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Letter from the Principal
It is a special honour to write this introduction to the Bishop’s University Master Plan Report. The Master Plan Report is the result of extensive thought and discussion within the Bishop’s community and I am confident that it will have enduring influence on the development of our campus.

We have been fortunate to work with two firms of exceptionally thoughtful and talented architects, Peter Rose Architecte and Michael Van Valkenburgh Associates. I would like to express our deep appreciation to Peter Rose, Paul Puciata, Laura Solano, and Neil Budzinski, who have helped us appreciate the outstanding qualities of our campus and have developed a plan that will allow us to preserve and enhance the best of our unique natural and built environments.

One of the critical insights that the architects brought to this process is that over that last 60 years we have allowed the automobile to take precedence over the pedestrian. As you will note on page 48, 74% of the buildings on our campus were constructed between 1950 and 1975. This was the era when the car was king, and the automobile was certainly given pride of place during that period.

In her song “Big Yellow Taxi,” Joni Mitchell wrote that “they paved paradise to put up a parking lot…” She was probably not writing about Bishop’s, but she could have been. Our bucolic campus now includes the equivalent of 21 football fields of pavement. The architects’ proposal to create a ring road and to restrict cars to the periphery of the campus is a simple but transformative idea that I believe will positively affect the development of our campus for decades to come.

Casual conversations at chance meetings while walking on the campus or in Lennoxville are hallmarks of the Bishop’s experience. A pedestrian bridge across the Massawippi River and a new walking spine of the campus would significantly facilitate these interactions.

There are many profound insights and compelling ideas in this Master Plan Report. It provides clear guidelines for the development and stewardship of our campus. Most importantly, it sets out how we can provide concrete expression to the fundamental values of our institution.

Bishop’s University’s goal is to provide the foremost undergraduate education in Canada. The Master Plan Report challenges us to ensure that our campus is a worthy manifestation of that ambition. It encourages us to aspire to excellence. I am confident that we will rise to the challenge and that this plan will guide us well into our third century.

Michael Goldbloom
Principal and Vice-Chancellor
Bishop’s University
November 2012
University Mission Statement

In 1843 the founders of Bishop’s University declared their intention “to offer to the country at large the blessing of a sound and liberal education.”

Today, our primary focus remains the liberal education of undergraduate students.

We aspire to be the institution of choice for outstanding young people seeking academic excellence and a comprehensive undergraduate experience in a community that instills confidence, courage and a sense of responsibility in its students.

At the heart of the Bishop’s experience is close interaction between professors and students, within the classroom and elsewhere, in research, scholarship and creative activity.

We seek to engage our students in their own intellectual and social development by offering programs of study and extracurricular activities that foster intellectual curiosity and a life-long commitment to learning.

As a learning community, we are engaged in the advancement and dissemination of knowledge. We encourage both breadth and depth in our students’ academic programs, to equip them to explore and solve complex problems.

We are committed to maintaining our intimate size and residential nature in order to foster the social development of our students, encourage the creation of lasting friendships and engender a true sense of community.

We invite our students, who come from Quebec, elsewhere in Canada, and around the world, to practice the respectful and informed dialogue that sustains democracy, to exercise the rights and responsibilities of good citizenship and to realize their potential for leadership.

We encourage our students to engage with individuals from different social, cultural and linguistic backgrounds and to take advantage of opportunities to open themselves to the world.

Values

Community

We value our welcoming and inclusive community, which fosters deep engagement in the life of the University and the exceptional dedication of our alumni.

We value individual integrity, mutual respect and collegiality.

We value the self-reliance, ethical engagement and accountability that are essential to responsible leadership.

We value service to our local and global communities, and research and scholarship that contribute to their growth and betterment.

Discovery

We value the curiosity, creativity and innovation that lie at the core of the intellectual endeavour: the search for truth and the discovery and transmission of knowledge in research and scholarship.

We value a liberal education, which combines the sustained study of a particular field of knowledge with the ability to approach it critically through exposure to different intellectual traditions and points of view.

We value active engagement in learning on the part of our students, and their contributions to innovation in our programs and pedagogical activities.

We value the academic freedom that is essential to the discovery and transmission of knowledge, the development of critical approaches, and true engagement in learning and discovery.

We value the opportunity to learn from and with each other, in our classrooms laboratories, libraries, theatres, residences, dining and sports facilities, as well as in the broader community.

Excellence

We value outstanding teaching, research and creative expression.

We value the pursuit of excellence in all that we undertake, and we aim to instil the aspiration to excel in our students and in all other members of our community.

Sustainability

We value principles of sustainability and seek to integrate them into our academic programs and our individual and institutional activities.

We value the natural beauty of our surroundings and exceptional architectural quality in our built environment.
Preface

It is with pleasure that we, the professional team, submit the Bishop’s University Master Plan Report, dated November 2012, to Bishop’s University. The Report represents the most comprehensive study of the Bishop’s campus ever undertaken.

Using documents and tools ranging from the very old-fashioned (drawings and maps done by hand, found in archives and libraries) to the very modern (data from websites, maps and photos from Google Earth, three-dimensional digital modeling), the Report traces and illustrates the remarkable evolution of the campus from its beginnings in the 1840s to its current state.

Many important discoveries were made, among them that approximately 70% of the current campus was constructed in the relatively short time span from 1950 to 1975, during which period a substantial area of the campus was paved in service of the perceived needs of the car. A major goal of the Master Plan Report, via a set of strategic adjustments, is to return the campus to its roots as a walking-, cycling-, and landscape-focused environment – with cars conveniently located, but not dominant. The Report further proposes to connect the campus more deliberately to, and to take greater advantage of, the extraordinary surroundings among the rivers, fields, forests, hills, and mountains of Quebec’s glorious Eastern Townships. It is one of the great settings for a university anywhere.

Above all, the Master Plan Report is a map for orderly, opportunistic development and growth of the campus, driven by the desire – indeed, by the need – for the whole of the campus to be vastly greater than the sum of its parts.

The Master Plan Report should be understood as a “living document,” to be diligently and consistently referred to by a Campus Plan Oversight Committee, a permanent group at Bishop’s charged with stewardship of the plan. Updating and developing the plan in greater detail as needed, via the hiring of skilled outside consultants, will be one of the main tasks of the committee. Implementing good master planning decisions will pay incalculable dividends for many years.
We are pleased to present the Bishop’s University Master Plan Report developed by the firms of Peter Rose Architecte, ARCOP, and Michael Van Valkenburg Associates. With the leadership of the University’s Master Plan Consultative Committee, the University has endeavored to implement a planning process which engaged a wide spectrum of campus constituents. Principal Goldbloom, Consultative Committee members, and the planning team consulted extensively with University and community groups, including faculty, students, staff, alumni, administrators, the greater Lennoxville and Sherbrooke communities as well as Champlain Regional College regarding the development of the plan. The plan stands as a detailed study of campus life, its built and natural environment and an ongoing dialogue among students, faculty, staff and administration. This interaction and open dialogue has been critical to the development of this plan, and will continue to be central to its successful implementation.

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The University would like to acknowledge the contributions of the following members of the University community, whose participation in the Campus Forum process was essential to identifying the central themes of the Master Plan and its development.

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Consultants (Bishop’s)
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0.0 Introduction

0.1 Why a Master Plan?

0.1.1 The Catalyst

While various abbreviated plans and studies of the University have been completed over the years – including a plan drawn by Henderson Architecte in 1990, as well as a campus study completed by McGill University School of Urban Planning in 1992 – a full-scale Master Plan for Bishop’s University campus has not recently been undertaken.

The catalyst for this current Master Plan was the renovation and addition to the John H. Price Sports and Recreation Centre, the largest project in Bishop’s history. The magnitude of the Sports Centre project, and its potential impact on Bishop’s campus, suggested that both the project and the campus itself would benefit enormously from carefully considering the campus as a whole.

Additional issues that Bishop’s University currently faces – the implementation of a new geothermal energy system; insufficient student housing, both on and off campus; and the prospect of the construction of a new highway around the perimeter of the campus – have made it clear that the timing of this Master Plan is opportune.

0.1.2 The Professional Team

Directed by Peter Rose and Paul Puciata of Peter Rose Architecte / ARCOP, the master plan was produced by a group of highly qualified consultants. Key collaborators and partners throughout the process were the exceptional landscape architecture firm of Michael Van Valkenburgh Associates – represented by principal Laura Solano and assisted by Neil Budzinski – and Transsolar Climate Engineers, extraordinary consultants on all aspects of sustainability, represented by principal, Matthias Schuler. This professional team worked in close collaboration on the Master Plan over a period of more than two years.

0.1.3 A Holistic Approach

We present this Master Plan Report as a living document that will help Bishop’s University address these issues within a coherent framework. We have looked back in time at the history of the campus to understand how it became what it is today. We have used these insights to look forward in time to understand how decisions can be made most beneficially for Bishop’s campus in the future.

The goal of a holistic way of thinking in regard to a master plan is for the “whole” of the campus to vastly exceed the sum of its parts – i.e., 2+2 ≠ 7. A good master plan also maximizes the impact of capital investments, as it provides
a structure for prioritizing campus improvements based on specific, strategic criteria.

0.1.4 Stewardship of A Living Document

Unlike the product of pure research, which may be summarized as a static work, a master plan is a living document that requires constant stewardship.

The endeavors proposed here will require an excellent team (possibly called the Campus Planning Oversight Committee), consisting of members of the Bishop’s community as well as expert outside consultants. This team will further develop individual aspects of the Master Plan Report, as well as engage in a series of negotiations with a range of relevant local authorities. On a regular basis, this team will supervise the periodic updating and revising of the Master Plan Report – a procedure that is required of any evolving and working master plan.

0.1.5 An Operating System for the Future

The operation of a university is an extraordinarily complex undertaking, involving thousands of people and an incalculable number of decisions on a daily basis. Over time, the campus – the “stage” on which the life of the university plays out – grows and is constructed, sometimes incrementally, sometimes in great leaps, at a cost of hundreds of millions of dollars. A good, well-developed master plan, taken seriously, functions as an organizational structure for the making of good decisions in regard to the construction of all aspects of the physical campus over time. A master plan is the best tool for avoiding the downside of making short-term decisions and solving short-term problems without the long-term vision in mind. Wisely managed and effectively deployed, a good master plan creates an enormous upside by optimizing the cumulative effect of making good tactical and strategic decisions over time.
0.2 A Master Planning Process

0.2.1 The Five Phases of the Master Plan Process

The Campus Master Planning Process for Bishop’s University has progressed through five distinct phases:

Observation Phase:
This initial phase consisted of the collection and documentation of existing qualitative and quantitative aspects of the campus. Data gathering took place in libraries and archives, as the professional team examined historic maps and photographs. "On the ground" observations of the Bishop’s campus of today completed the picture of the University. In addition, a series of focus group meetings allowed members of the wider Bishop’s community to voice their priorities regarding the campus. The data collected were formatted into a series of analytical diagrams, which became the foundation for developing planning principles with the University.

Precinct Studies:
Focusing on specific areas of the campus that were determined by their importance for the overall Master Plan, this phase studied in greater detail options for the spatial organization of buildings, program adjacencies, and landscapes. The goals developed in the Concept Development phase were examined at this micro-scale.

Concept Development:
In the Concept Development phase, we took a broad, macro-scale look at the campus. Emerging big-picture planning principles were identified and graphically represented, and a summary analysis of the Observation Phase were presented. Major goals of the Master Plan were articulated as a series of guiding principles.

Design Guidelines:
In this phase, broad recommendations were established to direct the development of future projects. These included issues relating to site planning (including circulation and street patterns), landscapes, building massing, signage, and sustainability.

Final Plan:
Refining the ideas generated in the previous four phases, the Final Plan document shows proposals for new buildings; open spaces and landscapes; parking, circulation and street patterns; and infrastructure improvements. Before and After renderings illustrate the
physical appearance of the concepts as outlined in the plan. Suggested phasing and project priorities are diagrammed.

0.2.2 Organization of this Document

These five phases outlined above are reflected broadly in the organization of this document:

The first chapter, “Campus in Context,” contextualizes Bishop’s University within its social and natural setting, both geographically and historically, and will show how the campus has evolved over the past century and a half. This detailed look at Bishop’s growth over the years allows us to see how the physical form of the campus has been sporadically shaped by external forces far beyond the campus itself. Understanding Bishop’s context and history provides invaluable clues for how to set in motion coherent growth in the future.

The second chapter, “The Campus Today: Six Observations,” provides the hinge of the Report. In this chapter, we concisely summarize the most important results of the previous two chapters. These observations form the core of the principles that have guided the development of the Master Plan.

Chapter Three, “A Campus for the Future,” contains the detailed diagrams, drawings, and images of the proposed Master Plan itself.

In the fourth chapter, “Implementation of the Master Plan,” we provide an overview for phasing and other procedures that will allow Bishop’s University to implement the plan.

Finally, in Chapter 5, we conclude this Master Plan Report with a recapitulation of its most essential elements and strategic proposals.
0.3 Main Goals

0.3.1 A Walking Campus

Bishop’s should be a walking campus – an all-weather, all-season, pedestrian-friendly campus. Pedestrian paths should be everywhere, forming a network of outdoor spaces, all deliberately defined by landscape. Pedestrian paths should not pass through parking lots, or other spaces dedicated to cars.

Buildings and landscapes, both within the University and in the region beyond, should be connected in multiple ways. This multiplicity of connections will offer a rich range of choices when navigating the campus, especially important on a campus with as varied a climate as at Bishop’s University. Fast and slow, in the sun or in shade: the campus should be beautiful and a pleasure to use in all seasons.

Bike and walking paths should be developed around the campus perimeter, along both rivers, into the woods and through the fields. Connected to existing hiking and biking networks beyond Bishop’s University, these paths could better connect the campus to the region, for the mutual benefit of both. Paths between Lennoxville and the campus should be improved, and a new pedestrian bridge should be considered.

0.3.2 Managing the Automobile

Cars should be relocated to the perimeter of the campus. This new perimeter vehicular circulation should be separate from the pedestrian network, and cars should not be in conflict with the pedestrian network.

Cars will be, for the foreseeable future, the primary means of travel to and from the campus. These cars should be parked on the campus in conveniently located lots. To the greatest degree possible, these conveniently located parking lots should be hidden, heavily screened by landscape and not visible from the network of outdoor spaces and buildings. The use of cars to move around the campus should be discouraged.

The main entrance to the campus should introduce the campus in an appropriately dignified fashion, and strategically reveal the essential character of the campus. The Highway 410 Bypass project provides an opportunity to both improve the University’s connection to the river, and establish a more harmonious integration between the University and the landscape.
0.3.3 Integrating Landscape with the Campus

Strengthening Bishop’s connections to the glorious surrounding landscape is one of the critical goals of the Master Plan Report.

One of the most beautiful spaces on the campus, which also happens to be at the geographic Centre of Bishop’s, is the hill surrounded by a series of mostly two-storey faculty bungalows. Connected to the spaces in front of the Student Centre and the Theatre, this hill has the potential to be a truly iconic campus centre. The Quad, St. Mark’s, the Tomlinson Room, and Bandeen Hall have all been identified as important heritage resources on campus. Improving, developing, and preserving these key campus assets, and programming them with appropriate activities, will tie these important places to Bishop’s University’s history and assure their continued relevance to campus identity in the future.

