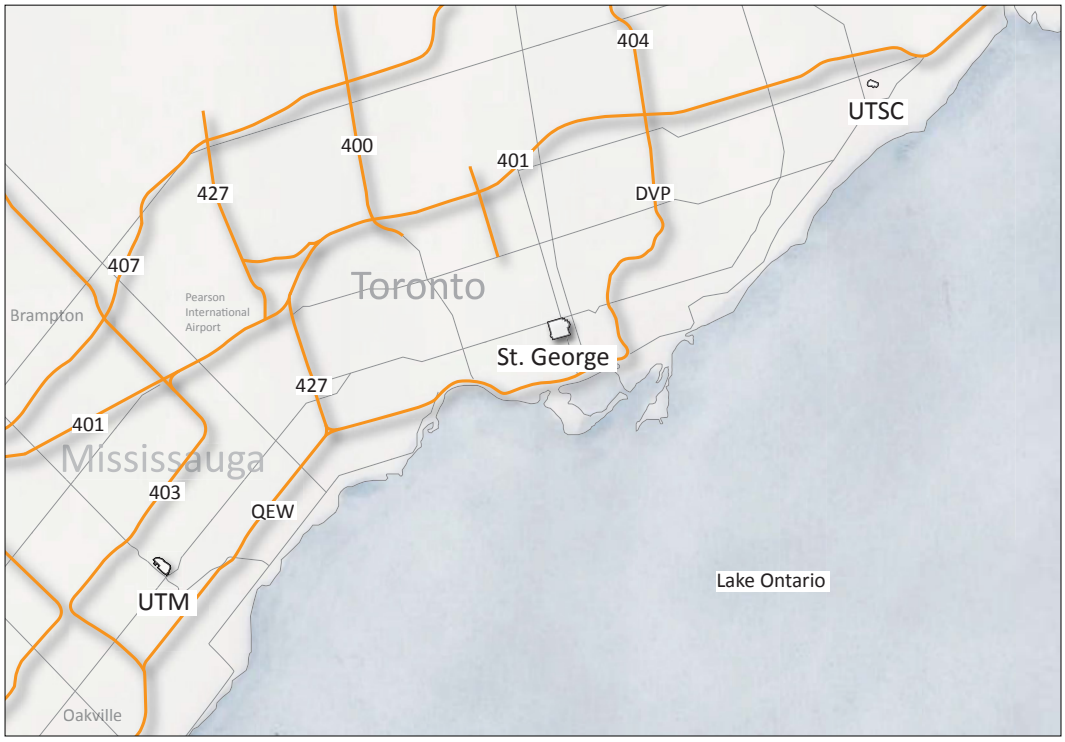
# Opportunities & Challenges

**Background**

Located in the heart of downtown Toronto, the St. George campus is both a destination and part of the city's fabric. Locally, the campus is accessible by foot, bicycle, car or public transit. Regionally, the campus is accessible by way of major highways and arteries. Each of the University of Toronto campuses at Mississauga and Scarborough can be reached from the St. George campus by car, public transit, GO Transit and, for University of Toronto Mississauga (UTM), a shuttle-bus service.

The densely urban downtown Toronto street-grid in which the campus sits, combines well established pedestrian, vehicular, bicycle and transit networks. The compact nature of the grid ensures walkable blocks and easy navigation of the campus while allowing for connectivity of the campus to the surrounding neighbourhoods. The four campus quadrants experience unique edge conditions where they meet the city fabric along Queen's Park/University Avenue and Bay Street to the east; Bloor Street to the north; Spadina Avenue to the west; and College Street to the south. The campus is further bisected, and defined by St. George Street and Harbord Street/Hoskin Avenue, primary City streets running through its core.




*Regional map showing the St. George, UTSC and UTM campuses*

The planning principle CAMPUS ENVIRONMENT describes the aspirations for circulation on campus:

> …The campus should continue to respect and embrace seasonal change with a comprehensive system of open spaces, pedestrian and bicycle paths and pedestrian friendly vehicular routes that link built-form and landscape features, and provide places to pause, contemplate, inspire, play, gather and seek shelter.

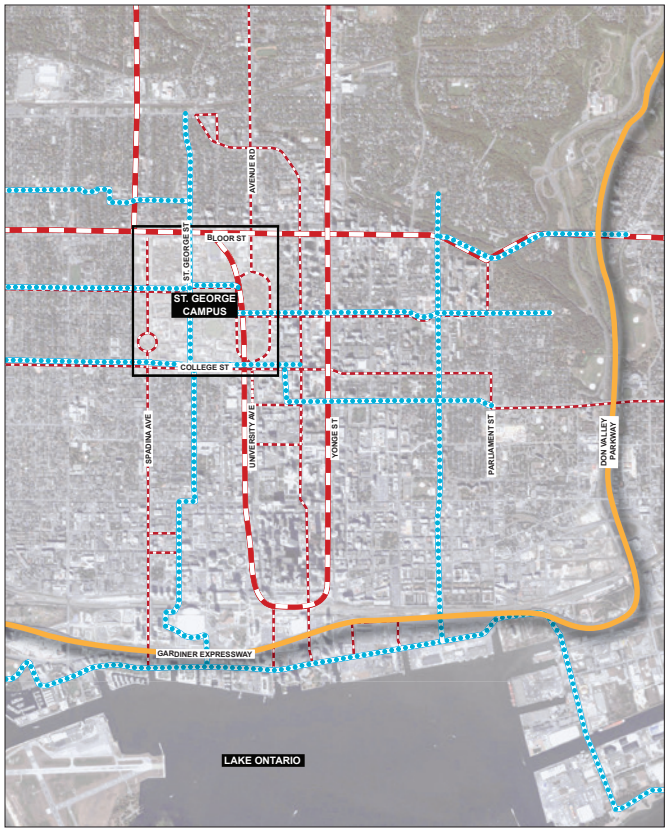
**Existing Campus**

*Public Transit*

The St. George campus is well served by public transit. Located at the intersection of Toronto's two main subway lines, Bloor/Danforth, and Yonge/University/Spadina, four subway stations are located at the campus perimeter (Spadina, St. George, Museum and Queen's Park). Additionally, the Spadina Light Rail Transit (LRT) has several stops along the west perimeter as does the College Street streetcar line along the southern campus edge. Frequent bus service runs along Harbord Street and Avenue Road, while an overnight bus (Blue Night) provides off-hour service along the Bloor-line subway route.

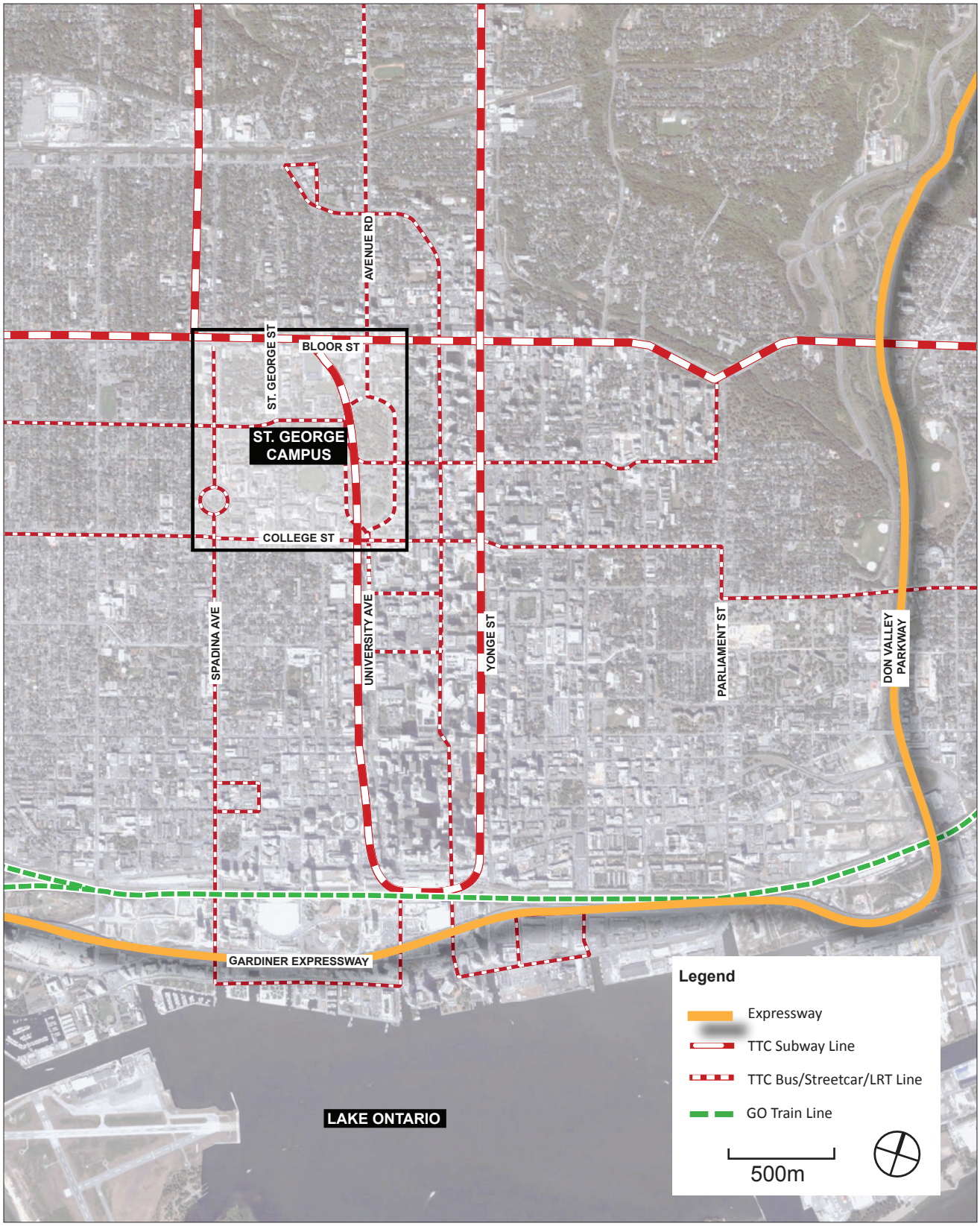
*Bicycle Routes*

The City of Toronto has been aggressively increasing the network of bicycle pathways and connections available, particularly within the downtown core. Recent modifications have been applied to streets leading to and through campus, including St. George and Harbord Streets, to provide better bicycle access. Numerous informal bike routes are also located throughout the campus connecting to the larger City-initiated bicycle routes. At this writing, the City of Toronto has applied its first use of bike-boxes at the intersection of St. George and Harbord. Further, the City of Toronto has initiated a program of pay-for-use bicycles with five locations identified on the St. George campus, and others adjacent to the campus.




*Context Map (left) showing City bicycle routes in blue.*

*Cyclists on St. George Street (below)*

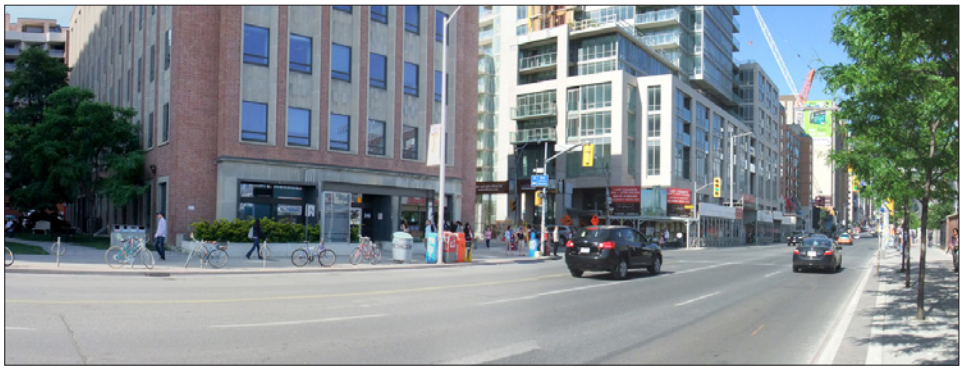



***Context Map**: TTC subway line and major bus/streetcar/LRT lines directly serving the St. George Campus, downtown Toronto*

# Circulation

***Bloor Street***

*The Bloor Street corridor, defining the northern edge to campus, is one of the major commercial routes running through the city. It provides many active at-grade uses that complement the institutional nature of the University and provide amenity to its community. The City's east-west subway line runs along this corridor.*



***College Street***

*College Street is an important vehicular and public-transit corridor defining the southern edge of campus. The College streetcar connects to the Queen's Park subway station at University Avenue.*

*College Street is an official City of Toronto bicycle route.*

***Queen's Park/Avenue Rd/University Ave***

*University Avenue is a key boulevard linking the hospital corridor to the south of the University campus with the Legislative Assembly, government buildings, and commercial district to the north.*

***Spadina Avenue***

*The Spadina Avenue corridor is lined with low to mid-rise institutional uses along the east side and several high-rise residential towers to the west. At one time, an expressway was proposed to run along Spadina, which influenced the character of the building edge along the University's west boundary.*

*The Spadina Light-Rail-Transit (LRT) runs the length of Spadina Avenue from the waterfront and connects to the Bloor subway line just north of the University campus.*

***Harbord Street/Hoskin Avenue***

*Hardbord Street/Hoskin Avenue connects Harbord Village, a residential neighbourhood with small scale shops and restaurants, with Queen's Park and the Bay Street corridor beyond. This campus thoroughfare defines the north from the south campus.*

*A TTC bus route traverses the campus along this street.*

***St. George Street***

*St. George Street runs through the campus, defining east campus from west. In the mid-90's a revitalization project made improvements to slow traffic and address pedestrian cross connections. The resulting street demonstrates that roads can be more than a conveyance for cars, but an amenity for pedestrians, cyclists and motorists.*

# Circulation

*Pedestrian Circulation*

The St. George campus is largely defined by its walkable streets and blocks, and a fairly comprehensive network of pedestrian pathways. Pedestrians circulate through campus along city sidewalks, pathways traversing campus open spaces, running through buildings, and occasionally co-mingle with service vehicles in mid-block laneways each of which are often linked or a short distance apart.

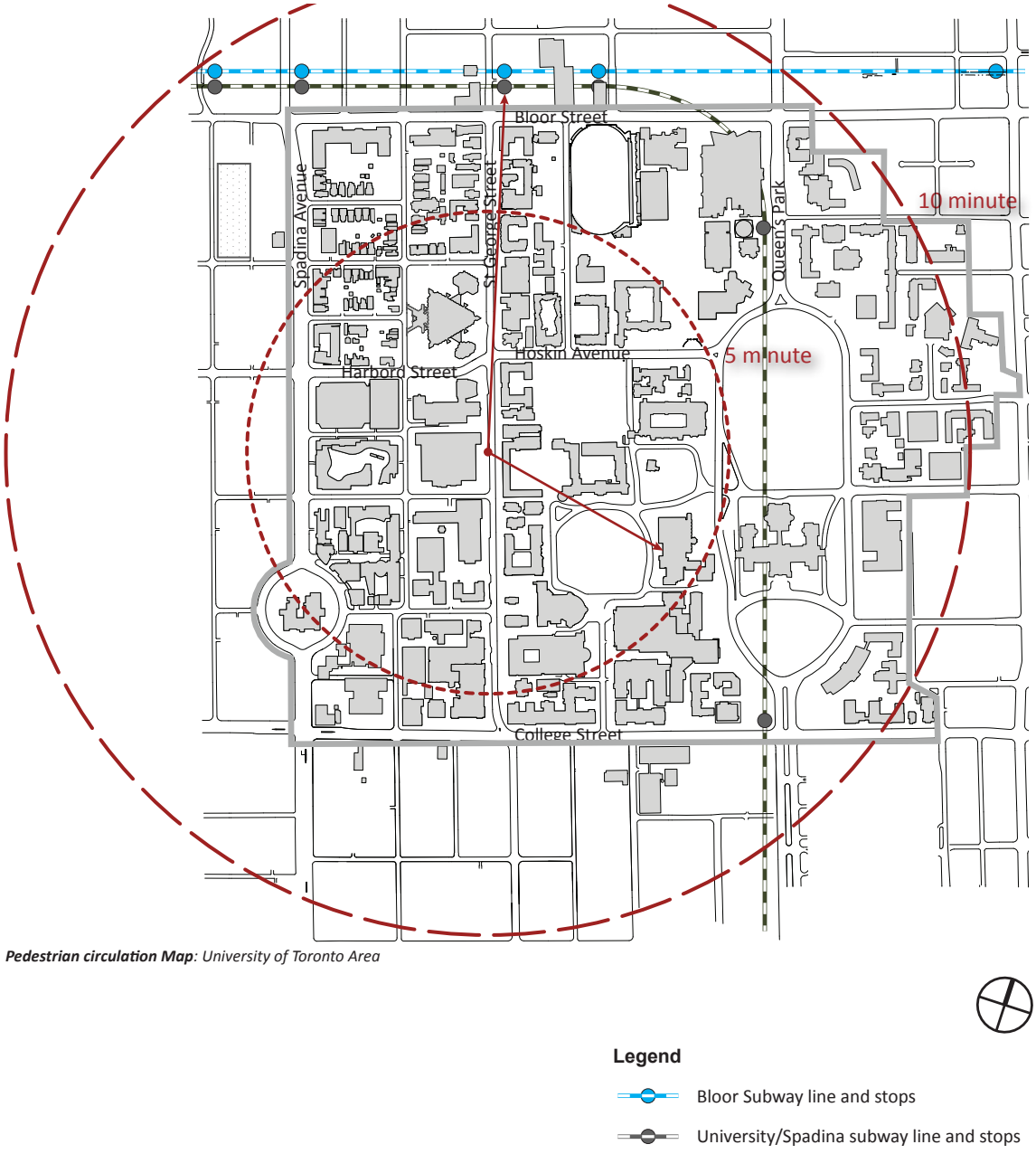
The academic schedule allows for a 10-minute change between classes. Maintaining easy walking distances, and improving the experience and ease with which the University community is able to traverse the campus precinct in this time period is, therefore, of critical importance. In planning for pedestrian circulation through campus, ¼ mile or 400 metres is generally accepted as a distance that one can comfortably walk in a five-minute period, and ½ mile or 800 metres in 10 minutes. These standards define 'walkable catchments' within the University campus area.

