

V. Movement and Wayfinding



5.0 Movement and Wayfinding

A fundamental rethinking of movement at UNB Fredericton will allow a new kind of campus culture to emerge: a culture of frequent informal encounters and spontaneity. In redefining movement, the Fredericton Campus Plan attempts to improve campus life by introducing a layer of contact, exchange and interaction that is currently understated.

Movement is typically conceived as a means to an end, a way to get from here to there. In a campus setting, however, movement suggests a *way of being* that has implications related to the conviviality of campus life. Is UNB Fredericton a unique and inspired place in which to live and learn? Are campus users able to move through campus with ease? Do appropriate mechanisms exist to ensure access to all areas of campus by all ability types? Is the level of activity on streets sufficient to provide for a safe environment both day and night? Are interesting opportunities for resting, reflection and inspiration provided throughout the campus? Are diversions welcome and possible on foot? The setting for a reconceived approach to movement at UNB Fredericton is the Open Space Framework. As an organizing element, it provides order to the Plan's approach to pedestrian movement, cycling, vehicular circulation, parking, as well as built form and landscape character.

Fundamental to the creation of a pedestrian Core Campus is the eventual removal of five main parking areas within the Core Campus, accompanied by building infill. The existing system is failing users: while the campus as a whole contains a surplus of parking capacity, it is not unusual for motorists to loop through the campus to find a space in close proximity to uses. Easily accessed parking (primarily to the south of campus, behind the Aitken Centre, and also to the north of campus just beyond the campus gates adjacent to the Beaverbrook Rink) is considered peripheral and therefore inconvenient. Campus users currently demand and expect parking next to the buildings they access.

New buildings in key locations should assist in the ease of movement from one space to the next by providing defined, interesting edges that welcome, interest and “pull” the pedestrian through the campus. In addition, new buildings should be sited such that they support the existing informal, porous network of paths. By restructuring the campus and integrating a strong path and open space system that is well defined and well maintained, walking will become a pleasurable, desirable experience that enhances campus life.





5.1 Pedestrians

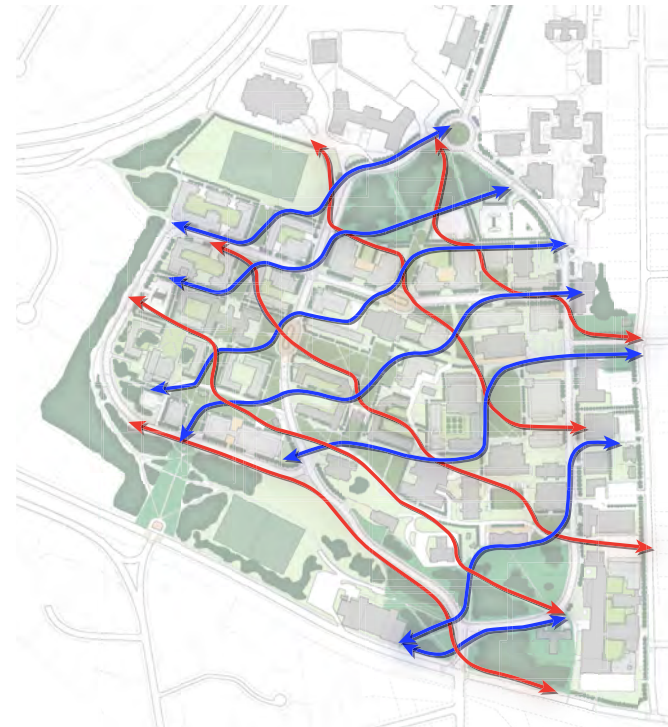
Ease of Pedestrian Movement

UNB Fredericton is a permeable campus. Since pedestrians are often fighting both inclement weather and a tough incline, walkers find the shortest distance between two points by default. As pathways become more formalized on campus, and as new buildings and streets redefine open spaces, it is imperative for the needs of the pedestrian, and this permeability, to remain paramount. The Core Concept Plan prioritizes north/south and east/west movement but supports informal meandering, which is more conducive to traversing inclines and shortening distances. Maintaining this “basket weave” approach to movement is an evaluative criterion that has been used to determine potential development sites. A key objective has been to combine an understanding of building siting, pedestrian movement, and the Open Space Network to ensure that the campus remains porous, and to make it more welcoming to pedestrians.

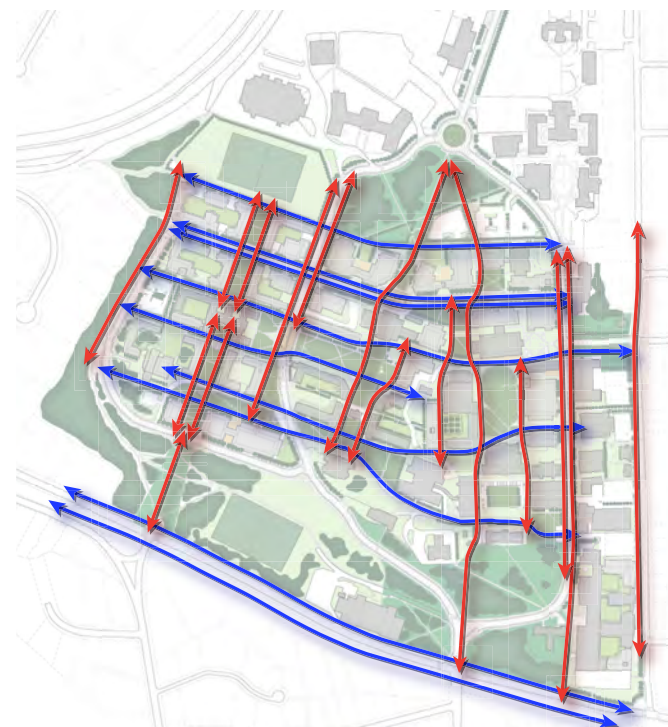
Pedestrian Priority Area

The area contained within the ring road (Dineen, Mackay, and Pacey Drives) should be designated as a Pedestrian Priority Area since a high quality pedestrian environment is the fundamental approach to movement. Second preference within this area will be given to cyclists, and third to vehicles on limited access roads. Users arriving on foot, by transit, on bicycles or by car will be quickly absorbed into the pedestrian infrastructure. This infrastructure should contain the necessary amenities such as signage, pedestrian-scaled lighting, as well as outdoor furniture, and have the capacity to respond to the campus population. A clear pedestrian amenity character, as defined by the use of consistent materials and paving patterns, will provide overall cohesion to the campus.