Buildings and landscapes should each be considered as integral parts of a larger whole.

0.3.4 Connections and Gathering Spaces

Most of the activity on the campus is hidden behind opaque walls and doors. Much of this activity can and should be revealed, helping to establish further connections. Views from landscape into buildings, and from circulation spaces into classroom spaces, should be emphasized and enhanced. A more visible and transparent campus will improve the social and pedagogical life of the University.

Gathering spaces of all scales should serve as points of connection throughout the campus and landscape. The revered Quad is one of the only enclosed exterior spaces on the campus. This is an example of one type of informal gathering spaces, but these should be everywhere.

Two-thirds of Bishop’s students now live and eat off-campus. The possibility of healthy, affordable food available for all students, in multiple locations, will encourage the development of a lively twenty-four hour campus.
0.3.5 Working with Existing Conditions

The above guiding principles have all directed the development of the Master Plan Report, and are the result of the research undertaken by the Master Planning Team to determine key assets already existing at the University.

Improving, developing, and preserving these campus assets, and programming them with appropriate activities, allows us to respond to site-specific conditions to maximum effect. Working with existing conditions allows for a master plan that is both sustainable and that can be executed within an economy of means.

By carefully studying the history of the campus, as well as its current structure, we propose a Master Plan that makes the most of existing conditions, and as such, consists of a feasible and realistic guide for the future of Bishop’s University.
Concept Sketch of proposed Master Plan, showing major discoveries and interventions.
1.0 Campus In Context

1.1 Bishop’s University in Its Region
1.2 Landscape and Environment
1.3 170 Years of Campus Development
1.4 Building Chronology
1.1 Bishop’s University in Its Region

1.1.1 Regional Context

Bishop’s 550-acre campus is situated in the Eastern Townships of Quebec, approximately 150km (a two-hour drive) from Montreal to the west, and 230km (a three-hour drive) from Quebec City to the north. The campus is located in the bilingual community of Lennoxville, a suburb of Sherbrooke, the 5th largest city in the Province of Quebec.
1.4
Regional map showing the location of Bishop's University.
Regional satellite image showing the location of Bishop's University.
1.6
Regional plan showing the extent of Bishop’s University property.
Plan of Bishop's University's central campus, 2012.
1.2 Landscape and Environment

1.2.1 Regional Overview

Bishop’s University is located in the southern Appalachian highlands of Quebec’s Eastern Townships, between the Green Mountains (including Mount Orford) to the west, and the prolongation of the White Mountains (including Mount Megantic) to the east. The region’s landscape is marked by three major rivers: the St. Francis River, and two of its tributaries, the Massawippi and Coaticook.

The University’s rural location, along with the unique natural setting at the junction of the St. Francis and Massawippi Rivers, plays an important part in defining the landscape experience of the campus. Today, the architectural core of the University occupies a relatively small percentage of its overall land holdings, leaving the remainder available for use as recreational space.
One of the most important attributes of Bishop’s University’s campus is its physical setting among rivers, forests, farms, meadows, rolling hills, and mountains, which provide vistas and atmospheres of rare beauty.
1.2.2 Geomorphology

The effect of the advance and retreat of glaciers over the past 1.8 million years has helped form the river systems and soil deposits currently found within the Bishop's University region. This movement has resulted in the creation of distinctive landforms that are evident on the campus today. The prevailing soil type is lacustrine deposited clay loam. This clay loam supports multiple plant communities, including both farmland ecology and native forest plant communities. As part of the Appalachian Orogen geologic domain, the geomorphology of Bishop's University's campus also consists of highly vulnerable limestone, quartzite, and pyroclastite.
1.10 (Left)
View of the forested hills beyond the agricultural fields.

1.11 (Below)
Geomorphology maps of the Bishop's region
1.2.3 Topography and Solar Orientation

The physical orientation and siting of the campus has an important effect on the way the buildings and landscapes are used. Solar exposure, as well as the steepness of slopes, affects the walkability of the campus.

Slopes
Steep 20:1 topography characterizes the south-western edge of campus as it slopes down to the river, as well as portions of the campus Centre. This topography creates diverse landscape experiences, such as prospects and enclosures, but also underlies accessibility challenges on the campus.

Northern Exposure
Although walking distances across the campus are relatively short, the extreme winter climate makes the areas of northern exposure less accommodating for passage during the colder seasons.

Southern Exposure
South-facing slopes and southern solar exposure combine to create favorable microclimates in a large, continuous section of the campus. South-facing building walls also create local warm areas that can mitigate winter cold. These areas of southern exposure have great potential for social use throughout the year.
Slopes (greater than 20:1)

1.13
Plan of Bishop's campus, showing slopes greater than 20:1.

Northern Exposure

1.14
Plan of Bishop's campus, highlighting the north-facing facades and slopes.

Southern Exposure

1.15
Plan of Bishop's campus, highlighting the south-facing facades and slopes.
1.2.4 Flood Zones

Given its proximity to two rivers, the possibility of flooding is an ever-present reality for Bishop’s University. For the most part, the main social areas on campus are raised above the effects of flooding, although the low-lying areas are subjected to frequent inundation.

1.16 (Above)
Map showing floodplain on Bishop’s campus.

1.17 (Right)
Aerial photographs showing the flooding of Bishop’s campus.
1.18
Existing hydrology of Bishop’s campus, showing the flood line and areas of the campus in danger of seasonal flooding.
1.3 Historical Overview

1.3.1 Founding of the University

Bishop’s University was founded as Bishop’s College in 1843. The University owes its creation to the Second Bishop Mountain, and its establishment in Lennoxville to the Reverend Lucius Doolittle. Through a petition presented to Lord Metcalfe, Bishop’s College was established by an Act of Canadian Parliament in 1843. In 1846, the College was moved to its present 40 acre campus, on land generously donated by Colonel William Morris. By 1853, with the recognition of its official Royal Charter, Bishop’s College gained the right to confer degrees, and has since been known as Bishop’s University.

Ever since its founding, Bishop’s University has continued to support a well-rounded education in the liberal arts and sciences. For the first 50 years of its existence, Bishop’s University was a small Gothic Revival campus in a beautiful rural setting. Although Bishop’s University doubled in size from its founding in 1846 up until the early 20th century, the campus remained small.

1.3.2 The Early 20th Century

During the first half of the 20th century, very little changed at Bishop’s University. This stasis was mostly due to external circumstances. Like many institutions, the University was caught up in global economic and political circumstances far beyond its campus. Two World Wars, and a worldwide economic depression, meant that Bishop’s had neither the pressure nor the means to grow.
1.3.3 The Automobile Years

In stark contrast to the lean war years, the post-World War II years were by and large periods of prosperity and rapid growth throughout North America. The twenty-five years beginning in the 1950’s through the early 1980’s were a time of growth and expansion at Bishop’s.

This period was coincident with the very ambitious expansion, especially in North America, of road networks and automobile use. This was a time when funding for highways was readily available, and the increase of the use of the automobile was explosive. An infatuation with all things car – suburban developments, shopping malls, and dedicated infrastructure – proceeded unbridled.

This period of time saw an enormous growth of Bishop’s campus itself. Money was available for new programs and infrastructure, and the growth of the student population followed, with additional funding for soldiers and women. Seventy-four percent of Bishop’s campus was built during this time period. As one would expect with growth and expansion in this particular time period, the campus was radically transformed from a pedestrian-friendly landscape to being physically and visually dominated by the car. Bishop’s became a driving campus.
### 1.3.4 The Legacy of Automobile Growth

For the most part, these cultural influences that shaped Bishop’s in the third quarter of the century have continued at a slower pace but in the same vein to today. Landscape and dedicated pedestrian paths continue to diminish, as spaces for the automobile continue to grow. A consequence of this growth pattern is that today there is a great deal of conflict between service vehicles, automobiles, and pedestrians. This conflict is often hazardous to pedestrians and cyclists. In addition, the visual result is that the presence of pavement is quite dominant. It
seems as if there are service vehicles, cars, and pavement everywhere. Finally, the campus is not particularly coherent. The road network and pedestrian path network are both visually and organizationally chaotic, while the parking is unwieldy and inefficient.

In formal and organizational terms, the Bishop's University that we see today was essentially built during this time of the automobile.
1.3.5 The Campus Today

Today, the University’s campus is characterized by a blend of modern and historical buildings. Along with the academic buildings, the inner campus comprises several sports fields, a sports complex and an indoor rink, a theatre, an art gallery and a music auditorium, all of which are open to the student body and the community at large.

1.3.6 Bishop’s Community

Academic Structure

Offering over 100 majors in five academic divisions, Bishop’s University maintains an average class size of 25 with a student to faculty ratio of 16:1. The University is structured around the following five academic divisions:

- Williams School of Business
- School of Education
- Division of Humanities
- Division of Social Sciences
- Division of Natural Sciences & Mathematics

Enrolment

Bishop’s University’s total undergraduate enrolment for the academic year 2011-2012 is 2,724, consisting of 2,262 full-time and 462 part-time students. The student body is composed of 56% female and 44% male, 43% from within the Province of Quebec, 43% from the rest of Canada, and 14% International.

Faculty

The Bishop’s Faculty is comprised of permanent full time, temporary full time, part-time, and tutors of the following populations:

- Full time faculty – permanent* 110
- Full time faculty – temporary 15-18
- Part time faculty** 50-55
- Music tutors (once/twice per week) 10
- Tutors in the English Writing Centre 4-5

Staff and Administrative Population

In addition to the student and faculty population, the University community also includes a Staff and Administration population of around 200 people. Food Services, the Follett Campus Bookstore, the Dobson Lagassé Centre for Entrepreneurship, and Physiotherapy and Sports Medicine comprise the remainder of other on-campus constituencies.

*Of the permanent full time faculty, an average of 10 would be on full or half sabbatical and therefore absent in any given semester.

**combined B.U./Champlain Regional College
1.22
A graph showing the student population and building growth throughout the history of Bishop's University.
1.4 Building Chronology

- 1846: Bishop’s Hall
- 1857: St. Mark’s Chapel
- 1861: Old Arts
- 1891-1892: Bishop Williams Hall, Divinity House, Morris House, McGreer Expansion
- 1898: Bandeen Hall

1846-1899

- 1900-1924
- 1925-1949
1846-1899: The Beginning

Bishop’s University began as a small Gothic Revival campus in a lush landscape. Although several buildings were constructed in these early years, the character of the campus remained small and compact.

Six buildings were constructed on the Bishop’s campus before 1900. These buildings total 11,241 square meters of space, 14% of the total current campus building space.

1.23
Bishop’s University’s campus, 1899.

1.23 (Opposite Above)
McGreer Hall, 1909.

1.25 (Opposite Below)
Graph showing square meters built between 1846-1899.
6 Buildings
11,241 m²
14% Campus
1900-1924: Early 20th century

During the first quarter of the twentieth century, only two buildings were constructed on Bishop's campus, both in the area of today's historic quad. The campus remained small and compact.

These buildings total 614 square meters of space, less than 1% of the total current campus building space.
2 Buildings
614 m² New Construction
.5% Campus
1925-1949: Depression and War

The scarce years of the Second World War and the Great Depression saw no physical growth of the Bishop's University campus. Zero buildings were constructed on the Bishop's campus between 1925 and 1949.

1.29 Bishop's University campus, 1949.

1.30 (Opposite Above) The gymnasium at Memorial Hall.

1.31 (Opposite Below) Graph showing square meters built between 1925-1949.
0 Buildings
0 m² New Construction
0% Campus
The post-war financial boom saw an unprecedented physical growth of Bishop's University. Reaching beyond the historic quad, the University came of age in the era of the automobile.

Twenty-one buildings were constructed on the Bishop's campus between 1950-1974. These buildings total 60,172 square meters of space, 74% of the total current campus building space.
21 Buildings
60,172 m² New Construction
74% Campus
1975-1999: End of the 20th Century

Physical growth of the campus slowed during the last half of the twentieth century. Three buildings were constructed on the Bishop’s campus between 1975-1999. These buildings total 9,925 square meters of space, 12% of the total current campus building space.
3 Buildings
9,925 m² New Construction
12% Campus
Since the beginning of the twenty-first century, only one building has been built on Bishop’s campus. This building totals 6,929 square meters of space, 1% of the total current campus building space.
1 Building
6,929 m² New Construction
1% Campus
Bishop’s University’s Campus Today

1.41
Bishop’s University campus, 2012.

1.42 (Opposite above)
View of the Academic Quad, looking towards McGreer, St. Mark’s Chapel and Bishop Williams Hall.

1.43 (Opposite below)
Graph showing square meters built between 1846-2010.
33 Buildings
88,836 m²
100% Campus
2.0 The Campus Today: Six Observations

2.1 A Compact Walking Campus
2.2 Vehicles Everywhere
2.3 A Winter Campus
2.4 A Campus Loosely Organized by Precinct and Program
2.5 An Underused Landscape
2.6 A Campus Tenuously Connected to Beautiful Surrounding Landscapes
2.0 The Campus Today: Six Observations

2.1 A Compact Walking Campus

Historically, Bishop’s University was described as a pedestrian-oriented campus in a lush rural landscape.

The small physical size of the campus – from end-to-end, the campus is about 900 meters long – means that it is possible to walk from one end to the other in about eight minutes.
Since the 1960s, as new facilities have been built and enrolment increased, the campus has seen its visual and physical landscape altered and diminished by a steady influx of roads, parking lots and cars. We speculate that a landscape-centric and pedestrian-friendly campus describes the University at its best. Given the small and compact nature of the campus, we believe that a return to this condition is a reasonable overarching goal.

2.1
It is possible to walk from the Quad to Queen Street in about ten minutes.
2.2 Vehicles Everywhere

Crosswalk leading from central campus towards the Housing Precinct.
Campus Vehicular Roads and Service Network

6174 m (3.84 miles) Linear Length

46,304 m² (11 acres) Total Area of Paved Vehicular Roads

2.3
Plan of the Bishop's campus showing the vehicular road network, along with service roads and loading docks.
Campus Parking

24 Parking Lots

1034 Parking Spaces

27,043 m² (7 acres) Total Area

Plan of the Bishop's campus showing the locations of parking lots as of 2012.
2.5
Parking for Coulter Field.

2.6
Parking in between the Student Centre and the practice field.

2.7 (Below)
Parking in front of the Student Centre.
Vehicular Network

73,347 m² (18 acres) Total Area
30% of Central Campus

Plan of the Bishop's campus showing the total paved vehicular network.
Bishop’s University’s campus is dominated by vehicles. It is nearly impossible to navigate the campus as a pedestrian without encountering vehicles, including cars, buses, and service trucks. A full 30% of the central campus is paved for vehicles – in motion and at rest.
Pedestrian Network

Total Area: 11,950 m² / 3 acres
4% of Central Campus
The pedestrian network is incomplete: As a pedestrian, one is always encountering vehicles. The pedestrian network does not allow navigation of the campus without walking on roads.