*The location of a signaled pedestrian crossing at Spadina Circle, to access facilities at One Spadina Crescent is an example of facilitating safe passage for the University community. On a larger scale, recent examples of campus streetscapes redesigned to prioritize the pedestrian experience, while maintaining vehicular circulation and service connections include such examples as St. George Street and King's College Circle Precinct.*

*King's College Road (right)*

*1 Spadina Crescent (below, left)*

*St. George Street and Sidney Smith Patio (below, right)*



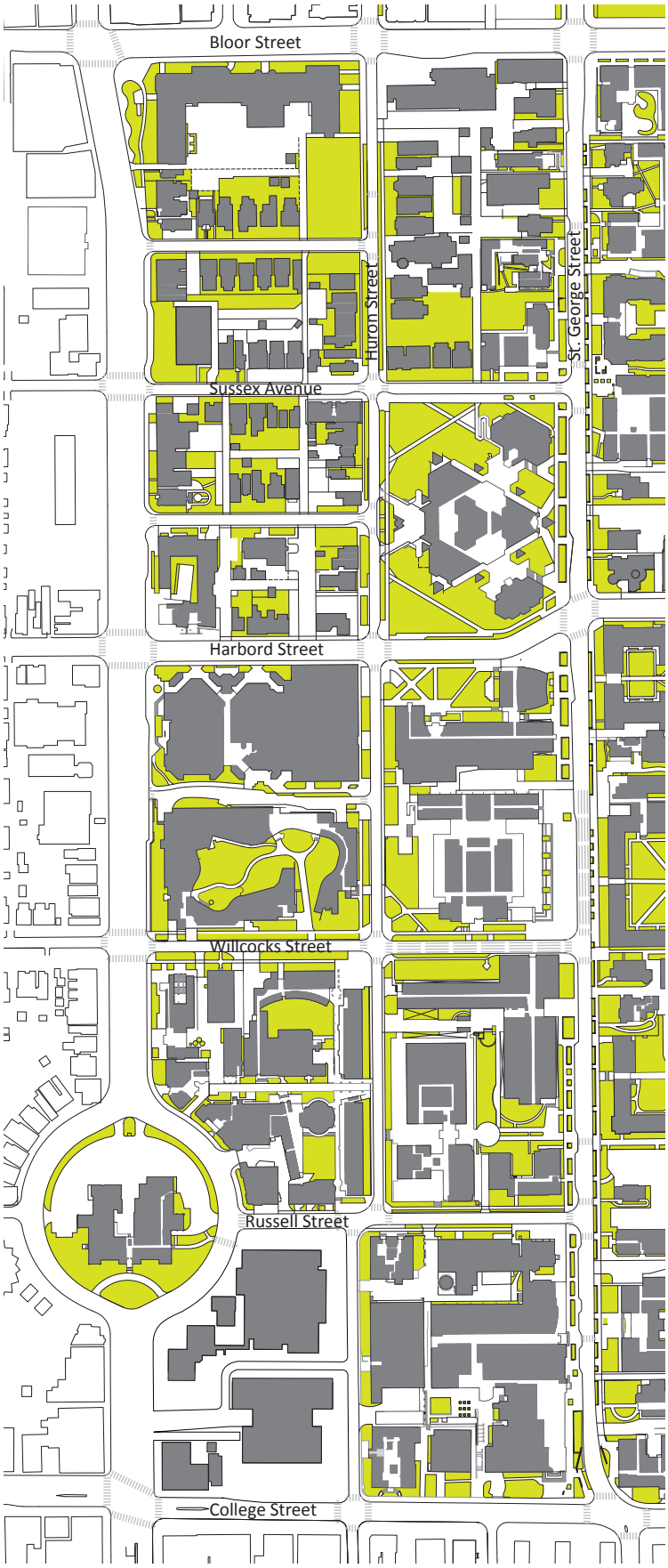

***Pedestrian circulation Map**: University of Toronto Area*

Mapped here, Sidney Smith Hall, the centre of activity for the Faculty of Arts and Science and a major location for undergraduate teaching, can be reached in five minutes from much of the campus boundary including the intersection of St. George and Bloor Street to the north and the Gerstein Library to the east. Within a 10-minute walk of Sidney Smith Hall are the Bloor and University lines' subway stations, as well as Victoria College and St. Michael's College at the eastern boundary.

# Circulation

Each quadrant of the St. George campus has been mapped showing all means of pedestrian passage traversing broad streets, laneways, sidewalks, pathways and interior 'streets'. When combined, the fine-grain at which the pedestrian experiences and navigates the campus is evident. Such plans are often called 'Nolli' plans, after Giambattista Nolli's map depicting circulation through Rome in the 1700's.

In general, the east historical campus is defined by a finer grain to its pedestrian network of pathways and routes providing an ease to passage through this area of campus. The west campus pedestrian environment, developed along with rapid expansion post-war, is by-and-large defined by the city grid of streets and sidewalks with little of the finer grain developed. Here, the opportunity exists to expand on the success of the east campus, through the provision of additional pathways and interior streets that allow for finer grain pedestrian routes in the west campus that will link to the existing network of pathways east of St. George Street.

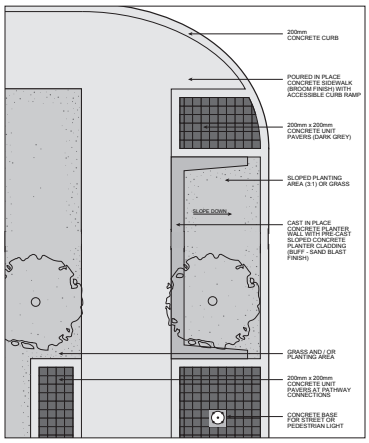



Controlled Pedestrian Crossing

Uncontrolled Pedestrian Crossing

Pedestrian connection through Existing Building


Bloor Street
St. George Street
Devonshire Place
Avenue Road
Charles Street
St Mary Street
Hoskin Avenue
St Joseph Street
Queen's Park Crescent East
Queen's Park Crescent West
Wellesley Street
Grosvenor Street
King's College Road
College Street




***St. George Street Revitalization***

*The St. George Street Revitalization project was designed to calm traffic, increase pedestrian and cycling amenities and improve green space.*

**Recent Projects**

*St. George Street Revitalization*

St. George Street is the result of a successful University/City/private benefactor partnership first entered into in the mid 1990's. While in the 1960's era of campus expansion this street had been widened to provide ease of vehicular traffic flow, by 1994 the street was now identified by the City as a key artery for lane conversion to narrow the roadway and improve pedestrian space. The *St. George Street Revitalization* project was conceived as an opportunity for the City to demonstrate that roads could be more than a mere conveyance for cars, but an amenity for pedestrians, cyclists and motorists. Designed by Brown and Storey Architects in joint venture with van Nostrand DiCastri Architects, the objectives of the *St. George Street Revitalization* were to calm traffic, increase pedestrian and cycling amenities, and enlarge the existing open green space. The then four-lane boulevard was put on a 'road-diet' and reduced to two lanes between College and Bloor Streets; pedestrian crossings were installed in interlocking brick to differentiate them from the roadway; sidewalks were widened and greenery was added. Regarded as a major success, this project has been studied and included in publications on livable streets, and most certainly sets an example for future improvement, particularly in the southwest sector of campus.

*King's College Circle Precinct*

Recognizing the need to restore the historic centre of the campus, as identified in the *University's Open Space Master Plan*, the University commissioned a plan* to translate the early vision for this area into physical form. Conceived of as a multi-phase infrastructure and open space plan to restore and re-imagine the distinctive precinct defined by King's College Circle, three projects have been implemented to date including King's College Road and two pedestrian walkway connections. King's College Road was designed to include strategies that improve the scale and functionality for pedestrians through the use of interlocking paving, new lighting, landscaping and casual seating while maintaining its vehicular and service functions. The redesigned road also introduced gateway features at College Street providing a proper entrance to the campus on axis with the historic University College building. Pedestrian walkways connecting King's College Circle with St. George Street at Knox College and Sir Daniel Wilson Hall were redesigned to incorporate sustainable, native drought-tolerant plants to provide a green amenity appropriate to the Toronto climate.

** The King's College Circle Precinct Plan was developed by Andropogon Associates, a firm well known for their sensitive approach to landscape and natural habitat design.*

*Bahen Centre for Information Technology Atrium*

Development of new campus structures allows for the coordination of interior spaces to enhance pedestrian routes. The atrium connection between the Bahen Centre for Information Technology and the Koffler Student Services Centre is an excellent example of a campus building that creates an interior 'street'. Here, the atrium functions as a main spine to the building complex and a pathway to surrounding areas. This interior connection also anticipates future links with development along Huron Street south of Russell Street (Site C).

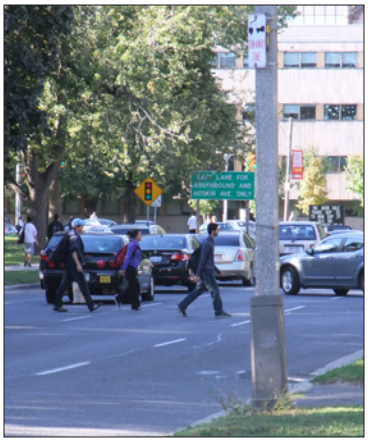
*The Bahen Centre for Information Technology was constructed with an atrium that highlights the north heritage facade of the Koffler Student Centre, while providing access and connections between the two buildings.*

***Sir Daniel Wilson Walkway before and after** (left)*

*The Sir Daniel Wilson Walkway has been transfomed from an unattractive interstitial space to a pleasant walkway through its redevelopment as part of the King's College Precinct Plan.*

*Perspective drawing by Andropogon Associates showing proposed design for King's College Walk. Landscape, paving and lighting improvements were originally recommended in the St. George Campus Open Space Master Plan 1999; (above) today; King's College Road looking toward University College. (right)*


*King's College Circle at Convocation Hall is a popular location for groups visiting the University to take photographs.*



*Few pedestrian crossings currently exist to the east campus, encouraging illegal and dangerous pedestrian crossing habits.*

*Existing service laneways are heavily used by the University community as secondary pedestrian environments.*

**Impact on the Master Plan**

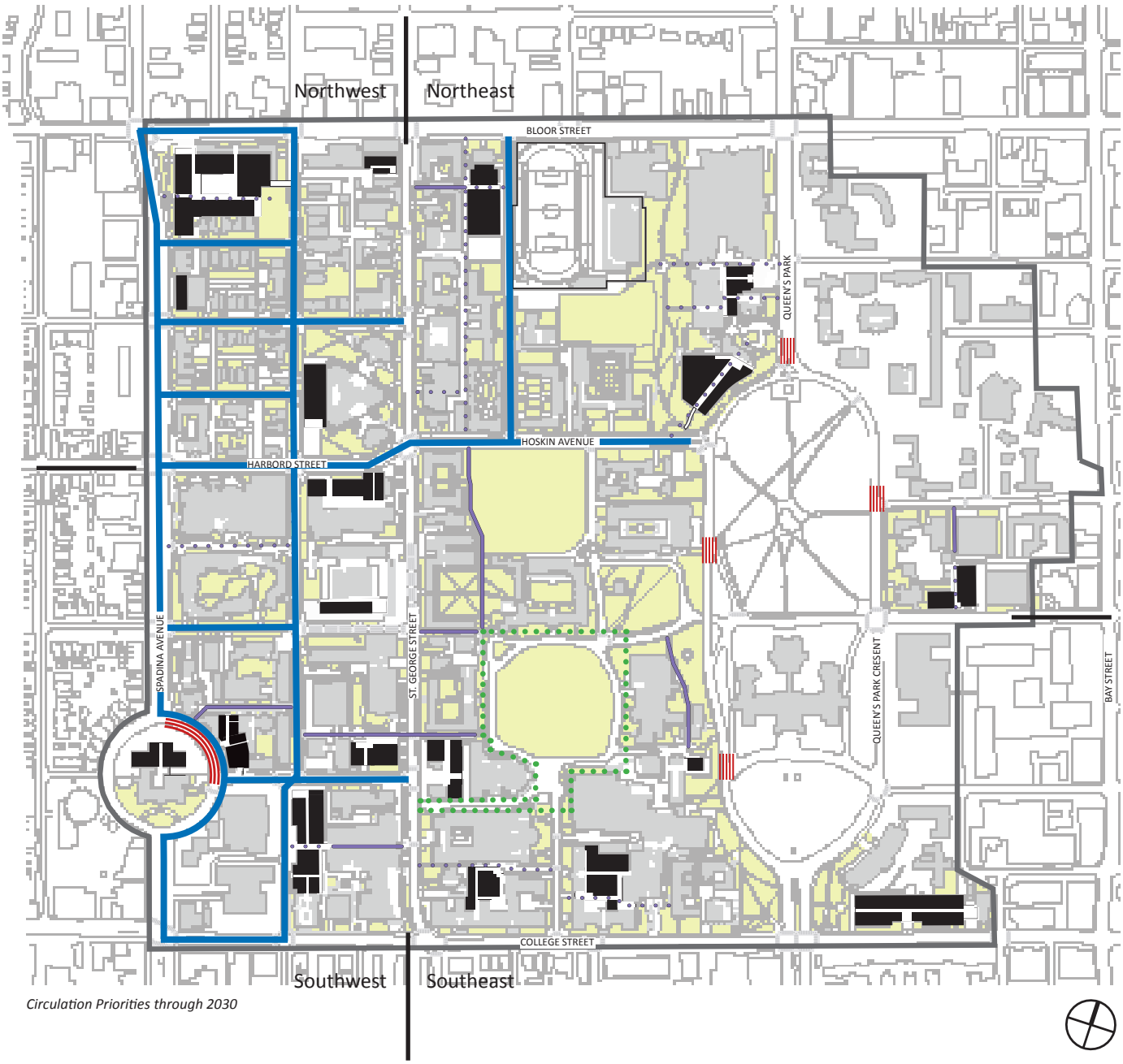
*Opportunities and Challenges*

In general, the St. George campus is well equipped with circulation networks, both vehicular and pedestrian. Care must be taken that each new University project is considered with a view to enhancing the extent and quality of those networks with particular concentration of effort in the southwest sector.

The City of Toronto Official Plan promotes intensification of development along major avenues and transit lines and serves as a key factor in the University's consideration of appropriate development permissions on campus abutting such locations. Also, based on the recent success of major street improvement projects like those completed along Bloor Street West, St. George Street, and Devonshire Place in conjunction with Varsity development, the University's planning should look forward to further such improvements, either self-initiated or in collaboration with the City. Those projects demonstrate how meaningful enhancement of major streets can occur while maintaining their vehicular functionality.

**Priorities through 2030**

1. Implement final stages of King's College Precinct Plan thereby improving the public realm to provide a superior environment for pedestrians.
2. Promote safe pedestrian crossings to and from the east campus.
3. Seek additional opportunities to partner with the City for streetscape design and civic improvements on the west campus.
4. Ensure that development sites provide pedestrian linkages indoors and out.
5. Extend cross-campus pedestrian pathways to link existing with new.




*Circulation Priorities through 2030*

**Priorities**

Implement King's College Precinct Plan: Public Realm Improvements

Partner with City for streetscape design and civic improvements

Extend cross-campus pedestrian pathways

- Developed pathway
- Opportunity to improve/extend pathway

Provide pedestrian linkages at development sites

- Development Site
- Existing Building

Promote safe pedestrian crossings

- Existing crossing
- Crossing improvement opportunities

**Regulations and Guidelines**

The University of Toronto Policy on Capital Planning and Capital Projects (2001) includes principles that address circulation on campus including those that encourage continuous pedestrian routes throughout the campus, and the provision for safe and convenient access to all University facilities. The policy, further, identifies landscape improvements, including those to streetscapes through the use of distinctive paving, lighting, signage and outdoor furnishings, as identified in the Open Space Master Plan *Investing in the Landscape* as a priority.

The *City of Toronto Streetscape Manual* should be used as a further guide to the design and improvement of circulation routes throughout the campus, particularly where the City owned streets within the campus are addressed.

The *City of Toronto Bike Plan* will be used to inform cycling plans within the campus with a view to providing appropriate connections to a city-wide network of bicycle pathways.

The *City of Toronto Walking Strategy* will continue to inform the creation of new pedestrian environments such as those in pilot project stage at Willcocks Street and Devonshire Place (discussed under Open Space).

**Background**

The Planning Principle CAMPUS ENVIRONMENT is relevant not only to Circulation but also Open Space practices and aspirations. The Principle states:

> The University fosters a safe and vibrant campus that supports the aspirations of academic life, and a welcoming atmosphere to the broader community of which it is a part. The campus should continue to respect and embrace seasonal change with a comprehensive system of open spaces, pedestrian and bicycle paths and pedestrian friendly vehicular routes that link built-form and landscape features, and provide places to pause, contemplate, inspire, play, gather and seek shelter.

The St. George campus is experienced by many as an oasis of green in the heart of Toronto, providing a unique and inspired environment in which to learn. Its network of open spaces incorporates a richness of grain, texture, and historical complexity.

The collection of quadrangles, courtyards, trees and playing fields that characterize the open space pattern on the campus's original land holdings was established by the turn of the twentieth century in conjunction with the construction of the first of the college buildings. In sharp contrast, the post-war buildout of the west campus reflected the increased priority on automobile transportation functionality and resulted in a relative lack of vegetation or high quality open space.

By virtue of its geographical location, the University of Toronto St. George campus must function across a wide range of climatic variables. Students, faculty and staff are on campus not only in the warm sunny days of summer, but encounter weather in all seasons, making it imperative that the campus environment be designed with all seasons in mind. Buildings, and related open spaces and outdoor pedestrian environments must respond through their design, use of landscape materials, and structures to allow for shelter from elements, anticipating a broad range of activities.

Recognizing the need for a campus-wide framework to facilitate a functionally and aesthetically unified campus, the University commissioned an Open Space Master Plan, entitled *Investing in the Landscape*, in 1999. The resulting approved guidelines have served to inform several projects since then, including the revitalization of the Philosopher's Walk area and Phase I of the King's College Circle upgrades.

*The Front Campus at St. George- the University's signature open space*

*Huron Washington Parkette (UOS)- located in the northwest sector of campus provides active playspace for children within the area.*

*Frontage - green in front of the Pharmacy Building*

*The University precinct is entered from the south through a prominent green space flanking Queen's Park Crescent at College Street.*

*The Varsity Stadium redevelopment incorporated civic and streetscape improvements along Bloor Street and Devonshire Place including the addition of benches, street trees and a ramping public space that provides a place for public engagement along this busy strip in the northeast sector.*

*Varsity plaza - Bloor Street*

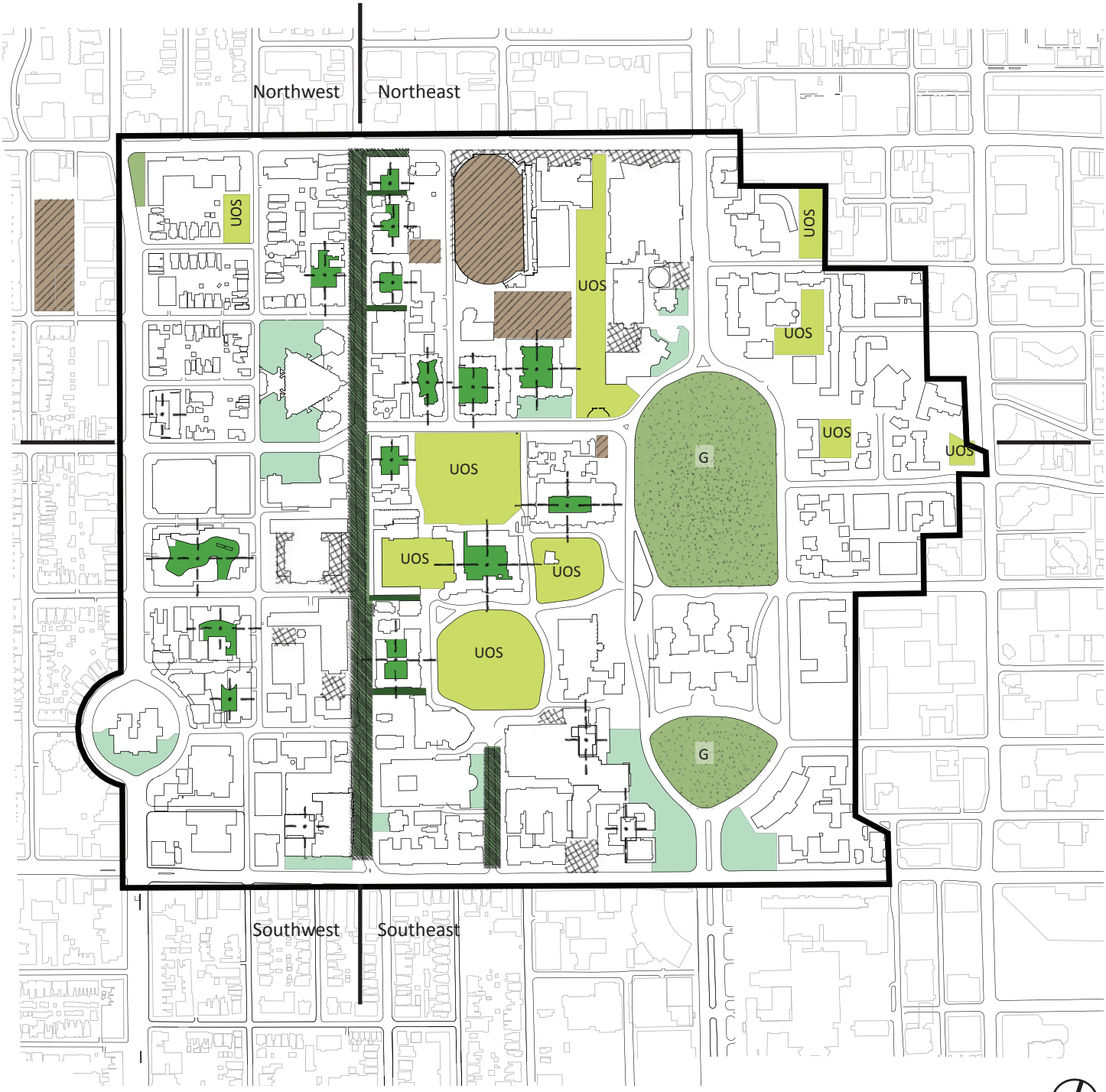
*Luminato Festival in Queen's Park (2010)*

*Queen's Park north is owned by the University and leased to the City of Toronto. It functions as a major City park and location for numerous events and festivals. The Park divides the University campus with St. Michael's College and Victoria College located east of the park.*

**Existing Open Space**

The University of Toronto Area Open Space map highlights the contrast between the abundance of prominent, well-defined open spaces in the east campus and the relative lack of significant open spaces in the west campus.

