

*The Board of Governors acknowledges and respects the Algonquin First Nation, on whose traditional territory the Carleton University campus is located.*

**The 635<sup>th</sup> Meeting of the Board of Governors**  
**Monday, April 24<sup>th</sup>, 2023 at 3:00 p.m.**  
**Richcraft Hall 2440R**

**AGENDA**

**OPEN SESSION**

**1. CALL TO ORDER AND CHAIR'S REMARKS**

**2. DECLARATION OF CONFLICT OF INTEREST**

**3. APPROVAL OF OPEN AGENDA**

- The agenda was circulated with the meeting material.

**4. OPEN CONSENT AGENDA**

- Circulated with this agenda is a Consent Agenda which lists items presented to the Board for action or for information.

**5. OPEN – ITEM(S) FOR APPROVAL**

5.1 2023/2024 Domestic Tuition Fees (P. Dion)

- An executive summary and presentation were circulated in advance.

5.2 2023/2024 Operating Budget (P. Dion)

- An executive summary, report and presentation were circulated in advance.

5.3 Campus Master Plan (C. Tessier)

- An executive summary, report and presentation were circulated in advance.

5.4 Loeb Building Renovations - Capital Proposal Form (C. Tessier & P. Dion)

- Executive summary, presentation and capital proposal form were circulated in advance.

5.5 Decommissioning of P9 Parking Garage - Capital Proposal Form (C. Tessier & P. Dion)

- Executive summary, presentation and capital proposal form were circulated in advance.

**6. OPEN – ITEM(S) FOR INFORMATION**

6.1 Coordinated Accessibility Strategy Annual Report (C. Malcolm Edwards)

- An executive summary, presentation and annual report were circulated in advance.

6.2 International Strategy Annual Report (B. Appel Kuzmarov)

- A presentation was circulated in advance.

6.3 Report from the Chair (G. Farrell)

- A verbal report will be given.

6.4 Report from the President (B.A. Bacon)

- A written report was circulated in advance.

6.5 Committee Chair Updates

- a) Advancement and University Relations (K. Furlong)
- b) Building Program (C. Tessier)
- c) Finance (P. Dion)

**7. OPEN – OTHER BUSINESS**

**8. OPEN - QUESTION PERIOD**

**9. END OF OPEN SESSION AND BRIEF NETWORKING BREAK**

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# **AGENDA ITEM**

## **5.1**

<b>To:</b>	Board of Governors	<b>Date of Report:</b> 29 March 2023
<b>From:</b>	Finance Committee	<b>Date of Meeting:</b> 24 April 2023
<b>Subject:</b>	<b>2023-24 Domestic Tuition Fees</b>	
<b>Responsible Portfolio:</b>	Provost and Vice-President (Academic)	

## 1.0 PURPOSE

For Approval    For Information    For Discussion

## 2.0 MOTION

On the recommendation of the Finance Committee, move to approve the domestic tuition for 2023-24, per the 2023-24 Ontario Tuition Framework, as presented.

## 3.0 EXECUTIVE SUMMARY

Domestic tuition fee increases are regulated by provincial government policy through the Tuition Framework. On March 2, 2023, Carleton received the 2023-24 Tuition Framework indicating that the freeze for domestic tuition will continue for Ontario residents for 2023-24. The Tuition Framework permits increases for up to three programs with well-below sector average fees (tuition anomalies), and for tuition to be increased by 5% for out-of-province domestic students.

The rate of increase for international fees was set by the Board last year, covering 2022-23 and 2023-24. The recommended international fees were supported by market comparison, which shows Carleton as being well within the range of other institutions.

The 2023-24 Tuition Fee Framework is summarized as follows:

Program	Domestic	
	Ontario Resident	Out-of-Province
Tuition Anomaly (New Students Only)	7.5%	7.5%
All Other	0%	5%

Tuition is frozen for Ontario resident students except for students entering their first year of study in a program identified as having a tuition anomaly where tuition fees may be increased by 7.5%, subject to ministry approval.

Tuition may be increased by 5% for domestic out-of-province students except for students entering their first year of study in a program identified as having a tuition anomaly where tuition fees may be increased by 7.5%.

#### 4.0 INPUT FROM OTHER SOURCES

A tuition anomaly proposal was submitted to MCU for approval, as required by the 2023-24 Ontario Tuition Framework, in order to address tuition rates that are demonstrated as lower than the average tuition of comparator institutions (15% or lower is the anomaly threshold).

#### 5.0 ANALYSIS AND STRATEGIC ALIGNMENT

Domestic fees are fully regulated by the provincial government. On January 17, 2019, the Government of Ontario announced a Tuition Fee Framework for colleges and universities which required tuition fee reductions of 10 percent in 2019-20, relative to 2018-19 levels. Since that time, tuition frameworks have mandated that domestic tuition remain frozen at 2019-20 levels, with the exception of out-of-province domestic students (note that the framework allowed for a 3% increase in 2021-22, and a 5% increase for 2022-23 and 2023-24). For 2023-24, the Government of Ontario has introduced a process within the tuition framework to address tuition anomalies. If an institution can demonstrate that tuition for a program is well below the average tuition for a set of comparator institutions, they would be allowed to increase tuition for entering first-year students by 7.5%. In general, Carleton fees are comparable to sector averages, with a few exceptions that will be submitted for government review: the Bachelor of Engineering program, the undergraduate programs in the Sprott School of Business (Bachelor of Commerce and Bachelor of International Business programs), and the Masters of Business Administration program.

#### 6.0 FINANCIAL IMPLICATIONS

It is estimated that a 5% increase in out-of-province domestic student tuition would result in approximately \$800,000 in increased tuition revenue for 2023-24.

It is estimated that a 7.5% increase in programs undergoing the tuition anomaly review process may be approximately \$1,000,000 if all three proposals are approved.

#### 7.0 RISK, LEGAL AND COMPLIANCE ASSESSMENT

The key risk associated with tuition increases is the possibility of not generating sufficient revenues to meet expenses. Given that the provincial government regulates domestic tuition, which remains frozen in general for Ontario students and possibly for the foreseeable future, it is critical that the university take any opportunity it can to increase tuition fees when permitted.

Another risk associated with increasing tuition fees is its potential for an adverse impact on enrolment. This risk is mitigated by benchmarking with other institutions and ensuring tuition is competitive with rates across the sector.

#### 8.0 REPUTATIONAL IMPLICATIONS AND COMMUNICATIONS STRATEGY

The proposed increases are targeted and within the tuition policy framework, which dictates that tuition in general remains frozen. Therefore, we do not anticipate reputational impact linked to permissible tuition fee increases.

#### 9.0 OVERALL RISK MANAGEMENT ANALYSIS

	VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH
STRATEGIC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEGAL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OPERATIONAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TECHNOLOGICAL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FINANCIAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REPUTATIONAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# 2023-24 Domestic Tuition Fees

Board of Governors

April 24, 2023

# International Fees – 2023-24

## 2023-24

- International fee increases were approved by the Board in April 2022 for two academic years (2022-23 and 2023-24). Increases ranged from 0% to 8%.

# Domestic Fee Structure - Timeline

Regulated by Provincial Tuition Policy Framework

## 2019-20

- All domestic tuition fees reduced by 10% following the provincial government tuition framework

## 2020-21

All domestic tuition fees held constant at 2019-20 levels

## 2021-22 and 2022-23

- Domestic tuition fees for Ontario residents held constant at 2019-20 levels
- Tuition increases were permitted for out-of-province domestic students (up to 3% in 2021-22 and up to 5% in 2022-23). Carleton approved +3% in 2021-22 and +3% in 2022-23.



# Domestic Fee Structure – 2023-24

## 2023-24

- On March 2, 2023, the province released the details of the 2023-24 Tuition Fee Framework indicating that:
  - Tuition continues to be frozen for domestic Ontario residents, with the exception of an adjustment of up to three programs that can be demonstrated as tuition anomalies (defined as 15% below comparator programs)
  - Tuition may be increased 5% for out-of-province domestic students
  - Tuition may be increased 7.5% for students entering their first year of study in a program identified as having a tuition anomaly, subject to ministry approval

# Summary of 2023-24 Tuition Fee Increase

<b>Program</b>	<b>Domestic</b>	
	<b>Ontario Resident</b>	<b>Out-of-Province</b>
Tuition Anomaly (New Students Only)	7.5%	7.5%
All Other	0%	5%

Programs submitted to MCU with identified tuition anomalies are:

- BEng
- BCom/BIB
- MBA

# Motion

On the recommendation of the Finance Committee, move to approve  
Move to approve the domestic tuition for 2023-24, per the 2023-24  
Ontario Tuition Framework, as presented.

# **AGENDA ITEM**

## **5.2**

<b>To:</b>	Board of Governors	<b>Date of Report:</b>	30 March 2023
<b>From:</b>	Finance Committee	<b>Date of Meeting:</b>	24 April 2023
<b>Subject:</b>	<b>2023-24 Operating Budget</b>		
<b>Responsible</b>	Provost and Vice-President (Academic)		
<b>Portfolio:</b>			

**1.0 PURPOSE**

For Approval    For Information    For Discussion

**2.0 MOTION**

On the recommendation of the Finance Committee, move to approve the 2023-2024 Operating Budget, as presented.

**3.0 EXECUTIVE SUMMARY**

The operating budget represents the resources available for core activities of the university, including teaching, research, student services, and academic and administrative support. It is funded by government operating grants, tuition fees, and other general revenues. The budget is divided into divisions called Resource Planning Committees (RPCs). Each RPC is responsible for the financial health of the departments within it. There are also university-wide expenses (e.g., utilities, student aid, software licenses, employee benefits) that are grouped under the University Budget.

The post-secondary education sector in Ontario currently faces a number of challenges as we collectively strive to achieve our strategic goals while maintaining balanced operating budgets. Presenting balanced operating budgets are increasingly difficult due to several factors, including a continued freeze on domestic tuition for Ontario resident students, a fixed operating grant, material deferred maintenance liabilities, annual compensation increases and changes in recruitment and enrolment patterns. However, we at Carleton remain confident that a return to in-person recruitment and our reputational enhancement efforts, combined with signals that international student visa processing issues have been resolved, will bring modest growth in tuition revenue for 2023-24. This, coupled with higher than usual investment income generated from investing unallocated debenture proceeds into a GIC, support the presentation of a balanced operating budget for our institution once again.

As part of the annual planning and budget cycle, the Strategic Integrated Planning Committee sets the direction and priorities of the university. At the end of the SIPC planning process, the following priorities were established for the coming fiscal year:

- Continue progress toward our Strategic Integrated Plan
  - Share Knowledge, Shape the Future;
  - Serve Ottawa, Serve the World;
  - Strive for Wellness, Strive for Sustainability; and
- Innovation in recruitment, retention, programming, and curriculum

In response to these priorities, RPCs have been encouraged to use existing carry forward funds to support planned initiatives. The aim to draw on unit-level reserves was reinforced through conservative budget allocations along with a mandated 2% across-the-board base budget cut for all RPC operating budgets for 2023-24.

The university proposes reducing allocated funding to RPCs by \$1.0 million over the previous year through a combination of a \$6.8 million base budget cut followed by \$5.8 million in strategic allocations to support undergraduate recruitment, research, Kinàmàgawin, experiential learning, reputational enhancement initiatives, and Information Technology services. Proposed non-discretionary allocations to University Budgets totals \$5.9 million. These allocations are in support of IT Infrastructure Modernization, student scholarships and aid, and to respond to contractual and inflationary increases (See Table 2).

The Provisions and Contingencies budget includes funding set aside to support salary increases, debt servicing, international agency commission fees and the Enrolment-Linked Budget Allocation mechanism.

#### 4.0 INPUT FROM OTHER SOURCES

The operating budget consultation process involves many stakeholders from the Resource Planning Committees. Beginning in the fall, input was sought from the Board of Governors and discussions took place with RPCs about emerging priorities and future pressures. These discussions were primarily held with the Strategic Integrated Planning Committee, which is composed of the President, Vice-Presidents, Deans, Deputy Provost, Associate Vice Presidents, and Director of Planning and Budgeting. In March, RPC chairs presented their operating plans and requests for resources to all the other RPC chairs. The Provost's Budget Working Group (PBWG) then made decisions to allocate resources in a way that best supports the university's operating priorities while maintaining a balanced budget. Input concerning projected enrolment and tuition fees was received from the Vice-President (Students & Enrolment), the Office of the Deputy Provost (Academic Operations and Planning), Financial Services, the Office of Institutional Research and Planning, and the Faculties. Information regarding grant allocations was also provided by the Ministry of Colleges and Universities.

#### 5.0 ANALYSIS AND STRATEGIC ALIGNMENT

*Table 1: Proposed 2023-24 Operating Budget*

Tuition Fees	304,407
Government Grant	174,741
Investment Income	24,083
Other Income	21,931
<b>Total Income</b>	<b>525,162</b>
RPC Operating Budgets	(333,719)
University Budgets	(167,773)
Provisions and Contingencies	(23,670)
<b>Total Expenditures and Transfers</b>	<b>(525,162)</b>
<b>Net Operating Result</b>	<b>-</b>

## Revenue

Slightly less than 95% of operating revenue comes from tuition fees (25% international, 35% domestic) and government grants (34%) combined.

Enrolment assumptions for 2023-24 include: a slow and gradual increase in domestic undergraduate and international graduate student intake; a partial bounce-back in international undergraduate intake following the international student visa processing issues experienced in 2022-23; flat domestic graduate student intake; and modest intake growth driven by the launch of new graduate programs.

Domestic tuition fees for Ontario resident students will continue to be frozen; domestic tuition fees for domestic out-of-province students are permitted to increase by 5%; international tuition fees will continue to increase in line with the approved international tuition fee framework; and, new in 2023-24, the Province of Ontario has launched a process to assess tuition fee anomalies which may permit universities to increase tuition fees for up to three programs with below-market fees.

## Expenditures and Transfers

For expenditures, 75% go toward compensation (salaries and benefits). A further 11% relates to campus infrastructure and 8% to student support and enrolment growth.

The university proposes reducing allocated funding to RPCs by \$1.0 million over the previous year through a combination of a \$6.8 million base budget cut followed by \$5.8 million in strategic allocations to support undergraduate recruitment, research, Kinàmàgawin, experiential learning, reputation enhancement initiatives, and Information Technology services. Proposed non-discretionary allocations to University Budgets totals \$5.9 million. These allocations are in support of IT Infrastructure Modernization, student scholarships and aid, and to respond to contractual and inflationary increases (See Table 2).

The Provisions and Contingencies budget includes funding set aside to support salary increases, debt servicing, international agency commission fees and the Enrolment-Linked Budget Allocation mechanism. \$10.4 million is proposed to be allocated to support these non-discretionary contingencies.

*Table 2: Preliminary 2023-24 Operating Budget Allocations*

<b>Investment Area</b>	<b>Allocation</b>	
	<b>Base</b>	<b>Fiscal</b>
Resource Planning Committees (RPC)	\$ (5.9M)	\$ (1.0M)
University Budgets	\$ 3.8M	\$ 5.9M
Contingency	\$ 11.0M	\$ 10.4M
<b>Total</b>	<b>\$ 8.9M</b>	<b>\$ 15.3M</b>

## 6.0 FINANCIAL IMPLICATIONS

The 2023-24 operating budget has been prepared in the context of continuing revenue pressures caused by: i) changes in student enrolment patterns accelerated by the pandemic; ii) capped government grant funding on enrolment growth; iii) domestic 2023-24 tuition fees for Ontario residents remaining frozen at the 2019-20 level (which included a 10% fee reduction); iv) the SMA3 framework that will put future grant funding at risk.

Operating expenditures are projected to increase at a faster rate than revenues. Achieving balanced budgets over the university's five -year financial planning horizon will be difficult; prudent fiscal management will be required. Fiscal allocations in each of the next three to five years may need to be funded from previously earmarked reserves.

## 7.0 RISK, LEGAL AND COMPLIANCE ASSESSMENT

The preparation and implementation of the operating budget involves the use of projections and estimates that increase the level of overall risk of not achieving the desired results. For example, a 1% deviation in enrolment would lead to an approximate \$3M variance (positive or negative) on tuition fee revenues. To mitigate the risk, the budget uses appropriately conservative planning assumptions.

For example, the university has used conservative enrolment projections, as well as conservative inflationary projections, to counteract the inherent enrolment risk. The university also maintains appropriate reserves and contingencies to address unexpected events.

From a legal point of view, to comply with its corporate requirements, the university must have a budget approved before the start of a new fiscal year. The budget must also comply with the Board of Governors' directive that balanced budgets must be projected and achieved.