2.12 A pedestrian encounters a delivery vehicle.
2.3  A Winter Campus

Bishop’s University is a four-season campus. However, due to regional climate conditions and timing of the academic calendar, much of the campus experience is a winter campus. But winter is not fun here: the cold weather is merely endured rather than celebrated. The dictates of dealing with vehicles in conditions of snow and ice mean that salt, sand, and snow accumulate to allow the clearing of large surfaces of pavement. A consequence of this is that unattractive piles of road debris dominate one’s experience of the campus, detracting from the beauty of a winter landscape.

2.13
Outside Dewhurst Dining Hall in Winter.

2.14 (Below)
A Bishop’s road in the snow.
We propose that winter be celebrated as a wonderful feature of the Bishop’s campus, rather than an uncomfortable condition to be endured.
2.4 A Campus Loosely Organized by Precinct and Program

2.16 Plan of the Bishop's campus, showing building footprints by program type and precinct zones.
Bishop’s University’s campus is loosely organized by program type. Academic functions – classrooms, library, and faculty offices – are generally located in the historic Quad. Residential functions – dorms and dining facilities – are generally located in the newer buildings in the southeast portion of the campus. Student services, athletic centres, and other facilities are scattered throughout.

Graph showing square meters built by program type.
2.18
The Housing Precinct.
(above: both pages)

2.19
The Academic Precinct. View of McGreer
and (below) the old Quad.
2.5 An Underused Landscape

Bishop’s University occupies 150 acres in the vast and glorious setting of Quebec’s Eastern Townships. The campus landscape is a valuable resource, the perceived boundaries of which extend to the horizons.
2.21
A pedestrian path on the Bishop's campus.

2.22
A bench near the Academic Quad.

2.23 (Below)
A wooded landscape on the Bishop's campus.
One of the most important but underappreciated attributes of the Bishop’s campus is the full size of its landholdings: riverfronts, forest, farms, rolling meadows, and mountains. Within easy reach of many developed campus areas, the campus community can enjoy vistas and atmospheres of rare beauty, which are already part of Bishop’s University. Within the Bishop’s Master Planning mandate, opportunities can be created to allow the Bishop’s University community to capitalize better on these extraordinary resources.

In some instances, it is the artful blending between natural elements and a cultivated landscape that provides the best setting for recreational use. The gradual unfolding of enclosed spaces, combined with the distant views as one walks through the campus, provides both landscape range as well as an important sense of security. This is a concept that could be used to great advantage when considering possibilities for a new pedestrian approach onto campus, exploring ways to incorporate better the adjacent woodlands into the moment of arrival.

The rural landscape can also be incorporated into a network of recreational trails on campus. Even a brief foray into a wide-open space can provide an important sense of psychological expansion, regardless of the season. Stronger links between the central campus and these types of distinctive landscape moments will create a sense of choice and will encourage greater engagement between the campus community and the landscape.

Another environmental aspect of the campus that could be strengthened relates to the change of the seasons. The more access that can be provided to the larger concept of the campus landscape throughout the seasons, the easier it will be for students to encounter these exciting changes as part of daily life.

Given the amazing natural setting of the campus, it is easy to imagine that an even larger scale of landscape could be incorporated into campus life, the moment of arrival onto campus, and the experience of departure from campus. In part, the current lack of connection to nearby landscape features like the St. Francis riverfront is related to the construction of Route108. A current highway project, Highway 410, threatens to similarly affect 140 acres of current university landholdings and cut the campus off from access to natural landscapes just beyond its boundaries.
2.24
Bishop's University's St. Francis riverfront.
2.6 A Campus Tenuously Connected to Beautiful Landscapes Beyond its Boundaries

While the landscape surrounding the Bishop’s campus has undeniable beauty, the campus itself remains tenuously connected to landscapes beyond its boundaries. The bridge into Lennoxville is the only connection between the town and the campus, and pedestrians are forced to share the bridge with cars.

With respect to pedestrian arrival, the University is connected to the Borough of Lennoxville by a bridge constructed by the highway department principally for heavy vehicles with pedestrians accommodated as an afterthought. For the students, faculty, and staff for whom this is a daily crossing, there is a slight connection with the riverfront landscape below, but not a strong one.
Route 108 (College Street) forms an uninviting boundary between the campus and the river. While Bishop’s University technically owns waterfront property, this barrier prohibits easy access to the river. The waterfront does not feel like it is an integral part of the campus.
Today, Route 108 isolates the main campus from 60,703 m² / 15 acres of waterfront property.
If Highway 410 is built as originally planned by the Ministère des Transports du Québec, Bishop’s University will be cut off from a further 64 acres of its property.
3.0  A Campus Plan for the Future

3.1  Key Discoveries
3.2  Vehicular Circulation and Parking
3.3  A Pedestrian Campus
3.4  Landscapes and Buildings
3.5  Other Issues
3.6  Accessibility
3.7  Campus Wayfinding and Lighting
3.0 A Campus Plan for the Future

3.1 Key Discoveries

3.1.1 Perimeter Road

For the foreseeable future, cars will be the primary means of travel to and from the campus for the students, faculty and staff of the Bishop’s University and Champlain Regional College communities. A Perimeter Road will remove these cars from the Centre of campus to the periphery. Despite the radical transformation of the campus that this new Perimeter Road will engender, it will be surprisingly easy to implement. Much of the road already exists. Strategically connecting existing roads will allow the Perimeter Road to be built using a minimum of resources.

Cars should be parked on campus in conveniently located Perimeter Parking Lots. To the greatest degree possible, these lots should be heavily screened by landscape, and not be visible from the network of paths, outdoor spaces and buildings. The use of cars to move around the campus should be discouraged.

3.1.2 A Walking Campus: Main Campus Path

Historically, Bishop’s was described as “a walking campus in a lush landscape.” However, since the 1960s, as new facilities have been built and enrolment increased, the campus has seen its visual and physical landscape altered and diminished by a steady influx of roads, parking lots and cars. We speculate that “the walking campus in a lush landscape” describes the university at its best, and that a return to this condition is a reasonable over-arching goal.

We propose the development of a network of walking paths, which will operate as a system of interconnected spaces that will define the campus. These paths should neither be “in-between” or “left-over” spaces, nor routes through parking lots or along paved roads with cars. The paths will facilitate movement, but also be spaces for socializing and contemplation. A new pedestrian Bridge Entry will connect the campus to the neighbouring community of Lennoxville, while bike paths and hiking paths should extend into the landscape beyond the campus proper.
3.1.3 Campus Precincts

The main campus path network will connect a series of newly orchestrated precincts. The density of the campus is low and can be substantially increased without compromising the quality or character of the campus, especially if cars are mostly moved out. The result will be a more convenient, more interesting, livelier campus.

A renovated Library Commons and Academic Quad will stitch the historic campus into the new pedestrian network. The central campus, a strategically-located and underutilized part of the entire campus, could be transformed from the suburban cul-de-sac that serves six faculty bungalows into a car-free landscape and Student Centre with an iconic name such as “the Green.” This new “Green” would have enormous transformative power, especially given its location overlooking the rest of the campus and connection to the landscape in front of Centennial Theatre. Finally, a renovated Housing Quad would provide more space for resident students, and give on-campus housing a distinct character.

3.1 Four concept sketches of the proposed master plan, showing the Perimeter Road, the main campus path, the new campus precincts, and the secondary campus paths.
3.2 Vehicular Circulation and Parking

3.2.1 Perimeter Road

The addition of vehicular access into the main Bishop’s campus accompanied the expansion of the campus from the 1950’s to the 1970’s. Since then, pavement has been incrementally added, resulting in a net effect of an overuse of hardened, asphalt surface. Although the campus is small, four car loops criss-cross the campus, connecting 24 separate parking lots. Consolidating parking and vehicular traffic on campus would make a tremendous difference in terms of reducing the abundance of asphalt surfacing; increasing the amount of grass, groundcover, and trees; creating new social spaces; and promoting pedestrian safety and overall quality of life on campus.

In place of the existing network of roadways through the campus, a new Perimeter Road would encircle the outer edge of the campus, connecting the east and west thresholds of the campus that release onto highway 108. Much of the roadway needed to create this loop already exists. After completing the connections to form the continuous ring, parking could then be consolidated into three major basins at the periphery of campus. Although large, parking lots would be designed to maximize collection and infiltration of stormwater runoff, and be provided with occasional bands of trees. Bus access onto the campus would be relocated to the eastern entrance and service the Athletic facilities, with their broader community programming.

The Perimeter Road would be designed as a part of the landscape, providing a different way to engage the campus and its surrounding environment. Rather than running directly along the fronts of the most cherished of campus buildings, the roadway should be set back, creating distant views for automobile drivers while also opening up new opportunities for campus social spaces.

A minimal use service road would remain through the centre of campus, with an entrance and exit at the intersection between College Street and Chemin Moulton-Hill. The diagrams on the following pages show recommended vehicular routes through the campus, including routes for automobiles, service and campus security vehicles, buses or shuttles, and emergency access.
3.2
Bishop’s University’s campus showing proposed Perimeter Road.
3.2.2 Main Vehicular Entry

For those commuting by car, the main vehicular entry will be through the east campus gate. This route will provide quick and easy access to parking that is located just off of Highway 108, as well as access to additional parking along the Perimeter Road.

3.3 Plan showing Main Vehicular Entry.

3.4 View of existing campus entry.
3.2.3 Ceremonial Entry

Visitors who want a more leisurely approach to the parking areas will enter through the west campus gate. This ceremonial entry will allow visitors to engage with strong views across the campus landscape and toward the main historic buildings of Bishop's.
3.2.4 Perimeter Parking Lots

3.7 Bishop’s campus showing proposed perimeter parking lots and capacities.
3.8 (Top)
Southwest Lot, 245 Spaces.

3.9 (Mid left)
Southeast Lot, 365 Spaces.

3.10 (Mid right)
West Lot, 90 Spaces.

3.11 (Bottom left)
East Lot, 365 Spaces.

3.12 (Bottom right)
North Lot, 30 Spaces.
3.2.5 Parking Permits

Bishop’s currently issues parking permits on a tiered-fee basis, with each tier consisting of a different University constituency (Faculty/staff [Type A], Student [Type B], Sports Centre [Type S], Night Permits [Type N], and Arena [Type R]). Single or multiple tiers are assigned to specific lots on-campus during set times of day. Currently the University does not have parking control or monitoring systems in place, making it difficult to ascertain accurately peak demand by permit type, or current availability at specific lots. Significantly increased enrolment, the introduction of new or expanded facilities (i.e., the Business School, Learning Centre, and athletic facilities), and anticipated increases to on-campus residence capacity will impact future parking demand. As the architectural programs for these facilities are in the concept phase as of the development of this plan, the Master Plan seeks to consolidate parking areas in zones of the campus which can accommodate current demand and anticipated expansion while reducing vehicular/pedestrian conflicts, and cross-campus travel.

3.2.6 Quantity and Distribution

Parking capacity on the Bishop’s campus is currently 1034 spaces across 24 separate lots, ranging in size from 3 to 332 spaces. Nearly 33% of the total campus supply is concentrated in small groups of spaces (the maximum of which is 60) surrounding the Old Quad. The balance of spaces is provided in larger lots adjacent to the Sports Centre/Tennis Courts, and south near Paterson Hall and other residence halls. The current ratio of 0.23 parking spaces per campus person (Bishop’s + Champlain Regional College full- and part-time faculty, staff, and students) is a low number compared with similar institutions.

Of the approximately 2754 (full- and part-time) students at Bishop’s, 524 or 19% received permits (Type B) in the second semester of the academic year 2010-2011. During the same period, of approximately 1180 (full and part-time) students at Champlain Regional College, 469 or 40% received permits (Type B). Further, it should be noted that a vehicle count conducted by University Security during the fall of 2011 indicates that on-campus resident parking demand peaked at 105, of which 10 permits were issued to first-year students. The number of on-campus residents at this time was 681.

Of the approximately 406 (full and part-time) staff and faculty at Bishop’s, 100% received permits (Type A) in the second semester of the academic year 2010-2011. During the same period, of approximately 148 (full and part-time) faculty and staff at Champlain Regional College, 86 or 58% received permits (Type A). There are currently 234 spaces on campus designated for faculty and staff at both institutions combined. The ratio of .47 available spaces to aggregate permits issued is a low number compared with similar institutions where the average ratio is .7 designated spaces to faculty / staff permits issued (see figure 4.11).
3.2.7 Transportation Demand Management Strategies

It is recommended that the University initiate a Transportation Demand Management Study. This study would test strategies that promote alternative transportation options for faculty, staff, commuters and resident students, with the intent of reducing the quantity and impact of single-occupant vehicle use.

**These strategies may include:**

1. Installing a centrally monitored parking management and control system with the capacity to record occupancy counts 24 hours / 7 days by permit type. This system should also provide real-time data to drivers indicating current capacity at individual lots, thus minimizing cross-campus driving.

2. Establishing hourly / daily car-sharing opportunities on-campus through a vendor such as Communauto.

3. Establishing a car-free policy for first-year and possibly second-year resident students.

4. Providing guaranteed rides home and daily pass financial incentives for faculty and staff that choose to carpool or use public transit.

5. Establishing a database of housing clusters in order to target and manage rideshare opportunities.

6. Establish a web-based ride-share system.

7. Reserving highly desired parking spaces for carpoolers.

8. Providing financial incentives to faculty and staff to forgo the issuance of a parking permit.

9. Developing incentives and infrastructure for commuting via bicycle. This would include improvements and additions to dedicated off-campus bike lanes and shared streets, increased capacity of the Société de Transport de Sherbrooke’s (STS) “Rack-N-Roll” program, as well as increased bicycle storage capacity on campus.

3.13 (Opposite and left) Graphs showing the parking spaces allocated per person, as a comparison between a selection of small universities.
3.2.8 Service Routes / Loading Docks

3.14 Plan of Bishop’s University’s campus, showing existing service routes and access.

3.15 Plan of Bishop’s University’s campus, showing interim service routes and access.
3.16
Plan of Bishop’s University’s campus showing proposed service and emergency access routes.
3.2.9 Emergency Access

3.17 Plan of Bishop's University's campus, showing existing emergency access.

3.18 Plan of Bishop's University's campus, showing proposed emergency access.
3.2.10 Bus Routes

3.19
Plan of Bishop's University's campus, showing existing bus route.

3.20
Plan of Bishop's University's campus, showing proposed bus route.
3.3 A Pedestrian Campus

1. Make Passage Seamless and Easy

One benefit of having a compact campus footprint is the ability to have one major route that connects all of the primary activities of the campus. Major portions of a new primary cross-campus pathway laid out in the Master Plan exist already, but there is not yet a clear hierarchy of pathways that would indicate that the combined components of this pathway are a direct means of traversing the campus.

The new cross-campus pathway begins with a new pedestrian bridge branching off from the sidewalk along College Street in Lennoxville, west of the Massawippi. Rising to a grade that is level with the core of campus, this elevated pathway would carry pedestrians over the river, through a wooded landscape and toward an arrival view of McGreer Hall. Passage would feel seamless, easy, and distinctive, making the moment of pedestrian arrival a moment to celebrate the campus, its architecture and its setting.