The individual open spaces on the St. George campus are part of a larger, campus-wide framework of spaces linked together by attractive pedestrian routes, and rendered coherent through the consideration of views and gateways, landscaping and planting, lighting and seating, and other design elements.




*University of Toronto Area Open Space Map*

UOS — University Open Space; City of Toronto Zoning

G — Queen's Park; City of Toronto Zoning

Lawn/Frontage

Athletic Space

Forecourt/Plaza

Green Courtyard/ Academic Quad

Paved Courtyard

Streetscape

Passage (pedestrian link)

# Open Space

***Front Campus/ King's College Circle***

*The Front Campus, zoned UOS and located in the southeast quadrant, hosts numerous events including the ceremonial march of graduating students each spring, as well as cultural events and art installations. It also provides playing fields for the University community and outside users including soft-ball leagues and Camp U of T each summer.*

*The Front Campus acts as a forecourt to the iconic University College building, maintaining its visibility and prominence within the campus.*

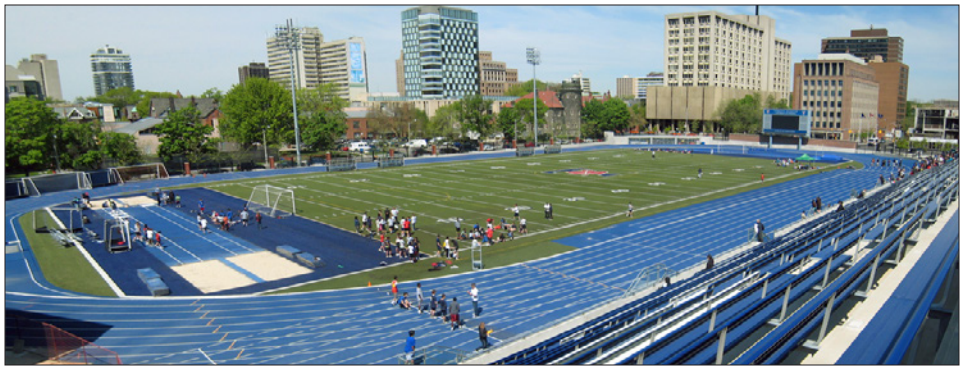
***Back Campus***

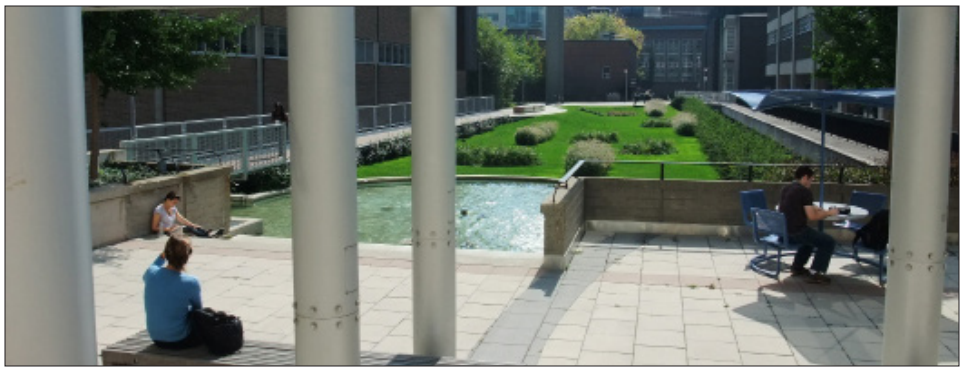
*The Back Campus is also zoned UOS and located in the southeast quadrant.*

*It accommodates playing fields for the University and larger community, but also for cultural events and art installations year round.*

***Varsity Stadium***

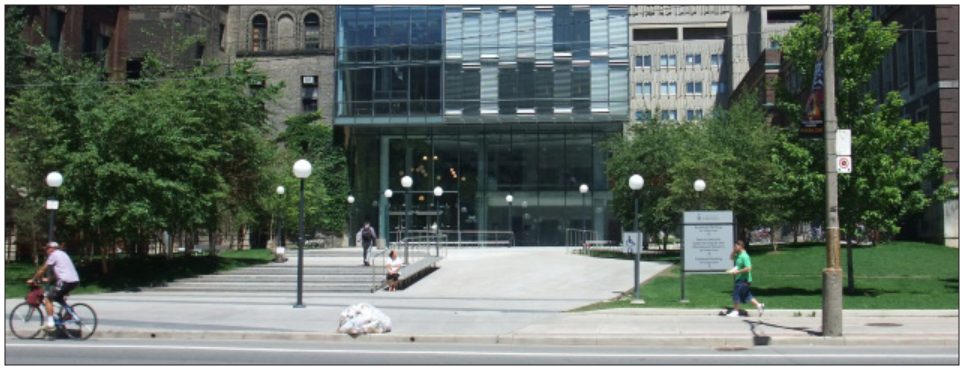
*In the northeast sector of campus, one of the most notable new improvements has occurred on the site of the Varsity Stadium. Here, an artificial turf sports field and tracks provide the University of Toronto community with state-of-the art active outdoor althletic spaces. In winter, the field is covered by an inflated dome allowing for all-weather sports and recreation programs to occur.*





***Davenport Lash Miller Garden***

*Courtyards, quadrangles and plazas defined by the buildings that surround them are typical of the southwest sector. These include New College's quadrangle defined by Wetmore and Wilson Hall; forested courtyards within the Earth Science complex; the Bahen Centre plaza; and (shown left) the recently completed Davenport Lash Miller Garden defined by the Lash Miller, McClennan Physics and Astronomy buildings. The garden functions as a green roof installed above existing facilities.*



***Centre for Cellular & Biomolecular Research** (CCBR)*

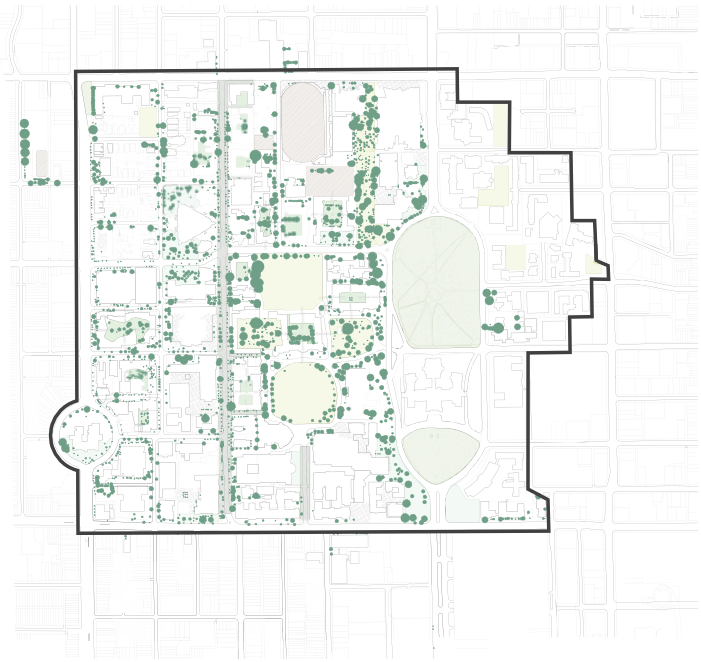
*The entry forecourt to the CCBR softens the building edge along College Street and provides opportunity for public connection and engagement at street level. Drawn into the building across this plaza, an interior 'street' links pedestrians through the building to King's College Circle to the north. The interior space provides food service amenities, and is open to the broader community.*

***University College courtyard***

*Many quadrangles include exterior covered passageways on one or more sides, as seen here, allowing for circulation space sheltered from the elements.*

# Open Space

Trees add significantly to the experience of open space. The University's full tree inventory has been mapped, with street trees, and tree canopy and is useful in identifying areas that could be improved. Trees have been planted on numerous sites across campus over the last decade, leaving few additional locations for significant tree planting.



*St. George Campus 2008 Tree Inventory*

*The map above shows the University's full inventory of street trees and tree canopy.*

*St. George Street landscaping*

*Residential tree canopy; Huron-Sussex neighbourhood*

*70 Japanese flowering Sakura trees were recently planted on the Robarts Library southern lawn*

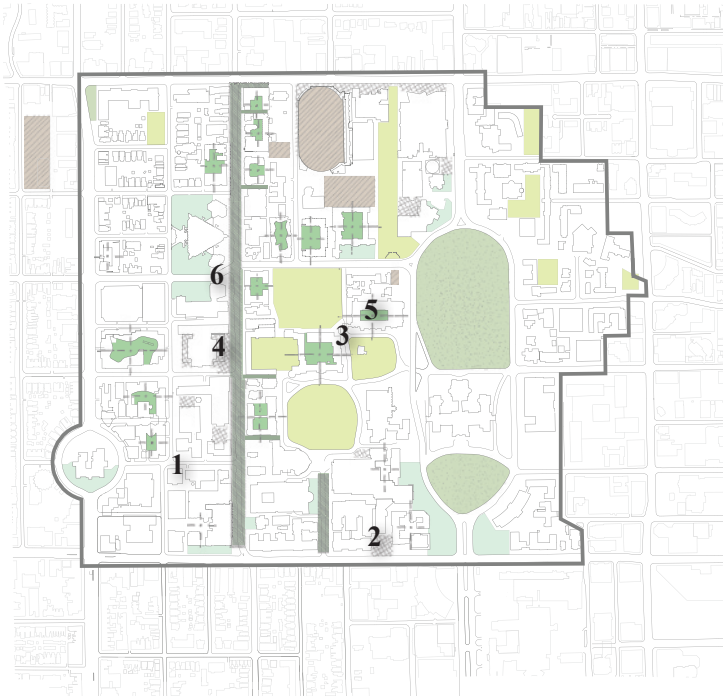
1. 'Cedars' - Walter Yarwood

2. 'Spirit of Discovery' - Veronica and Edwin Dam de Nogales

3. 'Chaos Speaks' - Bill Vazan

4. 'Horizon' - Walter Yarwood

5. 'Complexes of a Young Lady' - Sorel Etrog




Selected public art installations on St. George Campus

6. 'Mooseconstrue' - Chalres Pachter

**Outdoor Art**

The collection of outdoor art is extensive across campus and continues to grow. Despite there being no formal requirements, recent new capital projects have provided the impetus for the commissioning of new works of art, including *The Spirit of Discovery*, located along the west garden forecourt to CCBR. Placement of such works of art is reviewed by the University Art Committee and the Design Review Committee.

*A recent project calls out the location of former Taddle Creek, referencing its history within the landscape of Philosphers' Walk.*

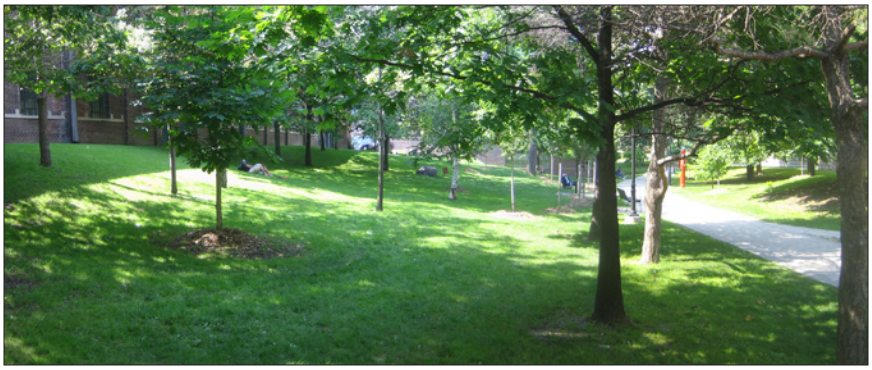
**Recent Projects**

The following projects, several of which were identified in the *1999 Open Space Master Plan* as opportunities, have been implemented over the last decade. These projects set a high standard for future open space on the St. George campus.

*Philosopher's Walk*

Philosopher's Walk provides pedestrian access through the northeast sector of campus along a ravine landscape originally created by Taddle Creek, which was once a waterway flowing through this area of the City. A phased master plan for its revitalization was prepared in 2006, with many of the recommendations recently completed. The master plan called for strategies that would recognize the Walk as an evolutionary landscape and preserve its cultural heritage. Work has involved extending the bridge to the Edward Johnson Building; the reconstruction of the Bennett Gates at the south end, replacement and consolidation of walkways, the addition of benches, and the construction of a 20 to 30 seat open-air amphitheatre. Remedial work has also occurred to rectify damage due to adjacent construction at the Royal Ontario Museum and the Royal Conservatory of Music.

The Philosopher's Walk area is designated municipally as University Open Space (UOS) and development plans underway for the adjacent Faculty of Law, Faculty of Music and former McLaughlin Planetarium sites must consider this regulation.



*Urban Agriculture*

Urban agriculture and gardening is expanding in popularity on campus. Student groups contribute through the planting of available areas on campus. Locations include the perimeter of Hart House; the Medical Science Building podium; a 'sky garden' at Civil Engineering; and outside the southeast podium of Sidney Smith Hall. Each location is planted with vegetables, fruits and herbs. These items are harvested and sold at the University's weekly farmers' market and used in the student run 'Hot Yam' cafe.

*Willcocks Avenue has been transformed into Willcocks Commons as part of the "Walking Strategy" pilot project with the City of Toronto. The space was officially opened with a "Food to Table" festival that included food vendors, demonstrations and street performance. The University farmers market has been relocated here in good weather.*

*Students seen here, in the foreground, are lounging on the artificial turf grass that was installed across the paving, as part of the pilot project.*

*Willcocks Street*

The Huron-Willcocks Street intersection has been neglected since the construction of the Earth Sciences Building when landscape improvements were eliminated from the budget. In May 2008 Willcocks Street, between St. George Street and Huron Street, was the subject of an ideas design competition that visualized the area as a pedestrian-only open space. The winning entry provided a vision that unified streetscape and provided spaces for outdoor activities year round, including the proposition of a skating rink.

In 2010 City of Toronto planning staff approached the University requesting this area, and the southern end of Devonshire Place, be included as part of a pilot *Walking Strategy* project. The street has been closed to vehicular traffic and populated with planters, street furniture, WiFi for computing, new surfacing and street graphics to provide additional open space pedestrian amenity. Because of the success seen in the pilot year, plans are underway to permanently close the street to vehicular traffic, thus providing ongoing amenity in the sector.

*(left) Perspective rendering of the competition winning entry by CS&P Architects of the Huron-Willcocks Street open space Ideas Competition*


*Native Students Association garden outside Hart House*

**Impact on the Master Plan**

*Opportunities and Challenges*

This Master Plan calls for continued effort to improve open space on campus, with a particular focus on the west campus. *Investing in the Landscape's* Primary Objectives remain relevant and in effect.

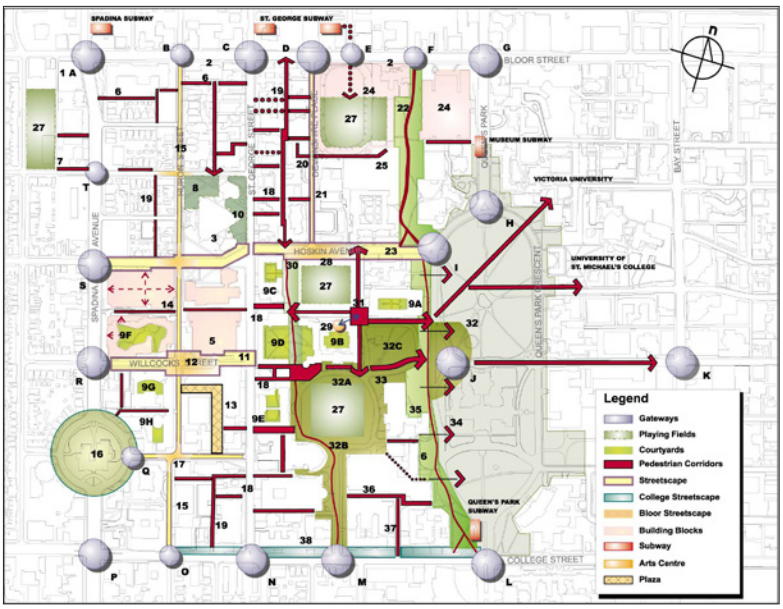
## Priorities through 2030

1. *Investing in the Landscape* highlighted key opportunities related to open space and recommended specific strategies. Six demonstration sites that remain important in this plan are:

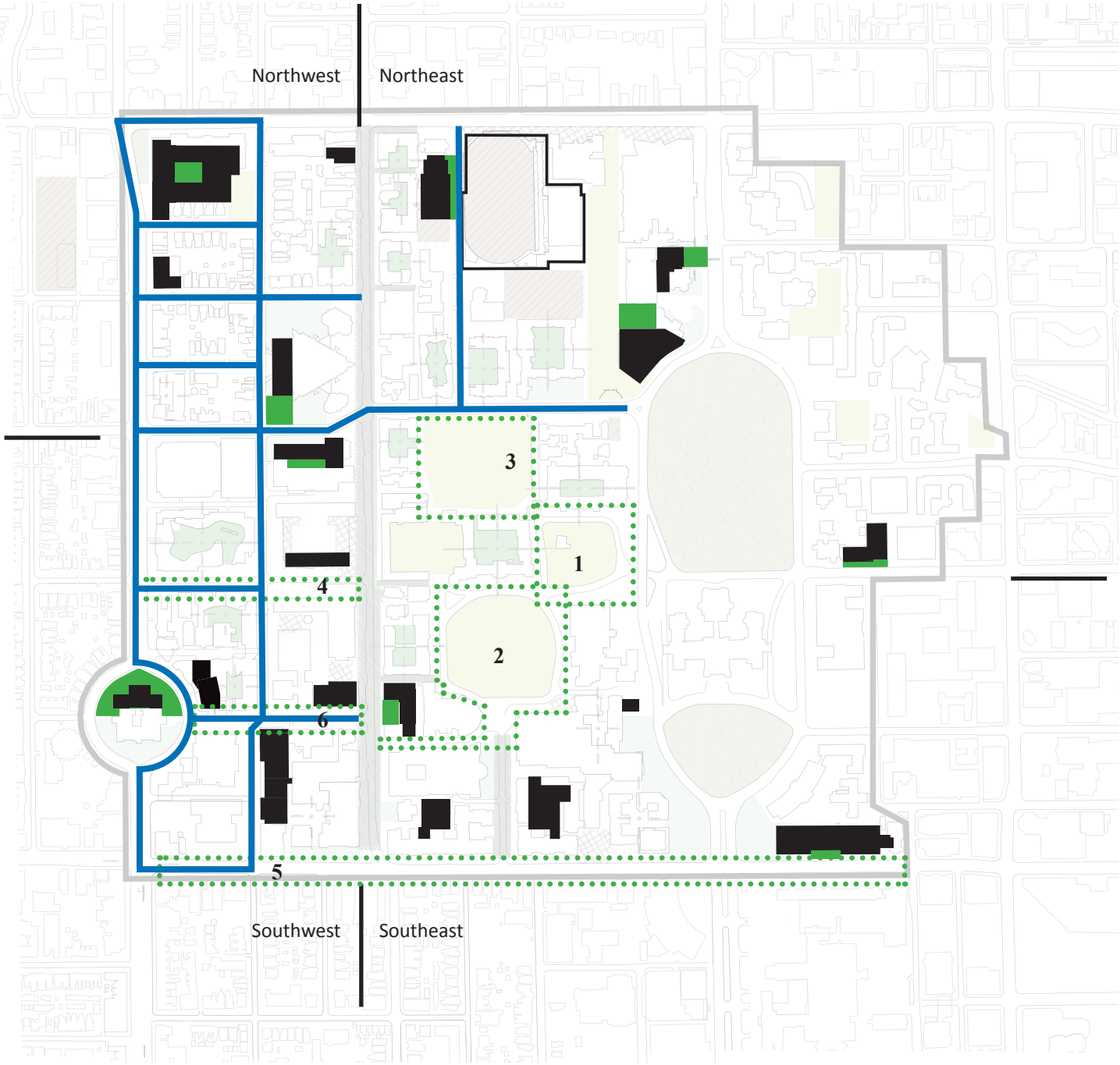
   i. Hart House Green/Queen's Park/Wellesley Street
   ii. King's College Road/Circle Precinct
   iii. Back Campus/Tower Road
   iv. Willcock's Street/Sidney Smith Hall/New College/Huron Street
   v. College Street
   vi. Spadina Circle/Russell Street

Other Priorities include:

2. Creating new landscaped open spaces amenities in concert with new building projects.
3. Seeking additional opportunities for open space on the west campus.
4. Partnering with City to implement streetscape improvements, particularly in the west campus.