Although no general access surface parking lots will be located in this area, specially designated parking spaces will be located in convenient locations for campus users with special needs, as will loading and unloading areas.



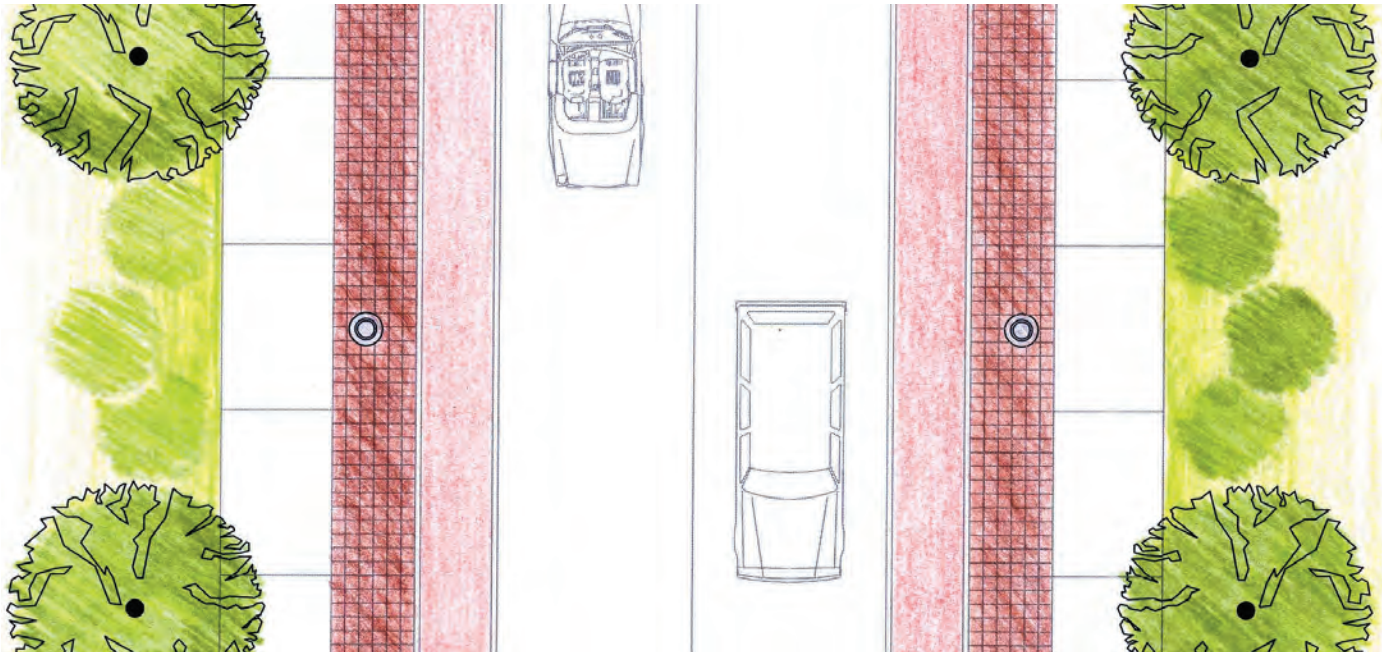
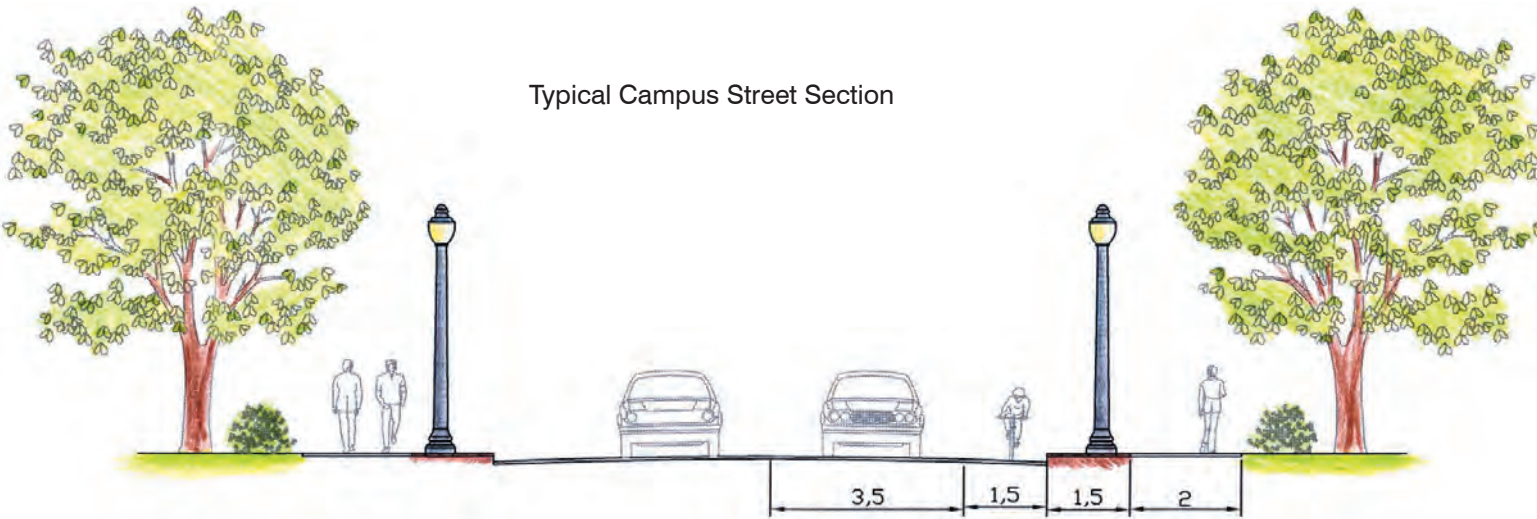
linear pattern of pedestrian movement



“basket weave” pattern of pedestrian movement

Streets for Pedestrians

The streets within the campus should be considered as components of the Open Space network that contribute to the viability of a pedestrianized core. As a result, Dineen, Mackay and Pacey Drives, as well as the new easterly extension roads will be characterized by two metre wide sidewalks and a one and a half metre decorative paved strip that provides a generous buffer for pedestrians and snow storage in the winter months when combined with the bicycle lane. These streets will connect with the pedestrian pathway system at many points throughout the campus.