The lingering potential impacts of the COVID-19 pandemic on enrolment (and therefore revenue) represent a financial risk to the university's operating budget. In addition, there are risks related to inflationary pressures and external funding. In order to mitigate these risks, various financial planning scenarios have been assessed and appropriate contingencies been made available to address unexpected events.

## 8.0 REPUTATIONAL IMPLICATIONS AND COMMUNICATIONS STRATEGY

An entity's budget, and its performance compared to the budget, can have major reputational implications. Constantly overestimating revenues and/or underestimating expenditures can lead to operating deficits and debt, in turn negatively impacting our reputation as good stewards of the funds we receive. At Carleton, we have deliberately and openly used conservative revenue and expense estimates since the mid-1990s when serious financial difficulties were encountered.

The communication of the budget to the Board is completed by the report being presented. Another key element of the communications plan is to present and discuss the budget allocations with the RPC chairs in order to achieve a shared understanding of the resource allocation decisions made.

## 9.0 OVERALL RISK MANAGEMENT ANALYSIS

	VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH
STRATEGIC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEGAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OPERATIONAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TECHNOLOGICAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FINANCIAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REPUTATIONAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# 2023-24 Operating Budget Report

April 2023

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Carleton University is pleased to present its operating budget for the 2023-24 academic year. This budget supports the university's plans for the coming year through an alignment of the university's strategic planning, risk assessment, operational planning and budgeting activities. The primary goal of this budget, as recommended by the Provost's Budget Working Group (PBWG), is to advance the three directions of our Strategic Integrated Plan: *Share Knowledge, Shape the Future*; *Serve Ottawa, Serve the World*; and *Strive for Wellness, Strive for Sustainability* as well as to encourage innovation in recruitment, retention, programming, and curriculum.

Carleton has experienced much success over the years. Our Equity, Diversity and Inclusion (EDI) Action Plan, Coordinated Accessibility Strategy and *Kinàmàgawin* (Learning Together) Indigenous initiatives strategy are well underway. We have undertaken a rebranding exercise to realign our key messages, storytelling, branding and marketing to enhance the university's reputation at the regional, national and international levels. Our research activities continue to soar, with the university receiving a record-breaking \$97.4 million in external funding and \$37.5 million in Tri-Agency funding towards tackling some of the world's most pressing issues. We continue to support multidisciplinary research clusters, provide pathways to student success, enhance accessibility for all and establish partnerships with purpose. As the second most sustainable university in Canada, we continue to lead in sustainability and emphasize wellness and mental health in everything we do.

The post-secondary education sector in Ontario currently faces a number of challenges as we collectively strive to achieve our strategic goals while maintaining balanced operating budgets. Presenting balanced operating budgets have become increasingly difficult due to factors such as a continued freeze on domestic tuition for Ontario resident students, a fixed operating grant, material deferred maintenance liabilities, annual compensation increases and changes in recruitment and enrolment patterns. Despite these challenges, we are able to present a balanced operating budget for 2023-24.

Despite significant impact posed by the COVID-19 pandemic, including international student visa processing delays experienced in 2022-23, we remain confident that a return to in-person recruitment, our reputational enhancement efforts, combined with signals that international student visa processing issues have been resolved, will bring modest growth in enrolment and associated tuition revenue for 2023-24. This is driven by a planned gradual increase in domestic undergraduate and international graduate student intake along with a partial bounce-back in international undergraduate intake.

The impact of a continued domestic tuition fee freeze presents challenges to the university and each of its Resource Planning Committees (RPCs). Adjustments to RPC budgets will include some combination of changes to faculty and staff hiring plans, deferral of capital projects, and fewer investments in service improvements and new initiatives.

Students will continue to be supported by enhancements to mental health programs. A new Mental Health and Wellness website has been launched, featuring an interactive Wellness Services Navigator, to help students find tools and resources to understand, manage and improve their mental health and wellness while at university. The 2023-24 operating budget continues includes funding to support sexual violence prevention and individuals making disclosures and reports of sexual violence.

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Budget priorities in Faculty RPCs include curriculum renewal; developing new and emerging programs; hiring of tenure stream faculty as well as instructors; recruitment; capital investments in teaching and research infrastructure; investments to support researchers; and expanding experiential learning opportunities.

Priorities for central support services over the next few years include: new tools and initiatives to support high-impact practices in teaching and learning; investments to address information security risks; increasing capacity in student recruitment; enhancing student services; additional funding to support researchers and sustain research growth; funding to maintain the library's acquisition and collection activities; and critical spending on deferred building maintenance and IT infrastructure evergreening.

In addition to these institutional priorities, central contingencies will provide support to RPCs by funding compensation and benefit increases as we exit Bill 124.

Though Carleton is presently in good financial health, critical environmental factors continue to place pressure on maintaining a balanced budget. This budget represents investments geared toward accomplishing our goals while also ensuring we continue to maintain financial sustainability.

Jerry Tomberlin  
Provost and Vice-President (Academic)

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## 1.0 The Budget Process

Carleton's planning and budget framework is based on a five-year planning horizon, with the Strategic Integrated Plan providing the direction needed for the development of individual unit plans and priorities. University-wide, long-term planning is informed by the Strategic Integrated Planning Committee (SIPC). These unit-level plans, converted to a series of goals and initiatives, are then assessed by the Provost's Budget Working Group, which is tasked with setting institutional directions for the coming year and allocating resources in line with institutional priorities.

In March, Resource Planning Committee (RPC) Chairs meet to present their proposed budgets, promoting transparency and fostering discussion and collaboration across units. This approach ensures that proposed initiatives are aligned with the needs of the academic enterprise and service units, spending priorities are established, and that alignment and efficiency of service delivery is considered. As a result, budget allocations are informed not only by the overall financial situation of the university, but by the values and priorities of individual units.

Annual allocations are also affected by the university's Enrolment Linked Budget Allocation (ELBA) mechanism, which provides Faculties with a share of additional revenue associated with growth in enrolment. The ELBA funds are built into Faculty base budgets over time and are intended to cover increased teaching costs, lab infrastructure and equipment, as well as student initiatives associated with increases in enrolment. All RPCs are permitted to carry forward unspent budgets as a contingency against unexpected change in future revenues and expenses, for short-term planning and development needs and for longer-term strategic initiatives.

The planning and budgeting review process continues throughout the fiscal year. A mid-year contingency reserve is available to respond to off cycle requirements presented by the RPCs.

In concert with the university's annual Financial Report, which includes consolidated financial statements and a management discussion, the President's annual report completes the planning and budgeting cycle and highlights progress on our plans and priorities.

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### **Basis of Budgeting**

The basis of accounting for the university's financial statements is done in accordance with Canadian accounting standards for not-for-profit organizations. For budget purposes, revenues are recognized when received and expenses when paid out once eligibility requirements have been met; debt service payments and capital outlays are recognized as expenses; and depreciation and amortization expenses are not recognized as expenses in the budget document.

A complete reconciliation between the financial statements and the budget is provided in the annual Financial Report to the Board of Governors.

### **Fund Descriptions**

The **Operating Fund** represents the resources available for teaching, student services, and academic and administrative support. It is funded by government operating grants, tuition fees and other general revenues. This budget report reflects the 2023-24 operating fund budget.

The **Ancillary Fund** represents units that are supportive of Carleton's academic and research mission but are not directly related to its primary functions. Each ancillary is required, at minimum, to be self-supporting. Programming offered by ancillary services includes housing and dining for students, dining options across campus, recreation and athletic programs, medical and counselling services, retail outlets, events management both on campus (as well as off campus at the Carleton Dominion-Chalmers Centre), parking on campus, printing services and overseeing student cards and transit passes.

The **Capital Fund** covers new construction, renovations to existing space and deferred maintenance projects. Large capital assets may be funded by government grants, internal resources, debt or other funding received or designated for such purposes.

**Restricted Funds**, which include research funds, encompass funds earmarked for a specific or limited purpose, with limitations placed on them by external agencies, donors or internally by the university. They are typically set up to support students through scholarships and bursaries and provide financial support relating to research and contracts and other specific activities. These funds comprise both special purpose funds and endowment funds. Funds can also be internally restricted by the Board for specific purposes.

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## 2.0 Budget Priorities and Challenges in Maintaining a Balanced Operating Budget

As part of the annual planning and budget cycle, the Strategic Integrated Planning Committee sets the direction and priorities of the university. At the end of the SIPC planning process, the following priorities were established for the coming year:

- Continue progress toward our Strategic Integrated Plan
  - Share Knowledge, Shape the Future;
  - Serve Ottawa, Serve the World;
  - Strive for Wellness, Strive for Sustainability; and
- Innovation in recruitment, retention, programming, and curriculum.

### **Priorities of Resource Planning Committees**

In support of the university-wide directions established by Carleton's Strategic Integrated Plan, divisions and faculties have identified several priorities for new or continued investment in 2023-24:

- Reputation and branding;
- Recruitment;
- New and emerging programs
- Curriculum review
- Kinàmàgawin Indigenous Initiatives Strategy;
- Equity, Diversity and Inclusion (EDI) Action Plan;
- Global Talent Initiatives;
- CU @ Kanata North;
- Future Learning Lab;
- Innovation Hub;
- Student success, high-impact practices in teaching and learning;
- Continuing research momentum;
- Improving faculty to student ratios;
- Health and counselling services;
- Community engagement;
- Improvements to IT infrastructure, campus operations and maintenance;
- Accessibility Institute / Canadian Accessibility Network

### **Budget Pressures**

#### **Tuition and Other Fees**

Tuition represents a significant portion of the university's revenue and the fee setting process is critical in ensuring financial sustainability for the institution. Fees provide Carleton the ability to offer innovative, cutting-edge programs, provide a broad range of student support (including scholarships), and attract world-class faculty along with graduate and undergraduate students in pursuit of its academic and research missions. Charging fees that are beyond market rate could have an adverse effect on enrolment and overall university revenues. Failure to increase tuition fees when provided the flexibility to do so could also have an adverse effect on overall university revenues given its compounding effect and the uncertainty over permissible future increases. This risk is mitigated by approving increases when permitted by the Provincial Framework.

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Tuition fees for grant-eligible students are regulated by the government through the Tuition Fee Framework whereas tuition fees for non grant-eligible students are set to be broadly consistent with the fees charged by other Ontario universities for similar degrees. In 2019, the Ontario government announced a 10% tuition fee reduction on all grant-eligible tuition fees for the 2019-20 academic year, followed by a freeze through to 2022-23. Tuition fees for grant-eligible Ontario resident students continue to remain fixed at the 2019-20 level in 2023-24. However, the provincial government has permitted tuition fees for domestic out-of-province students to increase by 3% in 2021-22 and 5% in 2022-23 and 2023-24. Additionally, the Province of Ontario has launched a process to assess tuition fee anomalies which may permit universities to increase tuition fees for up to three programs with below-market fees. A five year period of tuition fee freeze on grant-eligible students has placed significant financial pressure on all Ontario post-secondary institutions, something the sector continues to navigate. Delays in processing international student visa applications in 2022-23 has had the effect of amplifying tuition revenue pressures.

### **Changes in Enrolment Patterns**

Meeting enrolment targets continues to be one of Carleton's top financial risks. Healthy first-year undergraduate student enrolment, in addition to strong retention rates, are among the main drivers of the university's financial sustainability.

### **Strategic Mandate Agreement**

During the first and second rounds of Strategic Mandate Agreements (SMA), the Ministry of Colleges and Universities (MCU) committed to engaging the university and college sectors on changes to their respective funding models in order to better support funding predictability and stability, as well as to support differentiation and student-focused outcomes. This resulted in the implementation of the corridor model (universities entered enrolment corridors in 2017-18), along with the establishment of the differentiation envelope and the performance/outcomes-based funding grant. The provincial government announced that performance/outcomes-based funding would be expanded through the third round of Strategic Mandate Agreements (SMA3). A system-average of 25% of MCU operating grant funding would be provided on the basis of performance outcomes, ramping up to 60% by 2024-25. Due to the COVID-19 pandemic context, MCU delayed the planned activation of performance-based funding for the first three years (2020-21 through to 2022-23) with a commitment to use the SMA3 Annual Evaluation process to determine readiness to proceed with activation for the remaining years of SMA3.

### **Provincial Government Deficit**

The Ontario government's 2022-23 budget update, released in February 2023, projects a deficit of \$6.5 billion, compared to a budget deficit estimate of \$19.8 billion. Minister of Finance Peter Bethlenfalvy has indicated to the public that the large-deficit budgets that Ontario has tabled during the pandemic have served their purpose and that it is now time for restraint. There remains uncertainty regarding planned government spending in the future and the university's plan is based on the assumption that provincial spending constraints will impose significant pressure on all provincially-funded sectors, which may result in the corridor model continuing for the foreseeable future.



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### **Rising Capital Project Costs**

Construction demand in Ottawa is high, and recent capital project planning has seen pre-pandemic cost estimates increase as the availability of labour diminishes and material costs soar due to supply chain disruptions and increased demand. Increases in government-led infrastructure spending initiatives would likely increase cost and delivery pressure on future capital projects at Carleton.

The university works to mitigate this risk by estimating market-driven cost increases, but these estimates are subject to a significant amount of estimation risk as final project costs are largely dependent on final design and market conditions at the time of implementation. Should costs continue to increase, the university will need to assess operating and capital priorities to make judicious use of available resources.

### **Deferred Building & Infrastructure Maintenance**

Carleton has an aging physical infrastructure, with the majority of campus buildings, systems and underground infrastructure now over 30 years old. As campus infrastructure ages, maintenance and repairs become increasingly ineffective, prompting the need to fully replace major systems such as plumbing, HVAC, electrical and building envelope to improve the building performance, Facility Condition Index rating, energy efficiency and sustainability. Carleton has started an extensive multi-year program to perform an in-depth assessment of our aging infrastructure, including watermains, sewers and sanitary lines, roofs, and the high voltage electrical loop. The assessment will allow the university to prioritize the infrastructure that is in critical need of repair and/or replacement.

Deferred maintenance projects are funded by a 10-year \$140 million asset renewal program, running until fiscal 2024-25, along with additional annual contributions of from the provincial government's Facilities Renewal Program (~\$4M annually). Given the province's current fiscal outlook, there is some risk associated with future funding of capital renewal. Capital projects also indirectly address deferred maintenance costs through the renewal of buildings.

During the pandemic, Carleton adapted its systems to online course delivery and increased remote access capabilities. While the university has been largely successful in enabling this transition and managing its systems in this new environment, there are potential risks that it may not be able to adequately respond to demands for more capacity or new services, that existing service models do not fully meet the university's needs, and that the maintenance of highly customized, legacy IT systems (technological debt) impede the introduction of new services and innovation. Carleton will continue its IT Infrastructure Renewal project and the development of its Digital Strategy, which will build on a shared vision of how we can use digital technology to support the Strategic Integrated Plan, select our digital investments and leverage our technological roadmap to inform and align unit-level planning and budgeting.

### **Maintaining a Balanced Budget**

Carleton's operating revenues have continuously increased over the preceding 10-year period due to increased enrolment and research activity. This growth in enrolment and research brought significant increases in costs as the university was met with the need to hire new faculty and professional staff, and add to on-campus services, student support and infrastructure. Throughout this time, the university maintained a balanced budget. However, as this period of growth is anticipated to slow and given the fixed nature of many of the University's expenditures, Carleton, and the sector, face potential structural budget challenges over the mid-term planning horizon.

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## 3.0 Financial and Budget Policies

Major financial policies are approved by the appropriate authority, including the Board of Governors, Carleton Senior Management and the Carleton University Retirement Plan Pension Committee. Along with external regulations (GAAP, Broader Public Sector Directive), these policies are part of the university's internal financial control framework and support budgeting and financial reporting by the university. This section describes the key financial policies and guidelines that support Carleton's planning and budgeting activities.

### **Risk Management**

Carleton is committed to risk management on a university-wide basis as detailed in the Enterprise Risk Management Program's Risk Management Manual. The Board of Governors requires an annual audit of the university's financial statements by an independent certified public accounting firm, hired through a public bidding process. In addition, Carleton employs a third-party internal auditor to conduct, on an ongoing basis, internal management and operational audits based on a risk model approved by the Board of Governors.

### **Capital Planning and Approvals**

All proposals over \$5 million are brought forward to the Building Program and Finance Committees for review and approval by the Board of Governors. The current Capital Planning Policy was approved by the Board in 2019.

### **Debt Policy**

Externally-held capital debt may only be incurred with approval from the Board of Governors. Carleton is committed to undertaking debt only when doing so is the most advantageous financing alternative available in achieving its strategic goals.