*Open Space Opportunities from Investing in the Landscape (1999)*




*Open Space Priorities through 2030*

**Priorities**

Investing in the Landscape Demonstration Sites

1. Hart House Green/Queen's Park Wellesley Street
2. King's College Road/Circle Precinct
3. Back Campus/Tower Road
4. Willcock's Street/Sidney Smith/New College/Huron Street
5. College Street
6. Spadina Circle/Russell Street

Partner with City for streetscape design and Civic improvements

Create new open space amenities on development sites

Development Sites

**Regulations and Guidelines**

The *City of Toronto Official (Secondary) Plan for the University of Toronto Area (1997)* provides the University with approved zoning on a site-by-site basis for key development sites across the St. George campus. Beyond identification of zoning permissions for development, the Plan identifies significant open spaces for preservation and maintenance through the designation of University Open Space (UOS) including the Front Campus, Back Campus, Philosopher's Walk, Queen's Park and adjacent areas on the Victoria University and St. Michael's College campuses.

Urban Design guidelines contained within the Secondary Plan proscribe in detail the open space and related landscape design provisions for each of the original 28 development sites identified and include design principles relevant to open space including many that remain equally relevant today:

- New buildings will be sited in a manner that clearly defines and gives form to the edges of streets, open spaces and mid-block pedestrian routes.
- The height and mass of new buildings will achieve the appropriate relationship to the scale of adjacent streets and open spaces ensuring access to sunlight and sky view and shelter from prevailing winds.
- High quality and usable open spaces which continue the pattern of university open space types and are physically and visually linked to the streets, parks and mid-block pedestrian routes, will be provided in conjunction with new development.
- High quality coordinated landscape improvements will be provided in a manner which will promote access, orientation, and confidence of personal safety and enhance the structure, amenity and notable special characteristics of the district.

The 14 University sites remaining in the Plan have been revised to reflect current urban design thinking and to reflect the intensification of development required for future expansion. Open space and landscape design provisions have been carefully reviewed and identified for approved and new sites individually under Sites & Sectors.

*Investing in the Landscape – Open Space Master Plan (1999)*, prepared by a multi-disciplinary consultant team led by Urban Strategies, is both wide in scope and fine in detail. The Plan was commissioned to make recommendations on the spaces between buildings on the St. George Campus as a complement to the Area Secondary Plan. It identified primary landscape objectives, included over seventy recommendations, created a revitalization armature and listed six demonstration sites where the objectives of the plan would be most appropriately implemented. This Plan remains relevant today and continues to define many of the landscape objectives to be achieved in this next era of campus development. Its ten Primary Objectives remain relevant to the current Master Plan:

1. *The considerable energy of the University should be focused toward the common goal of achieving the highest quality design for the campus open spaces.*
2. *The University should require all building projects, including the identified University Development Sites, to improve public open space.*
3. *The University should participate in the planning, design and construction of capital works that will unify the separate open spaces of the campus and the City, within this important district of Toronto.*

4. *The University should establish a Pedestrian Priority Zone to implement the policies in the University Master Plan and the Part II Official Plan, which place a high priority on the quality of the pedestrian environment on campus. This zone should include the reduction of surface parking in the primary open spaces of the campus.*

5. *The University should encourage and support community and cross-jurisdictional partnerships in open space and streetscape enhancements.*

6. *The University should place a high priority on the preservation of existing mature trees and support all activities that will enhance and increase the overall tree density on campus open spaces and streetscapes.*

7. *On the West Campus, the University should place a priority on developing a significant open space and on improving the streetscapes.*

8. *The open spaces on campus should support and promote the activities of the academic programs and represent the cultural diversity of the University community.*

9. *The University should promote opportunities to increase public art on the campus.*

10. *The University should increase investments in open space improvements. These improvements should, over time, achieve a consistent palette of material use on campus and promote long-term life-cycle design and construction methods. The investment should be protected by providing sufficient resources for high quality maintenance of open spaces.*

*Back Campus "Demonstration Site 3" - from Investing in the Landscape (1999)*

**Background**

The natural environment for the St. George campus is defined in large part by its mature trees and variety of green spaces, providing a significant oasis within the City's intensifying urban fabric. However, today's campus environment is relatively simple compared with the complex ecosystems and watersheds that once occupied the site.

As the University community becomes more interested and aware of its place in the greater urban environment, the regulation, conservation, stewardship and enhancement of the campus's natural environment and its underlying ecosystems are topics of great interest and concern.

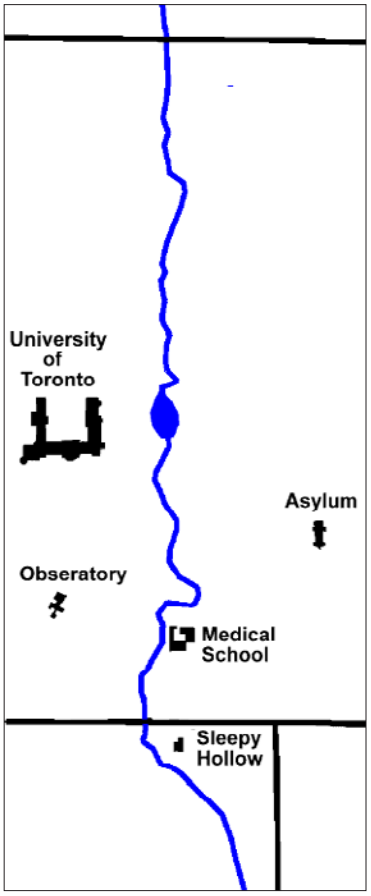
Steps being taken toward increasing the campus environment's habitat, biodiversity and watershed integration, include:

- green roof retrofits;
- design for natural rainwater infiltration;
- creation of native and adaptive species forest ecosystems; and
- general tree planting, inventory, and husbandry.

These are all measures intended to help increase the campus functioning as an ecological asset in the greater urban environment.

Although Toronto Region Conservation Authority (TRCA) legislation does not pertain to the St. George campus, City of Toronto regulations govern the University's lands regarding tree removal and maintenance, as well as recent requirements for the inclusion of green roof technology in new construction projects.

In considering the campus environment, Planning Principles CAMPUS ENVIRONMENT and SUSTAINABILITY will be of critical importance.




*Taddle Creek as a free watercourse circa 1860*

**Overview**

Prior to European settlement in Canada, the area that is now the St. George campus was part of a carolinian forest ecosystem that covered most of southern Ontario. The oak and maple trees, stands of pine and wetlands were cleared for agricultural pursuit, followed by the establishment of the town of York, further urbanization, and eventually the founding of the University. Little remains of the site's original ecosystems. This is true especially west of St. George Street, where post-war expansion has involved higher building to site ratios, leaving little room for trees and green space. This relative deficit is being addressed, at least partially, through on-going tree planting initiatives.

*Philosopher's Walk runs along what was once the Taddle Creek*

*A view northwards up University Avenue towards Queen's Park circa 1910*

Taddle Creek is the primary hydrological feature of the St. George campus. A creek now in name only, the tributary was buried and contained by municipal infrastructure in the late 19th century. What remains is the meandering, stream-like topography that defines the Philosopher's Walk precinct. Considered in relation to the dense tree canopy at Queen's Park, Philosopher's Walk forms perhaps the most significant natural feature of the St. George campus.

**Current Practice and Recent Projects**

The University has taken steps to coordinate environmental planning among its three campuses. In particular, establishment of the Sustainability Board has brought together representatives from each campus to better coordinate, plan and execute energy and resource conservation efforts.

*The Earth Sciences courtyard's Carolinian Forest Naturalization Project*

*Naturalization*

There are three significant naturalization projects that have been undertaken on the St. George campus in the way of planting and providing space for forest ecosystems:

1. Carolinian Forest – Earth Sciences courtyard, north of Russell Street, between Huron Street and Spadina Avenue.
2. Boreal Forest – Earth Sciences courtyard, south of Forestry Department, 33Willcocks Street.
3. Zoowoods – St. George Street, south of Zoology Building, north of Sidney Smith Hall.

These ecosystems are both living laboratories for pedagogical purposes and unique green-space amenities for a campus largely devoid of species-supporting habitats. They were collaborative efforts between the respective academic departments and the University's Grounds Services.

*Sustainability Office*

The St. George campus Sustainability Office (SO) includes as its mandate the protection and enhancement of the campus' natural environment. The SO works with, and receives assistance from, several faculties and departments at the University including: Campus and Facilities Planning; Facilities and Services; the Faculty of Arts and Science; and the Faculty of Applied Science and Engineering.

*Stormwater Management*

The SO has applied for funds from the Toronto and Region Conservation Authority's Community Program for Stormwater Management to undertake, as pilot project, the installation of filters on a number of storm-drains in parking lots across the campus. If the application is successful, the filters will be collected by students to evaluate their performance in removing pollutants such as fats, oils, grease, hydrocarbons, heavy metals, and other suspended solids, from parking lot runoff.

*Street trees on the St. George campus*

*Tree Inventory*

A tree inventory, conducted by the University's Facilities and Services Department working with the Faculty of Forestry, was initiated in the mid 1990's with funding from the Provost and the City, and updated in 2010. The process resulted in a database detailing some 3,000 trees with over 285 species.

*Tree Donation Program*

Since 1994, donors have arranged for over 120 trees to be planted on the St. George campus as tributes, celebration and memorials. In acknowledgement of the aging tree canopy, the tree donation program aims to enhance and supplement planting on the St. George campus with an additional 3,000 trees over the next 10 years.

Thanks to a donation in 2005 by the Consulate General of Japan in Toronto's Sakura Project, the grounds surrounding the Robarts Library are graced with 70 flowering sakura, the Japanese cherry tree. The tree project symbolizes the growing friendship between Canada and Japan.

*Recently completed green roof at St. Hilda's residence, Trinity College*

*Green Roofs*

Green roofs take the form of roof retrofits to existing buildings, and also form public space amenity in new projects. Examples of green roof retrofits recently accomplished on the St. George campus include:

1. The Ellen Giles Garden, Student Family Residences, 30 Charles Street
2. St. Hilda's Residence roof garden, Trinity College
3. The Sky Garden, Galbraith and Sanford Fleming buildings
4. The Daniel's Faculty of Architecture, Landscape and Design green roof

The Sky Garden and the Daniel's Faculty green roof each serve academic research purposes as well as providing amenity. The Sky Garden is one of several pilot projects underway with the University of Toronto Campus Agriculture Project, a group that promotes farming as an efficient and sustainable means of growing food both on campus and in the city. The two residence examples are both accessible to the building occupants as additional, unique green spaces.

*This red-tailed hawk is a regular visitor to the St. George campus*

Green roofs that form public space amenity include the forecourt to the Centre for Cellular and Biomolecular Research (CCBR) that forms the rooftop to laboratories below, and the Davenport Lash Miller Garden that similary forms the rooftop to below grade service and academic spaces.

As part of its Green Development Standard, the City of Toronto implemented a Green Roof by-law in January, 2010. Its objectives include reducing the urban heat island effect; reducing stormwater management concerns; increasing local biodiversity; and generally improving city livability.

The by-law, that requires the inclusion of green roofs on new construction, generally applies to new buildings with a minimum 2,000 square metres of gross floor area.

*Bird-Friendly Development*

In order to decrease the incidence of bird-deaths due to building collision and disorientation/exhaustion, the City of Toronto has integrated bird-friendly development guidelines into its Green Development Standard. With an estimate of over one million birds killed annually in the GTA – representing 158 different species, 64 of which are in decline – the guidelines aim to make the city safer for migratory birds and help reduce the decline in North American bird populations.

Mandatory aspects of the guidelines include glazing treatments with a density pattern for the first 10 to 12 metres of a building above grade or green roof level. Turning off building lights (interior and uplighting) during the spring and fall migration periods is also strongly recommended.

**Impact on the Master Plan**

*Opportunities and Challenges*

The fact that the St. George campus is situated in an urban setting, shaped and influenced by human activity means there are fewer obvious environmental systems to protect than at the UTM and UTSC campuses. Indeed, the municipal and conservation authorities have little by way of environmental regulations – save for tree removal by-laws – that would inhibit construction and development activity on the campus.

Conversely, this apparent lack of a readily visible natural environment on the St. George campus presents unique opportunities for the University to take a leading role in augmenting, rehabilitating and re-establishing habitats and ecosystems that are able to co-exist with human activity in an urban setting. Incremental strategies such as providing habitat for local faunal species using native species and installing green roofs to return and retain habitat eliminated by development, are basic ways to improve the urban campus environment. Absorbing rainwater

**Priorities through 2030**

1. Where possible, use native species for planting.
2. Add green roofs to existing and new structures on campus to replace habitat lost by development.
3. Introduce permeable surfaces, where possible, to enable rainwater infiltration and reduce loads on storm/sewer systems.
4. Integrate research initiatives to increase sustainability on campus as part of the greater Toronto ecosystem.

on-site by enabling infiltration through permeable surfaces will improve the quality of the local watershed and reduce loads on the antiquated combined storm/sewer system that serves the campus. Research initiatives from University academic departments could inform and suggest innovative ways to increase sustainability on campus as part of the greater Toronto ecosystem.

**Regulations and Guidelines**

The *University of Toronto Environmental Protection Policy* was originally drafted in 1994 and was updated in 2010. The policy includes principles that mandate the protection and enhancement of the local and global environment including the following requirements of the University to:

- *meet and, where feasible, exceed compliance with applicable federal, provincial and local environmental regulations and other requirements to which the University subscribes;*
- *operate so as to minimize negative impacts on the environment;*
- *adopt practices that reflect the conservation and wise use of natural resources; and*
- *respect biodiversity.*

The *City of Toronto Green Development Standard* includes by-law provisions for the installation of green roof assemblies on new commercial, institutional and residential development with a minimum 2,000 square metres of gross floor area in the *City of Toronto Green Roof bylaw*. The same standards include *Bird-Friendly Development Guidelines* as part of the Migratory Bird Policies adopted by City Council in January 2006.

**Background**

Sustainable development is widely known as that which "meets the needs of the present without compromising the ability of future generations to meet their own needs". This definition was first used in *Our Common Future*, a 1987 report by the United Nations World Commission on Environment and Development. In the two decades since, much has occurred in both research and promotion of, and commitment to, sustainability. This timeline is marked with global commitments to reverse climate change, such as the Earth Summit in 1992, and adoption of the Kyoto Protocol in 1997; as well as establishment of policies, principals and organizations specific to the built environment: the Hannover Principals developed for Expo 2000; and the US Green Building Council (USGBC) in 1993, with the Canadian Green Building Council (CaGBC) established in 2002.

For the University of Toronto, this Master Plan further identifies SUSTAINABILITY as an overarching planning principle and defines it in the context of University development:

> The University of Toronto is dedicated to maintaining its position as a leader in sustainable campus practices, places and innovation. New development and renewal must adhere to University of Toronto Design Standards and, where appropriate, incorporate advancements in technology and design to reduce environmental impact. Sustainable projects will increasingly provide opportunities for linkages with research innovation and teaching.

The University of Toronto has long been a strong proponent of sustainable development. As early as the 1970s during the oil crisis, the University engaged environmental engineers to review and make recommendations on the best practices in the use of energy. Three decades later, the legacy of those early practices is evident on campus. Further, the University made gains in this area with the establishment of the Sustainability Board and its subcommittees, reviewing energy, capital projects, and funding models for sustainable initiatives. The University has constructed an increasingly impressive list of building and landscape projects that follow strict sustainable principles.


*University of Toronto's Facilities and Services provides facts and figures related to sustainable practices ongoing since the 1970's.*

# Sustainability

The University accommodates a wealth of building infrastructure required to house the research, teaching and administration of its programs. The St. George campus alone includes over 200 buildings comprising well over a million square metres of building area. Many of the University's most intriguing new buildings integrate environmentally sustainable measures. Nevertheless, recent evaluation of the existing building inventory has revealed serious deficiencies and an urgent need for renovation and repair to improve environmental performance.

The University of Toronto is committed to being a sustainability leader in the city, as well as the country, through its progressive operations standards as well as its cutting edge research and education in the field. It strives to increase energy and water efficiency, in addition to creating and maintaining healthy interior environments. With recent public opinion polls ranking the environment as one of the most critical issues among voters in Ontario, the University must continue to embrace this marked trend in values particularly as is continues to compete for the most gifted faculty and students.

**Current Practice**

In 2009, President Naylor committed the University to increased sustainability by signing, along with 19 other signatories from across the province, the *Ontario Universities Commitment to a Greener World*. Among other things, these institutions made a commit to work together to:

- build new facilities in accordance with principles of sustainability and energy efficiency;
- renovate existing facilities to improve energy efficiency;
- seek to preserve green space on their campuses wherever possible; and
- develop institutional environmental sustainability plans with measurable objectives.