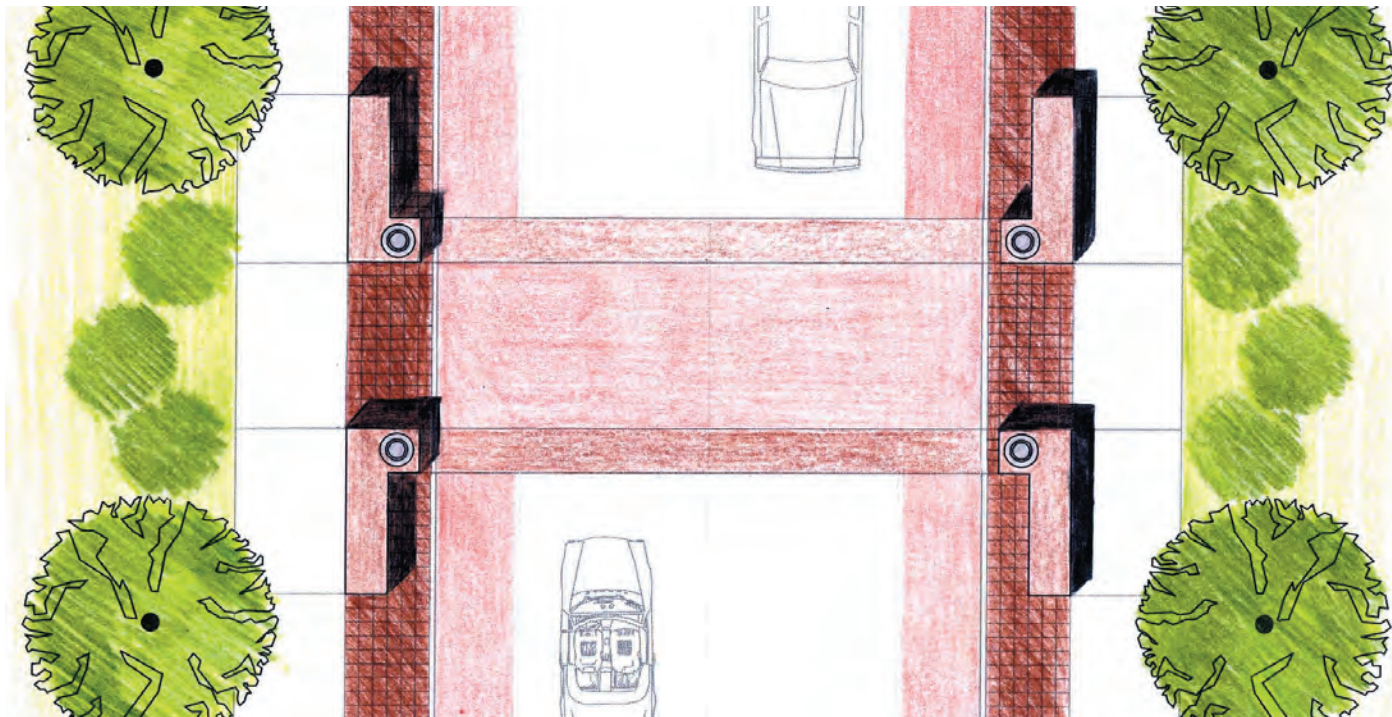
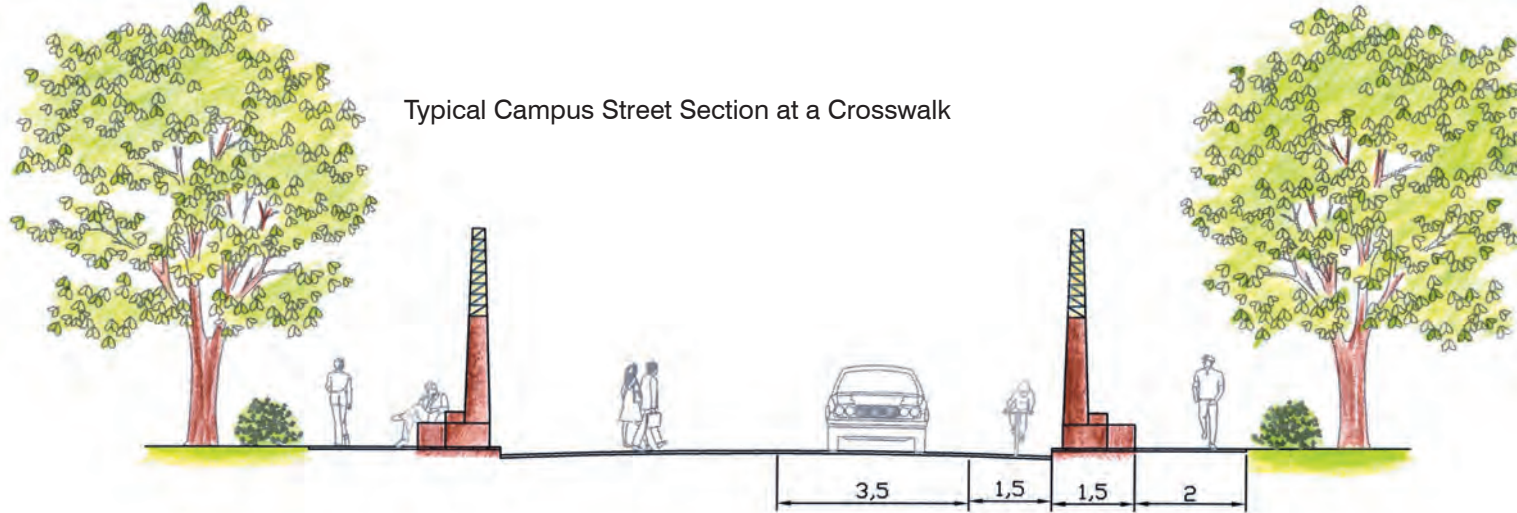
Crosswalks and Access Points

Numerous crosswalks have been added throughout the street system in order to ensure the safety and viability of pedestrians moving through campus. Given that the campus is primarily characterized by winter conditions when it is most used, crosswalks should be characterized by vertical elements, in addition to traditional paving treatments that delineate access points. These vertical elements will signal to both drivers and pedestrians that in this high volume crossing-area, pedestrians have the right-of-way. Vehicles

will be required to slow down through these areas, and to come to a full stop for pedestrians as they cross.

In addition, pedestrians will have the right-of-way in relation to any street throughout the campus, making it possible to cross at any point with ease. On campus, drivers need to be aware of the pedestrian priority, and thus travel at lower speeds than on municipal streets.

Typical Campus Street Section at a Crosswalk



Breezeways

A pedestrianized campus in a winter setting presents unique challenges, though not unprecedented. There is some desire, mostly among students, to incorporate a more extensive tunnel system into the campus environment. Such a system disperses pedestrian activity, is costly and logistically difficult to implement, contradicts the notion of creating a pedestrian culture, undermines the creation of a critical mass of pedestrian activity, and could detract from the overall campus aesthetic. However, a tunnel link between the Forestry and Geology Building and Sir Edmund Head Hall may be the only viable means of creating this linkage across Dineen Drive.