Rather than using roadways as a shared space between pedestrians and vehicles, or navigating parked cars in order to enter a building, the pedestrian experience will be integrated into the campus landscape, the architectural framework, and the natural environment.

2. Set Up Sightlines

The pathway would be recognizable as a continuous element, but also highly responsive to place and use along its length. Aspects of sight lines, threshold, experiential variety, and a clear framework for wayfinding would be considered along with material expression and width. This main pathway will cut across the campus diagonally, connecting the new bridge with the Sports Centre at its terminus. This path has been designed to take advantage of southern exposure, maximizing the potential for winter comfort. A secondary pathway, which carries foot traffic through existing and new courtyard enclosures, will connect with the main cross-campus path in two locations, thus forming a pedestrian loop at the core of the academic campus.

3. Respond to Place and Use

4. Provide a Clear Framework for Wayfinding

5. Create Thresholds

6. Provide Experiential Variety
### 3.3.1 Main Campus Path

One of the major goals of the master plan is to make the campus more walkable. Although pedestrians, cyclists, and vehicles all need to be accommodated on campus, it is the organization of pedestrian circulation that should be given precedence in the central spaces of the campus. The strategic rearrangement of parking and vehicular traffic on the campus will allow for true pedestrian sovereignty to be feasible.

![Diagram of Bishop's University's campus showing proposed vehicular, service, and pedestrian circulation.](image)
3.3.2 River and Main Pedestrian Entry from Lennoxville

The Massawippi River, which forms the western edge of campus, offers stunning natural scenery in a comparatively calm and quiet environment. The construction of a new campus entry via a pedestrian bridge across the river will draw this landscape into the shared experience of the campus, providing a unique threshold into the campus that registers the change of the seasons and the annual cycles of regional flooding.

A new pedestrian entry across the Massawippi will branch off from the current pedestrian approach along a sidewalk across the vehicular bridge. Following the landmark of McGreer through a loose canopy of trees, the new bridge will cross at an elevation high enough to bypass the steep slopes on the eastern banks of the river.
Sketches of the proposed pedestrian path through the Bishop's campus.
3.3.3 Bicycles

The new hierarchy of paths provides clarity of wayfinding and ease of use, and creates a safe environment for pedestrians. The central pathway will be wide enough to accommodate both pedestrians and bicycles, while the secondary pathways will be pedestrian only. At the other scale of bike travel, College Street should also be reconfigured to accommodate an on-road lane for bicyclists.
1. Bicycles will be prohibited from special areas of pedestrian movement. These conflicts between pedestrians and cyclists will be resolved by establishing dismount zones within the campus where all bicycles will be walked.

2. Recreational bicycle paths will run parallel to pedestrian paths. Paths for bicycles along College Street will carry special markings distinguishing them from all other paths along the street.

3. Bicycle lanes should be separated within traffic corridors and where space permits. Although these bikeways are the backbone of the system, alternative routes will be available to bicyclists. Bicycles will be permitted without preferential treatment on any street on the campus that serves normal vehicular traffic.

4. Bicycle parking should be provided in ample supply and kept as close as possible to the path system. Possible locations include major activity nodes, such as the Library Commons, the Academic Quad, Sports Centre, recreational fields and Student Centre. Bicycle parking should also be built in selected vehicle parking lots and along selected roadways.

3.25 Diagrams showing recommended bike paths widths.
3.26
Diagrams showing widths of recommended bike paths.

3.27 (Opposite)
View of existing Route Verte bike path leading away from Bishop’s University’s campus.
3.3.4 Further Recommendations

1. A bicycle advisory committee should be established to address bicycle related issues and assist with future transportation and campus plans.

2. Bicycle accommodations should be incorporated into all new construction.

3. The University should implement a bicycle registration policy.

4. Coordinate with the Société de transport de Sherbrooke (STS) to assure all buses serving Bishop’s campus are equipped with bicycle racks.

5. Expand outreach efforts to inform potential bicycle users of incentives (i.e., enrollment in an emergency ride home program).

6. Arrange for reduced rates on STS buses for University community members as an alternative to bicycling when weather conditions or other factors make bicycling challenging.

7. Provide covered and secure bicycle storage facilities such as bicycle lockers.

8. Provide bicycle amenities such as access to showers, changing areas, and air pump stations.
3.4 Landscapes and Buildings

Plan of proposed Master Plan of the Bishop's campus, showing new building footprints by program type.
The integration of architecture and landscape should reciprocally support the larger campus experience, creating moments of enclosure, openness, threshold, shelter, and community. Even in a relatively compact campus like Bishop’s, it is important to have a sense of neighbourhood and identity within campus precincts.Distinctive placemaking can be used to support the cohesive whole of the campus, ensuring a diversity of experience and a strong sense of orientation within the larger landscape.

A general arrangement of buildings by program use already exists on the campus. For instance, the bulk of the academic buildings are clustered in the northwest corner of the campus, while the residential buildings consist of a more sprawling arrangement in the southeastern area of the developed campus. Athletic uses are split on either side of housing, while student life occupies a small, but central, position on campus.

The Master Plan builds on this existing arrangement, while solidifying it to a small degree and taking advantage of the opportunities presented by the main pedestrian path. A new addition to the library broadens the reach of the academic core across the Quad. Student life is given expanded territory in the central campus. Athletic fields are consolidated on the eastern edge of the central campus, where the flat plains of the athletic fields are more sympathetic to the larger landscape, and the John H. Price Sports Centre can more easily provide support to outdoor activities.

- Library Commons
- Residential
- Academic
- Student Centre
3.4.1 Library Commons

Parallel with the development of the Master Plan Report, Bishop’s University has embarked on a redefinition and reprogramming of the University library to “…provide improved support for teaching and research, offer access to technologically advanced facilities, integrated academic support services and programs, and innovative study and meeting rooms.”

The Master Plan Report identifies strategies for the expansion of the library to accommodate this new program and create a stronger spatial connection between the reconfigured Library Commons, the Old Quad, and the existing Academic and Arts Precincts. Anticipated space needs within the Library Commons include the following:
A Digital Media Centre, including digital repository, multimedia “lab,” and music listening room; an Information Repository, Rare Book Archive, and Art Bank; an Information Literacy Technology (ILT) course room; special needs facilities; Map Collections space; smart classrooms, including seminar rooms, video conferencing space, and meeting rooms for small and large groups.

The Library will also include a study hall, collections storage (stacks), archives, and special collections, microfilm / fiche, government documents, and a café.

The Library Commons will also consolidate the resources of the University’s Writing, Math Help, Physics Help, Teaching, and Eastern Township Resource Centres under

3.30 Schematic organizational plan of proposed Library Commons.
Existing

3.31
Existing conditions of the library.

Phase 1

3.32
Removal of west wing of Pollack Hall.

Phase 2

3.33
Construction of first new Library Wing.
Phase 3
3.34
Construction of second new Library Wing.

Phase 4
3.35
Construction of Library Courtyard.

Phase 5
3.36
Construction of Connecting Bridge.
A Campus Plan for the Future
3.37 Aerial view of the proposed Library Commons.
3.4.2 Centre Campus

One of the most important principles of the Master Plan is the necessity for creating, reinforcing, and at times simply revealing connections amongst people, the spaces they inhabit, and the spaces they move through or view at a distance. Where existing use patterns are strongly developed, such as the Academic Quad, this principle is addressed by strengthening or introducing new spatial relationships within the campus landscape or amongst buildings. However, there are instances when the introduction of new program or social space may be necessary as one element of building connection.

The proposed Arts Café is such a program. Located within the pine dell adjacent to the Molson Arts building and Centennial Theatre, this new social space will provide an informal setting for those working into the evening at the Library Commons or arts studios, those attending pre- or post-event gatherings at the theatre, gallery, or art studios or those simply looking for quick refreshment throughout their day. Constructed amongst the trees, the proposed Arts Café, conceived as an activated space seamlessly woven into the fabric of campus life, seeks to blur the boundaries between building and landscape.

3.38
Sketches for a new Arts Café.
3.39 Schematic organizational plan of proposed Arts Café and new Buildings and Grounds facility.
3.4.3 Residential

In April 2009, the University completed a feasibility study for new student residence facilities. Consistent with recent student housing development at other Canadian and American universities, the study addressed the provision of new suite type accommodations similar to those recently constructed at Paterson Hall. At the time of the study an additional 150 beds (to the current 681) were to be provided on Campus.

The analysis considered the following four scenarios:
1. The enlargement and transformation of Mackinnon Hall.

2. The renovation of Mackinnon Hall.

3. Demolition of Mackinnon Hall, and construction of a new residence hall on its former site.


3.41 Schematic organizational plan of proposed residential quad. (Red arrows indicate proposed entrances)
The study determined that the renovation or addition to Mackinnon Hall (options 1 & 2) would not yield the types of space desired without significant seismic, mechanical, building envelope, life safety, and accessibility upgrades, the costs of which would be similar to those of new construction. Demolition and new construction in place (option 3) would take Mackinnon’s 112 beds off-line for at least one academic year, but likely longer given the necessary abatement of asbestos having to take place prior to demolition operations. Given these scenarios, the report recommends the construction of new residences elsewhere on the Bishop’s campus.

The Master Plan calls for the phased development of new residences within the existing residential precinct, currently defined by Kuehner, Abbott, and Munster Halls. Originally planned as a series of 12 vertically-organized three-storey units (each with 8 beds per floor) and each with separate entrances, Kuehner, Abbott, and Munster tend to act like linked but very independent townhouses. In order for residents to visit another unit, they must exit the building and re-enter, or travel to the basement where lateral corridors link the units. The lack of intentional communal space and a graceful means of connecting these residential units serve to fragment the residential identity of each Hall and diminish a sense of community.

The first phase of the proposed plan calls for the addition and transformation of Kuehner, Abbott, and Munster. New wings are introduced in each hall which provide a net increase of 120 beds, thereby allowing for the removal of Mackinnon Hall. These new wings allow for the cross-connection of existing floor plates and introduction of new lateral corridors on each floor.

The second phase of the proposed plan calls for the construction of a new Student Centre and Dining Facility on the former Mackinnon site. A more detailed discussion of the Student Centre follows.

The third phase of residential development would commence once the new Student Centre is on-line and De-Whurst dining facility demolished. This phase would see the completion of the Residential precinct organized as a series of smaller quads or residential houses. Each house would surround an exterior space of its own for outdoor activities. These spaces would also serve as transitional entry spaces for each residence. Passing through this group of quads, along the north-south axis, the primary campus pedestrian path links Paterson to the campus centre and a centrally located Common Room within the residential precinct.
Phase 1

3.42
Removal of building modules having misaligned floor plates. Removal of head-in parking and vehicular access at residence loop road. Vehicular access limited to service and emergency vehicles.

Phase 2

3.43
Addition of new residence buildings.

Phase 3

3.44
Demolition of Mackinnon Hall.
Phase 4

3.45
Addition of new Student Centre.

Phase 5

3.46
Demolition of Dewhurst Dining Hall.

Phase 6

3.47
Addition of final residence buildings.
3.4.4 Academic

The Master Plan seeks to clarify entry and movement through the academic precinct, creating stronger connections to the landscape, and providing generous social space for planned and chance encounters.

On the first level, circulation linking all buildings (existing and proposed) is relocated from the centre of the buildings to the predominantly south and southwestern courtyard faces, forming an all-season cloister.
Level with the old quad, this promenade will provide a fully accessible link between existing and proposed academic buildings, and the first floors of Marjorie Donald House and new Student Centre.

This reorganized pedestrian path will act as an armature supporting informal gathering spaces through all seasons.
Phase 1

3.50
Renovation of existing buildings, moving circulation from the centre to the periphery.

Phase 2

3.51
Construction of Café pavilion and new academic building.
Phase 3

3.52
Construction of new academic building and courtyard.

Phase 4

3.53
Construction of pedestrian bridges, linking the Old Quad through Johnson to Marjorie Donald House and proposed Student Centre.
A Campus Plan for the Future
3.54 Panorama showing proposed academic quad.
3.4.5 Student Centre

The principles guiding the development of the new Student Centre are as follows:

1. Reinforce and energize the pedestrian network of the campus.
2. Provide a balance of programmed and programmable spaces that accommodate flexibility and variety over time.

A recent survey of over 40 recently constructed student Centres across North America reveals a broadening of building programs and uses incorporated into these facilities, as well as shifts in the quantity of space dedicated to uses traditionally found in student centres.

The following summary outlines these programs, and identifies challenges and opportunities amongst them.
1. **Food Services:** As noted in Bishop’s Survey of Dining Services and Facilities carried out in 2009, the variety and quality of dining options increasingly reflect the diversity of student interests. Though the trend of providing many small dining services within academic buildings and libraries continues to grow, thus decreasing demand for dining service in the student centre, food service space still makes up almost 37% of the total assignable square footage for student centres on campuses of fewer than 8,000 students. Back-of-house space dedicated to food services has decreased as food preparation takes place in front of customers.

2. **Bookstore Facilities:** Bookstore facilities have grown in recent years to include the sale of soft goods, gifts, and leisure books, incorporating cof-
fee houses and convenience stores, as well as accommodating offices on the sales floor. This has dramatically changed rule-of-thumb space projections of approximately one square foot of bookstore per full time student to almost two square feet.

3. **Ballroom Facilities**: Many campuses include a ballroom which doubles as lecture or multi-purpose space in the programming of new student centres. Twelve square feet per seat is the typical standard applied to most new ballrooms. These spaces are flexible, often provided with pre-function area and adjacent food service / catering kitchens, and often incorporate sophisticated audio-visual capabilities.

4. **Student Organization**: Student organization space typically varies from .5 to 1 square foot per full-time student. This space would consist of dedicated offices for primary organizations, such as student government and the campus newspaper, as well as shared student workspace for club use with space assigned on an annual basis.

5. **Administrative Offices**: Increasingly, student centres are incorporating financial aid, bursar, and registrars offices or satellite offices as one-stop service centres. These range in scale from an enhanced information / referral desk, to an entire suite of student service offices.

6. **Conference / Meeting Rooms**: A key early programming decision is whether the University should incorporate conference facilities within the Student Centre. These spaces are intended to compliment a larger...
meeting hall, and act as a breakout space during conferences. Flexibility in layout should also facilitate use as seminar rooms and classrooms. Ideally, these would be located so as to provide visual and acoustic separation from noisy, high-use areas.

7. **Theatre / Auditorium:** The most common type of theatre space in student centres is flexible and adaptable to a variety of informal demands. This space can act as a movie theatre, lecture hall, music club, or venue for student performances.

8. **Lounge Spaces:** Successful student centres are not just places to eat or pick up mail, but have grown to become social and study spaces in their own right. A range of spaces should be provided which facilitate relaxed social exchange as well as opportunity for quiet, focused study.

3.58
Proposed Landscape at the Student Centre.
A Campus Plan for the Future
3.59 View of proposed Student Centre, with faculty housing in the background.
3.60
Bishop’s University, 2012. Existing campus.
3.61
Proposed Master Plan.
3.5 Other Issues

3.5.1 Route 108 (College Street)

The current approach along Route 108 is relatively dispiriting, capturing little of the landscape beauty that is abundant in the vicinity of Bishop’s University.