*Knox College walkway has been planted with native drought resistant plant materials.*

*Design Standards*

The current standard, *Part 1, Section 5 of the University of Toronto Design Standards*, includes specific Environmental Design requirements including the minimization of energy and water use; eco-friendly material choice; the control of effluents and emissions; coordination with the outdoor environment; recycling and waste management; and monitoring of environmental performance. This standard, along with an environmental design check list, has been used for all capital projects over the last decade as a means of ensuring that the design team considers all aspects of environmental sustainability during the design phase of the project. An updated version of the standard is to be implemented in 2011 and proposes CaGBC's Leadership in Energy and Environmental Design (LEED®) 2009 Silver certification as a target, calling out minimum compliance for each credit.

In addition to this particular section, other sections such as *Part 1, Section 6* describe the University's approach to landscape and include sustainable practices.

*St. Hilda's Residence at Trinity College: accessible green roof*

*Tri-Campus Sustainability Board*

The Tri-Campus Sustainability Board was formed with membership from the three University campuses to provide resources for the sustainability offices, a platform for their cooperation, and a basis for their accountability. The Board:

- will help the individual campuses find opportunities to coordinate their agendas and priorities with the other campuses on University-wide initiatives;
- oversees the University of Toronto's tri-campus collaboration regarding environmental sustainability; and
- works to ensure that the high quality of life experienced within the University community is provided in a financially viable and ecologically appropriate way.

*Cycling around campus is encouraged with the placement of numerous bicycle locking stands*

*Energy & Resource Planning Committee*

One recommendation of the 2007 *Project Committee Report for the Energy Efficiency Project on Lighting Retrofit and Chiller Replacement* was that a comprehensive energy plan for all three campuses be produced to address the long range requirements of the University. Such a plan would result in an Energy Infrastructure Renewal Plan for the University. In the fall of 2008 it was decided to plan on a campus by campus basis.

Facilities and Services is currently working toward an Energy and Water Plan for the St. George Campus to comply with the requirements of the Green Energy Act and the Water Opportunities Act. The Plan, in progress at this writing, includes review of and discussion on the following:

- An energy and greenhouse gas inventory
- Energy and water consumption of campus buildings
- Energy supply
- Related university policies and guidelines
- Proposed infrastructure projects to extend district energy systems to new facilities
- Proposed projects to reduce the amount of energy and water purchased by the campus

*Financial Aspects of Sustainability in Capital Projects Committee*

The University's existing Environmental Protection Policy addresses the physical nature of the University environment under the umbrella of 'administrative functions'. The physical environment of the three campuses, their buildings, landscapes and infrastructure, requires a strong commitment to the 'triple bottom line' of socially, environmentally and economically responsible building practices. Recognizing the growing need and demand for sustainable practices within our physical environment, the University's Tri-campus Sustainability Board convened a sub-committee to review the financial aspects of sustainability in capital projects.

Stemming from the discussion of this sub-committee has been the establishment of the Energy & Resource Management Fund, a revolving-loan fund that provides financial support to projects looking to implement sustainable measures in existing and new buildings on campus. Similar funds are available, and have had wide success at universities including distinguished American schools such as Harvard University and, closer to home, the University of Guelph.

*St. George Campus Sustainability Office*

The Sustainability Office (SO) was established by the University's Environmental Protection Advisory Committee in 2004. The scope of the widely supported SO falls within the University's Environmental Protection Policy. Its purpose is to reduce the environmental impact of operations on campus by bridging sustainability research and institutional practices across all three campuses, and engaging students, staff, and faculty in contributions towards an increasingly sustainable campus.

The Sustainability Office's short term mission is to substantially reduce the consumption of energy and other resources at the University. Over the medium term, the SO will develop and employ policies and programs to increase energy conservation, green space and reduce waste in all the decisions, practices and procedures of the University. In the long term, the goal is to create a culture of sustainability at the University of Toronto, which will be reflected in its functions and operations, resulting in tangible environmental, economic and social benefits.

*CCBR Interior courtyard (top)*

*CCBR College Street facade is constructed of a double layer of glazing to provide controlled natural ventilation (left)*

**Recent Projects**

In recent years new construction on campus has begun to include an increasing array of sustainable design measures. Examples of recently completed projects, which incorporate innovative sustainable design include the following:

*255 McCaul Street Renovation for Facilities and Services and Real Estate Operations*
Under the CaGBC LEED® for Commercial Interiors rating system, this project, designed by Montgomery Sisam Architects, has achieved certification at the Gold level. Strategies used in this project include specification of Energy Star energy-saving appliances; inclusion of a rain water recycling system; provision of a bike storage facility; occupant access to ample natural light; recycling of construction waste; and use of materials sourced locally. A green wall in the entrance lobby is used also by the buildings exam centre. A similar green wall application is located at the Multi-Faith Centre, designed by Moriyama Teshima Architects, in the Koffler Building.

*Terrence Donnelly Centre for Cellular and Biomolecular Research*
Although not formally certified under the CaGBC LEED® program, this award-winning facility was designed using sustainable design practices by Behnish, Behnish & Partners in joint venture with Architects Alliance. The building utilizes a double façade on the south side to provide controlled natural ventilation and energy conservation, and includes multi-storey interior bamboo gardens.

**Impact on the Master Plan**

*Opportunities and Challenges*

When considered in the early stages of design, sustainable building or green design can be incorporated into a project without excessive additional cost. Incorporating sustainable design elements into existing buildings is much more complex. Nevertheless, there is considerable potential value in making appropriate sustainability-related upgrades to existing buildings across campus, given 81% of facilities on the St. George campus are more than 30 years old.

The new decentralized budget model is helping foster a team approach to building sustainable capital projects. With the cost of maintenance and operations now the responsibility of each division, the demand for long term cost savings through the provision of energy and water conservation is far more common. Cost benefit analyses facilitate an understanding of the relationship between up front capital costs and potential long-term cost savings. However, many other sustainable building practices, though beneficial to the overall environment, are not as easy to quantify. For example, green roofs benefit individuals who have visual and physical access to them; help to reduce storm water runoff; and provide natural habitats for native plants and animals. However the cost to build and maintain green roofs is not sufficiently offset by the energy savings they provide by their enhanced insulating properties. Nevertheless, demand for this and other sustainable practices will likely grow in concert with the increasing awareness of the value of sustainability in our society.

**Priorities through 2030**

1. Implement an Energy Plan for the St. George Campus.
2. Explore the expansion of a the Energy & Resource Management Fund - a revolving loan fund to support sustainability projects.

**Regulations and Guidelines**

Numerous regulations and guidelines have been developed over the last two decades in an effort to improve the quality of our environment. The University is governed by both its own policy, and standards required by municipal and provincial bodies.

*University of Toronto Environmental Protection Policy*

The University established the University Environmental Protection Policy in 1994, making the first steps towards a holistic approach to sustainability across the University. The intent of the Policy and its fundamental principles and objectives, updated in 2010, remain strong.

The policy, in part, states "The University of Toronto is committed to being a positive and creative force in the protection and enhancement of the local and global environment, through its teaching, research and administrative operations…".

*University of Toronto Design Standards*

The University Design Standards apply to all capital projects and include requirements to:

- minimize energy use and water use;
- ensure eco-friendly material choice;
- control effluents and emissions;
- regulate recycling and waste management;
- measure and monitor environmental performance.

This standard, along with an environmental design check list, has been used for all capital projects over the last decade, as a means of ensuring that the design team considers all aspects of environmental sustainability during the design phase of the project. An updated version of the standard is to be implemented in 2011 and proposes CaGBC's Leadership in Energy and Environmental Design (LEED®) 2009 Silver certification as a target, calling out minimum compliance for each credit.

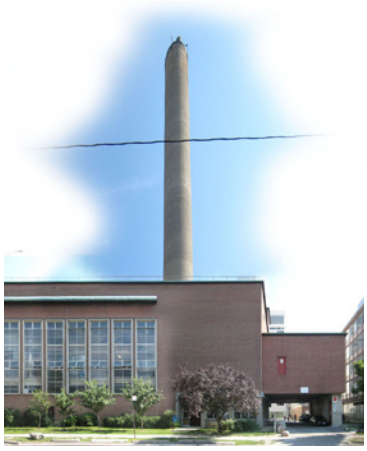
*The Toronto Green Development Standard*

The Toronto Green Development Standard contains performance targets and guidelines that relate to site and building design to promote better environmental sustainability of development. The Standard is a 'made-in-Toronto' approach that integrates existing City guidelines and targets with standards from private rating systems such as LEED® and Green Globes. The Toronto Standard is not intended to compete with rating systems like LEED®, but to ensure that when there is a desire to 'build green' in Toronto, local environmental objectives are met.

**Background**

'Infrastructure' refers to the campus-wide systems that:

- power the University's buildings and facilities;
- provide piped services such as water and gas to them;
- dispose of waste from them; and
- buildings themselves, and their ongoing maintenance.



*The Central Steam Plant is located in the south-west quadrant of campus*

Since the 1970's, environmental legislation and the rise in the cost of resources have played an important role as catalysts to the University of Toronto Infrastructure Plan, the goal of which is to minimize environmental impact incurred through campus expansion and the upgrading of existing buildings and landscapes. Further, the planning principle SUSTAINABILITY, which states "The University of Toronto is dedicated to maintaining its position as a leader in sustainable campus practices, places and innovation…", must be considered with respect to all campus infrastructure planning going forward.

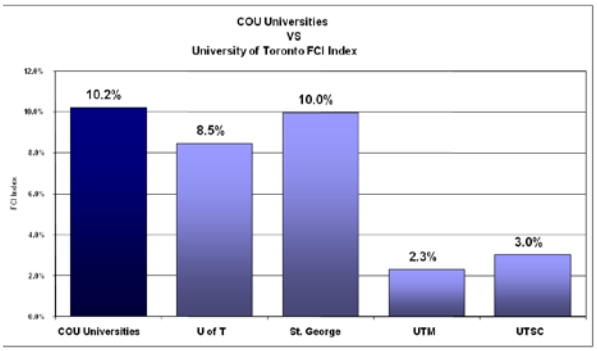
*Infrastructure in Support of Operations*

In 1912, the University of Toronto installed a district energy system, the third in Canada providing heat and a limited amount of power to the campus. Steam and a small amount of direct current electricity were distributed from a coal-burning plant just west of Queen's Park to buildings across campus via a concrete tunnel. Today there are approximately 3.1 km of tunnels; an additional 3.5 km of steam, condensate and chilled water piping are buried in the ground.

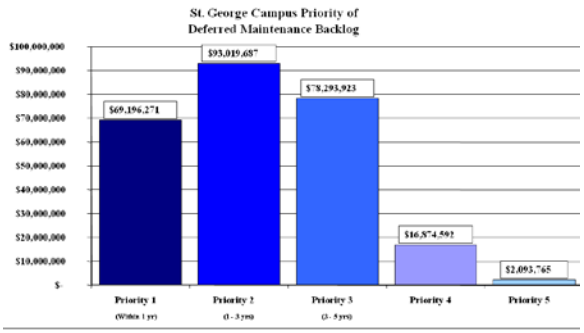
The original plant was replaced in the 1960's by the Central Steam Plant, located at 17 Russell Street. The Central Steam Plant serves the majority of academic and administrative buildings on campus, as well as affiliate colleges and outside purchasers. Enwave Energy Corporation's district energy system provides heat to campus buildings, which have either been purchased and are already connected to the system, or which are geographically too remote to connect to U of T's district plant. Chilled water for air conditioning approximately half the buildings on campus is provided by three chiller plants: the Northwest Chiller Plant (NWCP); the Southwest Chiller Plant (SWCP) in the Bahen Centre; and the Southeast Chiller Plant (SECP) in the Medical Sciences Building; stand-alone systems serve the remaining 50 percent.

Power from Toronto Hydro enters the campus via the Cecil Street substation. In some cases, buildings receive power directly from Toronto Hydro because: they are geographically remote from the U of T grid; they were not originally owned by the University; or the University's distribution infrastructure is unable to handle the additional loads.

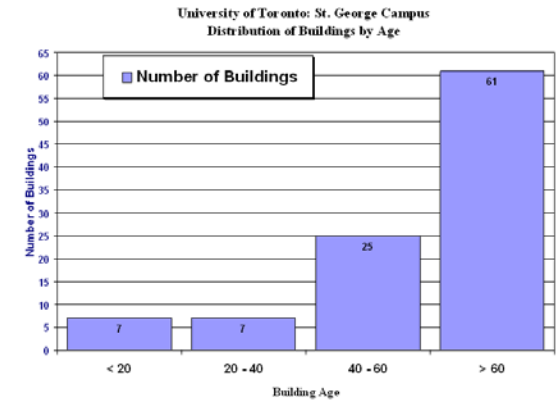
# Infrastructure




*Taken from the Vice President Facilities and Services 2010 annual report on Deferred Maintenance, this graph illustrates two key points. With a Facilities Condition Index on the St. George campus of 10 – our overall campus buildings are at the bottom threshold. The University's other two campuses are in "good to excellent" condition with FCI's under 5.*




*For Priorities 1-3 we currently have estimated $241M of Deferred Maintenance on the St. George campus.*




*The average age of buildings centrally maintained on the St. George campus is 80 Years. The University has not had sufficient money over many decades to renew these buildings, thus the list of deferred maintenance items continues to grow.*

The University of Toronto Infrastructure Plan strives to find a balance between redundant or backup systems, and resource efficiency. As technologies and systems continue to evolve, becoming more integrated and efficient, individual technologies are often synchronized to complement one another i.e. heat recovery. A centralized plant allows innovative technologies such as combined heat and power (cogeneration), steam absorption chilling, and/or condensing heat recovery.

*Infrastructure: Deferred Maintenance*

For some time, the Ontario Ministry of Training Colleges and Universities (MTCU), and universities themselves, have known that all post secondary institutions have serious deferred maintenance issues. In June 1999, University Vice Presidents through the Council of Ontario Universities (COU) and MTCU agreed to initiate the Facility Condition Assessment Program (FCAP). At a high level, FCAP provides greater understanding of the issue of deferred maintenance (DM): both within institutions themselves and within the Provincial Government by quantifying and benchmarking the DM liability across all Ontario universities. At the institutional level FCAP provides a rigorous process of site inspections, creating credible data; an ability to identify and prioritize DM items; an ability to track, create funding scenarios; and the ability to make a case for funding and ultimately manage this issue.

The FCAP program has been very successful and the sector annually prepares a report to the MTCU. With this detailed, credible data in hand, the University has been able to incorporate deferred maintenance into our capital planning reports and construction projects.

The average age of the 100 centrally managed buildings on the St. George campus is 80 years. Expressed in gross square metres, and including Federated, Affiliated and residential buildings, the average age of facilities is 48 years. The difference represents the gap between smaller, older buildings and larger ones built more recently. Nevertheless, at 48 years, the average overall age of building area on the St. George campus remains high. Renewal of these buildings is extremely expensive and U of T has not had sufficient money over many decades to renew these buildings. Thus the list of deferred maintenance items continues to grow.

As limited funds are available to address deferred maintenance issues, the University must consider numerous factors to determine which renewal projects to undertake. Factors including Health and Safety, risk assessments and capital planning and institutional priorities, are weighed to determine projects that will multiply benefits and stretch funding opportunities.

**Current Projects and Recent Practice**

In 2006, a study compiled by Sebesta-Blomberg assessed U of T's central utility systems (steam, electricity, chilled water) and recommended a fiscally sustainable model for thermal, electricity and chilled water production and/or distribution. The report concluded that U of T systems and infrastructure are well-maintained, effectively managed, reliable and cost-competitive, and in some cases save the University significant dollars over alternative options. The existing system of tunnels allows quick access for repairs, pipes are protected from corrosion, and services such as data cabling can be installed without destroying landscaping and roads at grade. However, buried lines are considered a viable alternative as advancements in piping system technology have improved their reliability.

The report also suggested implementation of a Cost of Service or enterprise model for steam, electricity and chilled water, as a way to provide the needed capital funds in a smooth predictable way. The University's new budget model was implemented in 2007-08. The initiative's goal is to make departments more accountable for the space they use and the cost of operating it. This includes the cost of utilities which used to be a central expense. The University is already seeing a change in usage patterns as a direct result.

*Department of Economics*

The capital project to accommodate the Faculty of Economics in expanded space on St. George Street included significant upgrades to existing structures on site. The existing buildings were in extremely poor condition, with a total liability of $1.9M in deferred maintenance. In addition, the original house at 150 St. George Street was heritage listed. Facilities and Services supported the renovation with deferred maintenance funding, resulting in substantially renewed buildings.

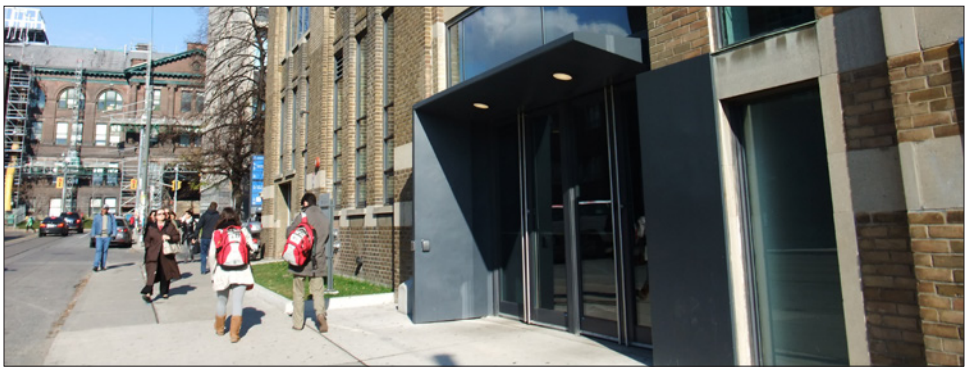
*255 McCaul Street*

Another example of building renewal that combined funding from deferred maintenance funds, within the context of a capital project, is the Exam Centre and central office space at 255 McCaul Street. Here, strict sustainable measures were put in place to achieve the first LEED® CI Gold project for the University of Toronto. The project included measures such as:

1. over 75% of construction waste recycled;
2. water savings of 62%; and
3. electrical savings of 15%.

*The Department of Economics project addressed deferred maintenance for existing heritage structures on site.*

*Formerly a warehouse building for the Board of Education, this McCaul Street structure was rehabilitated to accommodate the University Exam Centre and offices for Real Estate Operations and Services showcasing sustainable building practices.*



*Inside the University Exam Centre, deferred maintenance issues were addressed and filtered through a comprehensive sustainablility program that included the integration of a green wall.*

**Impact on the Master Plan**

*Opportunities and Challenges*

While sufficient excess capacity was built in to the delivery infrastructure installed at the beginning and middle of the 20th century, the limits of the campus distribution systems for heat, cooling and power demand careful planning for the future.

As infrastructure ties in with so many different aspects of the University's physical structure, it must also be considered when addressing other areas of the Master Plan such as: Sustainability, Environment, Deferred Maintenance, Safety & Security and Open Space.

Planning for infrastructure must consider campus expansion (growth in enrollment), upgrades to existing systems, as well as specialized requirements for an increasing number of highly sophisticated research laboratories. The plan must continue to minimize environmental impact while anticipating campus expansion and upgrades necessary to address deferred maintenance of existing buildings and landscapes.

## Priorities through 2030

1. Maintain and update University of Toronto Infrastructure Plan
2. Maintain and update plan for addressing deferred maintenance utilizing Facility Condition Assessment Program (FCAP)

**Regulations and Guidelines**

*Facility Condition Assessment Program (FCAP)*

The Facility Condition Assessment Program (FCAP) provides greater understanding of the issue of deferred maintenance both within institutions themselves and within the Provincial Government by quantifying and benchmarking the deferred maintenance liability across all Ontario universities. At the institutional level FCAP provides a rigorous process of site inspections, creating credible data; an ability to identify and prioritize deferred mainte nance items; an ability to track, create funding scenarios; and the ability to make a case for funding and ultimately manage this issue.