The creation of breezeways is an approach to winter conditions that maintains the pedestrian fabric of the campus, adds architectural detail and respects existing building typologies. Pedestrians can be accommodated in comfort through the creation of indoor/outdoor spaces that are added to existing and new exteriors.

Precedents of such an approach exist on the UNB Fredericton Campus:

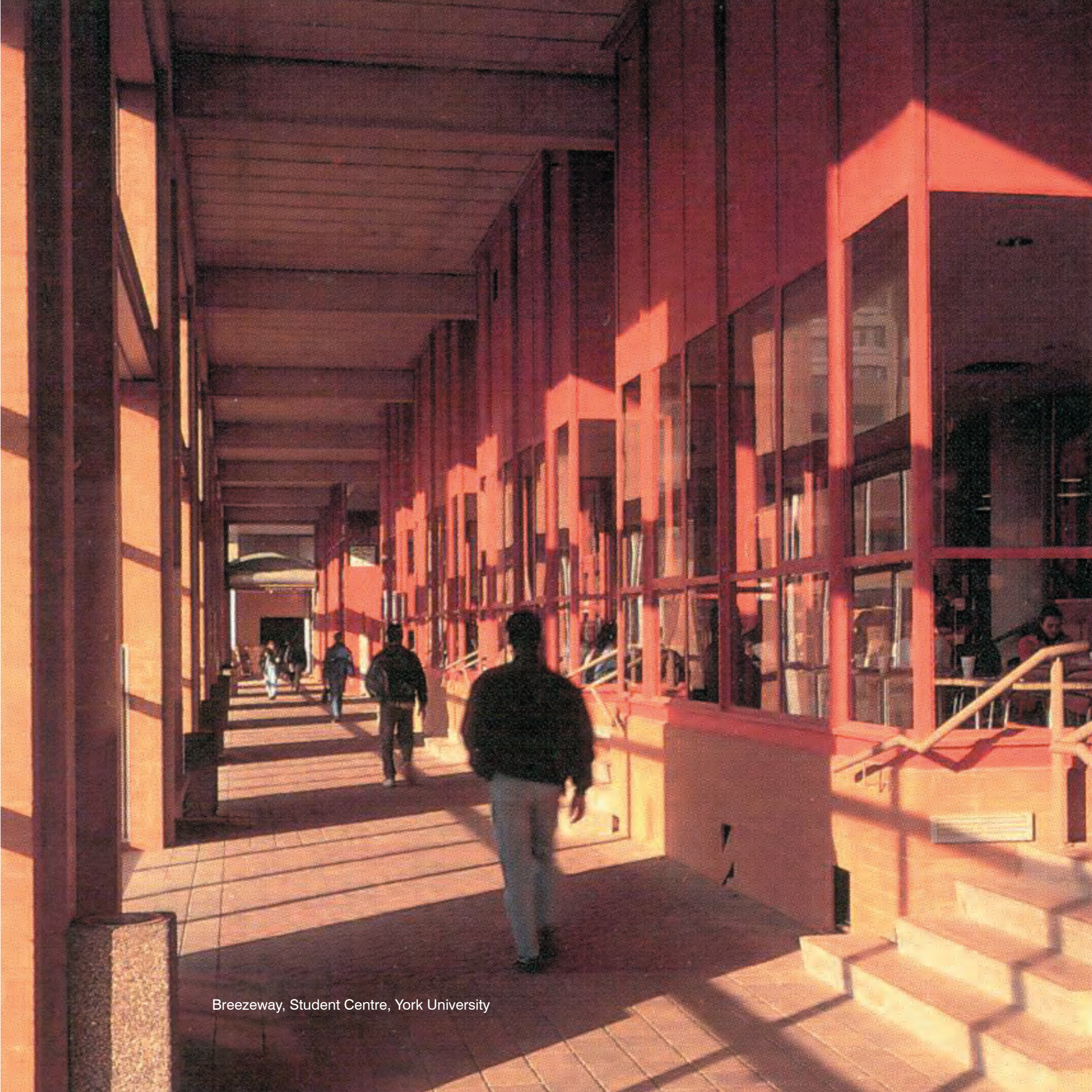
- The greenhouse, connecting Bailey Hall and the IUC;
- The walkway along the eastern edge of the extension connecting Tilley and Carleton Halls;
- The building connections that have been made throughout Sir Edmund Head Hall.

Breezeways offer an opportunity to create beautiful new indoor and outdoor spaces that not only facilitate movement, but also add to the vitality of campus life. The configuration of breezeways — particularly one in relation to another — can serve to shape or reshape existing and proposed green spaces. Contrary to a tunnel system that is typically characterized by sterile, single function corridors, breezeways offer an opportunity to embellish the campus by adding architectural detail, multi-function spaces, and an animated, safe environment for pedestrian movement.

The identification of potential breezeway locations points to the vast possibility for creating an infrastructure of connected breezeways that minimize the need for moving outdoors. Through the inclusion of a diverse array of architectural styles, breezeways have the capacity to reinvent buildings that lack architectural articulation, thereby improving the overall quality of building design on campus.



Potential Locations for Breezeways



Breezeway, Student Centre, York University

Historic Points of Interest

UNB Fredericton is rich in historic firsts, but this vibrant history is understated in the physical environment. As a component of the formalized pedestrian path system throughout the campus, the campus should contain a series of historic markers that tell the story of the founding and flourishing of the University. In addition, recent, significant accomplishments should also be included as an element of this point of interest program. These markers should be scaled to pedestrians, and articulated in the same materials, colours, format and style, to cohesively connect the pedestrian system.