A concerted planting of high-limbed shade trees could contribute to building a greater sense of arrival at the vehicular and pedestrian entrances onto the main campus.

3.5.2 University Forest

Bishop’s University is fortunate to have an expansive forest network immediately in the range of the academic and residential areas of the campus.

By making better use of this existing resource through the establishment of trails and clear wayfinding markers, the Bishop’s community can better use this landscape for recreation and relaxation.

3.62 Views of College Street, showing sketches of proposed landscaping.

3.63 (Opposite) A wooded path along the Massawippi River.
3.5.3 Wetlands and Floodplains

The campus’ close proximity to the juncture of two rivers, as well as its location at a major bend in the St. Francis River, increases the likelihood of flooding, particularly in low-lying areas at the edges of the campus. This proximity to riparian ecosystems also increases the need to provide an effective stormwater management plan that slows water during peak storm events, and reduces or eliminates the transfer of surface pollutants from road-
ways into local water systems. The campus location suggests that the University has a role in the stewardship of the natural resources that lend it beauty. In response, multiple wetland areas will be created on the campus to collect runoff from parking areas and also to safeguard against flooding in the main areas of campus. Filtering pollutants through plants and settlement of sediment, the wetlands will be working landscapes that bring additional benefits through increased ecologic diversity and habitat creation.

3.65
Example of wetland landscapes.
3.5.4   Perimeter Bicycle and Pedestrian Paths

A system of trails that reach further into Bishop’s University’s land holdings would be a relatively low-cost way to expand greatly the experiential range that is available on campus. Bicyclists, hikers, runners, snowshoers, and cross-country skiers could make use of these trails in multiple seasons of the year.

3.66  Regional plan showing proposed perimeter bike paths.
Three images of the Route Verte, a network of bike paths throughout Quebec.
3.5.5 Highway 410

Impacts of the Highway 410 extension as originally proposed by the Ministère des Transports du Québec (MTQ): 142 acres of Bishop’s University property, previously contiguous with the central campus, would only be accessible by a single route — a 200 foot long tunnel. The proposed highway would impose a high level of vehicular noise on campus, and its embankment would be visible from nearly every building on campus.

The construction of the proposed Route 410 will isolate the main campus — 142 acres, or more than 40% of the University’s property.

Model showing the Ministère des Transports du Québec’s proposal for Highway 410.
Impact Reduction of an Alternate Proposal of Highway 410: Crossing over the highway on a short bridge instead of a 200 foot tunnel will reconnect the campus with its severed 142 acres. Lowering the Highway by cutting into the hillside will drastically mitigate vehicular noise impacts and reduce the visibility and scale of the highway embankment as seen from campus.
3.71 - 3.82

The diagrams above represent the sound impact (represented in purple) of a single truck moving along proposed Highway 410. The diagrams illustrate that a significant level of highway sound would strike every building on the Bishop’s campus.
3.5.6 Campus Sustainability

Goals

- Discourage sprawl in order to minimize the loss of open space, and the amount of fuel wasted in moving people and goods.

- Improve the energy efficiency of existing and future buildings - in the building envelope, the operational systems, the monitoring, and control.

- Advocate that construction maximizes the use of locally produced materials.

- Consider campus and building utilities in terms of their impacts on conservation, energy efficiency, and global warming.

- Changes to the campus landscape design should enhance plant and animal habitat, emphasize local species, minimize the amount of fuel used in maintenance, reduce the use of fertilizer and pesticides, and address water quality and runoff issues.

- Minimize driving through the use of parking management, incentives, rideshare programs, improved bicycle facilities, and by increasing the College’s provision of affordable faculty and staff housing close to campus.

- Improve the pedestrian experience by strengthening the spatial cohesion of the campus, the path system, and the vehicular street system.
Recommendations

General

1. Establish a process by which decisions affecting the sustainability of the campus are made, and to resolve conflicts involving sustainability.
2. Consider the impact of decisions about facilities and operations on Carbon Neutrality and other aspects of sustainability, and assess costs and benefits over the long term.

Buildings

1. Adopt the LEED MC-Plus guidelines system for all renovation and new construction projects.
2. Design new buildings to be as energy efficient as possible.
3. Improve the energy performance of existing campus buildings through improvements to their envelopes and building systems.
4. Assign priorities for improvements based on the energy audit of buildings on campus and on academic program and availability.
5. Encourage behavioral changes for students, faculty, and staff, including adjustments to indoor temperatures and use of air-conditioning.
6. Meter all buildings for water, power, and steam.
7. Minimize the use and need of air-conditioning in campus buildings by using shading, natural ventilation, and mechanically assisted ventilation.
8. Strategically plant deciduous shade trees on the south side of buildings to help reduce daytime solar heat gain during summer months.
9. Where appropriate, utilize energy-efficient means of cooling, such as geothermal, shading, natural and mechanical ventilation, etc.
10. Utilize refrigeration gases in air-conditioning and refrigeration systems that are as benign as possible, both in terms of their global warming potential and their ozone depletion potential.
11. Consider energy efficient alternative systems for specialized functions in individual buildings, such as:
   • A purified water system for the new ice sheet, which will reduce the energy required to create the ice.
   • Heat exchangers for the recapture of waste heat (e.g., between the ice refrigeration system and swimming pool heating).
   • Heat exchangers for the recapture of waste heat in food service areas.
12. Investigate the feasibility of solar heating for domestic hot water.
13. Develop a life-cycle assessment for construction materials, considering cost, longevity, environmental damage caused by production, embodied energy, potential for recycling, disposal, hazards, etc.
14. Adaptive reuse of buildings should be considered before removal.
15. Building deconstruction should:
   • Minimize the quantity of materials entering the waste stream by employing deconstruction rather than demolition.
   • Materials salvaged from deconstruction should be considered for future use in anticipated building projects.
   • New construction projects should incorporate salvaged or recycled material where possible.
Utilities

1. Improve the efficiency of utility systems by upgrading steam and natural gas distribution as necessary.
2. Introduce monitoring and metering devices so that leaks and losses can be readily identified and excessive usage can be curtailed.
3. Develop a reporting log for comparing end-use measurements over time and verifying that the systems are performing as designed.

Energy Sources

1. Conduct an alternative energy assessment of the campus to understand better what forms of alternate energy are feasible and how best to employ them. Of particular interest is exploring the feasibility of utilizing river water for thermal exchange.
2. Reforest a portion of Bishop's agricultural land to sequester carbon.
3. Increase Bishop's on-campus generation of electricity from alternative renewable sources: wind power, photovoltaic panels, exercise machines.

Vehicular Travel and Commuting

1. Institute Transportation Demand Management (TDM) strategies to reduce private vehicular use by faculty, staff, and students.
   • Establish a target for a reduced level of carbon emissions due to regular commuting.
   • Provide incentives for faculty and staff who would typically commute to campus via private car to utilize instead public transportation, walk, or bike.
   • Provide incentives for using shuttle services such as passes or financial compensation.
   • Provide financial incentives for car pooling.
   • Provide vehicles for emergency use by faculty and staff who use public transit or car pooling for their daily commutes.
   • Provide the majority of parking spaces in peripheral campus lots to reduce car use during the day.
   • Eliminate parking in the Central Campus (with the exception of accessibility / barrier-free requirements).
   • Relocate all student parking to the Paterson lot to discourage students from using their cars for short trips during the school year.
2. Prioritize local meetings and conferences or utilize teleconferences to minimize air travel.
3. Begin shifting campus fleet vehicles where appropriate from gasoline or diesel fuels to electric power or hybrid fuel.
4. Encourage outside vendors to use alternative fuel or hybrid vehicles, for instance private busing companies.
5. Develop a non-idling policy for campus deliveries, outside vendors, athletics buses, etc.
6. Initiate an hourly/daily car rental program available to students, faculty, and staff.
7. Encourage faculty and staff to live close to campus by developing Bishop's University property in Lennoxville to house faculty and staff within walking distance.
8. Increase on-campus housing capacity and alternatives.
9. Consider banning first and possibly second year student cars from campus.

Bicycle Transportation

1. Develop a comprehensive bicycle program for both the regular academic year and the summer that includes access, maintenance, information, and safety.
2. Make the campus more bicycle friendly by:
   • Providing sufficient parking for bicycles, with attention to number, location, and type of bike racks
• Widening pathways to accommodate bicycle use along major corridors
• Constructing curb cuts at all locations where pathways intersect roads
• Replacing all storm sewer drain covers that are not bicycle friendly
• Providing showers in more locations for bicycle commuters
• Providing secure covered storage locations for bicycle commuters
3. Develop an incentive program to promote bicycle commuting by employees
4. Integrate the University’s bicycle transportation initiatives with efforts by the Borough of Lennoxville and City of Sherbrooke to promote bicycle transportation.
5. Expand the bicycle loan program.

Landscape and Open Space

1. All new construction at Bishop’s should be planned within the existing developed area of the campus.
2. New buildings and hardscape should not be built in green areas remote from the core campus.
3. Plant materials should be local species, if possible.
4. Reduce the amount of lawn by converting it to greensward, meadow, trees with groundcover, and forest as appropriate in different areas of campus.
5. Increase the amount of habitat suitable for indigenous plants and animals.
6. Increase the inter-connectedness of plant and animal habitat by linking currently isolated areas.
7. Continue to reduce the amount of herbicides and pesticides used.
8. Improve soils and drainage, particularly in heavily used areas of campus.
9. Protect sensitive or critical areas by establishing a Green Reserve.
10. Provide summer shade for building facades with trees and shrubs.
11. Design the campus landscape to encourage social interactions and a variety of uses:
   • Orient plazas and terraces outside of academic and residential buildings to maximize daylight and solar heat gain.
   • Provide seating in protected areas and in locations best suited to capture the views of near and distant landscape types.

Supply Chain Management

1. Initiate a purchasing plan that prioritizes sustainable materials and supplies, and prioritizes purchases from companies invested in maintaining their own sustainability standards.
2. Strive to use suppliers located within 500 kilometers of the campus.
3. Encourage suppliers to use recyclable and returnable packaging as shipping materials.
4. Ensure that Bishop’s does not engage in unfair trade or limit growth opportunities in the region.
5. Support and serve as a catalyst for sustainable Quebec businesses.

University Finances

1. Make every effort to invest in environmentally friendly, socially responsible areas.

Reporting, Record-Keeping, and Guidelines

1. Institute a formalized record-keeping and reporting system for issues of sustainability, such as that developed by the Global Reporting Initiative.
2. Develop formal guidelines, including performance benchmarks, for capital projects, maintenance, de-
construction, and operational activities.
3. Utilize the reporting and record-keeping system to monitor successes, areas for improvement, costs and benefits, and to more accurately attribute costs and benefits to actions taken.
4. Report performance against guidelines and principles through an annual report.
5. Develop maintenance guidelines and schedules to meet the recommendations for improving energy efficiency and thermal comfort by upgrading the envelopes of existing buildings.
6. Revise the energy accounting system to allocate equitably the greenhouse gasses associated with the production of steam and co-generated electricity.
7. Work with suppliers and encourage them to conduct their own greenhouse gas inventory and life cycle assessments. Estimate the full greenhouse gas emissions associated with materials and energy purchased and produced, including the embodied energy of supplies and construction materials, and the energy consumed in the production, refinement, processing, shipping, and combustion of energy sources.

Water Management

1. Implement a rainwater collection system for water from the athletic buildings, and use it to supply water for irrigation of fields where needed.
2. Create bioswales, appropriately located, to reduce stormwater runoff and to improve water quality.

Off-Campus Operations

1. Chart travel emissions for off-campus activities and include them in carbon reports.
2. Strive to reduce carbon emissions due to travel.

On-Campus Operations Guidelines

1. Establish maintenance and operations schedules for campus grounds and buildings, including building envelope upgrades.
2. Install dining services storage capacities relative to the locations of dining operations and delivery schedules.
3. Reduce energy use by building equipment on-site.
4. Develop parking policies and processes for transportation management.

Carbon Neutrality

1. Develop a Carbon Offset purchase and management program to compensate for irreducible greenhouse gas emissions.
2. Purchase Carbon Offsets as a last resort to compensate for irreducible greenhouse gas emissions.
3.85
Reliance on fossil fuels is replaced by hydroelectric and geothermal energy.

3.86
Carbon emissions are reduced to zero.

3.87
Total energy use is reduced.
3.6 Accessibility

3.6.1 Introduction

Since the mid-1970s, the Quebec government has taken measures to promote inclusive education, work and social environments. These measures have included the enactment, in 1976, of the first building code to set standards for accessibility for wheelchair users, and the adoption in 1978 of the Act to Secure the Rights of the Disabled. This Act provided for regulations to be brought forth which pertained to buildings constructed prior to 1976, so as to promote accessibility for people with disabilities.

Currently in Quebec, no regulation specifically targets existing buildings built before 1976, unless they are subject to alterations. However, amendments to the Act, introduced in 2004, include a specific obligation for government departments and agencies as well as municipalities to produce an “action plan” for accessibility, including accessibility to public buildings. Bishop’s University, as a public higher education institution, and increasingly a community resource, should move towards the development of its own “action plan” and begin a formal process of identifying and removing barriers that are considered “readily-achievable.”

Although this process is not mandated by the current Quebec legislation, it is recommended that the University initiate a comprehensive accessibility audit in anticipation of shifts in the Quebec law. Varied and sporadic barrier removals have taken place on campus, mostly as a reactive response to a problem, rather than as part of a systematic, Campus-wide plan to increase accessibility. While the one-on-one response to a student’s request is well-intentioned, and is in fact consistent with Quebec legislation, a person with a disability should not have to request that structural modifications be made to common areas of the campus. Such requests constitute a burden that affects students with disabilities alone, and is therefore inconsistent with the premise of equal accessibility. While a few upgrades have been achieved, a number of campus buildings remain inaccessible (see figure 3.88). Student housing stock has some accessible rooms, but additional fully accessible rooms are needed. Legal settlements with academic institutions in the United States typically stipulated that a minimum of 3% of available beds be made accessible. Further, residence hall study lounges are not accessible, preventing students with physical disabilities from full participation in student and campus life, as well as inclusion in “Learning Communities.”

An accessible campus is one that accommodates the widest range of potential users, including people with mobility, visual or auditory impairments or other special needs. It includes not only accessible buildings but also accessible landscapes, transit, communication and information systems.