*Energy Conservation Leadership Act*

In anticipation of an Energy Conservation Leadership Act requirement, an infrastructure plan specifically addressing energy is currently being developed for each campus.

**Background**

The University of Toronto St. George campus includes many buildings and facilities that are regarded as significant heritage resources. Many of these have been identified and either listed or designated through the City of Toronto municipal government. The campus planning principle, HERITAGE PRESERVATION, describes the University's approach to heritage structures and landscapes on its campus. It states:

> The University of Toronto seeks to protect and maintain the extraordinary concentration of heritage structures and landscape features located on its St. George campus. Properties listed and designated by the City of Toronto for their heritage value, as well as those identified as important by the University, should not be considered in isolation, but as character-defining elements within the overall campus context. Development should respect the contextual value of these heritage elements, while recognizing the dynamic nature of the urban campus setting.

Heritage designations apply to structures, buildings, group of buildings, districts, landscape or archaeological sites that have been formally recognized for their heritage value. 'Heritage value' has been defined by Parks Canada as "the aesthetic, historic, scientific, cultural, social or spiritual importance or significance for past, present or future generations", which is "embodied in its character-defining materials, forms, location, spatial configurations, uses and cultural associations and meanings".

There are 20 designated properties and 62 listed properties on the St. George campus.

*Heritage designated University College*

## Heritage Buildings on the St. George Campus

### *University-owned buildings*

#### *Designated*

| | |
|---|---|
| **170 College St** | Lassonde Mining Building |
| **214 College St** | Koffler Student Services Centre |
| **4 Devonshire Place** | Massey College |
| **7 Hart House Circle** | Hart House |
| **7 Hart House Circle** | Soldiers' Tower |
| **10 King's College Rd** | Sandford Fleming Building |
| **1 Spadina Cres** | |
| **170 St. George St** | Jackson Humanities Building |

#### *Listed*

| | |
|---|---|
| **4 Bancroft Ave** | Bancroft Building |
| **315 Bloor St W** | |
| **371 Bloor St W** | |
| **88 College St** | |
| **150 College St** | FitzGerald Building |
| **155 College St** | Health Sciences Building |
| **164 College St** | Rosebrugh Building |
| **1 Devonshire Place** | Munk Centre for Intl Studies North |
| **3 Devonshire Place** | Munk Centre for Intl Studies South |
| **5 Devonshire Place** | Munk Centre for Intl Studies East |
| **4 Glen Morris St** | Studio Theatre |
| **12 Hart House Circle** | Louis B. Stewart Observatory |
| **5 King's College Rd** | Mechanical Engineering Building |
| **7 King's College Circle** | Gerstein Science Information Centre |
| **15 King's College Circle** | University College |
| **27 King's College Circle** | Simcoe Hall |
| **31 King's College Circle** | Convocation Hall |
| **255 McCaul St** | Exam Centre |
| **263 McCaul St** | Old Administrative Building (Board of Education) |
| **78 Queen's Park** | Flavelle House |
| **84 Queen's Park** | Falconer Hall |
| **39 Queen's Park Cres E** | Centre for Medieval Studies |
| **39A Queen's Park Cres E** | |
| **6 Queen's Park Cres W** | Tanz Neuroscience Building |
| **12 Queen's Park Cres W** | McMurrich Building |
| **14 Queen's Park Cres W** | Canadiana Gallery |
| **487 Spadina Cres** | Borden Building South |
| **563 Spadina Cres** | Borden Building North |
| **33 St. George St** | Cumberland House |
| **45 St. George St** | Physical Geography Building |
| **63 St. George St** | Macdonald-Mowat House |
| **65 St. George St** | School of Graduate Studies |
| **73 St. George St** | Sir Daniel Wilson Residence |
| **79 St. George St** | University College Union |
| **85 St. George St** | Whitney Hall |
| **97 St. George St** | |
| **119 St. George St** | Woodsworth College |
| **121 St. George St** | |
| **123 St. George St** | |
| **130 St. George St** | John P. Robarts Library Building |
| **150 St. George St** | Max Gluskin House |
| **21 Sussex Ave** | Sussex Court |
| **41 Willcocks St** | Faculty Club |

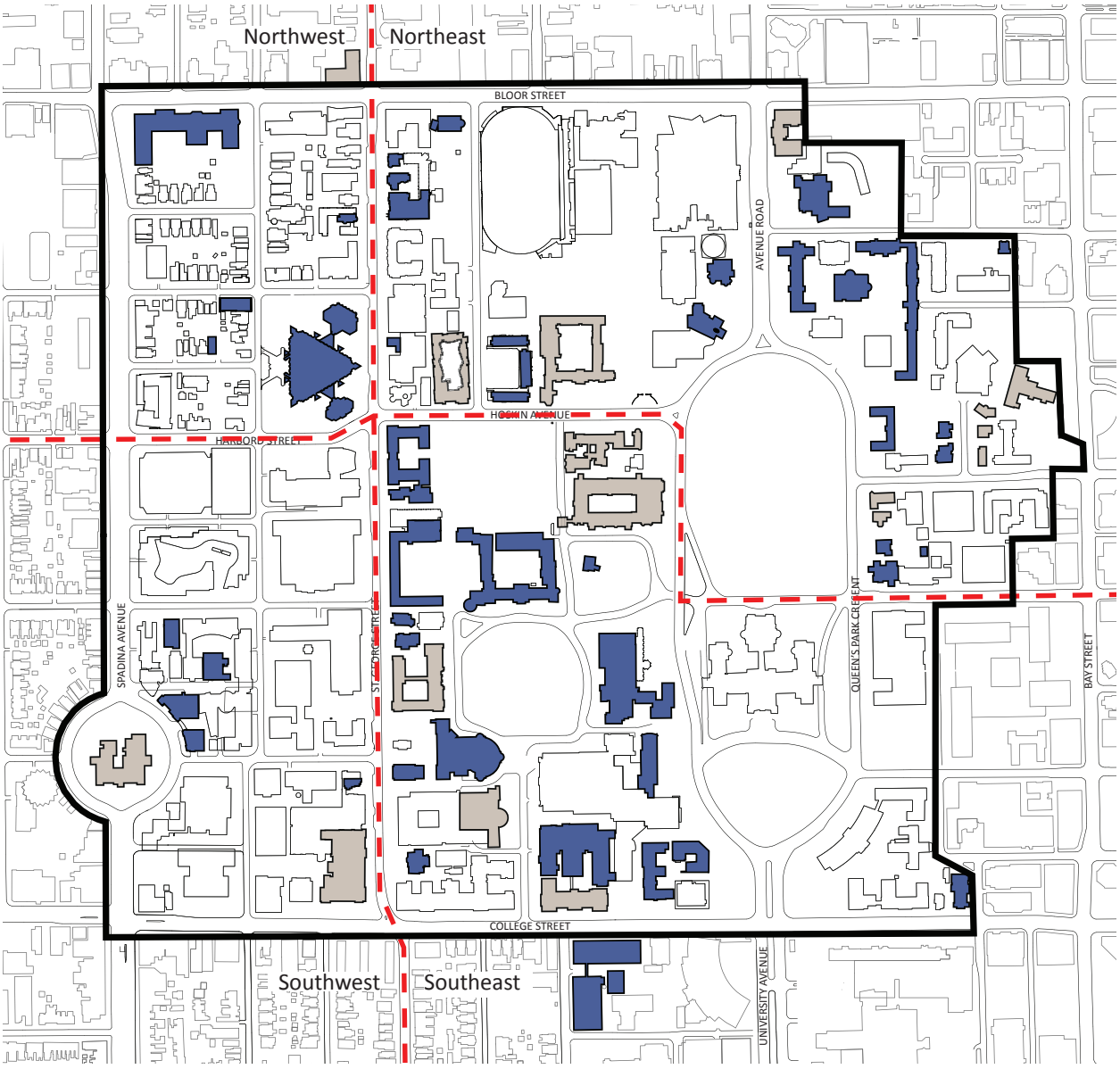
### *Federated College buildings*

#### *Designated*

| | |
|---|---|
| **1 Elmsley Place** | Bellisle House |
| **3 Elmsley Place** | Phelan House |
| **5 Elmsley Pl ace** | Windle House |
| **5 Hoskin Ave** | Wycliffe College |
| **6 Hoskin Ave** | Trinity College |
| **6 Hoskin Ave** | Trinity Chapel |
| **50 St. Joseph St** | St. Basil's Church |
| **50 St. Joseph St** | Odette (Louis) Hall |
| **125 Queen's Park** | Lillian Massey Building |
| **43 Queen's Park Cres E** | |
| **47 Queen's Park Cres E** | Toronto School of Theology |
| **59 St. George St** | Knox College |

#### *Listed*

| | |
|---|---|
| **2 Elmsley Place** | McCorkell House |
| **6 Elmsley Place** | Maritain House |
| **8 Elmsley Place** | Gilson House |
| **63 Charles St W** | Stephenson House |
| **65 Charles St W** | Law House |
| **89 Charles St W** | Burwash Hall |
| **89 Charles St W** | Burwash Residence (Lower Houses) |
| **89 Charles St W** | Burwash Residence (Upper Houses) |
| **91 Charles St W** | Victoria College |
| **150 Charles St W** | Wymilwood |
| **75 Queen's Park** | Emmanuel College |
| **75a Queen's Park** | Birge-Carnegie Library |
| **95 Queen's Park** | Annesley Hall |
| **9 Queen's Park Cres E** | Pontifical Institute |
| **59 Queen's Park Cres E** | More House |
| **59 Queen's Park Cres E** | Fisher House |
| **57 Queen's Park Cres E** | Teefy Hall |
| **96 St. Joseph St** | Sullivan House |
| **100 Wellesley St W** | Regis College |




*Designated and listed buildings on the St. George campus*

**Legend**

- Listed Heritage Building
- Designated Heritage Building

# Heritage

*Flavelle House, Faculty of Law, 1902. Listed (above)*

*Convocation Hall, 1906. Designated (left)*

*Robarts Library, 1971-73. Listed (below)*

*Victorian Home incorporated into the Bahen Centre for Information Technology, 2002. Listed (right)*

*Mechanical Engineering, West Building, 1948. Listed. (above)*

*1 Spadina Crescent, 1875. Designated (right)*

**Recent Projects**

The University retains a heritage consultant for all projects involving its listed and designated buildings. Consultants work within the overall project team to ensure heritage concerns are integrated in the early stages of a project. Site Plan applications, Official Plan amendments and Zoning by-law applications usually include a Heritage Impact Statement to assess the effects of new development on heritage properties.

On the St. George campus, the University was given permission in 1956 to expand its borders to the west side of St. George. This expansion proceeded throughout the 1960's and 70's, introducing numerous new buildings to the campus. Of these new buildings, the Robarts Library, a Brutalist structure constructed in the 1973, is the only building on the west campus to be listed. While the majority of U of T's heritage properties were constructed in the nineteenth and early-twentieth century, found on the older parts of campus, recent attention has been paid to the heritage value of newer buildings; thus further listings and designations to the University's building inventory are possible.

In 1993, a study was undertaken to examine the feasibility of establishing a Heritage Conservation District on the St. George campus. While a Conservation District was not implemented, it remains a relevant document. In 2008, the City of Toronto identified the Queen's Park precinct on its list of potential Heritage Conservation Districts.

**Impact on the Master Plan**
*Opportunities and Challenges*

The University of Toronto seeks to protect and maintain its heritage properties and landscapes. Listed and designated properties cannot be considered in isolation, but as elements within the overall precinct.

New development should respect the contextual value of these heritage elements. Demolition of designated buildings must receive approval from City Council. Under the Ontario Heritage Act, municipalities now have the authority to take action against unmaintained heritage properties.

## Priorities through 2030

1. Seek to maintain integrity of heritage structures and landscapes through careful deffered maintenance review and allocation of funds.

**Regulations and Guidelines**

The Ontario Heritage Act was introduced in 1975 by the provincial government as a means of identifying and protecting individual properties and districts with cultural heritage value. Designation under this Act is intended to protect the property or district from demolition or alterations not in keeping with its heritage value.

Part IV of the Act enables the designation of individual properties, while Part V allows for the designation of heritage conservation districts. The majority of designations occur through municipal by-law, although the Province has the ability to designate through the Ministry of Culture. Designation includes a defined list of what constitutes the property or district's heritage value.

In 2003, Parks Canada created the *Standards and Guidelines for Conservation of Historic Places* document. This serves to establish a nationally-recognized set of criteria to apply to the protection and conservation of heritage elements within our built landscape.

In 2005, the Ontario Government implemented changes to the Ontario Heritage Act legislation meant to strengthen its effectiveness. Key changes include, among others, demolition controls, standard criteria for the listing and designation of properties across municipalities, and enhanced protection for heritage conservation districts.

Specific to university campus development, when addressing a site with heritage attributes Heritage Impact Statements are frequently required to be prepared by qualified heritage consultants and serve to evaluate how well a project proposal conserves the listed or designated property. Heritage Impact Statements may be required for development applications that include heritage properties. The City of Toronto definitively requires such when development involves an amendment to the Official Plan or Zoning By-law.

A Heritage Easement Agreement is used to ensure a building's preservation. It is an agreement that is entered into between the property owner and the City and registered on title.  A Heritage Easement Agreement identifies elements of a building which are to be retained in perpetuity and may also set out permitted alterations and development.

**Background**

The St. George Campus Planning Principle for ACCESSIBILITY stipulates that:

> The University's buildings, landscape and grounds must accommodate a diverse population in an open and inclusive campus. The campus environment should adhere to the principles of universal design with all new construction on campus. Where full accessibility may not be achievable due to existing conditions or the historic nature of a particular building, the University policy of accommodation will be met.

The Oxford Dictionary defines 'access' as:

1. *the means or opportunity to approach or enter a place;*
2. *the right or opportunity to use or benefit from something.*

While the focus of this Plan is on the physical nature of the St. George campus, and therefore promotes physical accessibility, it also considers accessibility to encompass its broad definition, incorporating both the inclusion of students with disabilities into all aspects of University life (mission of Accessibility Services), and recognizing the right of the greater University community to use or benefit from the University's programs and facilities.

The University has a long history of consistently integrating legislation such as Ontario's Human Rights Code within its policies and mandates. However, it was the Ontarians with Disabilities Act (ODA), passed in 2001, that began to formalize a process for developing accessibility guidelines on campus.

The ODA requires the provincial government and all Ontario municipalities, universities and other public institutions to each establish an Accessibility Plan which must be updated annually and made available to the public. The ODA's purpose is to improve opportunities for people with disabilities through identification, removal and prevention of barriers to participation in the life of the province. Barriers can be physical, sensory, a learning disability, a mental health disorder, or even a chemical sensitivity. An open and inclusive environment requires year-round ease of access, relying on a barrier-free physical infrastructure, and clear, well-located signage.

The ODA Accessibility Planning Committee was established at the University in 2002, producing the first Accessibility Plan in 2003-2004 and updated annually. The University of Toronto Accessibility Plan responds to ODA requirements, and identifies ongoing and past initiatives on campus under four broad categories: Built Environment, Best Practice/Pedagogy, Student Life, and Mental Health. While an accessible campus relies on advancements in all of these areas, the AODA* Built Environment Standard, which will apply to new construction and extensive renovation projects, is most relevant to the Master Plan.

The University of Toronto was the first post-secondary institution in Ontario to create the position of an AODA Officer. The Officer assists departments and divisions in meeting obligations under the legislation and is proactive in implementing best practice on all three campuses. The Officer also directly assists individuals who have difficulty accessing on-campus services due to a disability.

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** The Accessibility of Ontarians with Disabilities Act (AODA) received Royal Assent in June, 2005. However, the planning requirements of the ODA, 2001, are still applicable until they have been replaced by standards in the new act.*

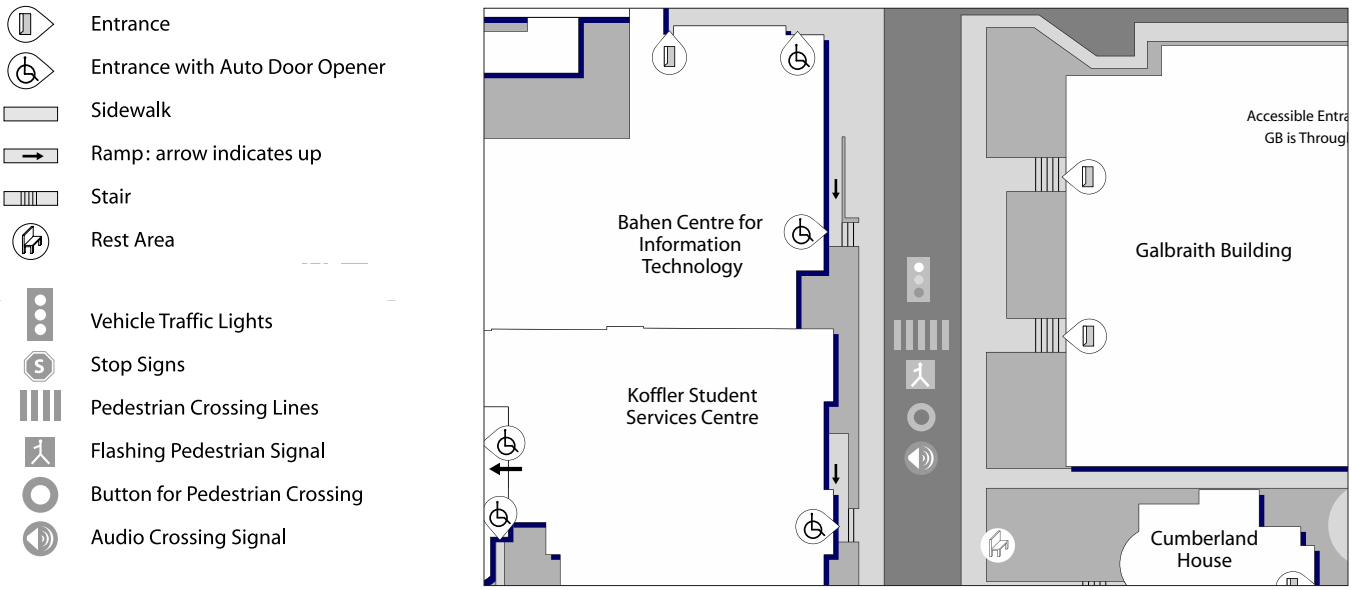
*Department of Economics' new ramp; a design feature of the recent expansion*

**Current Practice**

Over the last several years, a heightened awareness of disability issues has had an enormous impact on the physical planning and building on all three of the University campuses. The University of Toronto Accessibility Plan of 2007-08 established significant commitment to campus-wide barrier free access requiring the following:

*Municipal Guidelines: Incorporation or adoption of Municipal Guidelines*
Local municipal guidelines (the City of Toronto Accessibility Design Guidelines) are currently being reviewed against the University of Toronto Design Standards and Accessibility Checklist, and continue to serve as a benchmark to improve and enhance outcomes. The ODA's mandate to make Accessibility Plans public caters to sharing information and best practices without duplicating effort.

*Universal Design consultant on all Capital Projects*
A Universal Design consultant is required for all Capital Projects on all three campuses. The outside consultant ensures that accessibility is incorporated from the outset of a project and that accessible, barrier-free expertise will inform decisions throughout the design process.