### **Investment Policies**

The Carleton University Retirement Plan's Statement of Investment Policies and Procedures (SIPP) addresses the manner in which the Retirement Plan assists in providing plan beneficiaries with a financially secure retirement income at a reasonable cost. A similar SIPP is in place for the university's endowment funds and other investable assets. The SIPP must be reviewed and approved annually by the Board of Governors.

### **Operating and Capital Reserves**

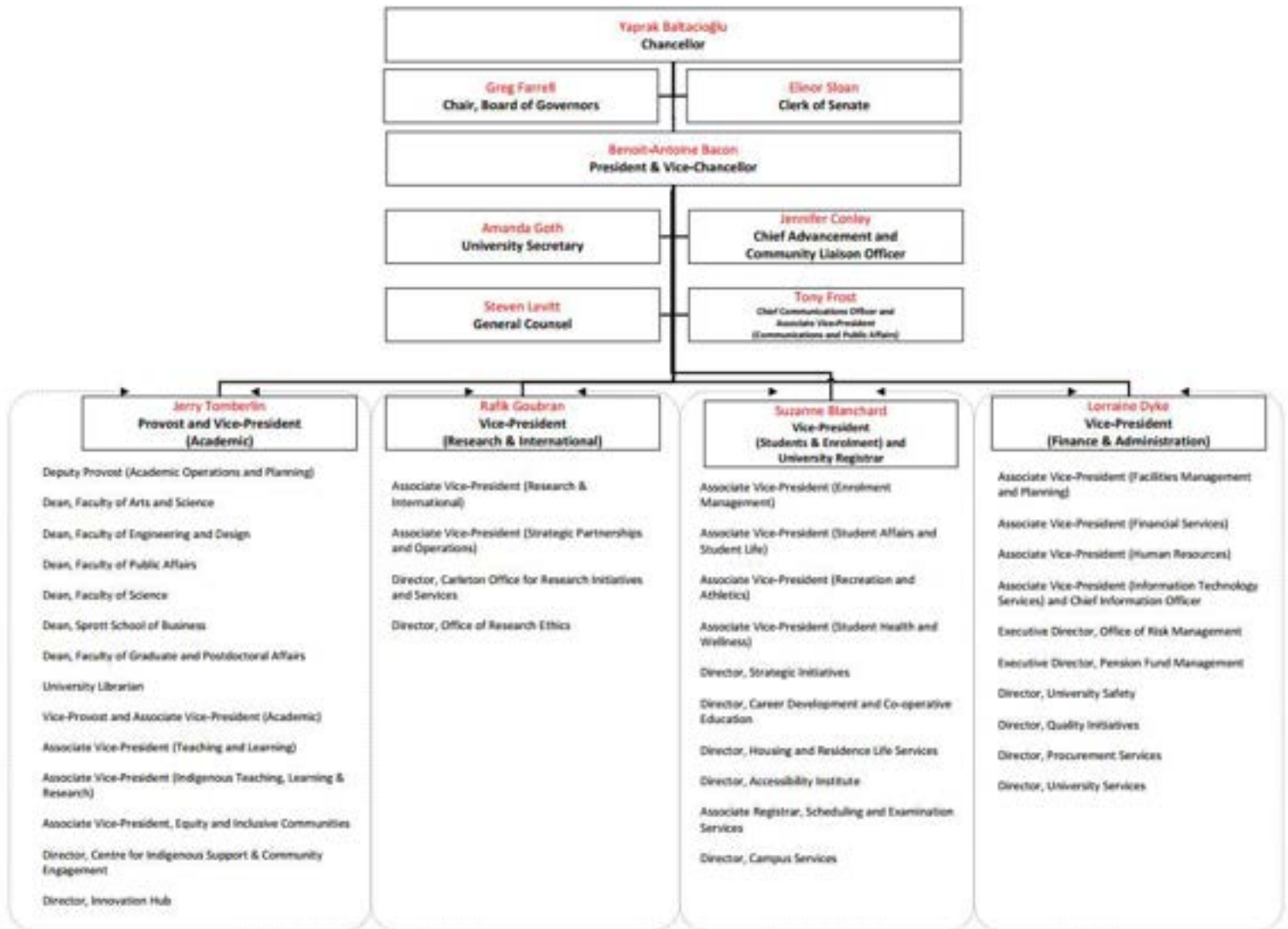
Carleton recognizes that reserves are the cornerstone of financial flexibility to manage risks inherent in long-term financial planning. Reserves are held centrally and within RPCs to support specific strategic initiatives as well as to address economic uncertainties. Appropriated reserves are governed by the university's Operating and Capital Reserves Policy and are approved by the Board of Governors.

### **Broader Public Sector Expenses Directive**

As a designated Broader Public Sector organization, Carleton must comply with this provincial legislation, which determines specific rules for expenses paid for with public funds.

All financial and budget policy details may be found at: <https://carleton.ca/secretariat/policies>.

## 4.0 Organizational Chart



### List of Resource Planning Committees (RPC)

- Office of the President and Vice-Chancellor
- Office of the Provost and Vice-President (Academic)
- Office of the Vice-President (Finance & Administration)
- Office of the Vice-President (Research and International)
- Office of the Vice-President (Students & Enrolment)
- University Advancement
- Faculty of Arts and Social Sciences
- Faculty of Engineering and Design
- Faculty of Public Affairs
- Faculty of Science
- Sprott School of Business
- MacOdrum Library

## 5.0 The Operating Budget

In 2023-24, Carleton proposes a balanced operating budget, with revenues and expenditures of \$525 million, compared to \$521 million in 2022-23. This section provides detailed information on the components of revenues and expenditures. Section 7.0 provides further details of the operating budget.

In summary:

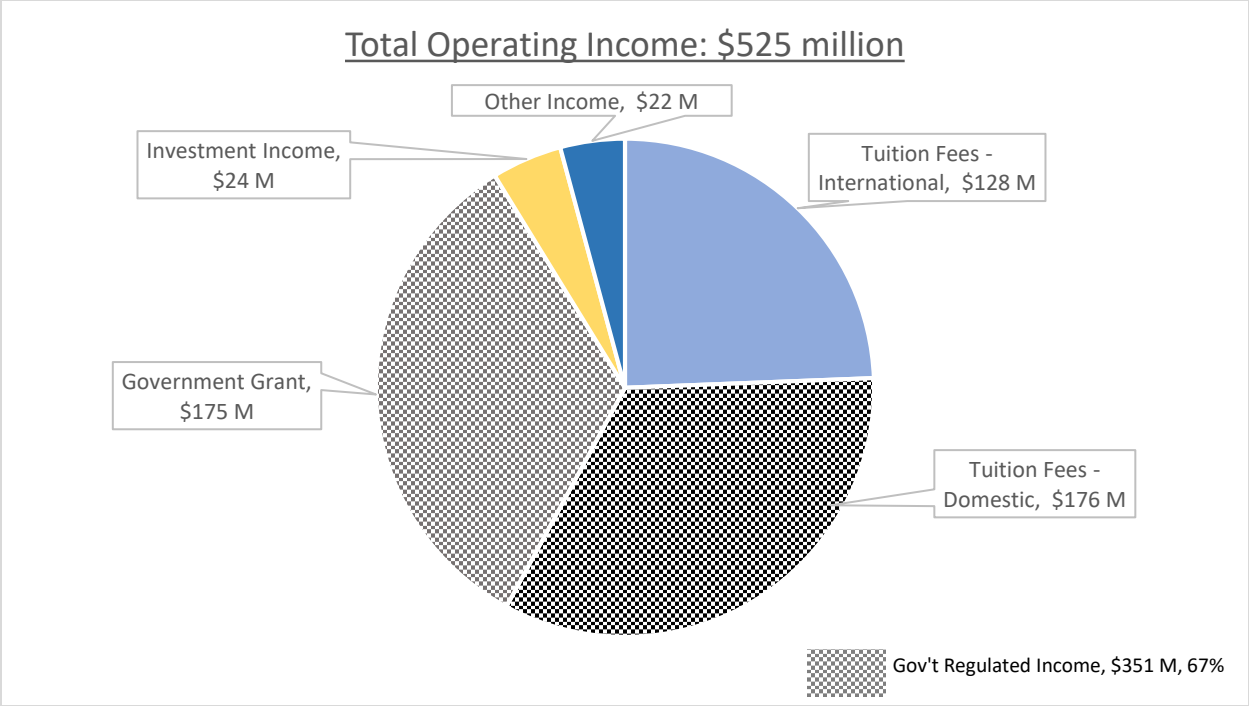
	<b>2022-23</b>	<b>2022-23</b>	<b>2023-24</b>
	<b>Budget</b>	<b>Projected Actuals</b>	<b>Proposed Budget</b>
	<i>(\$000's)</i>	<i>(\$000's)</i>	<i>(\$000's)</i>
Income	520,826	517,550	525,162
Expenditures and Transfers	(520,826)	516,650	(525,162)
<b>Subtotal</b>	-	900	-
Planned contingency		2,800	
<b>Net Result</b>	-	3,700	-

The following sections compare the 2023-24 proposed budget with the 2022-23 approved budget.

### 5.1 Operating Income

The operating fund is supported by four key revenue sources:

- **Tuition fees.**
- **Government operating grants** – operating envelope, differentiation envelope, special purpose envelope and funding for federal research overheads.
- **Investment income** – Income generated on cash investments and internally financed loans.
- **Other income** – application fees, deferred payment and late registration, overhead recoveries and departmental income.



**5.2 Tuition Fees**

Most tuition fee revenue is derived from undergraduate enrolment. In 2023-24, Carleton’s projection of undergraduate tuition is approximately \$250 million, with the remaining \$54 million projected from graduate tuition. Domestic tuition makes up \$176 million of the total, with the other \$128 million coming from international students. The \$11 million decrease in tuition revenue from budget 2022-23 is mainly attributable to the effects felt by the international student visa processing issues faced by the Federal Government. This reduction in enrolment is expected to have a multi-year financial impact. The University is planning for a partial bounce back in international enrolment in 2023-24.

The following chart compares tuition revenue by category from the approved 2022-23 budget to the 2023-24 proposed budget:

	<b>2022-23 Budget</b>	<b>2022-23 Projection</b>	<b>2023-24 Proposed Budget</b>	<b>Budget Change</b>
	(\$000’s)	(\$000’s)	(\$000’s)	(\$000’s)
Undergraduate Fees	264,700	252,980	250,707	(13,993)
Graduate Fees	50,300	47,475	53,700	3,400
<b>Total</b>	<b>315,000</b>	<b>300,455</b>	<b>304,407</b>	<b>(10,593)</b>

### 5.3 Government Operating Grants

Government grants for 2023-24 are projected to be \$287,000 higher than budget 2022-23.

	<b>2022-23</b>	<b>2022-23</b>	<b>2023-24</b>	<b>Budget</b>
	<b>Budget</b>	<b>Projection</b>	<b>Proposed Budget</b>	<b>Change</b>
	(\$000's)	(\$000's)	(\$000's)	(\$000's)
Operating & Performance Grants	165,761	165,761	165,761	-
Research Overheads	5,292	5,292	5,579	287
Other Grants	3,401	3,401	3,688	-
Grants Offset by Additional Expense	-	4,969	-	-
<b>Total</b>	<b>174,454</b>	<b>179,423</b>	<b>174,741</b>	<b>287</b>

With the activation of the third round of Strategic Mandate Agreements, 35% of Carleton's MCU operating grant funding in 2021-22 was to be provided on the basis of performance outcomes, moving to 45%, 55% and finally 60% by 2024-25. This means that by 2024-25, \$105 million of MCU grant funding will be distributed on the basis of achieving performance targets set by the Ministry.

MCU delayed the planned activation of performance-based funding for the first three years (2020-21 through to 2022-23) of the agreement with a commitment to use the SMA3 Annual Evaluation process to determine readiness to proceed with activation for the remaining years of SMA3.

Other grants include the Accessibility Fund for Students with Disabilities, Municipal Tax and Credit Transfer funding. Grants Offset by Additional Expense relate to special purpose grants received during 2022-23 for targeted initiatives, such as student success and financial support. The proposed opening budget for 2023-24 does not include amounts for these restricted grants, which will be adjusted during the year as amounts are confirmed and received.

#### 5.4 Other Income

	<b>2022-23 Budget</b>	<b>2022-23 Projection</b>	<b>2023-24 Proposed Budget</b>	<b>Budget Change</b>
	(\$000's)	(\$000's)	(\$000's)	(\$000's)
Miscellaneous Fees	7,378	7,378	7,600	222
Miscellaneous Income	5,675	5,675	6,850	1,175
Department Income	8,319	8,319	7,481	(838)
<b>Total</b>	<b>21,372</b>	<b>21,372</b>	<b>21,931</b>	<b>559</b>

Other income for 2023-24 is projected to be \$0.6 million higher than budget 2022-23, driven largely by additional endowment overheads, and an expected one-time HST tax rebate.

#### 5.5 Short-Term Investment Income

Short-term investment income is forecasted to total \$24 million for the 2023-24 fiscal year.

The breakdown is as follows:

	<b>2022-23 Budget</b>	<b>2022-23 Projection</b>	<b>2023-24 Proposed Budget</b>	<b>Budget Change</b>
	(\$000's)	(\$000's)	(\$000's)	(\$000's)
Investment Income on Cash Flows	8,757	15,057	22,858	14,101
Endowment income*	305	305	325	20
Interest on internal loans	938	938	900	(38)
<b>Total</b>	<b>10,000</b>	<b>16,300</b>	<b>24,083</b>	<b>14,083</b>

\* The endowment income included in the operating budget relates to those endowments for which a specific purpose has not been designated by the donor (e.g., unrestricted).

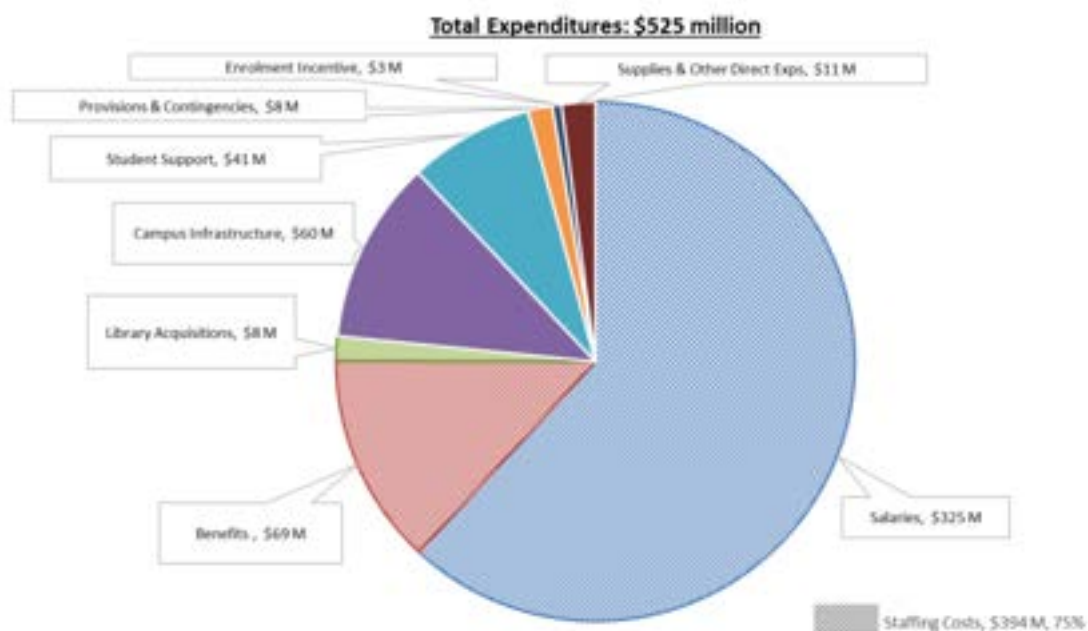
In 2015, the Investment Committee recommended to invest \$100 million of available operating cash in equity funds. Over the long term, this decision has yielded higher returns, yet it is recognized that equity funds are more susceptible to market risks. To mitigate this risk and shield the operating budget from large variations in actual results, any variation in actual investment income earned against budget will be appropriated to, or drawn from, an investment income equalization fund. The current value of the fund is \$39 million, equal to the fund's capped value.

In November 2022, the university invested the available proceeds from its \$220 million debenture offering in a laddered series of Guaranteed Investment Certificates (GICs). These GICs will provide an additional \$6.3 million of investment income in 2022-23 and \$12 million in 2023-24. The general increase in interest rates are expect to provide an additional \$2 million in investment earnings on the university's general cash balances.