The current Code de construction du Québec (CCQ) as administered by the Régie du bâtiment du Québec (RBQ) establishes a baseline set of building standards targeting barrier free access for individuals with disabilities. The current edition of this code is anticipated to be amended in 2013. While accessibility compliance is required for all new construction, it is recommended that Bishop’s set forth a plan for readily achievable barrier removal within the existing facilities and throughout the campus landscape.
3.88
Existing building accessibility

3.89
Existing accessible routes and entrances.
Plan of Bishop's University's campus, showing proposed accessible routes and entrances.
Improvements to the exterior campus environment shown in the Master Plan will be transformational, both aesthetically and in terms of accessibility. Throughout the Master Plan, landscaping projects address major accessibility concerns on the campus through the planning of accessible routes. As existing buildings are renovated or new facilities are built, not only the building but also the immediate site must be made as barrier-free as possible in accordance with Quebec guidelines. In order to make a more accessible and inviting campus, the entire campus should also be brought into a state of compliance where feasible. An overall goal is to create a network of accessible routes so that every building that is at least partially accessible is connected to all other at least partially accessible facilities along an accessible route. The following exterior improvements are examples of readily achievable barrier removal:

- Installing compliant ramps
- Making curb cuts in sidewalks and entrances
- Widening doors
- Installing offset hinges to widen doorways
- Installing accessible door hardware
- Creating designated accessible parking spaces

Setting Priorities

Some buildings whose accessibility is of high priority to the University are already on their way to being fully accessible. Other buildings are lacking in many of the major criteria that make a building not only welcoming and equitable for a person with a disability, but that also reflect favorably upon the University. Each facility's use, location, and prominence in campus life should factor into the equation when prioritizing accessibility improvements. Priority should be placed on buildings with the highest use by students, faculty, staff, and visitors. Of these, the highest priority buildings for achieving barrier removal are those with highly public functions, particularly those one-of-a-kind structures which serve functions that cannot readily be moved to another venue. Examples include the Theatre, Sports Centre, Stadium, Library, and Student Centre. Highly used academic buildings including Johnson, Hamilton and Nicolls should also be a top priority. Next priority should be given to student life issues, such as resident life and access to campus life (i.e. eating and drinking establishments, sport and fitness facilities). Select residential halls should be made barrier-free so that individuals with disabilities are able to live in a variety environments over their years at the University. When substantial barrier removal will not be conducted on a particular facility, the reasons for the University's decision should be clearly documented. For example, if the program in that facility will be moved to another location, or if that building will be replaced within several years according to the Master Plan, it may be reasonable for the University to postpone substantial barrier removal until the renovation. Documentation of the University's decisions should be placed in the University's accessibility compliance files.

Readily Achievable Barrier Removal

A “readily achievable” barrier removal refers to one that is easily accomplishable and able to be carried out without much difficulty or expense. Issues which may affect whether or not barrier removal is readily achievable include the cost of the action in relation to the institution's financial resources, its number of employees, and the number and type of the institution's other facilities. Since the University's resources are not limitless, priorities must also be assessed in terms of which barriers are eliminated first. The top priority is getting all individuals through the door, uti-
lizing physical means that are efficient and that respect the dignity of individuals with disabilities. The next priority is providing access to public goods and services, and providing access to rest-rooms and other public facilities.

**First Priority:**
- Installing ramps
- Widening doors
- Installing offset hinges to widen doorways
- Eliminating a turnstile or providing an alternative accessible path
- Installing accessible door hardware
- Installing flashing alarm lights

**Second Priority:**
- Removing high-pile, low-density carpeting
- Rearranging tables, chairs, vending machines, display racks, and other furniture

**Third Priority:**
- Installing grab bars in toilet stalls
- Rearranging toilet partitions to increase maneuvering space
- Insulating lavatory pipes under sinks to prevent burns
- Installing a raised toilet seat
- Installing a full-length bathroom mirror

**Fourth Priority:**
- Repositioning shelves
- Repositioning telephones
- Adding raised markings on elevator controls.
- Installing an accessible paper cup dispenser at existing inaccessible water fountains.

The University should take steps not only to create accessibility for individuals with mobility issues that require the use of a wheelchair, but also to eliminate barriers to individuals with other disabilities. For example, door and faucet hardware should be corrected, as to benefit those individuals with limited hand dexterity; Braille and raised character signage should be installed for those who have vision loss; and visual strobe alarms should be installed for hearing impaired or deaf individuals.

**Alternatives to Barrier Removal**

When the University cannot provide physical access to certain spaces, it should train employees and institute methods for making its services accessible. Alternative methods to providing individuals with disabilities access to public goods, services, and accommodations at Bishop’s must be instituted if doing so is readily achievable. For example, the University is responsible for providing accessible courses and examinations, but not all classroom and examination facilities must be accessible. Alternatives must be provided that make the experience equal and comparable to the experience provided to others, and the individual should not be required to bear the cost of any modifications or auxiliary aids.
3.6.4 System-wide Improvements

For new construction and major renovation projects, it is recommended that the University:

- Conduct accessibility design reviews of all architectural design documents for new construction/renovation projects so that errors can be identified and corrected on paper in advance of construction.
- Establish an annual budget for readily-achievable barrier removal throughout the campus. The budget should be sufficient to accomplish readily-achievable accessibility within five years.
- Establish normally scheduled routines for the Buildings & Grounds Department to ensure that accessible features are operational and usable. Though mechanical failures of elevators and automatic doors will occur occasionally, persistent failures, inadequate maintenance, or derelict equipment is unsatisfactory towards meeting the requirement for providing access to a public accommodation.
- Create and post evacuation route maps for all buildings illustrating the fastest route out of buildings -- for persons with mobility as well as persons with disabilities. In lieu of accessible routes, the locations of Areas of Rescue Assistance for persons with disabilities should be posted.
- Implement effective communication systems, such as accessibility website design, public and emergency telephones that provide TDD/TTY (telecommunication device for the deaf/text-telephone device, respectively) service, and assisted listening devices that are available for use when needed. Key to this is the availability of such devices, and finally ensure that strobe alarms exist in all common public areas.

3.6.5 Awareness

- Establish an awareness campaign geared toward accessibility. This campaign could include initiatives like focus group sessions, the publishing of accessibility policies, the publishing and distribution of accessibility information and a map detailing the location of accessible parking, exterior routes, shuttle stops, entrances, rest rooms, etc.
- Accessibility information should be readily available before individuals arrive on campus. It is strongly recommended that the University restructure and add to the accessibility website.
- The job description for the Disability Student Advisor position should be revised to reflect these initiatives.

A proactive approach to both barrier removal and ensuring that all renovations and new construction fully comply with accessibility requirements is strongly recommended. An accessibility compliance checklist is provided in the
3.7 Campus Wayfinding and Lighting

3.7.1 Wayfinding

Wayfinding systems can be broken down into three basic categories of signs, intended for both exterior and interior contexts: identification, directional / orientation, and regulatory. A comprehensive wayfinding system creates a unified approach to each of these categories, organizing them into a consistent family of symbols, images, and words. In the context of the Master Plan, we have focused on the development of exterior wayfinding.

IDENTIFICATION
- Campus Identification
- Site Entry
- Building Identification
- Entrance Identification
- Parking Area Identification
- Accessible Parking Identification

DIRECTIONAL COMMUNICATION
- Off-Site trail markers
- On-Site Vehicular Directional
- Pedestrian Directional

REGULATORY
- Parking / Traffic Regulations
- Public Transportation Information
- Entry / Egress information
Identification

Campus Identification and Site Entry

A consistent campus identification sign standard (see page 162 for all sign types) should announce the presence of the University at key perimeter locations and entries. Serving to mark thresholds to the campus, these signs (Types A, F, and J) should express the University’s personality, character, and perhaps historic context in a way suitable to its landscape, reinforcing a sense of arrival and place within the campus environment.

Building and Entrance Identification

Building identification is currently limited to graphics mounted directly to building facades, usually in typefaces consistent with design of the individual building. It is recommended that this system be carried forward bearing in mind recommended graphic scales and illumination. Also recommended is the addition of free-standing building identification (Type I) signage for significant destinations often accessed by visitors (Sports Centre, Theatre, McGreer, etc.)

Parking Area and Accessible Parking Identification

Maintaining a consistent graphic language as other elements of the sign family, these signs (Types G and H) should identify parking locations and type in an appropriately scaled graphic which is legible while driving. These may also include real-time digital display of current capacity.
**Directional Communication**

A hierarchy of sign types is recommended which addresses separate visual communication needs for motorists within a uniform “family” of sign components.

**On-Site Vehicular Directional**

Directional signs (Types A and B) are the principal guiding tool for vehicular wayfinding, helping users better navigate through campus. This signage group should address parking and service access, campus precincts, and major destination venues only. The ability of the motorist to interpret sign messages while driving is limited to three to four messages. Therefore, it is imperative that the information on these signs be direct, brief and appropriately scaled. Pedestrian wayfinding signs will help guide users to their ultimate destinations.

**Pedestrian Wayfinding**

A uniform set of signs (Type C) to help pedestrians navigate the precincts of the campus and the network of walkways within will be a critical element of any proposed sign system. These signs guide users to their ultimate destinations. Since pedestrian movement is at a slow pace, more detailed information about specific destinations can be accommodated. However the extent of the detail should be limited so that directional and identification signs do not become cluttered with extraneous information.

**Pedestrian Directional Communication**

A standard for directing pedestrians to major destinations within the campuses (Types C and E) should be placed at the perimeter of visitor parking areas and at primary walkway intersections. Information should be limited to abbreviated building names (i.e., “Bassett Library,” rather than “John Bassett Memorial Library”), except in particular instances where significant visitor traffic is evident (i.e., the Office of Admissions).

**Pedestrian Information Centres**

Free-standing directory maps (Type E) oriented to the direction the viewer is facing, with a “you are here” designation, complement the pedestrian directional signs. If the implementation budget allows, maps could be wired with two-way intercoms which would allow for contact with Campus Security or campus tour guides. Separately placed bulletin board kiosks will provide areas for posting of student events and activities and reduce clutter on maps and site furnishings.

**Wayfinding for Events**

Event signs (Type D) should provide a uniform presentation of temporary information to the general public. Places of recurring events could utilize removable sign boards printed on standard sized panels by University facilities, which would be located at key decision points. A graphic template should be designed and enforced to ensure consistency of visual communication.
3.95
Proposed Vehicular Wayfinding.
This diagram illustrates an overall strategy for the placement of vehicular-oriented campus identity and directional signs. Intersections of streets and campus entries are marked as decision points where directional information should be presented. Orientation for the first time visitor is emphasized, especially in regard to Visitor Parking. University gateway signs are recommended to be placed at the east and west ends of Route 108, which are primary campus thresholds.

3.96
Proposed Pedestrian Wayfinding.
The location plan illustrates an overall accounting of the location and quantity of street signs and freestanding building signs. For specific installations, it is recommended that all building identification locations be field-verified with mock-ups to determine optimum orientation.
3.97 (above) Line-up of all sign types. A consistent palette of materials, forms, and graphics creates a unified family of environmental graphics that respond to a variety of user information needs.

3.98 Diagram showing the relative scales of text for signs.
3.7.2 Lighting

Exterior Campus Lighting

Exterior lighting can strengthen and unify campus architecture, landscape, circulation and use. The University should work towards unifying lamp types used on campus, so as to create a clear, campus-wide family of fixtures and fittings, and unify night “colour” areas. The objective is to provide uniform light colour across similar use areas, identify major corridors, and provide appropriate warm or cool colours through fixtures which enhance sense of place.

Further, campus lighting solutions should seek to reduce light pollution and energy consumption while minimizing the problems created by improperly designed and installed fixtures. Excessive glare can be troublesome and may cause safety problems. Light trespass reduces privacy, and higher energy use results in increased costs besides impacting the environment directly and indirectly. A comprehensive Campus Lighting Plan would advance the safety and welfare of the Bishop’s community, and contribute to the identity of the campus as a whole.
**Principles of Campus Lighting**

1. **Minimize Light Trespass and Glare.**

   Special care should be taken to prevent light pollution and direct glare. Extra light bouncing into the atmosphere interferes with the work of astronomers and can disrupt neighbouring buildings. Ground-based flood lighting of building facades should be phased out and wherever possible replaced with wall-mounted, dark-sky friendly (full cutoff or fully shielded) fixtures.

2. **Avoid Overly Bright Lighting.**

   The intent of lighting building entries and circulation areas is to enhance the best qualities of the environment, not to become a “beacon” on campus. The brightest is not necessarily the best. Maintain a maximum average illuminance level of 0.5 to 2 footcandles on horizontal surfaces.

3. **Design With Lamp Colour In Mind.**

   Specify lamps with a high colour rendering index (CRI) and a uniform colour temperature. Bishop’s should target a standard correlated colour temperature (CCT) of 4000K. A colour rendering index (CRI) value of 70 or greater is the minimum recommendation for light sources on campus. Any LED products used in exteriors should adhere to these standards – refer to appendices regarding LED fixtures and standards.

4. **Use “White” Light Sources - Avoid “Yellow” Light Sources.**

   As white light has all colours present in the spectrum, it is more effective in defining peripheral and night vision. The most commonly available sources are metal halide and fluorescent. LED lighting is swiftly growing as a viable technology, though care should be given to specifying minimum performance and warranty criteria. High Pressure Sodium (HPS) has often been selected because of its high efficiency and longevity; however, HPS lamps produce an orange-coloured light and the colour rendering index (CRI) does not provide a lighting quality which is appropriate for the campus. The use of Low Pressure Sodium (LPS) or Mercury Vapor (MV) light sources should be avoided due to the poor colour rendering values and visibility issues, as well as poor energy efficiency (in case of MV).
5. Design With Maintenance In Mind.

Mount light fixtures in accessible locations so that the lighting can be maintained regularly. Specify fixtures that have simple mechanisms for lamp changing and captive hardware, where parts will not fall out of the fixture during re-lamping. Use long-life lamps wherever possible and avoid the use of incandescent light sources. Specify tamper-resistant and captive screws in any area that may be accessible to the public.

6. Connect Lighting To A Control System.

Due to the difference between summer and winter daylight hours, lighting should be connected to a photocell to turn fixtures on and a time clock to turn them off. The use of a dimming system or building automation system is not required, but encouraged where appropriate.

7. Design With Efficiency In Mind.

Use the smallest wattage lamp source available in any given application to meet the desired light levels specified to minimize energy consumption. Do not, however, compromise desired light levels as outlined to achieve higher efficiency.

8. Design With Safety In Mind.

It is important to understand the role of lighting in safety and security in an exterior environment. A well-designed and -commissioned lighting system will help with detection and assessment of any threat by recognizing facial expression and body language of oncoming people, and could facilitate a timely defensive or evasive action. Those who would perpetrate a misdeed are hampered by the concerns of being seen, intentions recognized and actions observed and reported. Beyond this, however, safety and security depend on the actual infrastructure on campus to deal with crime. At locations with CCTV cameras, special attention must be paid to the illumination levels, distribution, and specific optical characteristics, because a camera perceives its surrounding very differently from the human visual system. The CCTV manufacturer and security consultant must be consulted for vertical and horizontal illuminance requirements, as well as uniformity requirements for the system.
4.0 Implementation of the Master Plan

4.1 Process and Procedures
4.2 Levels of Planning
4.3 Phasing
4.0 Implementation of the Master Plan

4.1 Process and Procedures

4.1.1 Implementation

The phased implementation of any Master Plan is an inherently complex and ever-changing process. While some of these initiatives are discretionary (such as wayfinding), others may be imperative (such as utilities infrastructure or accessibility upgrades). Some may be achieved at relatively low cost while carrying out maintenance-related improvements, while others may bring higher costs. Some of these projects may be paid for by planned capital campaigns, while others result from unpredictable funding opportunities.