*Partial map from the Accessibility Report 2008*

**Recent Projects**

*Exam Centre*

In early 2007, it was recommended that an expanded and dedicated accessible exam writing facility be co-located within an integrated central examination facility. The accessible facility opened in August 2008; it accommodates 105 stations in private, semi-private and open arrangements, and offers improved accommodation for students with disabilities in a supportive and dignified environment. Within the Exam Centre, there are two accessible washrooms.

*Davenport Lash Miller Garden*

The Davenport Lash Miller Garden, completed in 2005, is a recent example where an inaccessible environment has been made fully accessible with a truly integrated and inviting design solution. Improvements to the open space between McLennan Physical Laboratories and Davenport Lash Miller Chemical Laboratories buildings include a plaza, which gradually slopes up from St. George Street to the McLennan building, replacing a set of stairs; and a feature in the landscape which artfully ramps up to the Davenport Lash Miller building, while delineating an area of plantings.

*Simcoe Hall/Convocation Hall*

Two renovation projects have recently been completed to improve the accessibility within Simcoe Hall and Convocation Hall.

A new, full-size elevator provides proper access to all floors within Simcoe Hall. The previously existing elevator was undersized and required a key to operate, making its use a considerable effort. Given the split-level nature of the floors in Simcoe Hall, the new elevator is configured to allow access on two sides.

Accessible washrooms have been located to serve both Convocation Hall and Simcoe Hall. Convocation Hall previously had only one accessible washroom; the other facilities must be reached by a stairway in Simcoe Hall. The provision of new washrooms rectify a long-standing deficiency and provide ease-of-access for all Convocation Hall users.

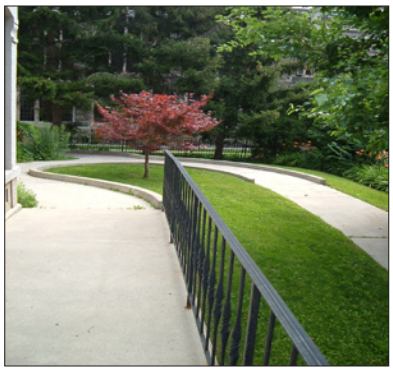
***Davenport Lash Miller Garden***

# Accessibility

***International Student Centre Ramp***

*The main entrance ramp was designed as part of the landscape.*

*On many ramps across the St. George campus 'cane touch' walls have been incorporated in order to provide assistance to those with visual impairments.*



***Hart House***

*Entry Doors were retrofit with automatic openers. (right)*

*This ramp at Hart House is an example of accessible design thoughtfully integrated into historic buildings. (far right)*


*Newer buildings are planned and built with accessible entrances; older buildings face retrofit challenges. (far right)*

*Detail (right): transition between sidewalk and ramp, with grip and visual contrast.*

*ODLC and Equity Offices*

In the spring of 2010 the Organizational Development and Learning Centre (ODLC) and Equity offices, both central divisions of Human Resources, relocated into renovated accessible space. As campus-wide service providers, and specifically given the fundamental mission of Equity which includes the AODA advisor office, a barrier free space was essential to these groups. Until this time, ODLC facilities in the North Borden Building, and Equity offices scattered throughout campus did not comply with accessibility codes. The current space can be accessed by elevator, includes an accessible washroom, and satisfies clearance requirements for corridors and door widths. The ODLC seminar room, with a 50-person capacity, easily accommodates more than the minimum number of wheelchair stations. Ergonomic, adjustable furniture is standard in the seminar and resource rooms.

**Impact on the Master Plan**

*Opportunities and Challenges*

As part of U of T's commitment to providing physical accessibility on its campuses, the University strives to provide an environment that is universally welcoming and inclusive. The recent construction of the CCBR is a good example of new construction on campus that not only provides the University with excellent research and teaching facilities, but also acts as welcoming front door on College Street, and an interior connection between the southern edge of campus and the heart of the Front Campus. This interior through-connection is made accessible and inviting through public art; a welcoming and transparent façade; interior green space; multi-storey space with natural light; inclusion of public functions, which include café and dining facilities; and significant open space at either end.

Each development site and open space project presents an opportunity to overcome existing barriers in the built environment. Projects such as the Exam Centre and Davenport Lash Miller Garden are exemplary in their application of accessibility measures and serve as excellent examples for future development on campus.

Compliance with the University of Toronto Barrier Free Accessibility Design Standards is required for all new construction and renovation projects at all campuses of the University. Design teams are required to submit the checklist to the University at 75% completion of the Design Development. For renovation projects, particularly of older buildings, there may be recommendations that are very difficult or impossible to implement, and in these instances each is individually considered. The University maintains a policy of accommodation and will provide fully accessible space elsewhere on campus should accommodation in existing facilities not be possible. In the case of a heritage building where it is either prohibitive from a heritage maintenance perspective, or is cost prohibitive, the University has a policy of accommodation elsewhere on campus.

A final version of the proposed AODA Built Environment Standard was issued in July 2010. Once legislated, it will apply to new projects, retrofits, common space and circulation areas, and change in use. AODA must be met in conjunction with the Ontario Building Code. Section by section the more stringent of the two requirements will prevail.

**Priorities through 2030**

1. Review and update University of Toronto accessibility standards to align or improve upon municipal and provincial standards and guidelines.
2. Maintain inventory of accessibility in the physical campus environment.
3. Seek to improve accessibility within existing buildings and landscapes by carefully establishing priorities for the allocation of funds.

## Regulations and Guidelines

*University of Toronto Design Standards*

Accessibility is covered by many jurisdictions both within the University and outside. Within the University, the University of Toronto Design Standards Part 1.2 Barrier Free Accessibility is to be applied in the design of all capital projects, by both the University's internal design group and external consultants. The design team is required to read and comply with the full Design Standards as they apply to the project. A completed copy of the applicable check lists must be submitted by the design team to the University's project manager when the Design Development phase is 75% complete, unless instructed otherwise.

*Ontario Building Code*

The Ontario Building Code (OBC) 2006, Section 3.8 Barrier-free Design contains legislated minimum requirements for the design and construction of all projects. The latest version of the OBC must be followed in all construction projects.

*City of Toronto Accessibility Design Guidelines*

The City of Toronto Accessibility Design Guidelines (2004) were developed for implementation of 'best practices' on municipal capital projects in response to ODA requirements and are continually updated to reflect changes in legislation; in some cases the guidelines exceed OBC requirements. This document serves as a reference tool under the review of U of T's Accessibility Planning Committee.

*Ontarians with Disabilities Act*

The Ontarians with Disabilities Act (ODA) was passed in December 2001 to "improve access and opportunities for people with disabilities" identifying, removing and preventing barriers to participation in life within the province of Ontario. The ODA requires municipalities, universities and other public institutions to establish an Accessibility Plan annually.

*Accessibility of Ontarians with Disabilities Act*

The Accessibility of Ontarians with Disabilities Act (AODA) received Royal Assent in June 2005. A final version of the proposed Accessible Built Environment Standard was issued in July 2010. Once the standard is adopted as legislation, institutions will have a transition period within which to comply.

**Background**

> Student Housing is an important part of the University of Toronto student experience. The University's purpose in relation to student housing is to encourage the development of high-quality communities on and off-campus that support the academic and educational aims of the University community. To this end, student housing shall be administered in a manner that promotes safe, secure and stimulating environments that are conducive to students' academic success and personal growth, and foster a sense of community, civic responsibility, and an appreciation of the diversity of the University community.
>
> Preamble, University of Toronto Policy on Student Housing, June 29, 2006

Each of the Campus Planning Principles is relevant to the topic of housing on the St. George campus. The overarching Principles are LAND USE, indicating that "The use of physical resources of all kinds should aim to promote the University's academic goals and serve the overall mission..." and ACCESSIBILITY in that "The University buildings, landscape and grounds must accommodate a diverse population in an open and inclusive campus…".

*University College's Sir Daniel Wilson Hall quadrangle*


*Woodsworth Residence*


*Sir Daniel Wilson Residence, University College*


*Whitney Hall, University College*


*Graduate House*

**Existing Campus**

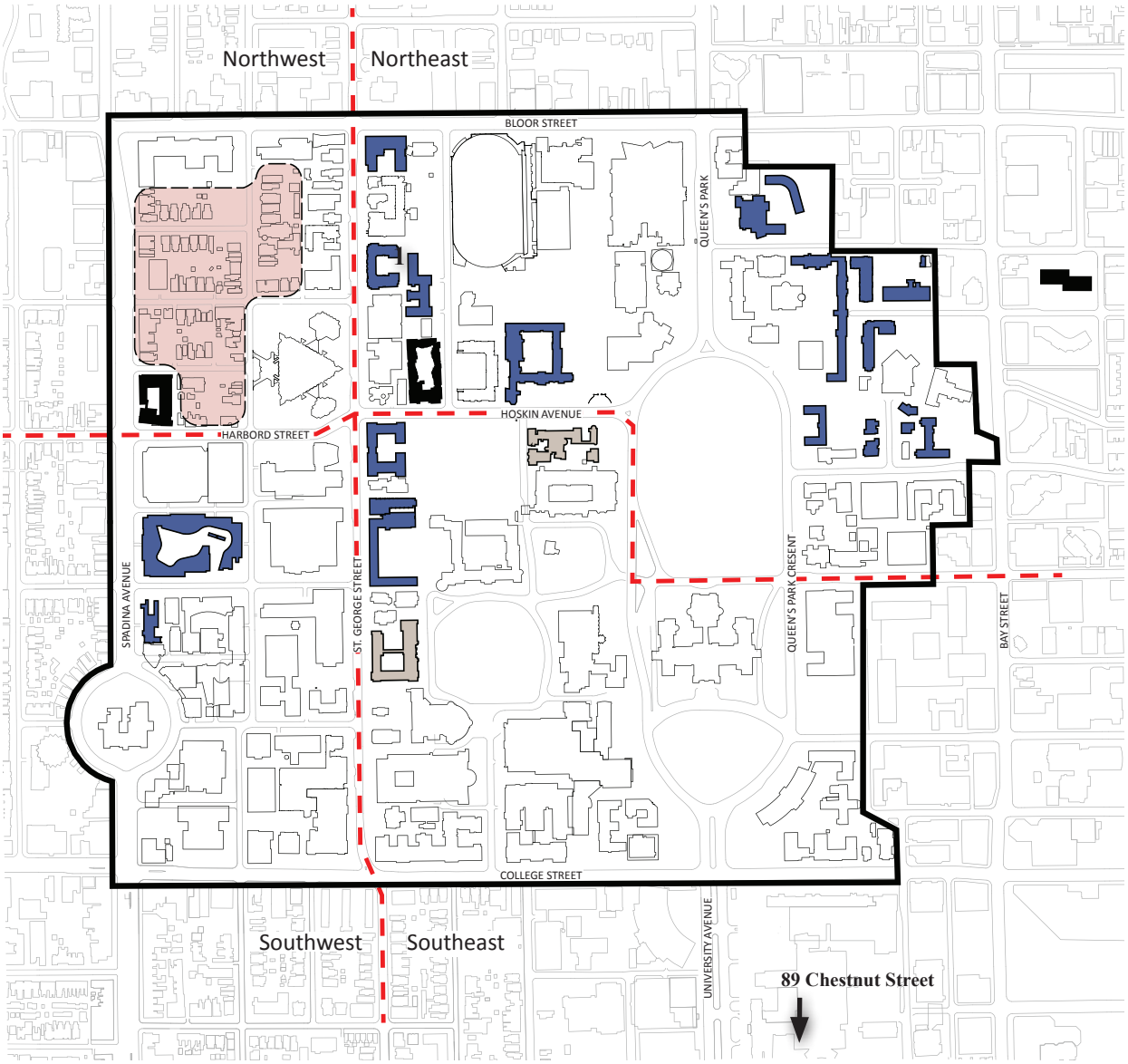
*The College System*

The tradition of student housing at the University of Toronto goes back to the early days of this campus when a number of independent colleges came together to form the University of Toronto. Housing, in these early days was provided to students within their associated College. This practice has largely continued to this day, with other non-College associated options having been more recently created. The *Governing Council Statement on the Roles of the Constituent and Federated Colleges, July 2008* defines 'Colleges' as "intellectual and social communities of students, faculty and staff which contribute to the advancement of learning at the University of Toronto. They provide opportunities for personal learning and friendships, making it possible for members of the University of Toronto to enjoy the advantages of both a small college and Canada's largest urban research university. The college system is one of the distinctive features of the St. George campus. Every Arts and Science student is a member of a College, whether in residence or not." Professional Faculty students are also accommodated at some of the Colleges.

The range of housing options for the University of Toronto is intentionally cast wide to accommodate the diversity of affiliated students, both undergraduate and graduate, student families, and new and visiting faculty members both within University-owned and run facilities on campus, and within vetted rental facilities in close proximity to campus. The University of Toronto is committed to the principle that the academic environment and the student experience are improved when students live on or near campus as members of the University community. Although the elements of student housing vary, some combination of residence for both undergraduate and graduate students, family housing, and off-campus housing, are well-established features of the St. George campus landscape, and an integral part of College and University life.

University of Toronto students originate not only from the Greater Toronto Area, but from all parts of Ontario, Canada, and the world. The University's ability to offer on-campus housing is an important factor in attracting international students, including international exchange students.

The University takes seriously its responsibility to help students find accommodation, either on campus or within reasonable commuting distance, and acknowledges that access to affordable housing proximate to the campus is a key factor in the students' choice of a university. As efforts to recruit and retain the very best minds continue, the provision of student housing will figure prominently in the kind of experience the University is able to offer.

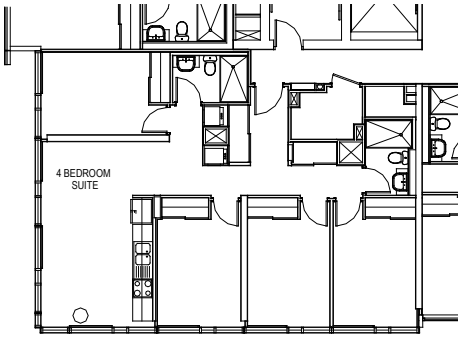



*University affiliated housing*

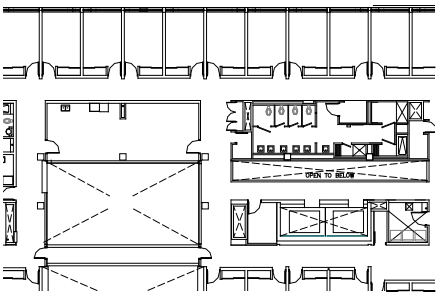
**Legend**

- Graduate and/or Family Housing
- Undergraduate Housing
- Mixed Graduate and Undergraduate Housing
- Huron-Sussex Neighbourhood

# Housing




*A typical suite-style residence configuration includes four bedrooms, two washrooms, combined kitchen/dining/living area. Common rooms are provided outside of living units, in this case, on alternate floors.*




*A typical dormitory style residence includes individual or shared bedrooms with shared amenity space including grouped washrooms, common rooms and study spaces.*

There are a variety of residences available on the St. George Campus to suit a range of student needs and requirements. With the exception of 89 Chestnut, located a 10-minute walk south from College Street and University Avenue, 1st-entry undergraduate residence spaces are all affiliated with the Colleges. Undergraduate residences range from dormitory style, with single and double rooms and shared common and dining facilities, to apartment/suite style, with grouped single rooms and living and kitchen facilities shared between 3-4 rooms. The residences are located in close proximity to their affiliated Colleges and provide programming and spaces such as music practice rooms, study spaces, gym facilities and common rooms.

Residences for undergraduate students include those housed at:

1. Innis College
2. New College
3. Trinity College
4. University College
5. Victoria University
6. Woodsworth College

Some residences allow for a broader population of residents. Those that provide spaces for undergraduate, 2nd-entry program, and graduate students include:

7. St. Michael's College
8. 89 Chestnut

Residences that provide spaces for 2nd-entry program and graduate students only include:

9. Graduate House
10. Massey College
11. Knox College
12. Wycliffe College

*Family Housing*

Housing for students and their families is available in unfurnished bachelor, one and two bedroom units in two 20-storey high-rise towers located at 30 and 35 Charles Street West (approximately 4 blocks east of University Avenue). Priority is given to couples, couples with children and single parents. By providing high quality housing, including family housing facilities on-campus, the University facilitates the integration of its diverse body of students into the campus community.

*Huron Sussex area housing*

*Morrison Hall, University College (left)*

*New College courtyard (right)*

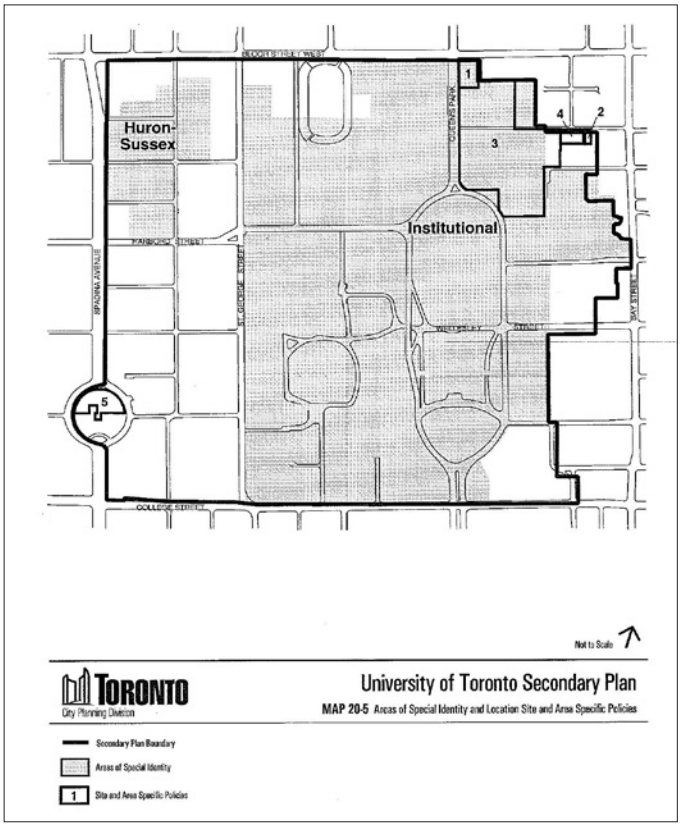
*Woodsworth College Residence, courtyard (far left)*

*New College Residence, interior landscaping (left)*

*Faculty/Temporary Housing*

The University owns a unique stock of housing units available for rent to new and visiting faculty members. These units are located in 19th century homes in the northwest Huron-Sussex district of the St. George campus and within steps of a wide range of urban amenities. The district has been identified as an "Area of Special Identity" within the City of Toronto Official Plan for the University of Toronto Area with the following description:

> *The Huron-Susex Area of Special Identity shown on Map 20-5 is a low-density residential enclave which houses students, faculty and staff of the University and other homeowners and tenants. The area includes an incidental mix of small-scale commercial and institutional uses which serve the neighbourhood or are related to the University of Toronto. Secondary Plan objectives for the Huron-Sussex Area of Special Identity are to: retain the character of residential uses and houseform buildings along tree-lined streets; encourage improvement of existing housing stock and the development of infill housing on vacant lands; and encourage both a year-round use of residential units and a mix of long term and temporary residents.*




The units are divided between new and visiting faculty housing. New faculty housing is unfurnished and available to newly or recently appointed University of Toronto faculty with full-time tenured or tenure-stream academic appointments. Visiting faculty housing is fully-furnished and available to visiting professors who have received a formal invitation to teach and/or conduct research at the University of Toronto.

*Off Campus Housing/Temporary/Emergency Housing*

The University also offers several resources to assist students in finding affordable off-campus housing, including temporary or emergency accommodations.

