

Preamble

The previous sections of this report considered Brock-specific space standards as follows:

- Section 2 Classroom Facilities
- Section 3 Instructional Laboratories
- Section 4 Office Facilities
- Section 5 Research Facilities

The impetus for clear, evidenced-based and transparent methods to assess needs and allocations of the spaces listed above is driven by their repetitive and distributed nature across a typical campus. The standards for these types of spaces are intended to answer questions such as:

- How many classrooms of this capacity do we need on campus?
- How many private 11 square meter private faculty offices will this new building require?
- How much space will be required by this new research initiative based on the number of PIs, RAs and graduate students involved?

The framework and standards outlined in sections 2 to 5 of this report can provide answers to these questions.

This “Other Facilities” section covers the types of spaces where questions like the ones listed above cannot be distilled into calculations set up as inputs (staff count, section hours, etc.) multiplied by set space allocation factors. Such a methodology does not easily support answering questions such as:

- How much space should be allocated to library collections?
- How much campus space should be allocated to food services and dining facilities?
- How big should the Art Gallery be?
- Should the University have a semi-Olympic or Olympic pool? A running track?

Sensible answers to these questions must take into account institutional

strategy and priorities, a campus' urban context, history and legacy factors and a host of other considerations that are difficult to quantify, describe, or apply.

In other words, space allocation decisions for other facilities rightfully tend to be or have to be made on a case-by-case basis. These decisions typically concern common academic and campus services and amenities that benefit the University community as a whole, or very large stakeholder groups.

This section outlines the approach recommended by the Working Group to monitor and inform Brock University space planning and capital decisions that touch on other facilities.

Description of Other Facilities

“Other Facilities” represent approximately one fifth of Brock’s gross square footage inventory, excluding residence buildings. For most space types the COU space standard framework relies on the FTE student count of the University to notionally assess space requirements, as noted below:

Library Facilities & Study Space	Size of Collections / FTE Population	4.3 %
Non-Library Study Space	FTE Student Population	1.9 %
Athletic / Recreation Space	FTE Student Population	6.4 %
Food Services	FTE Student Population	2.5 %
Bookstore / Merchandising	FTE Student Population	0.8 %
Central Services	FTE Student Population	2.2 %
Health Service Facilities	FTE Student Population	0.4 %
Common Use and Student Activity	FTE Student Population	0.9 %
Assembly and Exhibition Facilities	FTE Student Population	2.2 %

Considerations for Assessing Other Facilities Space Requirements

The Working Group recommends that other facilities be monitored and evaluated using the following benchmarks, indicators and institutional planning inputs:

1) Benchmarks Achieved in Relation to Other Ontario Universities

- Area per full-time equivalent student (SM / FTE) benchmarks achieved by the University in the space category being examined in relation to Ontario’s other universities, particularly institutions Brock deems to be similar in terms of program offerings and size (Wilfrid Laurier University for example).

The Working Group notes that calculated SM / FTE benchmarks must be interpreted with discernment and should primarily be viewed as a prompt to ask key questions such as:

- **Benchmark Below Other Institutions** - Why is Brock XX% below the provincial benchmark and how does this notional shortfall truly affect student success, campus life, the University brand, etc.? How does the University get by without this space, and does the situation warrant a planning and one-off space allocation response?
- **Benchmark Above Other Institutions** – Why is Brock XX% above the provincial benchmark, and how does this benefit or hamper the University in terms of quality of service and campus experience, future campus development plans, etc.? Can the space be recouped now or will it be needed as the university develops?

2) Indicators and Institutional Planning Inputs

- Alignment and benefits of a space allocation in relation to the University’s strategic, academic and business plans.
- Results of general or of targeted user satisfaction surveys, including but not limited to annual Key Performance Indicator (KPI) results directly or indirectly linked to the service or amenity provided or considered.
- Relevant reports and data sets describing existing conditions, issues, opportunities and trends in the delivery or configuration of services and amenities.
- Compliance of the University in providing the service or the amenity space allocations in relation to standards set externally by regulators and accrediting bodies.