The Master Plan is conceived as a living document, establishing a framework for future decision-making. While some of the initiatives proposed are quite specific, and developed with precision, others are put forth as intentionally flexible, requiring further inquiry, analysis, technical development and design study. While spatial relationships between future buildings and amongst landscapes are identified and prescribed, specific building and landscape programs, their dimensions, and detailed technical resolution are intentionally left for future development. This future project development, the management of the campus’ interim phases, and the ongoing critique and revision of the Master Plan demand that the University establish an oversight structure and regular review process for decision making going forward.

4.1.2 Master Plan Oversight and Governance

Historically, oversight of campus development initiatives at Bishop’s has been shared between the University’s Building Committee and Sustainable Development and Land Use Committee, each reporting independently to the Board of Governors. Both committees are made up of members of administration, staff, faculty, students, and external representatives, with some members appointed to both committees.

Oversight of the current Campus Master Plan development has been carried out by a separate body, the Master Plan Consultative Group, which has called on the input of sub-committees in specialized areas of study (i.e., parking, accessibility, sustainability, residential life, etc.) throughout the preparation of the plan.

Moving forward, it is recommended that the University undertake the following changes to planning oversight:
1. Establish a Campus Planning Oversight Committee which reports directly to the Board of Governors. This committee will be charged with the ongoing review and development of the Campus Plan, and the review of specific projects’ conformance with the intent and principles of the plan. This committee should meet on a monthly basis to review status of ongoing campus initiatives. In the interest of maintaining continuity and an ongoing historical knowledge of these initiatives, the term of appointment to this committee should span a minimum of two academic years. Appointment terms within the committee should be staggered to facilitate this continuity.

2. Appoint an independent Architect/Campus Planner and Landscape Architect to the Oversight Committee, each bringing broad experience in campus and campus landscape planning.

3. Consolidate the current Building Committee and Sustainable Development and Land Use Committee into one fully integrated entity, charged with the detailed programming, technical and administrative review and management of capital projects. This newly integrated committee should report to the Campus Planning Oversight Committee.

4. Appoint an independent construction cost estimator or construction manager to the Oversight Committee, with specific experience in higher education projects and board participation.
4.2 Levels of Planning

The Master Plan Report articulates a long-term view of the potential spatial development of the Bishop’s campus — the relationships between and amongst buildings, landscape, vehicles, pedestrians and spaces beyond its limits. Each project the University undertakes has the potential to activate and contribute to this longer range vision. To achieve this, it is critical that each project move through a three-tiered planning process towards execution.

4.2.1 Campus Plan Review

The Master Plan Report does not anticipate building programs or detailed technical challenges of specific projects. As new projects are considered, each should first be reviewed and tested in the context of the Master Plan Report. In certain instances alternative project sites and program mixes should be considered with an eye to the impact the project will have on the campus as a whole.

4.2.2 District Plans

Bridging the Master Plan Report and specific project site plans are District Plans. These plans should be implemented for each new project, articulating with greater specificity the impacts on landscape, pedestrian circulation, and building context.

4.2.3 Site Plans

These plans test with greater specificity the technical, environmental, and fiscal feasibility of a proposed project, eventually leading to design development and construction documentation.
The Master Plan Report is conceived as a living document, establishing a framework for future decision-making.
4.3 Phasing

Three significant groups of initiatives can be broadly identified, within which a number of projects may be executed as opportunities arise. These initiatives and their various projects are identified in the diagrams on the following pages.

4.3.1 Near Term

Capital Improvements / Establishment of Perimeter Road

During the course of the Master Plan Report development, a number of planned near-term capital improvements were identified. Contiguous with the proposed route of the Master Plan Report’s Campus Drive Extension and West Parking Basin, these projects impact a significant area of the central campus, and, if executed with an eye towards the Master Plan Report, have the potential to catalyze significant, positive changes in the campus landscape. It is suggested that these currently isolated projects be expanded to include the western Campus Drive Extension (along the existing Bishop’s power-line clearing) and future West Parking Basin as concurrent projects. Near-term capital projects include:

1. Re-surfacing of existing Arena parking.
2. Demolition of the existing Arena (following expansion of John H. Price Sports Centre).
3. Re-grading and re-establishment of the mid-campus practice field (following installation of new geothermal wells).
4. Re-surfacing and landscaping of the mid-campus drive between the Old Quad and Centennial Theatre (following underground utilities repair).
5. Renovation and addition to the John H. Price Sports Centre

Campus Entry – Pedestrian and Vehicular

Pedestrian Bridge: A new pedestrian bridge, founded on axis with the former covered bridge abutment, will link Bishop’s across the Massawippi River to College Street (Route 108), providing a dignified pedestrian threshold to campus. An alternative to the harried and at times frightening experience of the existing crossing along the College Street Bridge, the new bridge will provide a continuous pedestrian transition between campus and town, visually engaging the Massawippi as a significant element of the Bishop’s campus.
Ceremonial Entry: Also proposed at this time is the reconfiguration of the vehicular entry nearest McGreer. This entry is currently configured as an off-ramp to eastbound traffic on Route 108, and to many drivers acts as their principle entrance to campus. This configuration, originally established to mitigate the hazard of cued vehicles obscured to eastbound traffic, encourages entry to campus at speed for all types of vehicles. This creates a significant danger to pedestrians entering campus from Lennoxville, and diminishes the presence of the University’s most valued historic landmarks.

Given the anticipated reduction in eastbound traffic upon completion of the 410 extension, and the transfer of road management from the MTQ to the City of Sherbrooke, the Master Plan proposes the realignment of this entrance to a position perpendicular to Route 108, introducing a slower-paced, pedestrian-friendly campus entrance and more formal, ceremonial approach to McGreer. This automobile-only entry will lead to a small number of visitors, universal access, and special event parking spaces adjacent to the Chapel, with one-way access behind Divinity to the upper Library lot. It is NOT intended to act as an exit for the proposed Campus Drive (with the exception of emergencies) or for those who have entered the upper lot. Egress at this point will be restricted to those using the limited reconfigured parking available along the front of the campus.

Library Commons Gateway and Quad Restoration: Concurrent with the proposed expansion of the Bassett Library, the Master Plan proposes the establishment of a new pedestrian gateway in the location of current Pollack Hall. This new gateway will allow for the formation of a continuous pedestrian path linking all precincts of the campus. The plan also calls for the realignment of paths within the Old Quad, and the establishment of new landscape and trees within the quad, particularly adjacent to Norton Hall.
Implementation of the Master Plan

Phase 1: Capital Projects

Anticipated Capital Projects

Primary Projects
1. Expanded Sports Centre
2. Arena demolition
3. Arena parking repair
4. Recreation field repair
5. Underground services repair
6. Grandstand repair

Supporting Projects
7. Enabling Work: Prepare tennis courts as construction lay down space
8. Enabling Work: Prepare Paterson parking for additional needs
Proposed Capital Projects

Primary Projects
1. Expanded Sports Centre with new practice fields
2. Central Parking and Phase 1 of Paterson parking
3. Phase 1 of Bishop’s perimeter drive
4. Phase 1 of core service drive

Supporting Projects
5. Landscape at Central Parking
6. Relocate existing storage facility
Implementation of the Master Plan

Primary Projects
1. Pedestrian bridge over Massawippi River
2. Realign Bishop’s Drive

Supporting Projects
3. Chapel landscape improvements
4. Sedge meadow restoration in flood zone
Library Commons Gateway and Old Quad Improvements

**Primary Projects**
1. Open a passage through Pollack Hall
2. Construct new library commons expansion

**Supporting Projects**
3. Realign paths in Old Quad
4. Tree planting / lighting in Old Quad
Implementation of the Master Plan

Primary Projects
1. Arts Café: building renovation and addition
2. New building for Buildings and Grounds offices
3. Renovate existing plaza at Centennial Theatre

Supporting Projects
4. Tree planting
Near-term removal of vehicles from central campus

Primary Projects
1. Removal of Vehicular Pavement

Supporting Projects
2. Allow For Temporary Paths to Remain
3. Lawn Seeding
Implementation of the Master Plan

Primary Projects
1. Phase 1 housing renovation and expansion
2. Demolition of Mackinnon / construction of new Student Centre
3. Demolition of Dewhurst / Phase 2 housing expansion

Supporting Projects
4. Tree planting, establishment of new pedestrian paths, removal of paved vehicular surfaces within residential precinct
4.01 Existing residential precinct

4.02 Phase 1 housing renovation and expansion

4.03 Demolition of Mackinnon / construction of Student Centre

4.04 Demolition of Dewhurst / Phase 2 housing expansion
Implementation of the Master Plan

Primary Projects
1. Renovation of Johnson / reorientation of interior circulation
2. New academic building
3. New Interior Connection from Johnson to Marjorie Donald Houses

Supporting Projects
5. New Woodland, Grove, and Wetland
6. Completion of Core Service Drive
7. Realignment of Entrance to Harrold Drive
4.05 Existing Academic Quad

4.06 Renovation of Johnson / reorientation of circulation

4.07 Phase 1 construction of new academic building

4.08 Phase 2 construction of new academic building

4.09 Pedestrian bridges form connection from Johnson to Marjorie Donald House.
Implementation of the Master Plan

Primary Projects
1. New Student Centre
2. Demolition of Dewhurst
3. Demolition of Mackinnon

Supporting Projects
5. Amphitheater
6. Campus spine / walkway landscape
7. Landscape unification of precinct
8. Vehicular pavement removal at housing perimeter
Campus Entrance - East

Primary Projects

1. Expanded parking with integrated landscape
2. Wetland restoration
3. River access
4. New stadium seating

Supporting Projects

5. Landscape buffer at parking
5.0 Conclusion

5.1 Team
5.2 Methodology
5.3 An Opportune Moment
5.4 Strategic Issues and Proposals
5

Conclusion

5.1 Team

The Master Plan Report was the result of almost two years of effort by the professional team, working in close collaboration with members of the Bishop’s University community, as well as with representatives of Champlain College and the town of Lennoxville. The professional team was directed by Peter Rose, and Paul Puciata of Peter Rose Architecte / ARCOP, along with principal Laura Solano and Neil Budzinski of Michael Van Valkenburgh Associates, Landscape Architects, and principal Matthias Schuler of Transsolar Climate Engineers, who assisted with strategies in regard to the all-important issues of energy strategies and sustainability. The process began with several days of meetings, interviews and workshops with more than 100 members of the Bishop’s community, Champlain College and Lennoxville communities which resulted in a document, “Proceedings of the Centre Multisports et de Santé and Campus Development Forum” that outlined basic objectives and goals that guided the master planning work.

5.2 Methodology

The methodology of the team began with an extensive research into the 166 year history of the University, which led to a series of analyses of this history as well as a detailed analysis of the present condition of the Bishop’s University campus. Via an ongoing series of workshops and studies, the professional team developed a broad range of proposals for the future of the Bishop’s University Campus, the result of which is this Master Plan Report.
One of the major goals of the Master Plan Report is to make the campus more walkable. Although pedestrians, cyclists, and vehicles all need to be accommodated on campus, it is the organization of pedestrian circulation that should be given precedence in the central spaces of campus. The strategic rearrangement of parking and vehicular traffic on campus will allow true pedestrian sovereignty to be feasible.

Bishop’s University’s coming into existence was due, in part, to the Industrial Revolution of the 18th and 19th centuries, which saw Sherbrooke develop as a prosperous manufacturing and business centre – harnessing enormous hydroelectric power from its rivers, and being connected to the rest of North America by the steam-powered railway system. In important ways, the Bishop’s of today was also shaped by another revolution, in the 20th century, which was the emergence of the automobile as the primary means of transportation, necessitating the construction of vast numbers of highways and parking lots, especially during the period from 1950 to 1975, when this “revolution” was in full flourish and when the vast majority of Bishop’s’ buildings – approximately 74% – were constructed.

The University is pursuing a master plan at an opportune moment in history – as the world is in the throes of yet another enormously powerful and consequential agent of change, the so-called “Digital Revolution.” What this means for Bishop’s and for this planning enterprise at this moment, is that among other things, we have access to more and better data on everything, and especially to better tools to analyze data and give it meaningful shape, and far better tools to map, model, simulate and precisely evaluate strategies for the future, as well.

Simply put, planning tools have never been more powerful. Effectively deployed, they offer the possibility of better and more strategically effective master plans than ever before.
5.4 Strategic Issues and Proposals

5.4.1 Crucial First Steps: Perimeter Road, Peripheral Parking, Main Campus Path

In many ways, one of the most critical issues for Bishop’s to address is the immediate and future role of the automobile on the campus, and more specifically to adjust the drastic imbalance in the car/pedestrian relationship that has developed over the past several decades. The means of achieving this — and in our view, the absolutely essential first steps of the Master Plan — are the development of the Perimeter Road, the related basins of Peripheral Parking, and the new Main Campus Path. Our analysis illustrates that these should be relatively easily accomplished as the space and rights of way for these interventions are mostly free and available. The strategy of putting the cars on the periphery and pedestrians in the middle of the campus anticipates a future less dependent on the car, but allows for the transition from high current use to a future with less automobile use to occur as slowly as needed.

Constructing the Perimeter Road and parking will not only dramatically reduce the net space required for the car, thus freeing up a substantial amount of land for other uses, but will also free up land in the most valuable and strategically useful part of the campus — that is, the very centre. As the Master Plan Report illustrates, this presents a host of extraordinary opportunities for dramatically improving the campus.

With the removal of main roads and parking from the central campus, an opportunity will arise to create a main
5.4.2 Strengthening the Inner Campus and the Campus Precincts

The existing campus is a loosely-ordered grouping of campus precincts: an athletic precinct, mostly to the west; an academic precinct to the north; a Housing Precinct to the south; and the library, cultural facilities, and various campus and dining facilities at the centre.

campus path, which, along with a network of secondary pedestrian and bike paths, will provide access to virtually every part of the campus. The impact of this network of paths will be immediate and immensely positive. The campus will be entirely walkable, and agreeably so. Even in winter, the paths, placed largely on south-facing slopes and absent cars (and the enormous quantities of salt they require), will be an efficient and very pleasant way to move about the campus. As part of a larger series of landscape strategies, the path will be an integral part of a network of new outdoor campus social spaces as well.

5.4.2 Strengthening the Inner Campus and the Campus Precincts

Once cars and parking have been moved to the periphery of the campus, the Master Plan proposes to clarify and strengthen these precincts by adding density to them and interconnecting them to a network of pedestrian paths and landscapes. The result will be a more convenient, walkable, and much more lively campus.

An athletic precinct largely exists at Bishop’s, on the western edge of the campus. However, the moving of the rink, from its current location to the a site adjacent to the rest of the athletic facilities, will effectively clarify and complete it, and makes it more efficient to operate and use for the benefit of all.

An academic precinct largely exists at Bishop’s as well, in a series of densely packed, but somewhat internalized and chaotically planned, buildings. The Master Plan proposes to connect these buildings via a series of proposed new academic buildings (as needed in the future), connective bridges, and a continuous, accessible-to-all, new internal
path connecting the buildings. This “path,” which would require a series of adjustments to the ground floors of the existing buildings, would become part of what might be called the “Academic Loop,” departing from the main Campus Path at the Library and reconnecting to it near the new Student Centre (see Section 3.4). Day-lit, with views of landscape, openable in summer, closable in winter, the Academic Loop would do much to enhance the academic precinct and make of it a whole vastly greater than the sum of its parts.