## 5.6 Operating Expenditures

The planned operating expenditures are budgeted in the following expense categories:

- Salaries and benefits
- Campus infrastructure – expenditures for maintenance, renovations, facilities, utilities and equipment.
- Student support and enrolment incentives – scholarships, bursaries and awards provided by the university over and above the Ontario Student Assistance Program (OSAP).
- Other expenditures – library acquisitions, research support, campaign matching funds, travel and supplies.



The following table illustrates the shift in resources away from more discretionary expenditures towards human capital.

	<b>2022-23 Budget</b>	<b>2023-24 Proposed Budget</b>	<b>Budget Change</b>
	(\$000's)	(\$000's)	(\$000's)
Salaries and benefits	382,615	393,393	10,778
Student supports	43,867	41,436	(2,431)
Campus infrastructure	60,695	60,193	(502)
Other operating expenditures	33,648	30,140	(3,508)
<b>Total Expenditures</b>	<b>520,825</b>	<b>525,162</b>	<b>4,337</b>



The increase in salary and benefits has been expected and planned for, with financial resources earmarked for this expense using the university's provisions and contingency budget. As term-limited student support funding during the public health crisis has now ended, the 2023-24 budgeted amount for student support has decreased relative to 2022-23. Lastly, other operating expenditure budgets are being reduced by RPCs to respond to the 2% across-the-board budget cut.

### 5.7 New Resource Allocations

For the fiscal year 2023-24, we recommend a base budget allocation of \$8.9 million and fiscal allocation of \$15.3 million, to be allocated as follows:

	<i>Base Budget Allocation</i>	<i>Fiscal Budget Allocation</i>
	(\$000)	(\$000)
President	30	530
Provost and Vice-President (Academic)	65	1,845
Vice-President (Finance and Administration)	(661)	787
Vice-President (Students and Enrolment)	(408)	92
Vice-President (Research and International)	263	263
Advancement	(110)	(110)
Faculty of Arts and Social Sciences	(980)	(783)
Faculty of Engineering and Design	(1,326)	(1,326)
Faculty of Public Affairs	(1,197)	(943)
Faculty of Science	(1,154)	(1,277)
Sprott School of Business	(171)	2
MacOdrum Library	(239)	(99)
<b>Subtotal</b>	<b>(5,888)</b>	<b>(1,019)</b>
University Budget	3,772	5,872
Provisions and Contingencies	10,997	10,397
<b>Total</b>	<b>8,881</b>	<b>15,250</b>

The university proposes reducing allocated funding to RPCs by \$1.0 million over the previous year through a combination of a \$6.8 million base budget cut followed by \$5.8 million in strategic allocations to support undergraduate recruitment, research, Kinàmàgawin, experiential learning, reputation enhancement initiatives, and Information Technology services. Proposed non-discretionary allocations to University Budget totals \$5.9 million. These allocations are in support of IT Infrastructure Modernization, student scholarships and aid, and to respond to contractual and inflationary increases. The Provisions and Contingencies budget includes funding set aside to support salary increases, debt servicing, international agency commission fees and the Enrolment-Linked Budget Allocation mechanism.

## 5.8 Provisions and Contingencies

The 2023-24 Proposed Budget contains the following central provisions and contingencies:

	<i>Existing Base Budget</i>	<i>New Allocations</i>	<i>2023-24 Proposed Budget</i>
	(\$000's)	(\$000's)	(\$000's)
a) General contingencies	6,220	10,582	16,802
b) Enrolment-Linked Budget Allocation	1,324	(185)	1,139
c) Debt servicing	5,729	-	5,729
<b>Total provisions and contingencies</b>	<b>13,273</b>	<b>10,397</b>	<b>23,670</b>

- a) The general contingencies total \$16.8 million and relate mostly to foreseen requirements that cannot be immediately quantified.
- b) In 2009-10, the university introduced a plan whereby Faculties would receive additional budget to support enrolment growth. The plan calls for the resources to be built into the Faculty base over time. For 2023-24, \$1.1 million of enrolment growth incentive is available for distribution to the Faculties.
- c) In June 2021, the university completed its inaugural bond offering of \$220 million, providing proceeds for significant future capital plans. The 40-year bullet bond is repayable in 2061 and carries an interest rate of 3.264%. The \$5.7 million debt servicing contingency represents the operating fund's annual interest payment and contribution to the required sinking fund. The housing operation will be assuming \$80 million of the debt with annual debt servicing costs of \$3.3 million.

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## 6.0 Five-year Financial Outlook

The university uses a five-year planning horizon to inform the availability of resources for the upcoming budget year as well as to assess the mid-term financial landscape of the institution.

On the revenue side, enrolment assumptions for 2023-24 include: a gradual increase in domestic undergraduate and international graduate student intake; a partial bounce-back in international undergraduate intake following the international student visa processing delays experienced in 2022-23; flat domestic graduate student intake; and modest growth in intake driven by the launch of new graduate programs.

Domestic tuition fees for Ontario resident students are assumed to continue to be frozen; domestic tuition fees for domestic out-of-province students permitted to increase by 5%; and international tuition fees to continue to increase in line with the approved international tuition fee framework.

The majority of operating grant income is regulated by the Ministry of Colleges and Universities. With the activation of the third round of Strategic Mandate Agreements, the total funding envelope through to 2024-25 is capped at the 2019-20 level. MCU delayed the planned activation of performance-based funding for the first three years (2020-21 through to 2022-23) with a commitment to use the SMA3 Annual Evaluation process to determine readiness to proceed with activation for the remaining years of SMA3. It is assumed that operating grant income will remain frozen over the planning horizon.

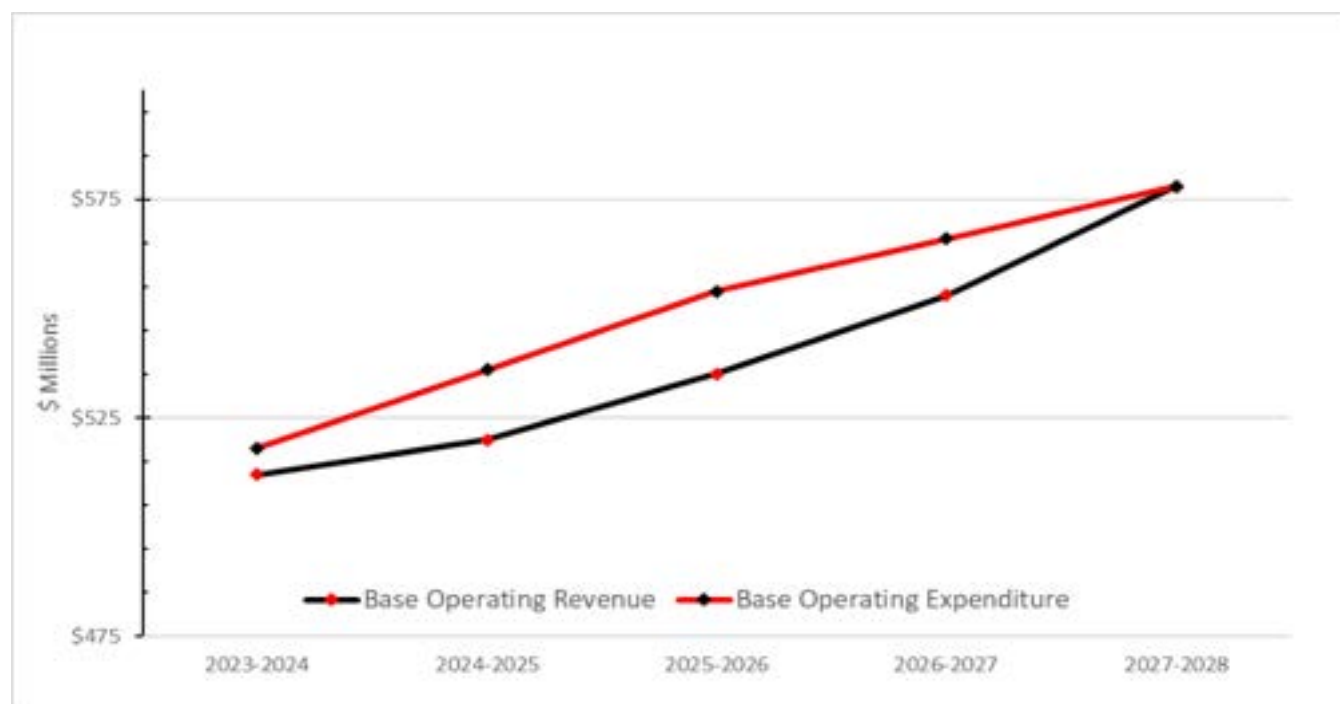
Expenditure increases for non-discretionary and/or strategic university budgets (e.g., utilities and student support) are included in the forecast. Compensation increases are based on collective agreements where applicable, and projections for subsequent years not covered by collective agreements.

Applying the assumptions described above, the university projects it may need to present operating budget deficits between 2024-25 and 2026-27 before returning to balance in 2027-28. Fiscal resources set aside from previously earmarked reserves and/or additional one-time GIC investment income would be required to be drawn upon for the university to maintain its momentum toward achieving its strategic and operational goals.

The long-term plan is based on conservative assumptions and will be revisited in the fall of 2023 once actual 2023-24 enrolment is known. Favourable changes to the forecast would be influenced by enrolment growth, higher non-regulated revenues and operating efficiencies. Unfavourable changes would be impacted by a continuing tuition fee freeze, funding grant reductions or higher than planned cost increases.

<b>Operating Fund</b>	<b>2023-24 Base Budget</b>	<b>2024-25 Outlook</b>	<b>2025-26 Outlook</b>	<b>2026-27 Outlook</b>	<b>2027-28 Outlook</b>
	(\$M's)	(\$M's)	(\$M's)	(\$M's)	(\$M's)
<u>Base Revenues</u>					
Tuition	304	312	327	344	368
Grants	175	175	175	175	175
Other revenues	33	33	33	34	35
Total revenue	512	520	535	553	578
<u>Base Expenditures</u>					
Faculties, Student and Professional Services	346	362	376	386	394
Provisions and Contingencies	6	6	6	6	6
University Budgets	164	166	170	174	178
Base Available for Allocation	2	2	2	2	-
Total Base Expenditures	518	536	554	566	578
<b>Fiscal amount available</b>	<b>(6)</b>	<b>(16)</b>	<b>(19)</b>	<b>(13)</b>	<b>-</b>

\* It should be noted that the university has included an additional-fiscal only \$13 million in the Other Revenue budget for 2023-24. This relates mostly to additional term-limited GIC investment income and some one-time tax credits.



## 7.0 Approval of the 2023-24 Operating Budget

Carleton University 2023-24 Proposed Operating Budget ( 000's )			
	Restated Budget 2022-23*	<b>Proposed Budget 2023-24</b>	Change fm Prior Year Budget
<b><u>Income</u></b>			
Government Grant	174,454	<b>174,741</b>	287
Tuition Fees	315,000	<b>304,407</b>	(10,593)
Investment Income	10,000	<b>24,083</b>	14,083
Other Income	21,372	<b>21,931</b>	559
<b>Total Operating Income</b>	<b>520,826</b>	<b>525,162</b>	<b>4,336</b>
<b><u>Expenditures and Transfers</u></b>			
President	5,179	5,870	691
Provost and Vice-President (Academic)	16,191	16,129	(62)
Vice-President (Finance and Administration)	34,369	35,775	1,406
Vice-President (Students and Enrolment)	27,623	26,939	(684)
Vice-President (Research and International)	6,575	6,816	241
Advancement	5,501	5,467	(34)
Faculty of Arts and Social Sciences	64,747	65,236	489
Faculty of Engineering and Design	51,207	50,540	(667)
Faculty of Public Affairs	44,483	43,944	(539)
Faculty of Science	49,292	48,957	(335)
Sprott School of Business	15,406	16,142	736
MacOdrum Library	12,246	11,904	(342)
University Budgets and Transfers	164,587	167,773	3,186
Provisions and Contingencies	23,420	23,670	250
<b>Total Expenditure and Transfers</b>	<b>520,826</b>	<b>525,162</b>	<b>4,336</b>
<b>Net Result</b>	<b>-</b>	<b>-</b>	<b>-</b>

\* 2022-23 budget figures reflect the opening May 1, 2022 budget, with reallocations made to assist in comparison.

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As shown above, the proposed 2023-24 Operating Budget meets the objective set out by the Board of Governors that a balanced budget be developed.

The 2023-24 Operating Budget is therefore respectfully submitted to the Board of Governors.

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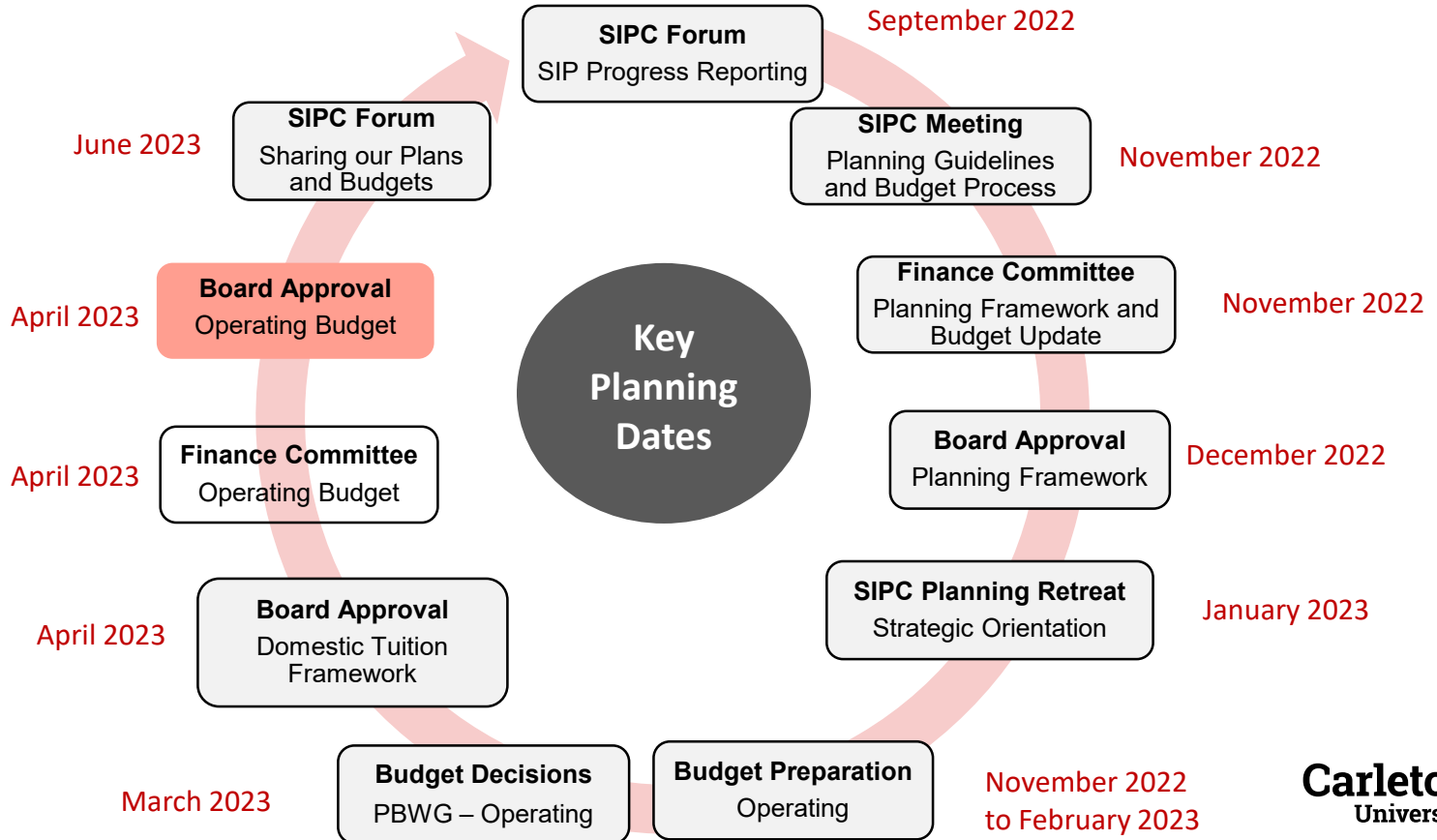
J. Tomberlin  
Provost and Vice-President (Academic)  
Chief Budgeting Officer

# 2023-24 Operating Budget

Board of Governors

April 24, 2023

# Carleton Planning Framework





# Planning Principles

- Enhancing our academic mission
- Achieving our SIP goals
- Achieving SMA-3 performance targets
- Transparency and clarity
- Financial stability and sustainability
- Revenue generation and diversification

# 2023-24 Operating Priorities

## 1. Strategic Integrated Plan

- Share Knowledge, Shape the Future
- Serve Ottawa, Serve the World
- Strive for Wellness, Strive for Sustainability

## 2. Innovation in recruitment, retention, programming, and curriculum

# Budget Prioritization Process

RPC Chairs submitted planning and budget proposals, outlining:

- Progress on 2022-23 plans and priorities;
- Plans and priorities for the coming year;
- Usage of carry forward funds over a three-year period;
- Requests for additional resources, referring to institutional priorities and distinguishing between base and fiscal requests.