Appendix 3 – Criteria for the Evaluation of Space Requests

Resource Request Evaluation Criteria

	A1	A2	A3	B	C = A x B
	0 to 3 pts	4 to 7 pts	8 to 10 pts	Weighing Factor	Total
	Inadequate to Poor	Average	Good to Excellent		
<p>Criterion A – Alignment with University Plans and Standards</p> <p>Assessment Statement</p> <p>The resource supports implementation or aspects of the University's:</p> <ul style="list-style-type: none"> • Strategic Plan • Academic and enrolment plans • Research plans and activities • Business, staffing and service plans • Campus Master Plan, Facilities Needs and Priority Study and related asset renewal or maintenance plans • Alignment with standards the University is seeking to achieve <p>Rationale Statement</p> <p>In the resource request process, applicants are encouraged to:</p> <p>Describe how the resource aligns with and / or supports the achievement of University's plans, standards as listed above as well as its research and outreach mandates. Outline benchmarks, indicators, direct comparison with other institutions, and before-and-after descriptions to demonstrate change and progress in the pursuit of the University's plans.</p>	<p>The allocation of the resource is <u>NOT</u> or is <u>only marginally aligned</u> with the University's plans.</p>	<p>The allocation of the resource is <u>aligned</u> with some of the University's plans and contributes to their implementation and achievement.</p>	<p>The allocation of the resource is <u>highly aligned</u> with most of the University's plans and greatly contributes to their implementation and achievement</p>	2	<p>___ / 20 pts</p>
	<p>___ out of 10 pts</p>				

Resource Request Evaluation Criteria

	A1	A2	A3	B	C = A x B
	0 to 3 pts	4 to 7 pts	8 to 10 pts	Weighing Factor	Total
	Inadequate to Poor	Average	Good to Excellent		
<p>Criterion B – Excellence, Innovation, Creativity and / or Inclusiveness</p> <p>Assessment Statements</p> <p>The resource supports:</p> <ul style="list-style-type: none"> The leadership, competitive position and differentiation of the Faculty, School or Department within the relevant environment(s) or market(s) it targets or intends to target The fostering of learning excellence / the promotion or demonstration of innovation / the creation of conditions that mirror external best-in-class practices The varied needs (including special needs) and expectations of students, users or partners Compliance with applicable accreditation requirements 	<p>The allocation of the resource is poorly aligned with the assessment statements and <u>does NOT or only marginally contributes</u> to excellence, innovation and inclusiveness at the University.</p>	<p>The allocation of the resource aligns with 1 or 2 of the assessment statements and <u>contributes</u>, directly and demonstrably, to excellence, innovation and inclusiveness at the University</p>	<p>The allocation of the resource aligns with 3 or 4 of the assessment statements and <u>greatly contributes</u>, directly and demonstrably, to excellence, innovation and inclusiveness at the University</p>	2	___ / 20 pts
	___ out of 10 pts				
<p>Rationale Statement</p> <p>In the resource request process, applicants are encouraged to:</p> <p>Describe how the requested resource contributes to the pursuit of Excellence, Innovation, Creativity and Inclusiveness by the Faculty, School or the Department, and in relation to the Assessment Statements listed above. Outline the anticipated impact(s) or risk(s) incurred by the Faculty, School or the Department if the resource is not allocated in relation to the Assessment Statements listed above.</p>					

Resource Request Evaluation Criteria

	A1	A2	A3	B	C = A x B
	0 to 3 pts	4 to 7 pts	8 to 10 pts	Weighing Factor	Total
	Inadequate to Poor	Average	Good to Excellent		
<p>Criterion C – Benefits</p> <p>Assessment Statements</p> <p>The resource creates measurable:</p> <ul style="list-style-type: none"> • Exceptional learner success / user experience / stakeholder satisfaction • Exceptional or anticipated research outcomes / innovation potential • Collaboration and strengthening of pathways, synergies and asset sharing between programs or services • Enhancement(s) of industry, alumni, education and/or community partnerships • Additional revenue stream(s), saving(s) or efficiencies 	<p>The allocation of the resource is poorly aligned with the assessment statements and <u>does NOT or only marginally contributes</u> direct and demonstrable benefits to the University.</p>	<p>The allocation of the resource aligns with 1 or 2 of the assessment statements and <u>contributes</u> direct and demonstrable benefits to the University.</p>	<p>The allocation of the resource aligns with 3 or 4 of the assessment statements and <u>greatly contributes</u> direct and demonstrable benefits to the University.</p>	3	___ / 30 pts
	___ out of 10 pts				
<p>Rationale Statement</p> <p>In the resource request process, applicants are encouraged to:</p> <p>Describe and/or quantify how the requested resource benefits the University in general, or specific stakeholder or user group in particular, as per the Assessment Statements listed above. Identify the direct and indirect beneficiaries of investment in the resource. Outline the baseline(s) and the measurement method(s) to be used to monitor the continued benefits resulting from investment in the resource.</p>					