External Footpath Connections

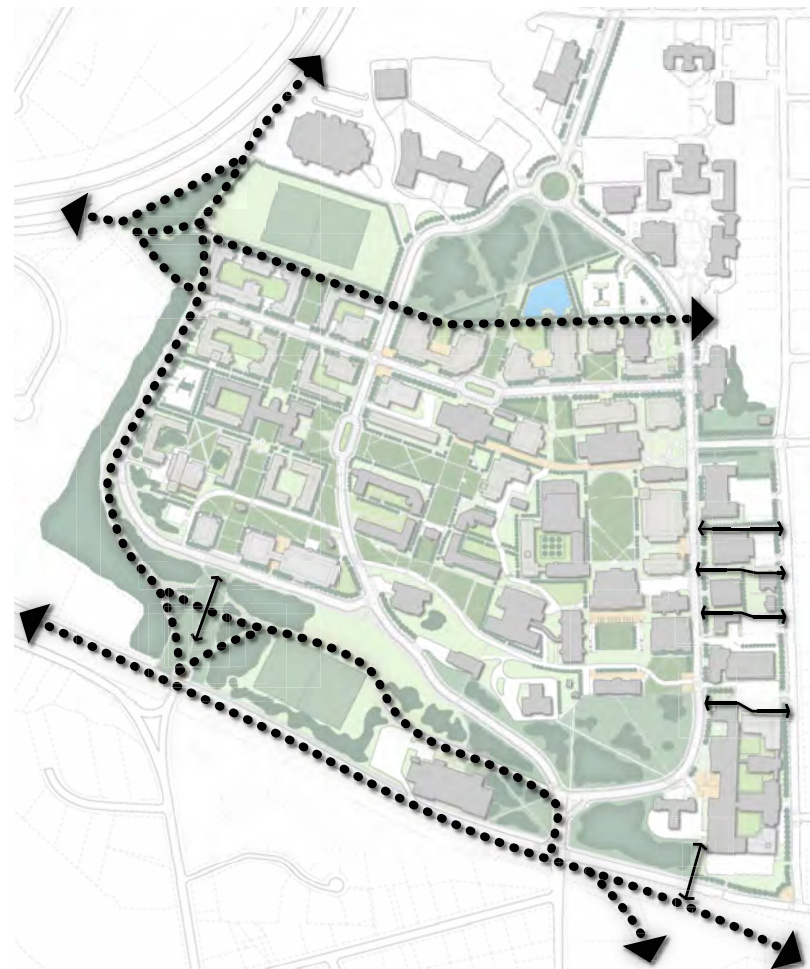
In order to welcome students and faculty on foot, and to clearly communicate the ease and desirability of accessing the campus, specific pedestrian footpaths should connect City of Fredericton streets to the larger pedestrian network. For example, a new pedestrian access point should be created at the northern tip of the East Common near the intersection of Forest Hill Road and Waterloo Row. From Windsor Street, a footpath running between the Services Building and MacLaggan Hall provides access to the existing core. To the east, an existing informal footpath should be formalized and integrated into the proposed Open Space Network, northeast of Chapman Field.

Recreational Trails

The City of Fredericton is known for its extensive system of recreational trails that connect major outdoor areas, such as Odell park, to the waterfront and the north of Fredericton. The pedestrian nature of the campus will be strengthened by providing key linkages to this system, continuing recreational access through the campus. This will be a means to enhancing the overall access to the campus for the residents of Fredericton.



City-Wide recreational trails run adjacent to the Campus



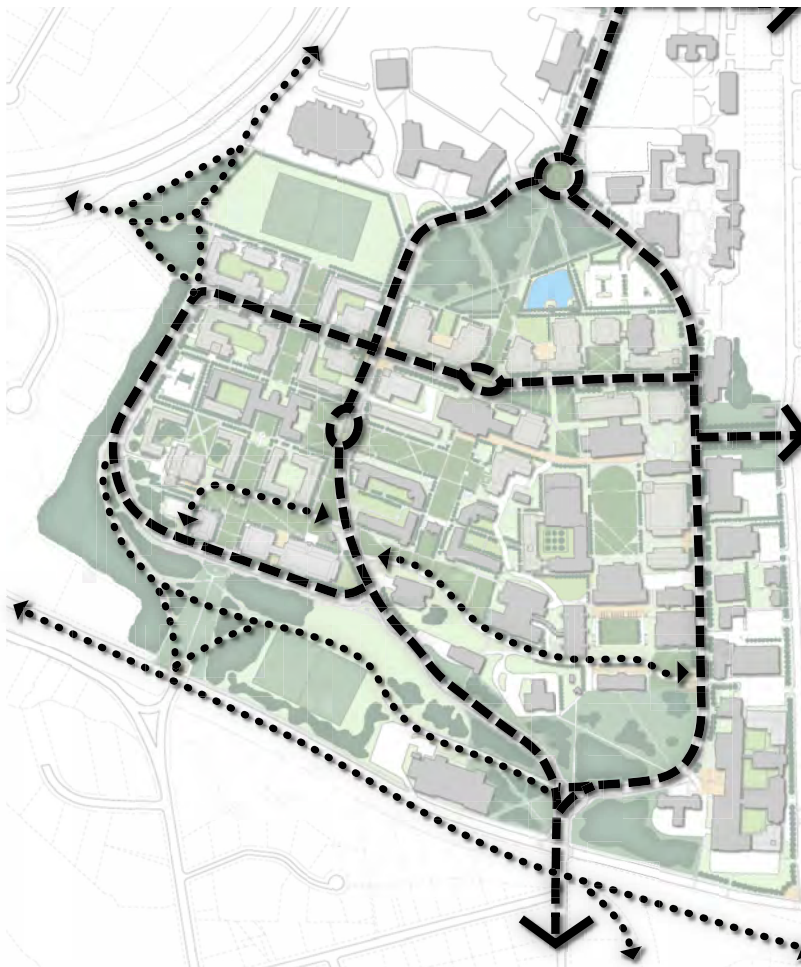
Footpath Connections and Recreational Trails

5.2 Bicycles

Despite the steep grade and the often wintery conditions of the UNB Fredericton campus, the use of bicycles continues to increase, and therefore ought to be planned for and encouraged as a viable approach to movement on campus.

All streets within the Core Campus, as well as limited access routes, include bicycle lanes in the Campus Plan. As a viable mode of transportation, bicycles should be respected on main campus streets as an important addition to the campus culture. In the pedestrian priority area, bicycles are second in priority, only after pedestrians. This will necessitate the preparation of a Campus Cycling Plan, aimed at identifying the best areas for cycling activity, and approaches to minimize conflicts between cyclists and other users, for example by defining areas within the core that ought to be dismount zones.

Bicycle storage must to be provided throughout campus. In particular, bicycle storage must be added at the entrances of most buildings, and at the perimeter of open spaces. In well used amenity areas, such as near the Harriet Irving Library, a higher density of bicycle storage units should be available to campus users.



On-Road and Off-Road Bicycle Routes





5.3 Vehicular Circulation

Roads, in the context of the Fredericton Campus Plan, are shared by people and motor vehicles. Simple improvements can be made to existing roads to create a comfortable, safe and welcoming environment for pedestrians. Roads play a key part in facilitating open space connections and creating continuity throughout the campus, as they provide the spines that anchor campus infrastructure, including trees and sidewalks.