PBWG reviewed plans and requests against institutional priorities and considered feedback received during presentations from all RPC chairs before making recommendations for 2023-24 resource allocations.

# Environmental Scan and Budget Assumptions

# Challenges in Maintaining a Balanced Operating Budget

## Pressures

- Tuition freeze
- SMA – Corridor Model & Performance-Based Funding
- Provincial Government deficit & spending restraint
- Deferred building and infrastructure maintenance
- Rising capital project costs
- Exiting Bill 124
- Information technology needs
- Indirect costs of research

## Opportunities

- Returning to in-person recruitment
- Reputational enhancement
- Internationalization
- Program innovation and renewal

## Base Expenditure Budget Cut

- Resource Planning Committees were asked to implement a 2% base expenditure budget cut for 2023-24

# 2023-24 Budget Assumptions

## Revenues

### Enrolment:

- Stable over planning horizon from 2022-23 levels with a partial bounce back in international student enrolment.

### Tuition Fees:

- Domestic Tuition Fees for Ontario Residents: No increase
- Domestic Tuition Fees for Out-of-Province Students: 5% increase
- Adjustments for tuition anomalies
- International Fees – Increases based on current approved framework

### Government Funding:

- Frozen over planning horizon

## Expenses

- Salaries and Benefits: Exiting Bill 124
- Infrastructure:
  - Continuation of asset and IT infrastructure renewal programs,
  - IT inflation; market adjustment on contracted services.
- Student support: Maintaining scholarship grid
- General and administrative expense increases of 3%

# Enrolment Assumptions

- Undergraduate intake: 1% domestic, 6% international (bouncing back from 14% reduction)
- Graduate intake: flat domestic, 2% international
- Additional targeted growth in MEng
- Retention/Transition – Based on 2022/23 academic year

# Admission Statistics – Fall 2023

## First Year 101 (Ontario High School) Applications

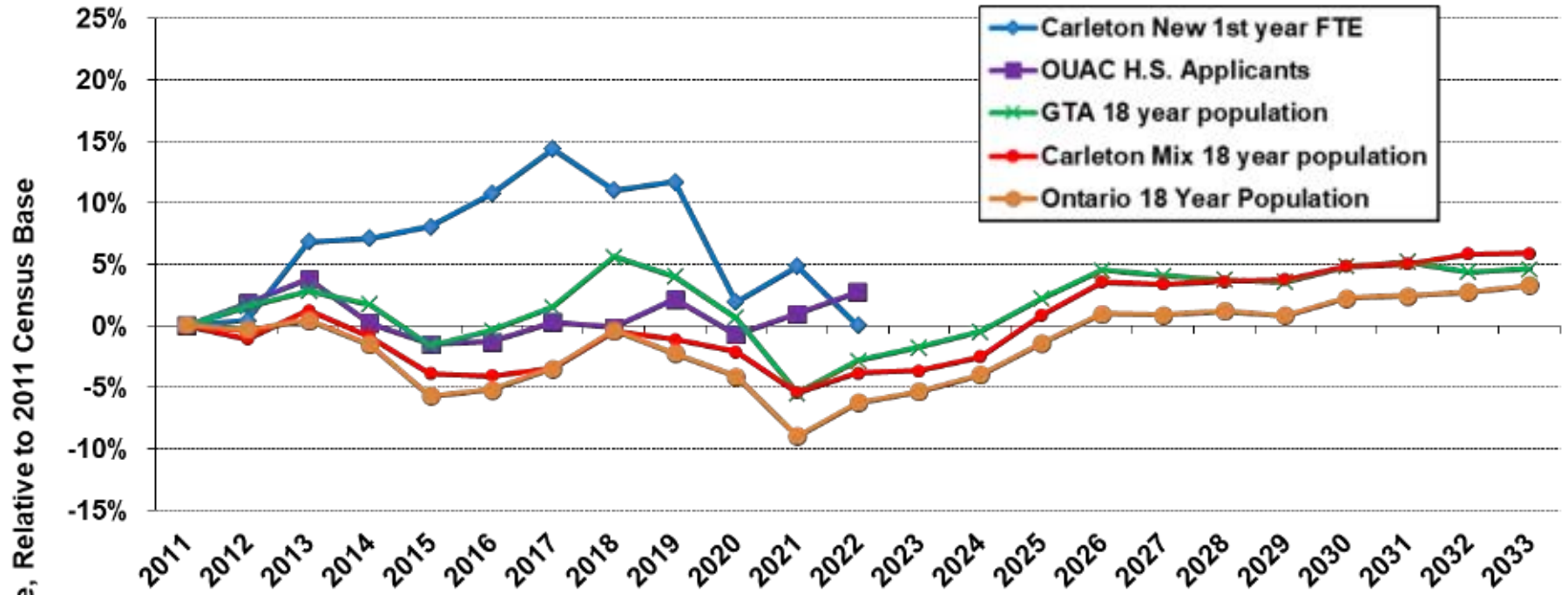
	2022	2023	% +/-
<b>Carleton Total Applications</b>	19,923	20,613	3.5
<b>Carleton Applicants</b>	14,493	14,807	2.2
<b>System Total Applications</b>	518,202	532,681	2.8
<b>System Applicants</b>	92,229	92,042	-0.2

## First year, New, Applicants (Carleton Data) by region as of March 24, 2023 – 101 Applicants

	2022	2023	% +/-
<b>All</b>	14,493	14,807	2.2
<b>Ottawa</b>	4,918	5,140	4.5
<b>Other Ontario</b>	9,140	9,222	0.9
<b>Other</b>	435	445	2.3



# Projected Change in the 18-Year-Old Population in Ontario: Carleton Impact



Source: Ontario Ministry of Finance: *Ontario Population Projections Update, 1986-2046* (Summer 2022)

Ontario University Application Centre (OUAC) yearly statistics, OIRP Data cubes

Carleton Mix<sup>ii</sup> is calculated based on actual Ontario enrolment mix Ontario intake (Fall 2019).

OUAC data from 2022 is as at September 7, 2022.

Office of Institutional Research and Planning: 2023-03-27

# Financial Risk Mitigation Strategy

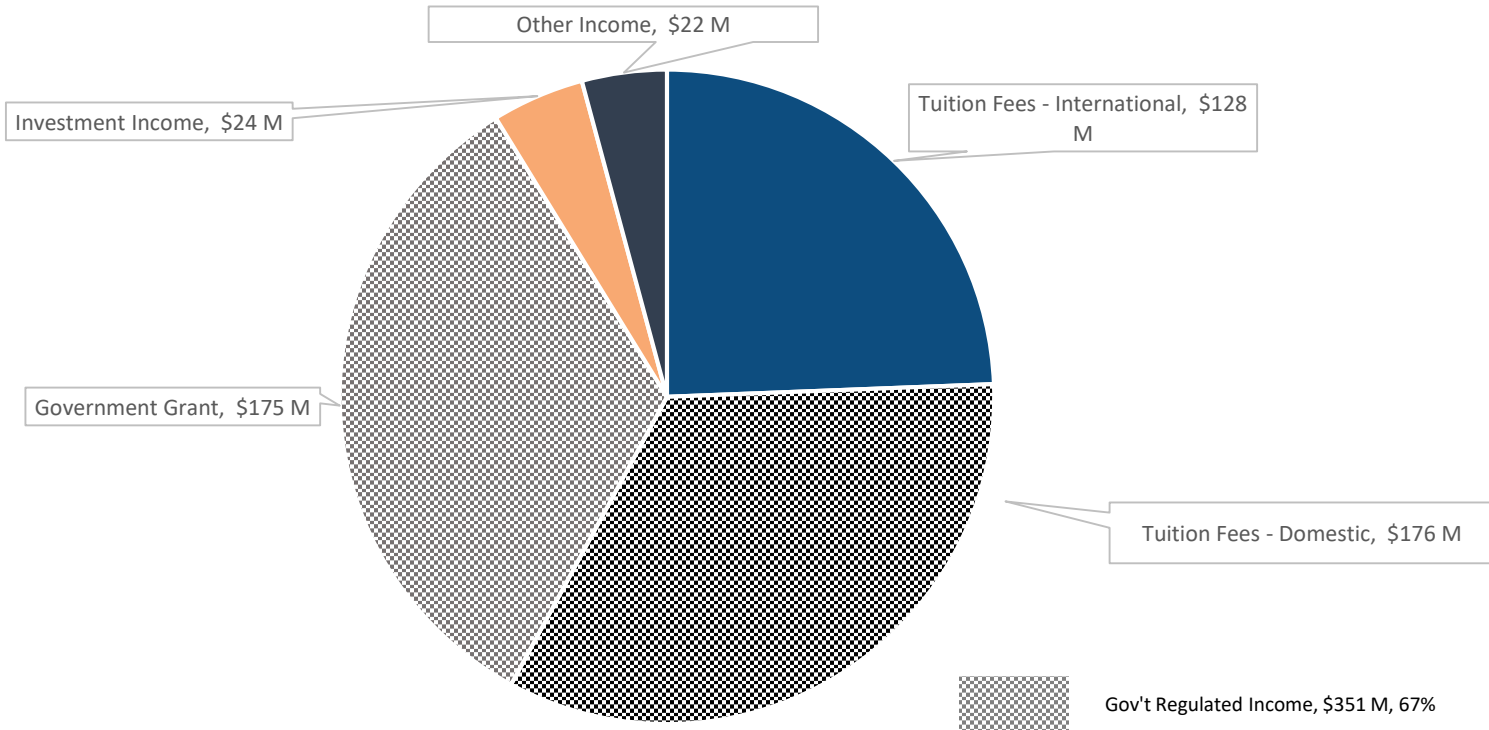
- 5-year financial forecast: conservative estimates
- Across-the-board base budget cuts
- Encourage RPCs to strategically use existing carry forward, reinforced through conservative budget allocations
- Innovative new program offerings

# 2023-24 Operating Budget

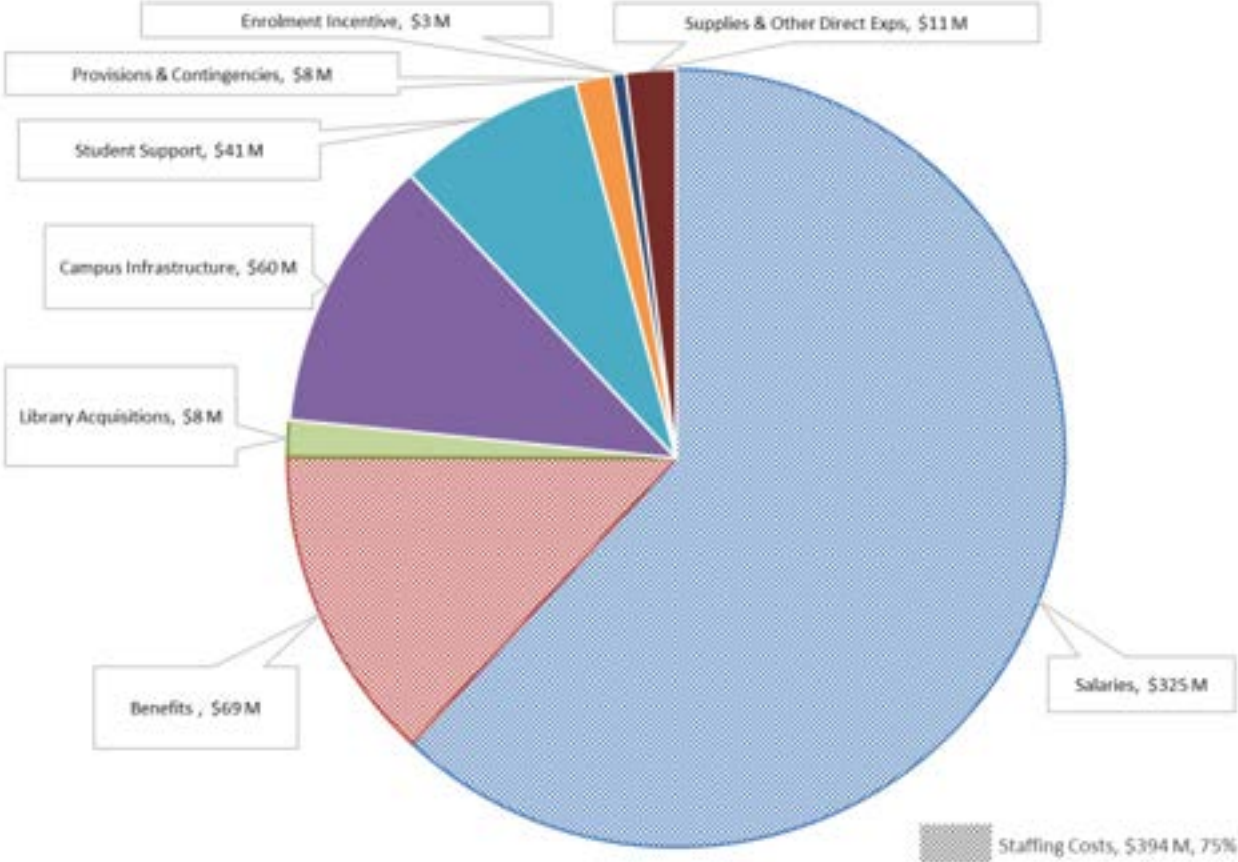
# 2023-24 Budget Summary

\$Million	2022-23 Budget	2022-23 Projected Results	2023-24 Proposed Budget	Variance to 2022-23 Budget
Government Grant	175	180	175	-
Tuition Fees	315	300	304	(11)
Investment Income	10	16	24	14
Other Income	21	21	22	1
<b>Total Revenue</b>	<b>521</b>	<b>517</b>	<b>525</b>	<b>4</b>
<b>Total Expenses</b>	<b>521</b>	<b>516</b>	<b>525</b>	<b>4</b>
<b>Operating Results</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>
Planned contingency	-	3	-	-
<b>Net Result</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>-</b>

# Projected Revenues for 2023-24: \$525 million



# Projected Expenses for 2023-24: \$525 million



# Year-Over-Year Expense Changes

## Changes between 2022-23 and 2023-24 opening budgets

	2022-23 Budget	2023-24 Budget	Variance to 2022-23
Salaries and benefits	\$ 383 M	\$ 394 M	\$ 11 M
Student supports	\$ 44 M	\$ 41 M	\$ (3) M
Campus infrastructure	\$ 61 M	\$ 60 M	\$ (1) M
Other Operating expenses	\$ 33 M	\$ 30 M	\$ (3) M
<b>Total Expenses</b>	<b>\$ 521 M</b>	<b>\$ 525 M</b>	<b>\$ 4 M</b>

# Summary: 2023-24 New Allocations

Investment Area	Allocation	
	Base	Fiscal
Resource Planning Committees (RPC)	\$ (5.9M)	\$ (1.0M)
University Budgets	\$ 3.8M	\$ 5.9M
Contingency	\$ 11.0M	\$ 10.4M
<b>Total</b>	<b>\$ 8.9M</b>	<b>\$ 15.3M</b>



# 2023-24 New Allocations: Resource Planning Committees

Resource Planning Committees	Allocation			
	Base \$	Base %	Fiscal \$	Fiscal %
Academic (Provost, Faculties, Library)	\$ (5.0M)	(2%)	\$ (2.5M)	(1%)
Students and Enrolment	\$ (0.4M)	(2%)	\$ 0.1M	0.5%
Research and International	\$0.2 M	3.5%	\$ 0.2M	3.5%
Administration (Communications, Advancement, Finance & Administration)	\$ (0.7M)	(2%)	\$ 1.2M	2.5%
<b>Total</b>	<b>\$ (5.9M)</b>	<b>(2%)</b>	<b>\$ (1.0M)</b>	<b>(0.5%)</b>

# 2023-24 New Allocations: University Budgets

University Budgets	Base	Fiscal
Student Support	\$ -	\$ 0.8M
Information Technology	\$ 1.6M	\$ 3.4M
Employee Benefits	\$ 1.1M	\$ 0.5M
Library Acquisitions	\$ 0.3M	\$ 0.3M
Campus Operations	\$ 0.8M	\$ 0.9M
<b>Total University Budgets</b>	<b>\$ 3.8M</b>	<b>\$ 5.9M</b>

# 2023-24 Provisions & Contingencies

	Base	Fiscal
<b>New Allocations to Provisions &amp; Contingencies</b>	<b>\$ 11.0M</b>	<b>\$ 10.4M</b>

	Base	Fiscal
General Contingencies	\$ 17.5M	\$ 16.9 M
Enrolment-Linked Budget Allocation	\$ 1.1 M	\$ 1.1 M
Debt Servicing	\$ 5.7M	\$ 5.7 M
<b>Total Provisions &amp; Contingencies Budget</b>	<b>\$ 24.3 M</b>	<b>\$ 23.7 M</b>

# Recommendation

On the recommendation of the Finance Committee, move to approve the 2023-2024 Operating Budget, as presented.