Student Housing Services is the main source of housing information at the U of T. The Student Housing Rental Search is available to assist students with off campus housing needs including helpful information about landlords.

The Tenant Housing division at Downtown Legal Services provides legal services to tenants who feel they are being treated unfairly by their landlords.

**Recent Projects**

In 2002 the University was faced with increasing demand resulting from a province wide elimination of grade 13, and exacerbated by rising participation rates. The resulting double cohort presented the University with a serious accommodation shortage, including its inability to meet expectations for housing. Demand far exceeded supply, and every indication showed that this trend would continue if not intensified. The University responded with a capital plan that included the construction of new residences for each of its three campuses. New undergraduate residences on the St. George Campus were constructed at New College, Woodsworth College and University College, and included the purchase of 89 Chestnut, a near-by hotel, which was converted to student housing. New residences were also constructed at Victoria and St. Michael's College. With these in place, the University was able to guarantee a residence space for all admitted first-year students.

**Impact on the Master Plan**

*Opportunities and Challenges*

Despite careful analysis at the time, actual demand for residential space has not kept pace with ongoing projections beyond planning for the double cohort. The need for residential space fluctuates depending on general housing availability and rental rates for accommodation in areas adjacent to the campus. Flexible design of newer residences has allowed the University to make good use of this resource and allow for fluctuations in demand by temporarily converting dormitory style residences to accomodate academic programs, particularly the faculty offices, that fit within the residential layout.

**Priorities through 2030**

1. Maintain quality housing options on the St. George campus to accommodate the range of student and faculty population
2. Continue to support students with assistance finding quality, off-campus housing within close proximity to the campus

**Regulations and Guidelines**

The University of Toronto Policy on Student Housing (June 2006) governs student housing accommodations for the St. George campus. The policy addresses elements related to student housing including recruitment and retention, student life, common standards and accessibility. It requires a Student Housing Advisory Committee be struck each year to monitor housing practices and policy issues and to develop standards common to the three University of Toronto campuses.

Implementation Guidelines for the administration of University student housing are set by the Vice-President and Provost, in cooperation with the heads of the Federated Institutions. These guidelines direct the Student Housing Advisory Committee in matters regarding the implementation of student housing policy.

**Background**

The planning principle CAMPUS ENVIRONMENT requires that "The University foster a safe and vibrant campus that supports the aspirations of academic life, and a welcoming atmosphere to the broader community of which it is a part…". While safety issues, perceived and real, differ from campus to campus, standards for the design of facilities, landscapes and security systems have been developed to ensure a consistent level of overall safe practices is incorporated into all campus spaces. Programs and initiatives are also implemented on a campus-by-campus basis to address the particular nature of each situation. As with all standards, guidelines and programs, documents and mandates require review and updating at regular intervals to assure their application remains consistent with best practices.


*Philosopher's Walk, shown here, is one of numerous locations with emergency stations on campus.*

**Current Practice and Recent Project**

*Campus Police*

All University of Toronto Police are trained in, and advocate for, Crime Prevention through Environmental Design (CPTED), a pro-active crime prevention strategy utilized by planners, architects, police services, security professionals and everyday users of space. CPTED works on the basis that proper design and effective use of the built environment can lead to a reduction in the incidence and fear of crime and improve the quality of life. There are four underlying CPTED concepts:

1. Natural Surveillance
2. Natural Access Control
3. Territorial Reinforcement
4. Maintenance

*The St. George Street Revitalization project introduced, among other things, a program of safe and attractive lighting standards that provide illumination for pedestrians on campus at all hours.*

Campus Police may be contacted to provide safety audits of existing facilities or conditions. Recommendations typically include the augmentation of lighting, surveillance equipment, and other passive strategies to provide safe and secure space. From time to time, Campus Police also participate in addressing these concepts during the design process of new buildings and the overall planning of campus precincts.

The St. George campus is also monitored by Toronto Police and the two forces work together to accomplish common goals.

*Environmental Health and Safety (EH&S)*

The University of Toronto, as an employer, is responsible under the Ontario Occupational Health and Safety Act for establishing and maintaining joint health and safety committees in the workplace. These committees, consisting of representatives of workers and management, serve to provide consultation and meaningful input from employees in matters relating to health and safety in the University of

Toronto context. The mission of the EH&S Department is to ensure that an environmentally responsible, safe, and healthy work, research and study environment exists at the University of Toronto. This is accomplished by maintaining legislated requirements.

*Asbestos Abatement*

Under the authority of the Asbestos Control Policy (2003), the University's Asbestos Control Program establishes proper precautions, practices and procedures to prevent the exposure of individuals to airborne asbestos fibres. The Program meets the requirements defined under the Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations (Reg. 838), made under the Occupational Health and Safety Act of Ontario.

University employees, as well as contractors, are sometimes required to conduct work that involves the disturbance of asbestos-containing materials. Such work activities are strictly regulated. For each of the three types of work (low, moderate or high risk), the Asbestos Control Program designates corresponding standard operating procedures to prevent the exposure to airborne asbestos. These procedures include strict requirements for preparation of the work area; use of personal protective equipment; use of proper work practices to reduce the spread of asbestos fibres; personal hygiene practices; and asbestos waste handling.

The Asbestos Control Program establishes guidelines to conduct periodic re-inspections, hazard reporting and assessments on locations and/or materials in buildings suspected to contain asbestos. An Asbestos Inventory is maintained by Facilities and Services, which documents the location and relative hazard of these locations. Re-inspections are performed once every 12 months to ascertain when remediation or maintenance is required.


*Pedestrian pathways are well defined, well lit and planned with adjacent uses that provide passive surveillance. Here, common rooms in University College's Morrison Hall overlooks the Back Campus and its adjacent walkway.*

**Impact on the Master Plan**

*Opportunities and Challenges*

Standards of safety and security are applied to new construction and renovation as they occur, but existing older structures and landscaped areas on campus are not held to the same constantly evolving standards as a rule. These places could be addressed through a carefully considered plan that prioritizes areas of greatest concern. The St. George campus is well equipped with security posts, lighting standards, and the implementation of strict landscape standards that address sightlines and eliminate spaces of entrapment. However, there remain ongoing elements of campus development that must be addressed to maintain a safe and secure campus.

Involving Campus Police early in the planning and design stages of new construction projects and major renovations as a rule, would allow for the comprehensive inclusion of Crime Prevention through Environmental Design (CPTED) recommendations and design-sensitive security measures on a project by project basis.

All renovations to existing buildings are subject to review of asbestos material and abatement where found to be located in an area to be disturbed.

## Priorities through 2030

1. Maintain strict design standards and guidelines for new construction, existing facilities and grounds to ensure safe, secure buildings and open spaces across campus.

**Regulations and Guidelines**

The University's Design Standards for new construction and building renovation include requirements for maintaining safe, secure buildings and open spaces. Areas of particular concern covered in the Safety and Security section of this document include, lighting and visibility, sightlines, entrapment and movement predictors, isolation, access control, communication and activity generators/activity mix. The Landscape Design Standard suggests following principles set out in the Open Space Master Plan; verification of below grade utilities prior to excavation, and provision of lighting for safety & security of passageways, building entrances, courtyards, etc.

All renovations to existing buildings are subject to review of asbestos material and abatement where found to be located in an area to be disturbed. Health and Safety Policies and procedures can be found on the University website for Environmental Health and Safety.

**Background**

Campus Planning Principles under CAMPUS ENVIRONMENT, LAND USE and ACCESSIBILITY each help to frame the topic of Parking, both vehicular and bicycle, for the St. George campus.

**Existing Campus**

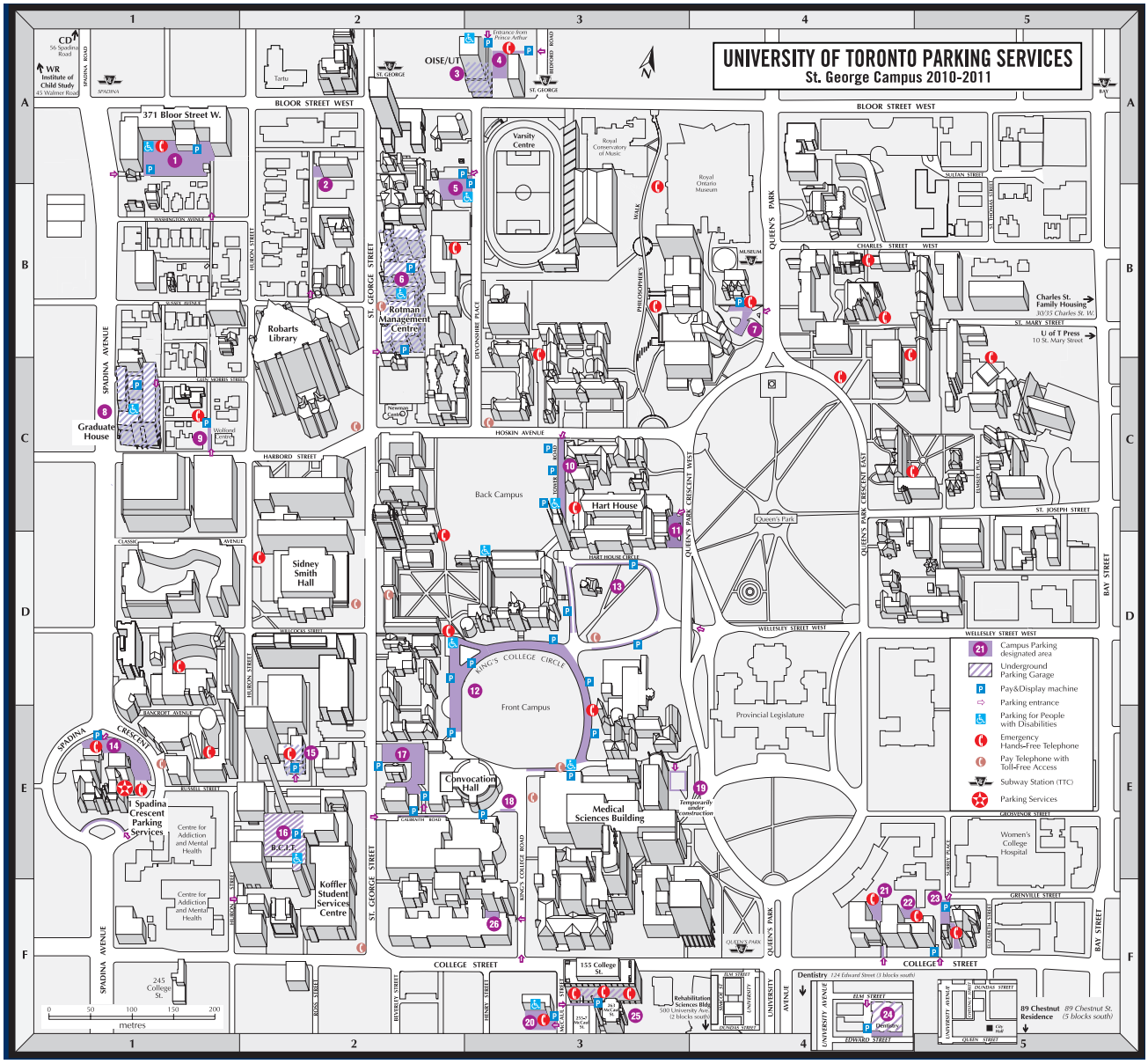
*Vehicular Parking*

Vehicular parking on the St George Campus is governed by a unique City of Toronto by-law. Rather than based on gross square metres of built facilities, as with conventional site-by-site development requirements, the parking by-law requires that between 1930 and 2130 parking spaces are to be located within the geographical boundary identified in the Secondary Plan for the University of Toronto Area. This requirement recognizes the relatively high public transit capacity available to the campus.

*Bicycle Parking*

Bicycle parking, required under the University of Toronto Area Secondary Plan, is well established on the St. George campus. Post-and-ring bicycle racks are provided at most building entrances and in other convenient locations across the campus, with additional spaces added each year and with each new facility constructed.

*Permit and ticketed parking on King's College Circle*




*The University of Toronto Parking Services provides an updated map indicating parking locations across the St. George Campus, pictured above.*

## Current Practice and Recent Projects

*Vehicular Parking*

The St. George Campus provides vehicular parking spaces in 45 surface lots and 9 underground parking structures located conveniently across the campus. These facilities, which are operated by the University of Toronto Parking and Transportation Services, provide a combination of permit and hourly parking, with accessible parking spaces clearly identified. City-regulated metered parking is also available on most streets that run within the campus boundaries.

*Below-grade structured parking is available across campus. Pictured here is the entrance to the parking garage located below the Graduate House with access off Glen Morris Street.*


*Metered parking is also available along many of the City owned streets that intersect the St. George Campus. Metered parking spaces are additional to the University's parking inventory.*

*The University's Open Space Master Plan,* Investing In the Landscape, *recommends that parking on Hart House Circle, pictured here, and King's College Circle be eliminated in favor of a more pedestrian friendly, green open space environment.*

# Parking

*Sustainable Campus Initiatives*

The University of Toronto has recently partnered with zipcar®, a rent-by-the-hour service providing access to a variety of fuel-efficient vehicles from a convenient and central campus parking lot.

Recent campus construction projects have pursued LEED® certification, a credit-based system administered by the Canada Green Building Council (CaGBC). To qualify projects must achieve credits for sustainable features, including credits available under Sustainable Sites Credit 4 - *Alternative Transportation*. Points can be obtained through provision of preferred parking for carpooling and low-emitting vehicles, and the provision of alternative fueling stations such as plug-in for electric cars. The University of Toronto Parking Services is looking into the viability of implementing such a program within its parking locations on the St. George Campus. The *Alternative Transportation* credit also rewards access to public transportation, and bicycle commuting.

*Bicycle Parking*

In partnership with a City of Toronto pilot project, reserved bicycle lockers, available by application, are now located at 71 Prince Arthur and 371 Bloor Street West (Site 1).

The City of Toronto has also identified locations on campus for the new BIXI Toronto bicycle sharing program. This program provides the City with a network of bike-docking stations throughout the downtown core. These stations make bikes available for pick up and drop off from location to location. With an annual membership, or credit-card payment in-lieu, bicycles are available for 24/7 use.

This City initiative will complement and extend the existing U of T Bikechain program. Bikechain is the University of Toronto Student Union (UTSU) run and funded bicycle facility. It provides a hands-on educational repair shop, free bicycle rentals, and free repair and maintenance seminars to the University community.

*Post-and-ring bicycle racks located in front of the Medical Sciences Building (MSB), along King's College Circle. (below, right)*

*Cycling promotion through the placement of BIXI bike stations on campus (below)*

**Impact on the Master Plan**

*Opportunities and Challenges*

The City of Toronto continues to support an auto-minimization policy within the City's core areas. With this in mind, the existing University of Toronto Area parking by-law may be reviewed for further reduction of parking space requirements within the campus boundaries. New, more sustainable practices will likely be implemented on the campus in concert with growing demand, along with reductions in the provision of conventional parking spaces.

The development of all proposed envelopes on the St. George campus would result in a maximum loss of 461 surface lot parking spaces. As the University is required by the current by-law to maintain between 1930 and 2130 spaces, the loss of all these spaces will put the University in non-compliance with the by-law. However, since the by-law was first enforced, the University has acquired additional properties with structured parking spaces immediately outside the by-law boundaries. These lots, at OISE-UT and the Health Sciences Building, provide opportunities to redistribute some lost spaces at both the north and south sectors of campus. Additionally, several development sites provide opportunities to include underground replacement parking spaces through the construction of the new facilities. Existing permissions also exist on the back campus to provide construction of a significantly sized underground parking garage.

*Street parking along Huron Street in the west campus*


*Glen Morris Street childcare parking/drop-off*


*Zipcar parking is located at 1 Spadina Avenue*

**Parking Spaces Located on Development Sites**

| Site # | Location | # Existing Spaces |
|---|---|---|
| 1 | 371 Bloor St. W. | 100 |
| 2 | 50 Sussex Ave. | 2 |
| 4 | 369 Huron St. | 4 |
| 6 | 100 St. George St. | 8 |
| 7 | 1 Spadina Crest. | 109 |
| 9a | 50 St. George St. | 0 |
| 10 | 47-55 St. George St. | 96 |
| 12 | 100 Devonshire Pl. | 48 |
| 14 | 88-112 College St. | 38 |
| 16 | 200 College St. | 23 |
| 17 | 5 King's College Rd. | 0 |
| 19 | 12 Queen's Park Crest. W. | 0 |
| 21 | 299 Bloor St. W. | 0 |
| 25 | 74-90 Wellesley St. | 3 |
| A | 78, 80, 84 Queen's Park Crest. W. | 18 |
| B | 487,563 Spadina Ave. | 0 |
| C | 215 Huron St., 19 Russell St. | 12 |
| D | 25 Harbord St. | 0 |
| E | 162 St. George St. | 0 |
| | **Total** | **461** |

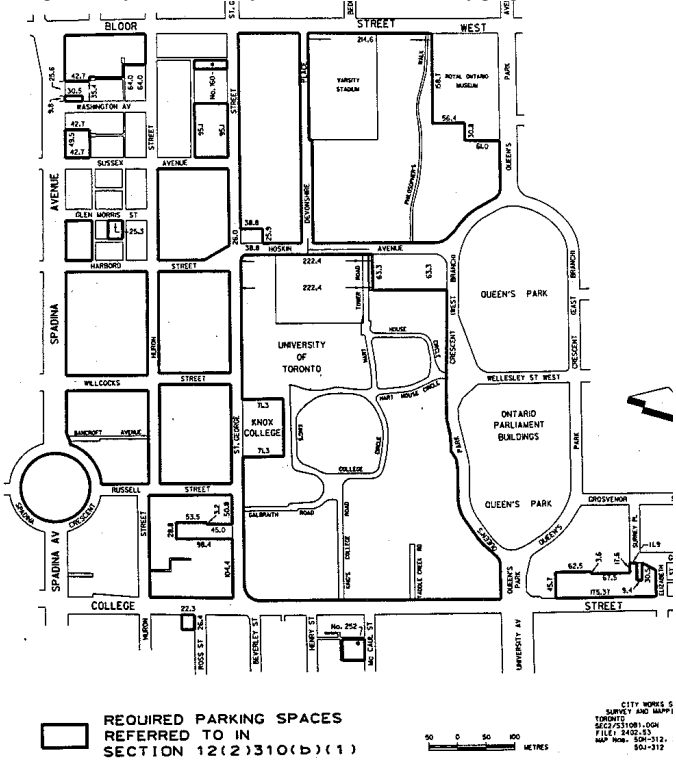
### Priorities through 2030

1. Work with City to reduce parking on the St. George Campus supporting the City's autominimization policy through the introduction of alternate means of transportation to the community.
2. Continue to increase bicycle infrastructure to accommodate the increasing cycling demand on campus.

## Regulations and Guidelines

Vehicular parking within the University of Toronto Area is regulated by the City of Toronto zoning by-law document 438-86 (b) Motor Vehicle Parking (1), requires that:

The University of Toronto shall provide and maintain not less than 1930 motor vehicle parking spaces and not more than 2130 motor vehicle parking spaces within the areas delineated by heavy lines on the map following this subsection to serve as parking for all buildings and structures operated by the University of Toronto for university purposes within the University of Toronto Area.




The University of Toronto Area Seconday Plan requires "adequate bicycle routes and secure bicycle parking spaces will be distributed throughout the University of Toronto Area (Part 3.1.4).

The new Toronto Green Standard will, when in force, require additional bicycle parking spaces and associated amenities with all new construction including that within the boundaries of the University of Toronto Area.