The Campus roads (see cross-sections in Streets for Pedestrians) — Dineen, Mackay and Pacey Drives, and a new loop road extending from Pacey Drive and connecting back to Mackay Drive — will have similar treatments with respect to:

- bike lanes,
- lighting,
- landscaping,
- street furniture, and
- crosswalks.

Limited Access Roads

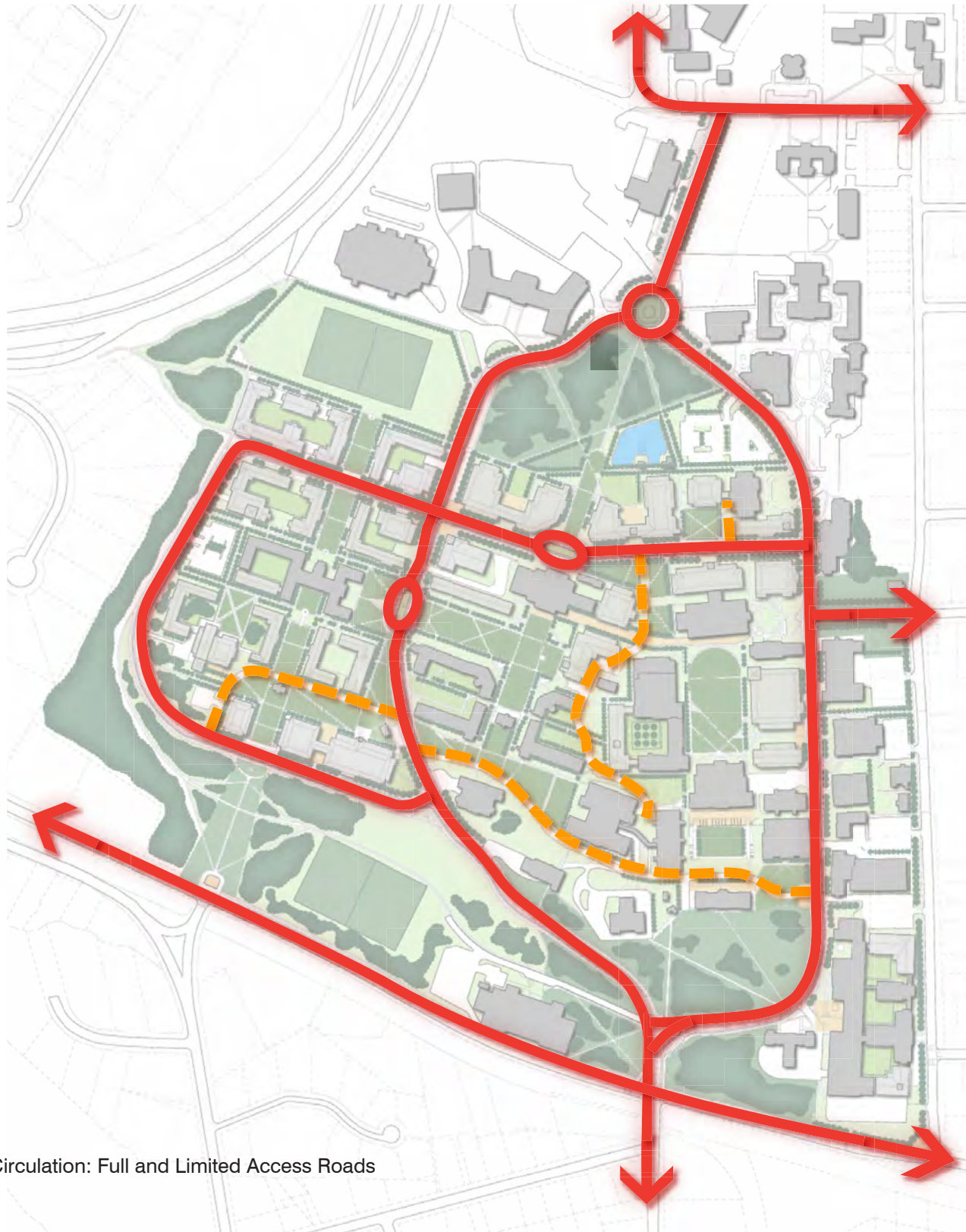
To help pedestrian activity flourish, Bailey Drive should become a limited access road, providing disabled, special event, and special permit parking in specific areas. Its significance as a street for pedestrianization is derived both from its proximity to core campus functions and the prominence of several key buildings — including the Old Arts Building and Memorial Hall.

Currently, extensive surface parking areas undermine the general appearance of these buildings, and access to them. For example, parking surrounds the formal, stately design of Memorial Hall on all sides and three of the four ‘faces’ of the Old Arts Building (east, south and west). Although some parking will remain near Memorial Hall, it should be significantly improved through landscaping details, including tree planting and the introduction of street furniture that reinforces the views of the City of Fredericton.

By re-creating Bailey Drive as a limited access street designed to support flourishing pedestrian activity, these buildings will become focal points from within the campus, not only in terms of the existing formal approach. Special paving treatments and increased attention to pedestrian detail (such as street furniture) will give Bailey Drive a distinctive identity.

Other designated limited access roads designed as wide pedestrian paths that also accommodate vehicles include a north-south route in the Central Campus that runs from Pacey Drive to Bailey Hall and a street that services the East Campus.

Treatment for a pedestrian oriented limited access road at the University of Toronto



Vehicular Circulation: Full and Limited Access Roads



examples of traffic calming interventions

Traffic Calming

In Fredericton, the campus road system is perceived as a viable escape route from the city grid, which significantly increases the volume of vehicular movement on campus, compromising the safety of campus users. Congestion on major north/south routes, such as Regent Street, exacerbates this problem.

Traffic calming refers to a variety of mechanisms employed to slow traffic down in key areas. The objective in this context is to deter through-traffic by making campus streets less appealing for non-university drivers. The campus should no longer be a more convenient alternative to city streets. In many instances, speed bumps, one-way streets, and narrowed streets are possible approaches. Throughout the campus, the overriding approach to traffic calming should be beautiful, pedestrianized streets that are frequently interrupted by a variety of campus activities. As streets become key elements in the Open Space Network, they should begin to be characterized by a variety of features that slow down traffic flows: trees that form a canopy over streets, frequent raised pedestrian cross-walks, bicycle lanes, and street furniture that encourages people to linger. These provide visual and logistical interruptions, slowing down vehicular movement.