# **AGENDA ITEM**

**5.3**

<b>To:</b>	Board of Governors	<b>Date of Report:</b> 5 April 2023
<b>From:</b>	Building Program Committee	<b>Date of Meeting:</b> 24 April 2023
<b>Subject:</b>	<b>Campus Master Plan 2022-2027</b>	
<b>Responsible Portfolio:</b>	Vice-President (Finance and Administration)	

## 1.0 PURPOSE

For Approval    For Information    For Discussion

## 2.0 MOTION

On the recommendation of the Building Program Committee, move to approve the Carleton University Campus Master Plan Update, dated April 2023, as presented.

## 3.0 EXECUTIVE SUMMARY

Carleton University has had a Campus Master Plan in place since 2010. The plan is updated every five years. It sets the parameters, policies and directions for the physical development of the campus – its buildings, landscapes, movement systems and general infrastructure. It deals with the location and size of buildings without determining the uses except in a general sense, since these will vary over time.

The process to update the Campus Master Plan began in April 2022, with the assistance of consultant Brook McIlroy (BMI). From April to November 2022, BMI hosted several consultation opportunities with the campus community, as well as with key stakeholder groups including, but not limited to the university senior leadership group (Strategic Integrated Planning Committee), the Deans and the University Librarian, accessibility and sustainability leaders and with the Board of Governors. Additional consultations were held specifically for students, and for faculty and staff in the fall, as well as with the Rideau Valley Conservation Authority (RVCA). More than 1,000 people participated in the process - either through a consultation, via social media, an online form, or the web-based interactive platform Bang the Table. Input from the consultations on Kinamagawin and the Outdoor Space Master Plan were incorporated into the Campus Master Plan.

The draft Campus Master Plan was posted to the Campus Master Plan website for four weeks for members of the campus community to provide feedback on the draft. Feedback was considered and incorporated into the final document.

Compared to the 2016 master plan, the Campus Master Plan Update places greater emphasis on the natural campus, community connections, inclusion and accessibility, and sustainability. The following themes form the basis of the plan:

1. Health and Wellness
2. Indigenous Cultural Representations and Diverse Cultural Inclusions
3. Flexible Learning and Working Spaces
4. Leveraging Proximity to the Natural Environment
5. Multi-modal Campus
6. Safe, Accessible and Legible Campus
7. Built Form and Development
8. Four-Season Campus

The plan also includes “Big Moves” including:

1. A Green Ribbon and Geological Time Trail
2. Flexible Campus Streets, Campus Gateways and Pedestrian Network
3. Tunnel Improvements and Expansions
4. Restoration of Riparian Habitats and Storm Water Management
5. Potential Building Enhancements and Developments.

#### **4.0 INPUT FROM OTHER SOURCES**

The Campus Master Plan process has incorporated a variety of opportunities for Carleton faculty, staff and students to provide their input and feedback, in addition to that of external stakeholders and institutional partners. The consultation process began in April 2022 and wrapped up on Nov. 1. More than 1,000 people engaged with the process.

The first draft of the Campus Master Plan was posted for four weeks to the web in January and February 2023 to offer the campus community an opportunity to provide their feedback via an online form. Feedback on the first draft was also received from the Campus Master Plan Steering Committee, Senate, the Building Program Committee and the Board of Governors.

#### **5.0 ANALYSIS AND STRATEGIC ALIGNMENT**

The Campus Master Plan provides a long-term vision for our physical campus that will align with and support the values and aspirations of the Strategic Integrated Plan (SIP) of the university, and guide future campus development accordingly. The plan has dual horizons that outline the planning implications for both the next five- to 10-year period, and for a longer, visionary 25- to 30-year scenario.

The Carleton Master Plan document will serve as a guide to the university as it develops its future built environment. The consultant, Brook McIlroy (BMI), is very familiar with other key university strategic documents which have informed their work in developing the Campus Master Plan, ensuring it is a holistic document that aligns with our key university planning documents, including:

- Strategic Integrated Plan (SIP)
- Campus Outdoor Master Space Plan
- Transportation Strategy
- Coordinated Accessibility Strategy
- Kinamagawin (Learning Together) Indigenous Strategy
- Sustainability Plan 2020-2025
- Energy Master Plan 2021-2026

#### **6.0 FINANCIAL IMPLICATIONS**

The total project costs to update the Campus Master Plan are approximately \$360,000. They are funded through a 2021-2022 one-time funding allocation of \$200,000 from the operating budget plus contributions from the Capital Renewal and Deferred Maintenance fund and budget carry-forwards.

#### **7.0 RISK, LEGAL AND COMPLIANCE ASSESSMENT**

The Campus Master Plan update meets the university’s requirement to update the Carleton University Campus Master Plan every five years. Risks are minimal during the planning phase. Failure to update the plan could result in the development of the campus not reflecting the university’s strategic goals. The update mitigates this risk.

## 8.0 REPUTATIONAL IMPLICATIONS AND COMMUNICATIONS STRATEGY

The consultation process has been a key component of the Campus Master Plan update. Consultations were supported by an extensive communications plan. The open and forward-looking nature of the Campus Master Plan update should contribute positively to Carleton's reputation for being a progressive university. The final Campus Master Plan will be shared with the campus community through a variety of communications channels.

## 9.0 OVERALL RISK MANAGEMENT ANALYSIS

	VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH
STRATEGIC	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEGAL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OPERATIONAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TECHNOLOGICAL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FINANCIAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REPUTATIONAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



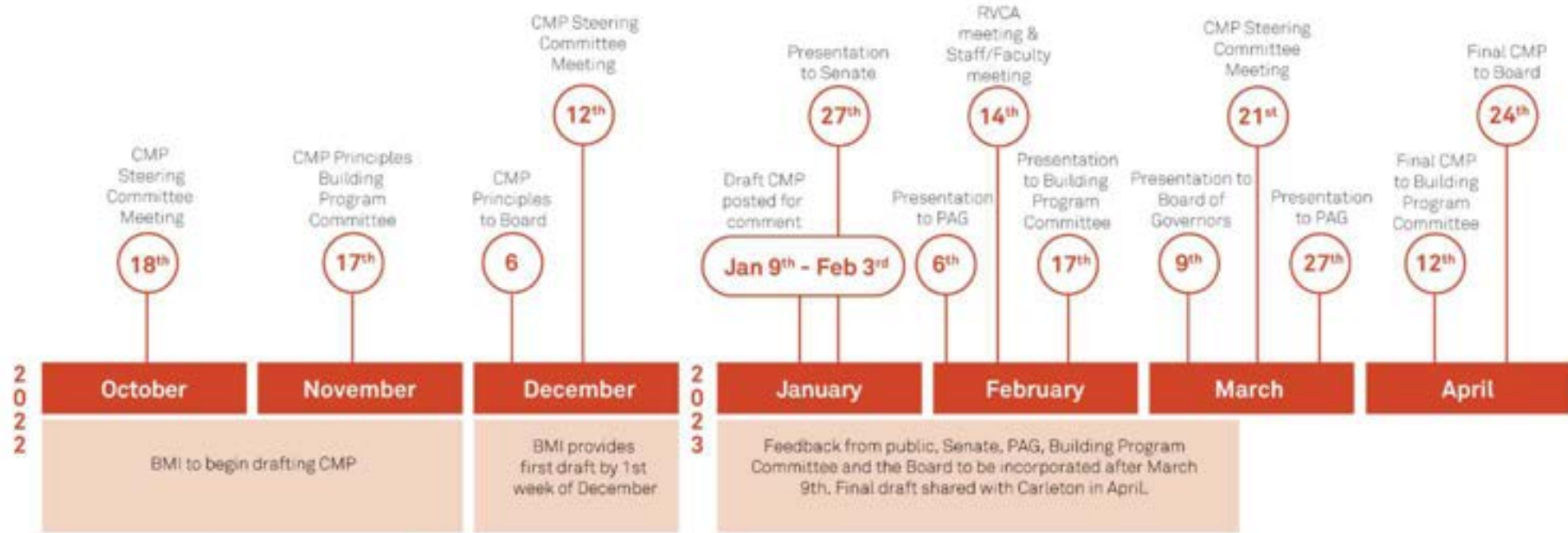
The background of the slide features a scenic view of a river with white-water rapids. A low stone wall runs across the middle ground, separating the river from a grassy area. In the background, several university buildings are visible, including a large brick building with a red and white tower. The scene is framed by green foliage on the right side.

# Carleton University- Campus Master Plan Update

Building Program Committee

April 12, 2023

# Timeline



Input from the consultations on Kināmagawin and the Outdoor Space Master Plan were integrated into the development of the Campus Master Plan.

# What We've Heard

## Supporting Comments

STRONG EXCITEMENT FOR INDIGENOUS INTEGRATION INTO THE CMP

CLEAR ALIGNMENT WITH CARLETON'S VISION AND STRATEGIES

GREAT ENTHUSIASM FOR THE THE GREEN RIBBON

SUPPORT & EXCITEMENT FOR TUNNEL SYSTEM INTERVENTIONS

## General Comments

INCREASE SUPPORT FOR EXISTING ACCESSIBILITY SERVICES

ALLEVIATION OF TRAFFIC PRESSURE POINTS & PARKING PRESSURE

ENHANCED CONSIDERATION FOR ACCESSIBLE PARKING

MORE EMPHASIS ON PRAYER ROOMS, SHELTERED OUTDOOR SPACES & ART IN TUNNELS

## Green & Community Considerations

COLLABORATE WITH RVCA ON THE RIPARIAN CORRIDOR

REFER TO RVCA POLICIES FOR FLOOD RISK MANAGEMENT

INCREASED CONSIDERATION FOR BIRD FRIENDLY DESIGN

INTEGRATE CAMPUS ACTIVITY WITH SURROUNDING COMMUNITY

# Map Potential Development Sites

- Property Line
- Existing Building
- Planned Building
- Potential Development Site
- Work under development prior to the CMPU



- Added Sustainability Research Centre
- Roundabout modified to a drop-off loop and shifted farther south due to proposed SRC - advised by Parsons

# Map Natural Features and Stormwater Management

- ⋯⋯⋯ Property Line
- Existing Building
- Planned Building
- Potential Building
- ★ Work under development prior to the CMPU

### Natural Features

- Landscape Framing the Campus
- Significant Water Features
- Passive Riparian Zone

### Overland Flow & Stormwater Management

- ➡ Major Outflow Location
- ➡ Direction of Overland Flow
- ➡ River Flow
- Stormwater Pond
- ⋯⋯⋯ Flood Extent (1 in 100-year event)
- ⋯⋯⋯ Flood Extent (1 in 350-year event)
- ⋯⋯⋯ Flood Regulated Limit
- Potential Bioswale Locations



- Revised 1 in 100-year flood extent
- Added 1 in 350-year flood extent
- Added flood regulated limit
- Removed 'Site E7'

# Map Potential Development Sites

- Property Line
- Existing Building
- Planned Building
- Potential Development Site
- Work under development prior to the CMPU



Removal of Site 'E7'; advised by RVCA

# Map Tunnel System



- Property Line
- Potential Tunnel Skylight Locations and Daylighting Renovations
- Potential Glass Enclosed Bridge
- Potential Tunnel Expansion
- Existing Campus Tunnel Network
- Existing Building
- Planned Building
- Potential Building
- Work under development prior to the CMPU



Designated as a potential glass enclosed bridge; advised by Parsons

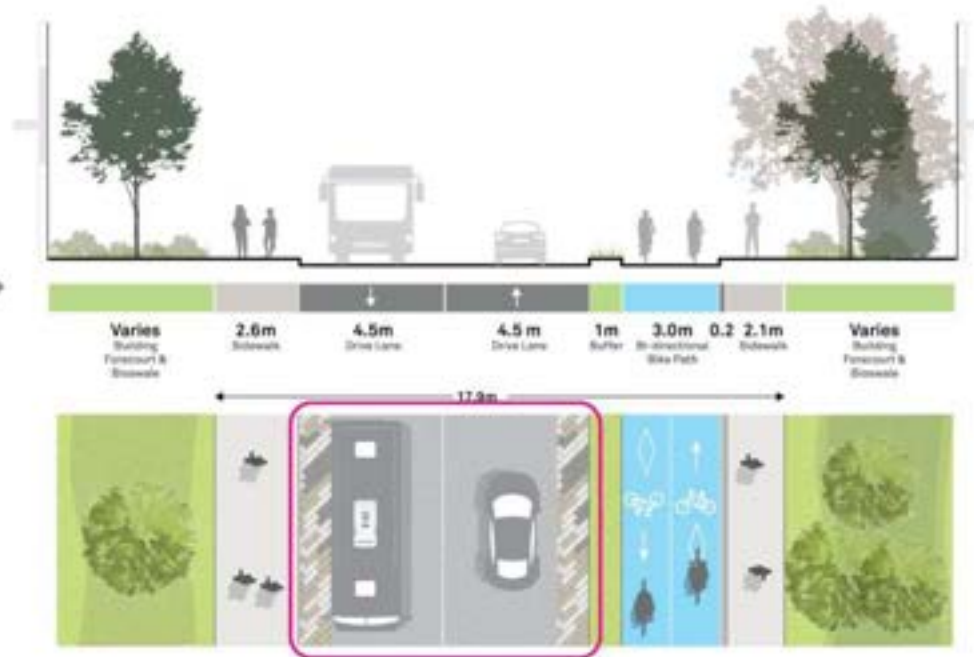
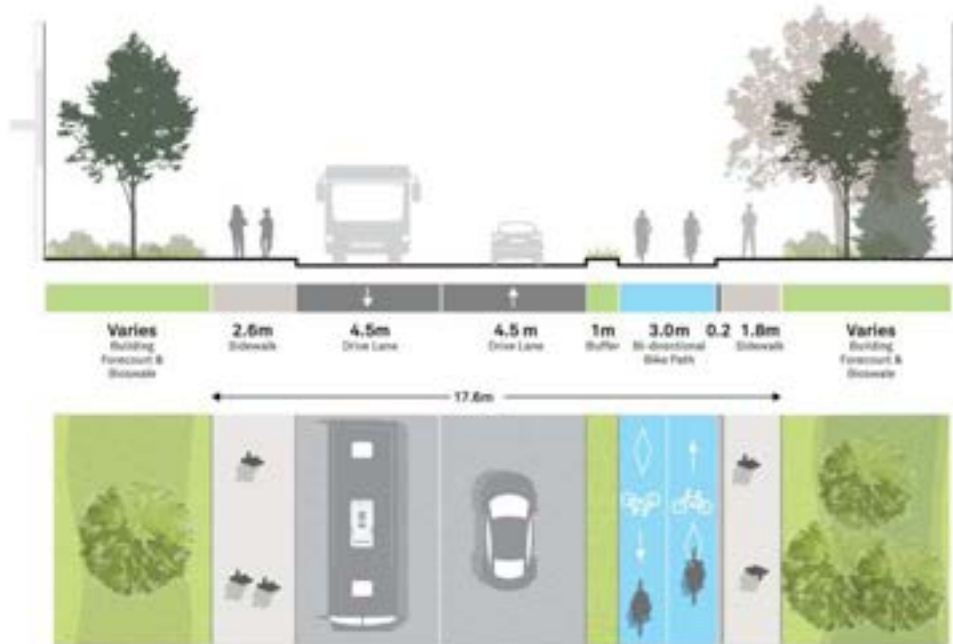
Additional tunnel connection

Section  
**University Drive**



**January 2023 Submission**

**March 2023 Submission**



Added 1m strips near the curbs as a passive traffic calming measure to 'visually narrow' lanes. Drivable lanes unchanged.