The Centre Campus, a strategically-located and underutilized part of the entire campus, could be transformed from the suburban cul-de-sac that serves six faculty bungalows into a car free landscape and Student Centre with an iconic name such as “the Green.” This new “Green” would have enormous transformative power, especially given its location overlooking the rest of the campus and connection to the landscape in front of Centennial Theatre.

The issue of housing at North American universities has recently been the subject of a great deal of study. A strong, emerging consensus is that the more students living on campus, the better – and not only living on campus, but living near the centre of the campus, if possible, near libraries, athletic facilities, cultural facilities and campus centres – thus creating a lively mixed-use campus, with food, libraries, athletic, and cultural facilities available at all hours. The Master Plan offers a strategy for achieving this by substantially adding to and reconfiguring the existing Housing Precinct – as well as adding a series of landscapes and amenities, such as the new Library Commons and the new Student Centre along the main campus path.

Given that the majority of Bishop’s students currently live off campus, the Master Plan Report is proposing a radical revision to student housing strategy.
5.4.3 A Sustainable, Carbon-Zero Campus for the Future

We live in an energy focused world. Issues relating to energy scarcity, and of the consequences of climate change resulting from current energy practices, are in the news media daily. Bishop’s has already embarked on a number of energy saving strategies, including the construction of a major geothermal well system and increasing the thermal efficiency of its existing buildings, among others. However, as a result of the University’s fortuitous location at the intersection of two rivers, in Quebec, a province with readily available clean hydro power, Bishop’s has the extraordinary opportunity to reduce its carbon footprint to zero. It is one of the very few campuses in North America with a realistic chance of achieving this.

Section 3 in this Master Plan Report points to the vast, inexpensive resource of geothermal energy that resides in the adjacent rivers using river-based geothermal energy systems. Development of this resource – along with continued reduction of energy consumption, and the conversion of all remaining carbon-based energy production to clean hydropower generated by the Quebec river – is, in the view of the Master Planning team, a very realistic goal. Funding for projects like this is increasingly available. The public relations and goodwill benefits of being one of the only Carbon Zero campuses in the world would be immense. Energy costs to Bishop’s of running its campus would drop dramatically, thus increasing the amount of money from the Quebec government that could be directed to other purposes on an annual basis.
5.4.4 Highway 410

As of the time of the writing of this Master Plan Report, the Ministère des Transports du Québec has suspended its plans to construct the Highway 410 project that would have sliced through Bishop’s property, and virtually encircled the central campus. This is extremely good news, as the negative impact of the highway for the campus would have been on the edge of catastrophic in our view. However, on the off chance that different politicians in better economic times might find it desirable to bring the Highway 410 project back to life in the future, the master planning team would encourage Bishop’s to keep close watch on the Ministry of Transport for the foreseeable future. The environmental arguments made against the 410 proposal in Section 3 of this Master Plan Report, will be ever stronger and more relevant in the future.

The construction of the proposed Highway 410 will isolate 142 acres, or more than 40%, of the main campus.

The proposed Highway 410 would impose a high level of vehicular noise on campus, and its embankment would be visible from nearly every building on campus.

Should the Highway 410 proposal reappear on the political landscape, these arguments should be at the core of as vigorous an anti highway campaign as possible.
In the early 1800s, before there was a Bishop’s University, the land that became the Bishop’s campus, flanked by two beautiful rivers, was a powerful landscape of fields and trees that thrived in temperate summers, long, harsh winters, and everything in between. The landscape, prodded by the rivers, participated in regular cycles of flooding, which nourished plants and soils and transformed them into a fertile flood plane, which in turn mitigated the impact of the flooding of the rivers. All in all, the land on which Bishop’s was erected was part of a delicately balanced ecosystem.

Highway, road, and parking lot construction over the last 70 years or so (40% of the campus is paved) has turned the campus from a soft, environmentally-gentle landscape into a flood-inducing, river- and watershed-polluting “hardscape.” Much of this relatively negative transformation related to the primacy of the automobile on the Bishop’s campus.

While it is neither possible, nor desirable, to return the campus to its early-19th century bucolic state, two important things to remember about the landscape are as follows: the glorious landscape was one of the central reasons for locating the Bishop’s campus on this site in the first place; and until relatively recently, the landscape played a crucial role in civilizing the environment, by mitigating the effects of flooding, moderating temperatures, and cleaning water, among many other functions.

With the tools at our disposal, almost all of the negative impacts of the built environment are completely reversible. New landscapes, using strategic shapes, plantings, and soils, can improve the performative aspects of the campus, both above and below the surface – to operate effectively in not only slowing down the forces of flooding but also in eliminating pollution. And it can be beautiful.

Universities typically work on the landscape continually, usually at a small scale, often in service of simple tasks such as drainage and the screening of the unsightly. Given its impact and effect, landscape is also relatively inexpensive. Well done, 50 years of small landscapes can amount to something substantial. Decades of carelessly considered landscapes are ripped up annually on campuses everywhere. One message this Master Plan Report wishes to convey is that the landscape is something to be considered carefully on an almost daily basis.

View of the Massawippi River at Bishop’s University.
5.4.6 A Final Note on the Stewardship of the Master Plan Report

This report is the result of an enormous effort by a dedicated group of faculty and administrators at Bishop’s University, working in close collaboration with a distinguished group of outside consultants. We feel that the Master Plan Report proposes an intelligent series of discrete interventions for the future of the University, and a structure in which these interventions will combine to make a whole campus that will be vastly greater than the sum of the parts.

For the Master Plan Report to effect meaningful change at Bishop’s University over the long term, a number of commitments must be made.

First, the Master Plan Report must be a "living" document, an active plan that is diligently and consistently referred to by a permanent group at Bishop’s, the Campus Planning Oversight Committee, charged with the plan’s stewardship.

Second, when circumstances dictate (such as when a new program or project presents itself) the plan will need to be updated and developed in greater detail. For this purpose, Bishop’s will need once again to hire outside consultants. In the end, the impact of the plan will be determined by the quality of the process by which it is referred to and deployed, and by the quality of the people, both at Bishop’s and especially at outside consulting firms, who work in the process of its implementation.

It is the recommendation of this report that every effort be made to engage the best and wisest thinkers that can be found at Bishop’s for the Campus Planning Oversight Committee and the most skilled outside consultants available, as well. The implementation of good master planning decisions over time will pay incalculable dividends for years.
6.0 SOURCES


7.0 APPENDICES
Appendix

Existing Campus Housing Types

Mackinnon Hall, 1959

Munster, Keuhner, and Abbott Halls, 1964-1966

Paterson Hall, 2004
Typology: Singles and doubles along a double-loaded corridor with common (shared) bathrooms at each floor

Number of beds: 112  
Average double bedroom size: 17.8 sq. meters  
Average single bedroom size: 11.1 sq. meters  
Square meters per student: 40 sq. meters  
Common rooms: 3  
Total social space: 274.7 sq. meters

Typology: Single grouped rooms (pods) with private bathrooms. Each pod accessed by dedicated stairwells.

Number of beds: 96 (x3)  
Average single bedroom size: 10.4 sq. meters  
Square meters per student: 36.3 sq. meters  
Common rooms: 2 (x3)  
Total social space: 142 (x3) sq. meters

Typology: Suites with private baths and kitchens along a double-loaded corridor.

Number of beds: 165  
Average single bedroom size: 11.6 sq. meters  
Square meters per student: 42 sq. meters  
Common rooms: 5
Off-Campus housing

- Bishop's On-Campus Housing
- Off-Campus Housing
- Champlain Housing
Lighting

Technical Design Requirements

Fixture Selection

Outdoor light fixtures or product group recommended for use on the Bishop’s campus are scheduled in this document. Alternates should exhibit construction, optical characteristics and lamping of comparable quality as a prerequisite for consideration.

Desired Light Levels

The following specifications describe ideal lighting conditions in various campus settings. Departures from these standards due to special circumstances, should be evaluated and authorized by the Building and Grounds Department or the Campus Planning Oversight Committee:

1. Pedestrian Walkways / Bikeways (Adjacent to Roadways). Pedestrian walkways and bikeways adjacent to roads shall be designed for an average maintained illuminance value (Eavg) of 0.6 footcandle horizontal, and 1.1 footcandle vertical, as measured 6’- 0” above ground, and shall maintain an avg/min illuminance uniformity ratio not to exceed 4:1. (This means that if the average illuminance at the ground plane is 0.6 footcandles, the minimum illuminance shall not be lower than 0.15 footcandles.) These values are in accordance with the Illuminating Engineering Society of North America (IES) Handbook, Ninth Edition.

2. Pedestrian Walkways / Bikeways (Distant from Roadways). Pedestrian walkways distant from roads and bikeways adjacent to roads, a minimum average maintained horizontal illuminance value (Eavg) of 0.5 footcandles to identify obstacles on the pavement, and vertical illuminance of 0.5 footcandle measured 6’- 0” above ground, and shall maintain an average/min illuminance uniformity ratio not to exceed 5:1. (This means that if the average illuminance at the ground plane is 0.5 footcandles, the minimum illuminance level shall not be lower than 0.1 footcandles). Also important to security is a luminous environment which extends out from the pavement and for a reasonable distance into the adjacent area. This extension should range at least six feet on either side of the pavement and have at least 1/3 of the value of the average illuminance level on the pavement. These values are in accordance with the IES Handbook, Ninth Edition.

3. Signage lighting, when used, should comply with the following requirements:
   - Fixtures illuminating signage shall have precision optics so as not to throw light beyond the sign. Specify appropriate shielding accessories for the fixtures.
   - Whenever possible, signage should be illuminated from above using shielded fixtures to restrict and avoid night sky light pollution.
   - Lamping shall be metal halide lamps, LED or fluorescent light sources of 4000K CCT, and 80+ CRI.
   - Illuminance values measured vertically on the signage surface should not exceed 20fc average maintained, with a maximum to-minimum ratio of 4:1. For special applications that might require higher illuminance levels, the Office of University Architects and the Building and Grounds Department shall be informed.
   - Fixtures used for signage applications should have lockable aiming, easy maintainability, and wher-
ever possible, integral transformers instead of remote (except in case of LEDs).

4. Primary Building Entries. Lighting of building entrances provides a transition from a low exterior light level to much higher light levels inside while entering, and vice versa while exiting a building. As a rule, this lighting should follow criteria of exterior lighting discussed earlier, but with some alterations as described.

- This shall be provided by using wall surface mount or wall recessed fixtures, and ceiling surface or recessed fixtures where they can be easily accessed and relamped. No fixture shall be mounted above the height of 20’-0” A.F.G. without prior approval from the Building and Grounds Department or the Campus Planning Oversight Committee.
- Decorative fixtures shall be used in these locations only if approved by the Building and Grounds Department or the Campus Planning Oversight Committee.
- An average maintained illuminance value (Eavg) of 3.0 footcandles and an average/minimum illuminance uniformity ratio of 3:1 measured at the ground plane will be provided within the footprint of the entrance area. If these fixtures also function as emergency egress lighting, ensure that the egress criteria given below and as per NFPA are met.

5. Exterior Emergency Egress Lighting

- Emergency egress sources shall be mounted above the doors to minimize glare wherever possible. At secondary building entrances, a single compact fluorescent fixture shall be Centered directly above the door(s).
- LED fixtures may be used for these applications, but must be approved by the Building and Grounds Department or the Campus Planning Oversight Committee.
- Provide an average maintained illuminance value (Eavg) of 1.0 footcandles and an average/minimum illuminance uniformity ratio of 10:1 measured at the ground plane. Lighting shall be designed to provide a minimum of 0.1 footcandle measured at the ground plane at a distance not less than 2 times the fixture mounting height and shall have IES full cutoff classification.

6. Service Area Lighting. These shall be designed to provide the necessary average illuminance levels required based on the specific task in accordance with the IES Handbook, Ninth Edition. The luminaires used should be provided with shielding accessories such as glare shield, louvers or barn doors to avoid glare. As far as possible, fixed wall/column mounted full cutoff type luminaires shall be used for area lighting and adjustable floodlights shall be avoided due to light pollution concerns.

7. Surface Parking Areas. Illuminance levels for most campus parking lots are based on low-use criteria, while a few parking areas fall into the medium-use category. Uniformity and glare control are the most important factors in parking area lighting design because they contribute the most to nighttime visibility. These factors should take precedence over measured light levels. Vertical illumination is also important for motorists to be able to see pedestrians or obstructions such as curbs or poles; it is also critical for facial recognition and threat detection. Finally, care should be taken to avoid shadows and minimize light pollution and trespass.

- Pole mounted IES full-cutoff fixtures or cutoff fixtures with max 2% upward lumens will be used for parking lot lighting. Off-street parking and small parking lots may be lit using the standard decorative pole, provided illuminance requirements listed below are met.
• All parking lots on campus shall be illuminated in the same way. Provide a maintained average illuminance of 2 footcandle over the parking surfaces, with a minimum level of 0.2 footcandle at the ground plane, a minimum vertical illuminance of 0.1 footcandle measured 5'-0" above the ground plane, and a max/min uniformity ratio of 20:1 (this means that if the minimum is 0.2 footcandle, the maximum footcandle level shall not be higher than 4.0 footcandles).

• These values are based on the Ninth Edition of the IES Handbook. Justification for exceeding the minimum standards shall be submitted to the Building and Grounds Department or the Campus Planning Oversight Committee during the design phase.

8. Roads

• Collector (Intermediate Use) Roads. Collector roadways shall be designed for an average maintained illuminance value (Eavg) of 0.9 footcandle and shall maintain an average/minimum uniformity ratio not exceeding 4:1 (this means that if the average number of footcandles at the ground plane is 0.9, the minimum footcandle level shall not be lower than 0.23 footcandles). These values are in accordance with the IES Handbook, Ninth Edition.

• Arterial (Collector/Residential Use) Roads. Arterial roadways shall be designed for an average maintained illuminance value (Eavg) of 0.6 footcandles and shall maintain a uniformity ratio not to exceed 4:1 average/minimum. (This means that if the average number of footcandles at the ground plane is 0.6, the minimum footcandle level shall not be lower than 0.15 footcandles.) These values are in accordance with the IES Handbook, Ninth Edition.

• Local (Intermediate Use) Roads. Local roadways shall be designed for an average maintained illuminance value (Eavg) of 0.7 footcandles and shall maintain a uniformity ratio not to exceed 6:1 average/minimum. (This means that if the average number of footcandles at the ground plane is 0.6, the minimum footcandle level shall not be lower than 0.12 footcandles.) These values are in accordance with the IES Handbook, Ninth Edition.

Demonstration of Compliance

Point-by-point photometric plans of these applications, using software such as AGI32 or Visual, should be provided for University review. The calculations shall consider all light loss factors – lamp lumen depreciation, luminaire dirt depreciation and 16 of 66 ballast factors. In case of fluorescent lamping, light losses expected due to cold weather shall be accounted for in the design/specification of the system. Justification for deviating from the standards should be submitted to the Building and Grounds Department or the Campus Planning Oversight Committee during the design development phase.
Lighting