As another means of traffic calming, the traffic circle south of the Core Campus and the circle on Pacey Drive in front of the Student Union Building should be maintained and enhanced. A new traffic circle is proposed on Mackay Drive north of Pacey Drive.

Special Access

Consideration has also been given to ensuring that the campus remains permeable for vehicles that must access the campus for safety, service, loading and delivery, and accessibility reasons. Service vehicles, safety vehicles, and special access transit vehicles should have 24-hour access to all areas of the campus.

Transit

Public transportation is currently underutilized on the UNB Fredericton campus. Poorly designed and located bus shelters and bus stops highlight transit use as a low priority. Through relatively minor changes, such as the re-siting of stop locations and the design of safe, viable shelters, transit use can be further encouraged. This approach will encourage greater service to campus.

It is in the best interests of the University to inspire greater transit use. As service and ridership increase, the University will face less pressure to design and build additional parking facilities. In addition, transit use is highly compatible with a pedestrianized core campus. For this reason, street right-of-ways should be designed to ensure that bus traffic is accommodated on campus roads.

The University has the opportunity to provide leadership related to environmental planning by working with students and the City of Fredericton to increase the quality, viability and frequency of transit service to the campus. For example, incentive programs have recently been established on University campuses throughout North America that demonstrate an increase in student ridership is directly linked to a reduction in fares.

To increase transit use, UNB Fredericton and the City of Fredericton should conduct a feasibility study of a universal bus pass for all students that is paid for as a mandatory part of tuition. In other jurisdictions, it has been found that a twenty-five percent to fifty percent increase in undergraduate ridership could be expected following the implementation of a UPASS system. This is based on recent Canadian experiences in Victoria, London, Hamilton and Guelph. The most recent UPASS programs seem to have attracted forty to fifty percent increases in student ridership among those who were eligible for the pass. A feasibility study would analyze projected use and service level needs during peak periods, providing recommendations related to a funding structure. In Canada, UPASS fees range per year from a low of \$37 for the Queen's University's pass to \$109 for Trent University's pass. Western's and Victoria's passes are currently priced at \$96 while Guelph and McMaster universal passes are priced at \$68 and \$58 respectively. Both Simon Fraser University and the University of British Columbia are currently in the process of instituting UPASS programs.

In most instances, the UPASS program is voted in by students through a referendum. In some cases, UPASS programs have been initiated by the City, such as the case in the City of Calgary, where one month after the introduction of the program, Calgary Transit found that overall transit usage to and from the University had increased by thirty-eight percent over the previous year. The University should pursue a partnership agreement or strategy with the City of Fredericton, and should advocate a long-term public transportation plan for Fredericton.

The UNB Fredericton Student Union executive is in support of a UPASS system, having conducted preliminary research that supports the implementation of such a program.



5.4 Parking

At the outset of the Fredericton Campus Planning process, parking was identified as a fundamental concern for campus users. There is a *perception* that parking is often difficult to find, especially in the vicinity of heavily frequented buildings in the Core Campus. At the same time, frustration is also felt with the tendency to drive from one building to the next, as opposed to travelling on foot.

In a study of parking conducted in 2001 by ADI Limited, it was discovered that although there are 3,252 spaces available on campus, only 2,704 permits were sold in 2001, with ninety-three percent of spaces requiring a permit. As a result, if all permit holders were occupying a space simultaneously — an unlikely occurrence — 548 spaces would remain. Only an average of twenty-one day passes were sold per day in 2001.

However, in what is understood to be the periphery of campus, average availability was found to exceed fifty percent, meaning that fewer than half of the spaces are ever occupied at one time, other than during special events. All peripheral spaces are within a ten minute walking radius of the Core Campus, a measure typically used to ensure the viability of pedestrianism in campus planning. Clearly, UNB Fredericton does not have a parking problem, but rather an expectation that a high level of parking be immediately adjacent to buildings.

In addition, UNB Fredericton's parking prices are low compared to other universities outside of the Maritimes, but consistent with regional averages. UNB Fredericton's rates are unique in their simplicity, compared to rates observed elsewhere that differentiate between surface vs. structured, staff vs. student, core vs. periphery and reserved vs. unreserved.

Therefore, the "Parking Issue" can be better defined as an issue of spatial mismatch and expectations. A pedestrianized approach to the Core Campus represents a fundamental rethinking of movement, and therefore of access to parking. Given the significance of this change in approach, the University should consider creating a comprehensive **Parking Strategy Implementation Plan** to coordinate parking supply and demand as the campus evolves in concert with the Campus Plan.

Enforcement

Fines should increase if the parking system is to remain credible. A strong incentive to park in lots that are beyond the core will need to be provided as the University community adapts to a pedestrianized core. The disincentive to parking in unregulated and reserved areas will reside in fines that are prohibitive for students, faculty and staff alike.

Rate Structure

Rates are currently too low, and as a result do not constitute a disincentive to parking on campus. Parking rates should be understood and evaluated in the context of an overall movement strategy that seeks to encourage and reward students, faculty and staff for arriving on campus on foot, by bicycle, or by transit. In concert with raising parking rates, the University should pursue better bus service and lower fares for the University community, or a UPASS, as discussed previously.

A more complex rate structure should differentiate between locations, and ensure that a premium is paid for spaces that are in closer proximity to the core. The price of permits in the periphery, such as the lot to the north of the Lady Beaverbrook Arena along University Avenue or above the Aitken Centre, should be lower than in the core as an incentive to park in these areas.

Surface and Transitional Parking

As parking is removed from the Core Campus, users should be encouraged to use other modes of transportation such as walking, bicycling and public transportation, but a critical mass of parking will continue to be available in surface areas on the periphery. These areas, most of which are future development sites, will provide parking as the overall parking strategy is refined and a reduced dependence on automobiles is pursued.