## 2023 Campus Master Plan Update – Key Focus Areas since 2016



### The Natural Campus

- Integration of 2020 Outdoor Space Master Plan
- Green Ribbon and Geological Time Trail
- Restoration of habitats & riparian areas

### Community Connection

- Consideration of new space for socialization, individual or group study, and collaboration
- Inclusion of new and anticipated physical connections to Carleton's neighbours to the east, west, and south

### A Multi-Campus Approach

- Creating unity and awareness between the main campus, Kanata North, and Dominion-Chalmers

### Inclusion and Accessibility

- Designing pedestrianized campus streets
- Enhancing the tunnel system
- Prioritizing transit, cycling, vehicle access, and parking for a diverse community

### Sustainability

- New framework for energy, carbon, and waste reduction, efficient buildings, and resilience
- Prioritizing building conservation and enhancement (ie. Patterson, McKenzie, Nideyinan)

### Limited, Intentional Growth and Expansion

- Incorporation of recent and anticipated buildings (Health Sciences, Nicol, Engineering Design Centre, A.R.I.S.E., Wellness Centre, Sustainability Research Centre)
- Diverse mixed-use development in the North Campus as a long-term aspiration

### Flexibility in Future Growth

- Consideration of short- and long-term needs with a flexible phasing and implementation strategy

## **Motion**

Move to recommend to the Board of Governors, the approval of the Carleton University Campus Master Plan Update, dated April 2023, as presented.



# Carleton University **Campus Master Plan Update**

2023





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## Part 2

### 6.0 Campus Design Guidelines



We would like to acknowledge that Carleton University is situated within the traditional and unceded territory of the Algonquin Anishinabeg Nation. These territories, comprising the Kichi Sibi (Ottawa River) watershed, and including all of Canada's national capital region, were never surrendered or ceded by the Algonquin Anishinabeg Nation.

Today, this gathering place is home to many Indigenous peoples from across Turtle Island. We recognize, honour and respect Algonquin people as the traditional stewards of the land and water on which Carleton University is situated. We recognize the enduring presence of Indigenous peoples on this land and are grateful for their care for, and teachings about our earth and our relations.

The Campus Master Plan committee acknowledges and honours the people that have lived on these land for thousands of years.



# 1.0 Executive Summary & Overview

- 1.1 The Carleton Opportunity
- 1.2 The Planning Context
- 1.3 Consultation Summary

# 1.1 The Carleton Opportunity

Carleton’s Strategic Integrated Plan 2020-2025 will help realize the university’s core ambition to “Shape the Future”. The Campus Master Plan Update (CMPU) builds on this important document and its aspirations which reflect the university’s natural and cultural location bound by the Rideau River and Canal, and its surrounding community.

Carleton offers its students an exceptional educational experience within a memorable, compact and walkable 150-acre (62 ha) campus centrally located in Ottawa and the region. Carleton has evolved significantly since the adoption of the *2010 Campus Master Plan*, the *2016 Campus Master Plan Update* and the *2020 Outdoor Space Master Plan* to include a number of new and planned buildings and additions to serve the campus community.

Carleton University has also developed plans for a *Geological Time Trail*. PFS Studio has been working in collaboration with Carleton University to establish a 4.6 kilometres route that meanders through the campus and the riverfront to provide spaces to learn and understand the geological timescale of 4.6 billion years. The Time Trail utilizes existing pathways on the campus to integrate campus landscape features and showcase geoheritage, Indigenous, and other significant narratives. The trail will create an opportunity to showcase the geological history of Carleton University and will allow students, visitors, and staff to connect on deeper level with nature.

**Universal Accessibility** challenges exist within an approximately 20 metre grade difference within the West Campus Precinct. Topographic variation in this part of campus occasionally subdivides outdoor space and limits clear connections in buildings and on outdoor pathways. Open surface parking lots similarly challenge accessibility and orientation across campus. Some of these surface lots are recommended as locations for future redevelopment, while potential parking facilities, either structured or surface lots, are recommended to generally maintain existing parking numbers, in combination with improved transit, and multi-modal travel options.

Carleton is committed to creating a contemporary and inclusive 21st century learning environment. The Campus Master Plan Update will provide a campus sustainability road map for existing and future infrastructure to achieve the highest impact. As new buildings and expansions fill out the West Campus Precinct, greater pressure and consideration for building sites in the less developed East Campus Precinct emerge. The Update also provides direction for longer term growth of the North Campus Precinct, which can accommodate more diverse uses that both support Carleton’s academic mission as well as community uses for the surrounding neighbourhood and City. The CMP Update promotes an integrated building and open space approach, embedded in the cultural narrative of Carleton, located on traditional, unceded Algonquin Anishinabeg territory.

**A Long Term Vision Update:** The CMP Update establishes a long-term vision for buildings and open spaces, and helps the university identify and prioritize future projects on Campus over a 5 to 25 year time horizon. The Update will advance Carleton’s reputation for design excellence and sustainability, and apply best low carbon, low waste infrastructure practices. Building performance standards are intended to be progressive and flexible enough to promote design excellence, while strengthening the existing fabric of buildings and open spaces. The CMP Update promotes individual and community health by improving access to recreation and wellness through the proposed future Wellness Hub facility, and expansive recreational facilities.

The CMP Update includes **Performance Standards** for buildings and site design that are intended to guide a consistent level of design excellence throughout the campus. The Performance Standards recognize the inherently mid-rise scale of the existing campus. Opportunities for existing building renovations and expansions are identified to maintain the compact campus and promote the best use of land and resources, while ensuring future buildings which may be similar or larger in scale, are well designed, promote sunlight access between and within buildings and create a comfortable pedestrian outdoor experience.

The CMP Update reinforces the Outdoor Space Master Plan to create an expanded, memorable greenspace setting including a campus wide *Green Ribbon recreational network* that reflects Carleton’s commitment to promoting campus community health through environmental innovation, adaptive planning, Indigenous placemaking, and new technologies.

**A Future Transit Hub** at the east side of the existing O-Train platform can provide an integrated new facility for campus arrival by train and bus. The Transit Hub can also serve as a facility for student services, social and study spaces which serve both the campus community and people visiting Carleton from the wider city and region.

Performance Standards include overall campus plan objectives, including detailed illustrations to assist the university with communicating desired, high-quality implementation to buildings, site planning and outdoor spaces, with the potential for alternative design approaches, where it can be demonstrated that objectives of design quality, energy efficiency and durability are met.

## The Carleton University Strategic Integrated Plan, Shape the Future



### 1 Share Knowledge/Shape the Future:

Capitalize on the compact and connected campus.



### 2 Serve Ottawa, Serve the World:

Create Indigenous Placemaking so that Indigenous Students, Faculty and Staff see themselves reflected on Campus. Express the voice of the entire university in the Plan Update.



### 3 Strive for Wellness, Strive for Sustainability:

Maximize the sustainability Impact of existing and new buildings and infrastructures. Provide greater guidance towards the creation of well-scaled built Form that integrates with Carleton’s exceptional open space setting on the Canal and River.

# 1.2 The Planning Context

Carleton University's Campus Master Plan Update is part of a large network of integrated strategies that support the university's operations, maintenance, long-term planning objectives, and City of Ottawa municipal policies. The Planning Context sets the stage and positions the Campus Master Plan Update within a larger context of systems, studies and plans as an informed and comprehensive guiding document for the future of Carleton University.

Plans and strategies produced by the university should be coordinated with municipal policies, including Ottawa's Official Plan and Zoning By-law. Collaboration with the City ensures that growth and development on campus is supported and anticipated by municipal policies.


## The Ottawa Official Plan

Ottawa's 2003 Official Plan outlines planning objectives and the vision for future growth. This document guides the physical development of Ottawa to the year 2036 in which the population of Ottawa is estimated to reach 1.1 million.

A new Official Plan has recently been approved and is set to be released towards the end of 2022. The new Official Plan outlines a comprehensive land use policy framework to guide growth and development within the city to the year 2046, and includes:

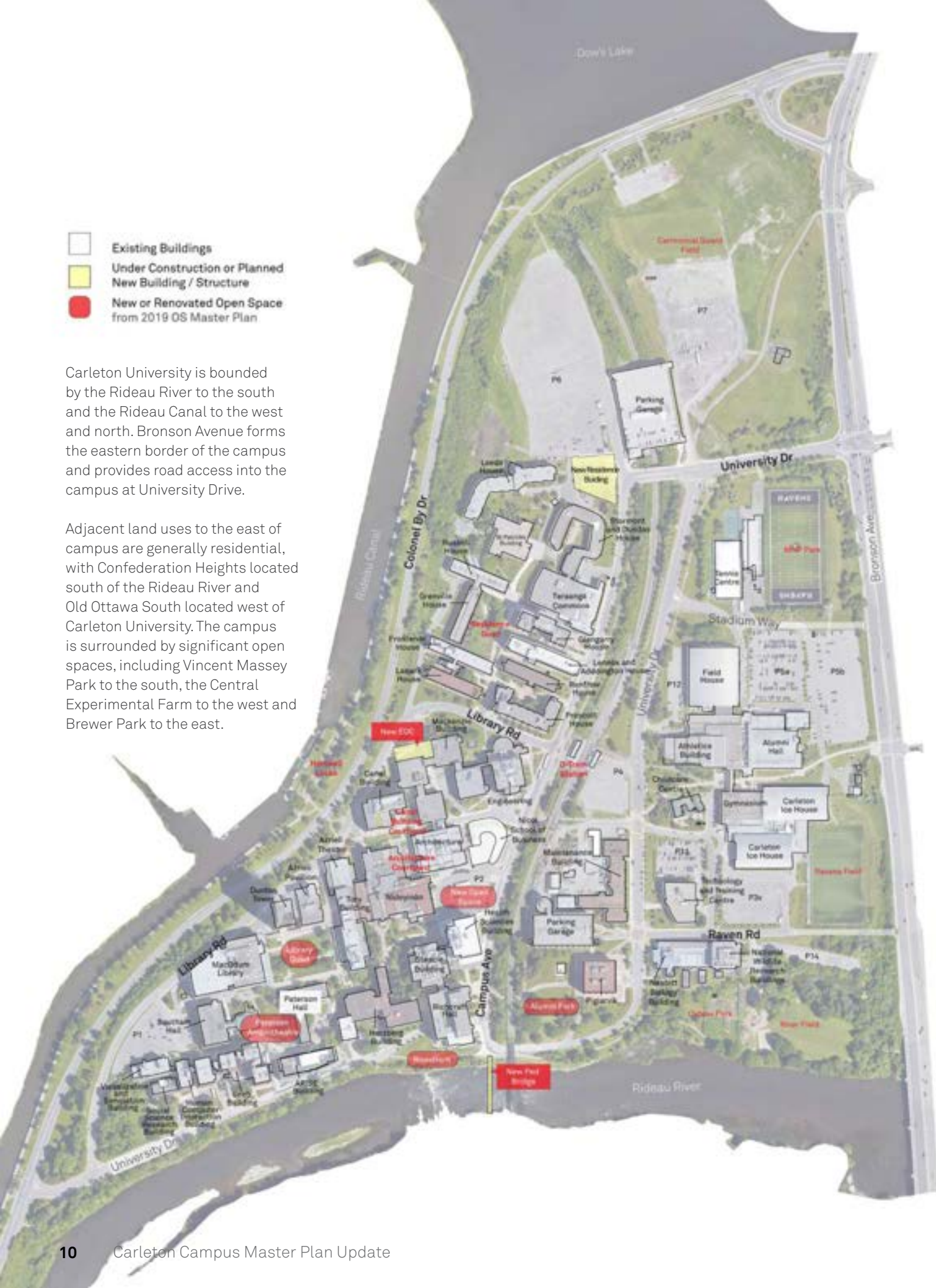
- Policies and schedules that address housing and growth management long-term planning for enjoyment and infrastructure;
- Protect water resources, natural heritage and agricultural areas;
- Manage non-renewable resources;
- Plan for climate change; and
- Safeguard public health and safety.

**Carleton University has undertaken a number of studies, plans and frameworks to help guide its future growth including:**

Strategic Integrated Plan (2020)	Campus Master Plan (2016)	Carleton Mental Health Framework (2017)
Energy Master Plan (2018-2021)	Equity, Diversity, and Inclusion Action Plan (2019)	Transportation Master Plan (2019)
Outdoor Space Master Plan (2020)	Kināmagawin (2020)	Sustainability Plan (2020-2025)
Carleton Coordinated Accessibility (2021)	Campus Space Utilization Study (2021)	

The Carleton Campus Master Plan Update adheres to the intent of Ottawa's Official Plan by:

- Creating a long-term plan for the efficient and environmentally sensitive use of land and resources;
- Encouraging sustainable and active transportation, mixed-use developments, and livable communities;
- Establishing a holistic sustainable approach to the natural and built environment;
- Promoting a mixed-use campus that is flexible to the diverse needs of the community it serves; and
- Building complete communities where people can live, work, study and play in a well-connected network of open spaces, amenities, buildings and transportation options.



Carleton University is bounded by the Rideau River to the south and the Rideau Canal to the west and north. Bronson Avenue forms the eastern border of the campus and provides road access into the campus at University Drive.

Adjacent land uses to the east of campus are generally residential, with Confederation Heights located south of the Rideau River and Old Ottawa South located west of Carleton University. The campus is surrounded by significant open spaces, including Vincent Massey Park to the south, the Central Experimental Farm to the west and Brewer Park to the east.



Carleton University should consider population growth estimates outlined in the Ottawa Official Plan in future servicing and programming directions. As the population in Ottawa continues to increase, the university will endure additional demands to meet the needs of student population growth.

### City of Ottawa Zoning By-Law

Zoning by-laws are a tool to implement the policies contained within the Official Plan. Carleton University is subject to Ottawa's Zoning by-law 2008-250, which regulates the use of land, buildings, structures, and implements Ottawa's Official Plan. All of Carleton University is zoned I2 Major Institutional Zone. The purpose of the I2 Zone is to:

- Ensure that major institutional uses such as hospitals, colleges and universities are located at appropriate locations within areas designated as General Urban Area, Central Area and Mixed-Use Centre in the Official Plan;
- Ensure that large scale, high traffic generating institutions are located solely on large parcels of land, with direct access to an arterial road and near rapid transit stations;
- Impose regulations which ensure that the size and intensity of these uses are compatible with adjacent uses; and
- Permit minor institutional uses and provide for a range of ancillary service uses.



### Progress Since the 2016 Campus Master Plan

The 2016 Campus Master Plan for Carleton University prepared by Brook McIlroy provided direction in four key areas;

- The design, programming and maintenance of campus-wide landscaped spaces;
- The height and massing of new buildings relative to their location on campus and proximity to streets, open spaces and existing buildings;
- The hierarchy and character of pedestrian and cyclist routes on campus including streetscape design for Campus Avenue and Library Road; and,
- A visionary new design for the North Campus Precinct with a strong focus on integrated circulation, new open space and a mix of building types, heights and sizes.

 Flood Plain (Section 58)

 Zoning By-law Boundaries

Portions of Carleton University pictured here fall within a floodplain (1-100 year). Development within the floodplain is not encouraged, however, if perused, must comply with Section 58 of Ottawa's Zoning By-law.

Potential future development near or within the flood plain and/or within areas of reduced flood risk (RVCA Regulations Mapping) i.e., Wellness Hub, must include preventative measures that mitigate flood risk. (Zoning Map © geoOttawa)

### 2016 Carleton University Campus Master Plan



(© Brook McIlroy)

## Buildings Completed After 2016



### Health Sciences Building

Completed in 2017, the Health Sciences Building is a 120,000 sq. ft structure that accommodates the Health Science and Neuroscience program. The building was designed by Montgomery Sisam Architects and the design and layout of labs, offices, and workspaces encourages collaboration between faculty and students.



### Engineering Design Centre

Opened in the Fall 2022 as an experiential learning facility for the Faculty of Engineering and Design. The 25,000 square foot expansion displays Carleton's continued commitment to accessibility and sustainability and is equipped with spaces for collaboration and connection.



### Nicol Building

The award winning Nicol Building designed by Hariri Pontarini Architects, opened in September 2021. The building features 115,000 sq. ft of flexible classrooms, collaborative spaces, sustainable building features, and innovative technology.