Resource Request Evaluation Criteria

	A1	A2	A3	B	C = A x B
	0 to 3 pts	4 to 7 pts	8 to 10 pts	Weighing Factor	Total
	Inadequate to Poor	Average	Good to Excellent		
<p>Criterion D – Stewardship and Sustainability</p> <p>Assessment Statements</p> <p>The resource fosters, demonstrates or addresses:</p> <ul style="list-style-type: none"> • Alignment with University Sustainability Plan • Best use of University resources • Life-cycle status of resource(s) being replaced • Long-term potential to adapt or re-purpose allocated resource(s) • Social and ecological sustainability 	<p>The allocation of the resource is poorly aligned with the assessment statements and <u>does NOT or only marginally contributes</u> to the stewardship and sustainability objectives of the University.</p>	<p>The allocation of the resource aligns with 1 or 2 of the assessment statements and <u>contributes</u>, directly and demonstrably, to the stewardship and sustainability objectives of the University</p>	<p>The allocation of the resource aligns with 3 or more of the assessment statements and <u>greatly contributes</u>, directly and demonstrably, to the stewardship and sustainability objectives of the University</p>	1	___ / 10 pts
	___ out of 10 pts				

Rationale Statement

In the resource request process, applicants are encouraged to:

Describe how the requested resource fosters, demonstrates or addresses the University’s Stewardship and Sustainability goals and plans as per the Assessment Statements listed above. **Outline** the qualitative and quantitative baseline(s) and the measurement method(s) to be used to monitor progress in the pursuit of Stewardship and Sustainability resulting from investment in the resource.

Resource Request Evaluation Criteria

A1	A2	A3	B	C = A x B
0 to 3 pts	4 to 7 pts	8 to 10 pts	Weighing Factor	Total
Inadequate to Poor	Average	Good to Excellent		

Criterion E – Investment and Risk

Assessment Statements

The request for resource allocation considers or recognizes:

- Size of initial investment in capital or other resources, space in particular
- Donation, unencumbered funding, or contribution in kind from external source(s)
- Recurrent operating, renewal and maintenance costs
- Compliance with regulatory requirements
- Implementation or operational risk factors

The allocation of the resource has low feasibility with respect to the assessment statements and represents a <u>poor investment / risk decision</u> for the University.	The allocation of the resource has acceptable feasibility with respect to the assessment statements and represents an <u>acceptable investment / risk decision</u> for the University.	The allocation of the resource has high feasibility with respect to the assessment statements and represents a <u>good investment / risk decision</u> for the University.	2	___ / 20 pts
___ out of 10 pts				

Rationale Statement

In the resource request process, applicants are encouraged to:

Summarize key aspects of the business case, costs, amortization, payback and/or risks associated with procuring the requested resource in relation to the Assessment Statements listed above. **Describe** potential future deferred costs and cumulated risk(s) factors related to forgoing the requested investment. **Outline** known risk factors related to the implementation / installation of the requested resource.

TOTAL SCORE CRITERIA A to E ___ / 100 pts

Appendix 4 - Space Request Short Form



Space Request - Short Form

Applicants of space allocation, renovation or modernization requests must complete this **Short Form** to describe their needs or plans and to determine what process will be followed for the evaluation and implementation of their requests. Space request applications will be categorized as follows:

SPACE RENOVATION or UPGRADE Request	MINOR SPACE ALLOCATION Request	MAJOR SPACE ALLOCATION Request
<p>The application will be processed as a SPACE RENOVATION or UPGRADE request if <u>all</u> the following checkpoints apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> The amount of space allocated remains constant <input type="checkbox"/> The space remains allocated to the same department or unit <input type="checkbox"/> The request in to improve the allocated space, including: <ul style="list-style-type: none"> - Room finishes - HVAC, electrical, plumbing and other services - Furniture changes or upgrades - Equipment changes or upgrades 	<p>The application will be processed as a MINOR SPACE ALLOCATION request if <u>all</u> the following checkpoints apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> The change in the amount of space to be allocated or renovated does not exceed 1,000 square feet <input type="checkbox"/> The functional classification of the space remains constant, as defined by the Council of Ontario Universities space classification system * <input type="checkbox"/> The funding of the project is sourced internally within Brock University <input type="checkbox"/> The estimated project cost is below \$100,000 <input type="checkbox"/> No capacity change of an instructional space <input type="checkbox"/> Not significant (<50%) capacity change of a non-instructional space 	<p>The application will be processed as a MAJOR SPACE ALLOCATION request if <u>any one</u> of the following checkpoints applies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> The change in the amount of space to allocated or renovated exceeds 1,000 square feet <input type="checkbox"/> The functional classification of the space changes, as defined by the Council of Ontario Universities space classification system * <input type="checkbox"/> The funding of the project is sourced externally to Brock University <input type="checkbox"/> The estimated project cost exceeds \$100,000 <input type="checkbox"/> Any capacity change of an instructional space <input type="checkbox"/> Significant (> 50%) capacity change of a non-instructional space
<p>Next Step</p> <ol style="list-style-type: none"> 1. Fill this Short Form and submit to Facilities Management for processing, evaluation and implementation 	<p>Next Step</p> <ol style="list-style-type: none"> 1. Fill this Short Form and submit to Facilities Management for processing, evaluation and implementation 	<p>Next Steps</p> <ol style="list-style-type: none"> 1. Fill this Short Form and submit to Facilities Management for processing 2. Once instructed, fill a Long Form in consultation with Facilities Management, IT, Registrar, Institutional Analysis and/or Financial Services 3. Liaise with the University's Space Request Evaluation Committee as required

Applicant Information	
Department: _____	
Contact: Name _____	/ Email _____ / Ext _____
Date of Application: DD / MM / YY _____	Allocation or Change Needed by: DD / MM / YY _____
Authorization of Request by: Name _____ / Dean or Associate VP _____	
Authorization Signature _____	Signature Date: DD / MM / YY _____

* Council of Ontario Universities Major Space Classifications

1 Classrooms	5 Library and In-Library Study Space	11 Non-Library Study Space
2 Instructional Labs	6 Athletics /Recreation Space	14 Common & Student Activity Space
3 Research	7&8 Food Services, Bookstore & Retail	
4 Academic Offices	10 Administration and Related	

Appendix 5 – Space Request Long Form



Space Request - Long Form

Applicants for a Major Space Allocation requests must complete this **Long Form**. The requests will be evaluated by the Brock University Space Request Evaluation Committee using the following criteria: *

- A Alignment with University Plans and Standards
- B Excellence, Innovation, Creativity and / or Inclusiveness
- C Benefits
- D Stewardship and Sustainability
- E Investment and Risk

Applicants are encouraged to describe their needs and plans for space with reference to each criteria when completing Part B - Project Rationale of the Long Form.

Applicants are invited to seek, as required, the assistance and input of the following University services to complete this Long Form: Facilities Management, Information Technology, Registrar, Institutional Analysis and Financial Services.

Applicant Information	
Department:	
Contact: Name / Email / Ext	
Date of Application: DD / MM / YY	Allocation or Change Needed by: DD / MM / YY
Authorization of Request by: Name / Dean or Associate VP	
Authorization Signature	Signature Date: DD / MM / YY

* Please refer to the Criteria document for further details

Overall Project Description, Background Information and Rationale for the Space Request

PART A - PROJECT DESCRIPTION

If applicable, identify / list spaces vacated as a result of the space allocation, with square footage area

Describe the space program for the allocated space
(i.e. a list of the functions to be accommodated or the rooms to be assigned, and their respective areas).

If applicable, describe high -level estimated or anticipated capital costs (renovation, equipment, other) and recurring operating costs associated with the space allocation. Describe estimated cost savings if applicable.

PART A - PROJECT DESCRIPTION

If applicable, describe any new program and/or enrolment changes related to this space request.

If applicable, describe projected weekly utilization of the instructional room(s) allocated or vacated in terms of additional or fewer hours, considering all semesters and all levels of the program(s) or activity to be offered.

If applicable, describe any planned or proposed services and staffing changes

Criterion A - Alignment with University Plans and Standards

Criterion B - Excellence, Innovation, Creativity and / or Inclusiveness

Criterion C - Benefits

Empty text area for Criterion C - Benefits.

Criterion D - Stewardship and Sustainability

Empty text area for Criterion D - Stewardship and Sustainability.

Criterion E - Investment and Risks

A large, empty rectangular box with a thin black border, occupying the majority of the page below the header. It is intended for the user to provide details regarding investment and risks for the project.