Surface parking areas should be well designed and generously landscaped

On-street Parking

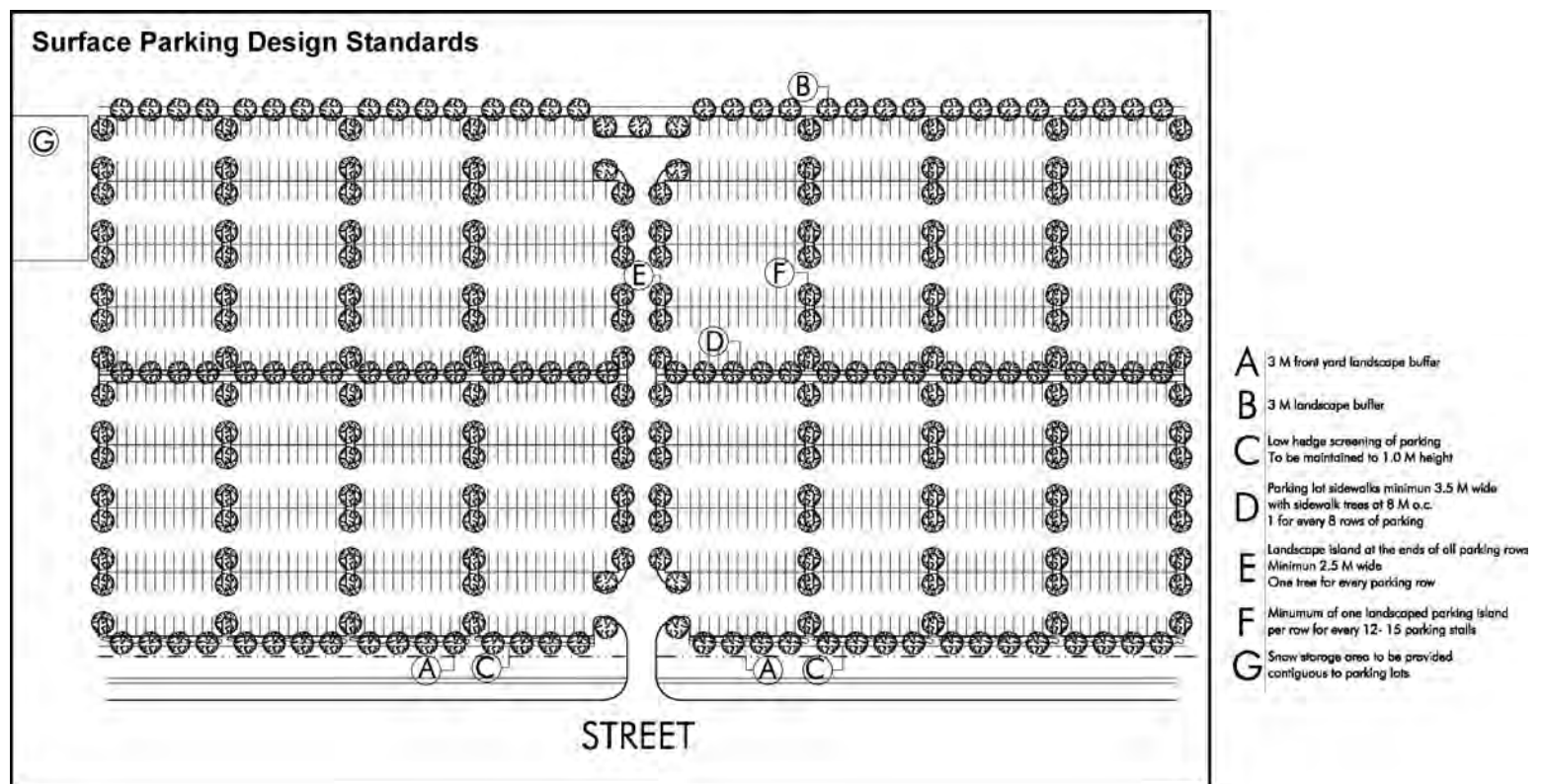
On street metered parking should be provided in a variety of key locations in order to facilitate visitor, barrier-free and short-term parking. For example, a series of parking spaces should be available along designated areas of Bailey Drive, such as south of the Old Arts Building. Pacey Drive, and the two eastern extension streets, could accommodate on-street parking in certain locations. On-street parking should be designed as in-lays delineated with decorative paving.

Short Term Parking

In some areas on campus, metered parking should be considered to provide short-term parking closer to the core. For example, the area around Memorial Hall should be considered for metered parking and special passes.



On-Street Parking should be defined with decorative paving



Recommended design standards for surface parking lots

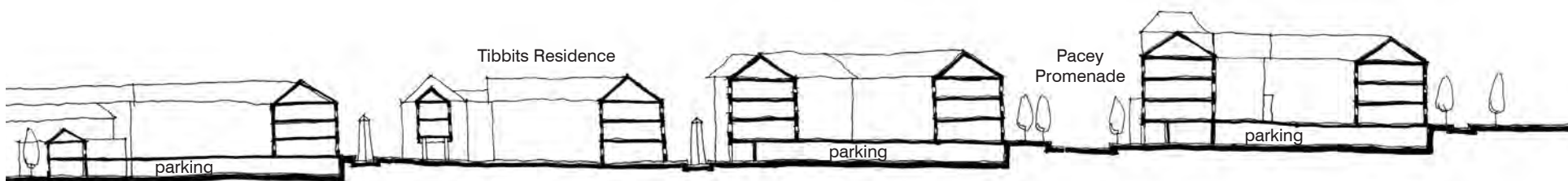
Structured Parking

As new buildings are built, structured parking should be incorporated in one or two levels below grade by exploiting the favourable slope conditions where possible. Working with the grade, these structures will at times be tiered. Although structured parking is a more expensive option than surface parking, it represents a more efficient use of land, and allows for parking requirements to be incorporated into building designs. An important objective is to provide safe parking structures that are hidden from view, and that do not interrupt the campus landscape.

Funding for these structures should be incorporated into the development plan. In the future, parking should be considered as an amenity that should pay for itself, and even generate revenues. This is possible if other modes of transportation, such as bicycling and public transportation are adequately supported in campus planning.



The Rose Garden sits on top of a parking structure built into the slope at UBC



Conceptual section illustrating the incorporation of structured parking into new buildings in the East Campus expansion areas.

5.5 Signage and Wayfinding

The ways in which a University provides directional guidance on campus creates a visual identity that is either readable, accessible and engaging or serves to discourage interaction with the campus environment. Signage is a form of welcoming. There is a need for a comprehensive system that is designed to guide newcomers through campus in a straightforward and comprehensive way. Currently, signage is disjointed, and directed primarily at drivers.

In 2002, the campus Physical Plant Department undertook a study and classification of all signage on campus. It was discovered that several different approaches representative of bygone building identification schemes remain in place. For example, some buildings are numbered, while others have retained the original building function and name as inscribed in the architecture. Other buildings have new signage altogether that contradicts the building name and number. Several different templates for building signs have been generated, and in various locations, various signs are used.

A comprehensive Signage and Wayfinding Strategy should be prepared, with an emphasis on supporting the objectives of the Campus Plan. The primary objective of signage and maps should be to shorten distances by encouraging the use of short cuts and to increase predictability by supplying information on average walking distances and walk times. Motorists should be informed of the location of the closest parking facility and other alternatives, along with distance information. Signage should also include historical information where relevant.