### ARISE Building

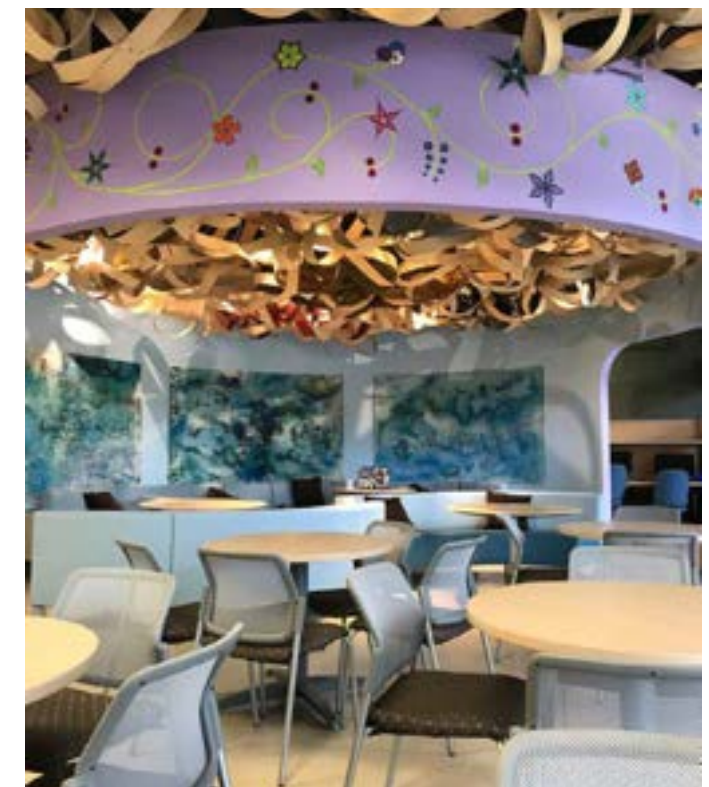
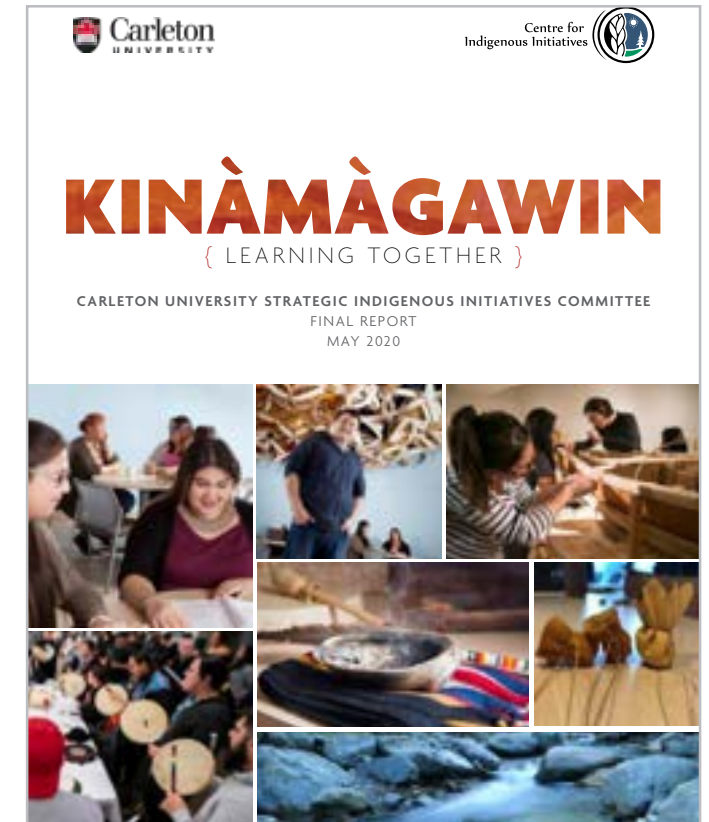
The Advanced Research and Innovation in Smart Environments (ARISE) redevelopment project was completed in 2019. The 74,000 square feet expansion is a living laboratory, bringing together staff and students from the faculties of Science, Engineering and Design, Sprott School of Business, Public Affairs and Arts and Social Sciences to collaborate on research and training.

## Kinàmàgawin (2020)

In May of 2020, Carleton University's Strategic Indigenous Initiatives Committee produced a report called Kinàmàgawin ("Learning Together"). The purpose of Kinàmàgawin is to design a strategy to make Carleton a safer space for current and future Indigenous students and faculty. The report contains 41 Calls to Action based on an extensive and comprehensive consultation process. The Calls to Action focus on:

- Community engagement
- Indigenous student support
- The student experience
- Ways of teaching and learning
- Culture, systems and structures
- Research and innovation; and
- Qualitative and quantitative metrics by which to measure the implementation of Indigenous initiatives around campus.

Important tenets of the Campus Master Plan Update that have been highlighted in the Kinàmàgawin report include increasing Indigenous student support on campus, increasing Indigenous spaces and Indigenous visibility, and ensuring Indigenous teaching methods and ways of knowing are incorporated into development projects on campus. Refer to Section 6.2 of this Master Plan for specific design direction pertaining to Indigenous placemaking.



The Ojigkwanong Indigenous Student Centre is a place where First Nation, Métis and Inuit students can study, socialize, and participate in academic and cultural programming. (Douglas Cardinal © Carleton University)

## Outdoor Space Master Plan (2020)

The Outdoor Space Master Plan (2020) focused on strengthening outdoor spaces by reflecting the natural and cultural history of Carleton, enhancing outdoor learning environments, and creating beautiful, useful and comfortable year-round outdoor spaces.

The Campus Master Plan Update builds on the design directions from the 2020 Outdoor Space Master Plan with a tailored focus on: enhancing outdoor spaces, improving connections to the natural environment, incorporating Indigenous placemaking, establishing a four-season campus and enhancing pedestrian and cyclist navigation on campus.

Key projects identified in the 2020 Outdoor Space Master Plan include:

- A** Campus Avenue Quad
- B** Main Quad Improvements
- C** Indigenous Learning Place
- D** Alumni Park Improvements
- E** O-Train Station Area
- F** University Drive Gateway

The Campus Master Plan Update contains sections dedicated to Natural Systems (3.2) and Open Space (3.5) and provides Design Guidelines that outlines specific directions pertaining to landscape design, open spaces and natural systems (6.11).



Renderings from the 2020 Carleton University Open Space Master Plan showing proposed enhancements to the Main Quad. (© Brook McIlroy)

## 2020 Carleton University Open Space Master Plan



(© Brook McIlroy)

## Transportation Master Plan (2019)

The Transportation Master Plan responds to the transportation challenges and opportunities expected to impact the university to the year 2024. Primary directions and recommendations included:

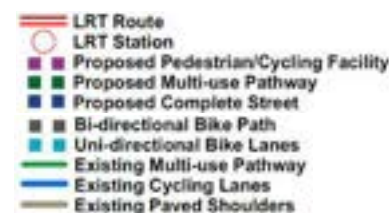
- Provide enhancements to walking, biking and transit modes of mobility
- Increase safety for each transport mode; and
- Optimize existing infrastructure to accommodate all modes of transport.

The Campus Master Plan Update integrates the following key directions from the Transportation Master Plan into the report, which works to increase connections and linkages throughout the campus and enhance connections into surrounding communities:

- Conversion of Library Road and Campus Avenue into flexible pedestrian boulevards
- Development of a transit hub to support the O-Train, Para Transpo and OC Transpo buses
- Dedicated bi-directional bicycle paths along Campus Avenue
- Enhanced bicycle infrastructure across campus
- Defining new campus primary and secondary gateways
- Reconfiguration of bus, service, and emergency vehicle routes; and
- Strategic placement of new potential parking garages and facilities.



Recommended long-term pedestrian and cycling plan (Carleton University 2019 Transportation Master Plan © Parsons)



## Carleton University Energy Master Plan (2021-2026) and Comprehensive Sustainability Plan (2020-2025)

Carleton University's 2021-2026 Energy Master Plan details energy and carbon reduction initiatives guiding the university to become a carbon neutral campus by 2050. The Energy Master Plan encompasses the following objectives and goals:

- Reduce Carleton University's environmental footprint,
- Reduce utility operational costs, and
- Increase reliability and safety.

The Campus Master Plan Update responds to the Energy Master Plan by focusing on:

- Enhancing the natural environment
- Providing better connections to Carleton's natural ecology
- Enhancing sustainable transportation initiatives on campus
- Incorporating sustainable building design into future development projects; and
- Collaborating and providing better connections to nearby communities.

Carleton University's Comprehensive Sustainability Plan 2020-25 ensures that Carleton University continues to embed environmental and sustainable improvements on campus. The plan contributes to Carleton University's wider goal of integrating sustainability into academic programs, research and engagement initiatives and ensures a collaborative approach across the campus beyond its formal boundaries.

## Equity, Diversity and Inclusion Action Plan (EDI, 2021)

Carleton University's Equity and Inclusive Communities (EIC) Advisory Group developed the EDI Action Plan which proposes an operational framework of high priority actions in the core activities and academic priorities of the university. The Campus Master Plan Update aligns with the goals outlined in the EDI Action Plan by ensuring spaces on campus are welcoming and inviting, and accurately reflect the diverse cultures of the campus community. Many of the highlight key directions that support EDI and work towards fostering an inclusive and supportive campus environment.

### Coordinated Accessibility Strategy (2020)

The Coordinated Accessibility Strategy (CAS) was released in 2020. Values that guided the strategy included: inclusivity, innovation, collaboration, commitment, and community. The CAS defines accessibility with the following components:

- Flexibility for the fullest participation of each individual in activities and society;
- Any place, space, item of service, whether physical or virtual;
- Attitudinal and systemic barriers to inclusion; and
- Visible and non-visible disabilities, including cognitive, developmental, intellectual, medical, mental, physical and sensory disabilities.

The CMP Update emphasizes the importance of universal design and accessibility and provides guidance to ensure Carleton University continues to progress forward on their accessibility commitments. Ensuring design is inclusive of people of all abilities will enable Carleton University to continue to evolve as an efficient, safe, and enjoyable campus for all users.

# 1.3 Consultation Summary

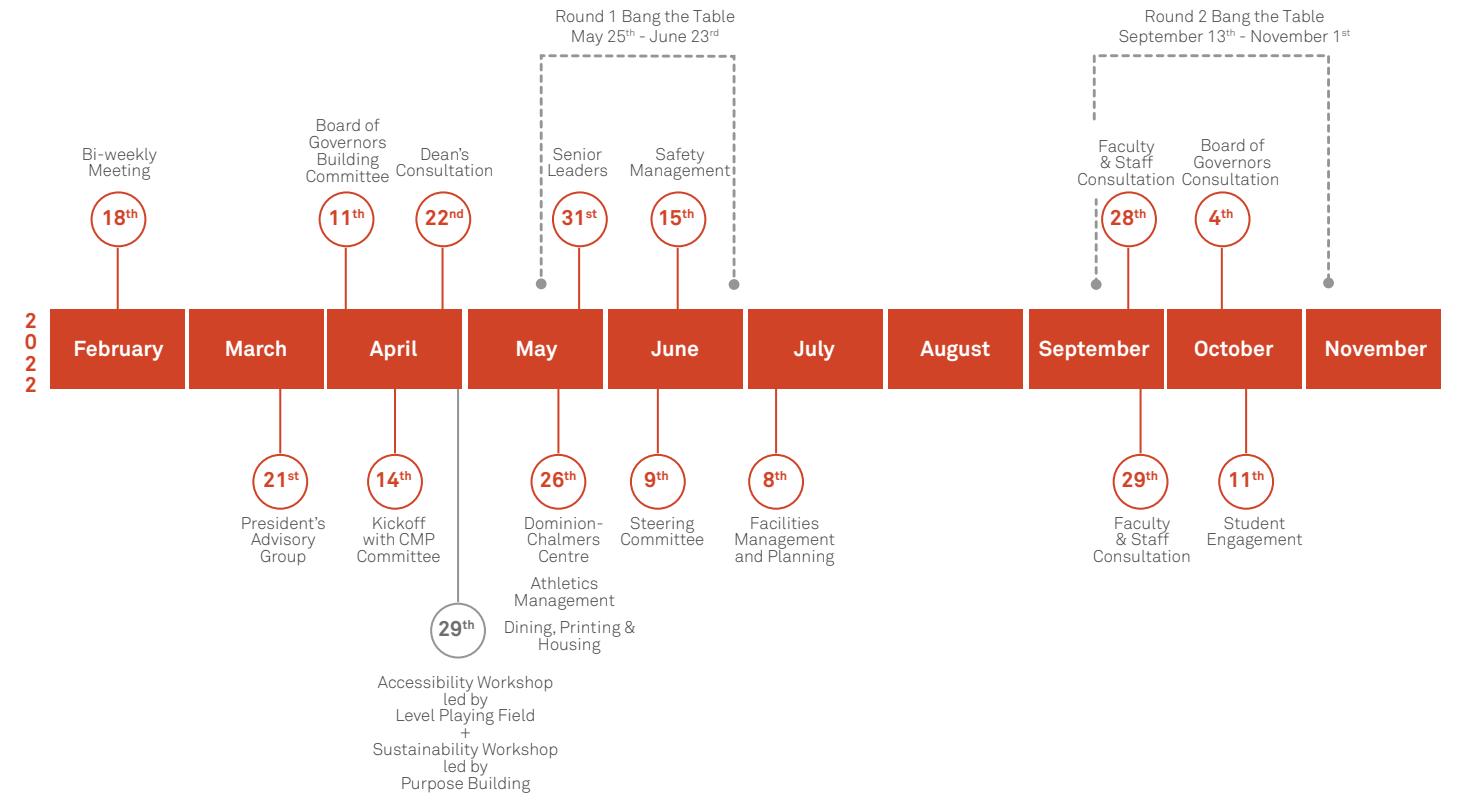


Student engagement sessions at Carleton University (© Brook McIlroy)

This Campus Master Plan Update is the product of meaningful consultations with students, faculty, staff and the overall campus community. The engagement sessions sought to identify existing conditions and constraints at the university. The outcomes of these sessions informed the opportunities and design interventions for Carleton University's campus. Through the engagement sessions, themes such as health and wellness, buildings, open spaces, transportation, sustainability, accessibility, and the future of campus learning, and teaching began to emerge.

The consultation program included the following engagement methods used during both in-person and virtual sessions:

- Presentations to the university advisory committees including, the Steering Committee, the Board of Governors, the Building Program Committee, the President's Advisory Group, Senate and Senior Leaders;
- On campus consultation with students and the Board of Governors;
- An online engagement platform (Bang the Table);
- Online engagement via Carleton University's platform;
- Presentations and consultation with faculty and staff at Carleton, the Rideau Valley Conservation Authority and the City of Ottawa; and
- Social media engagement (Carleton Instagram posts);



The above timeline includes key meetings and consultations that occurred from February 2022-November 2022



The above timeline includes key meetings that occurred from October 2022-April 2023

Input from the consultations on Kinàmàgawin and the Outdoor Space Master Plan were integrated into the development of the Campus Master Plan.



**386 Bang the table contributions**  
\*969 total site visits



**133 Student Engagement**



**369 Carleton Community Internal Visioning Sessions**



**290 Social Media Responses**  
\*5,888 total story views

**1,178 Total Voices to date**

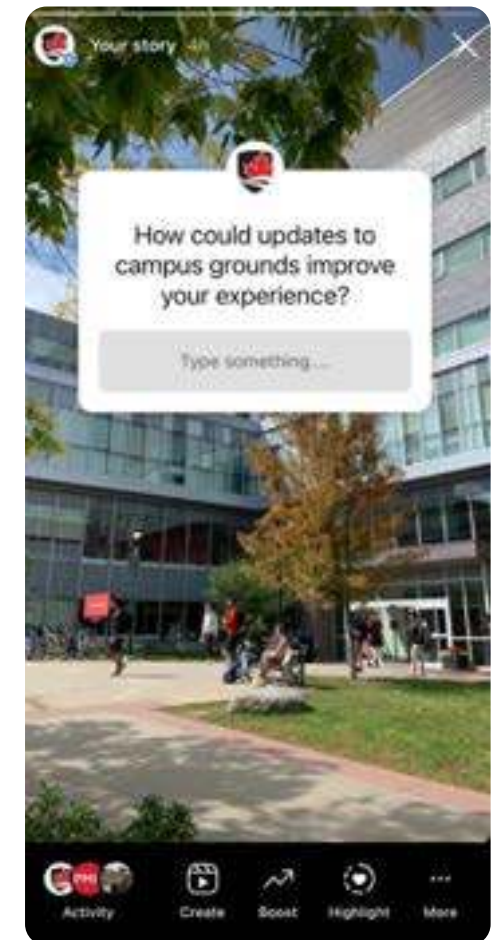
\*Excluding Social Media views and Bang the Table site visits

### Summary and Outcomes

The consultation program included several internal visioning sessions with the Carleton campus community. Approximately 243 individuals from Carleton University attended these sessions in which the majority were held virtually.

Bang the Table, an online engagement platform, provided the campus community with an alternative way to contribute comments on the Campus Master Plan Update. The planning process included two rounds of Bang the Table in which a total of 386 contributions were made. The site contained an 'idea tool', which allowed participants to comment on a series of questions, and a 'mapping tool', which allowed participants to place stickers on areas of campus that they liked and/or disliked.

The consultation program also included some in-person engagement with students and the Board of Governors. These sessions provided participants an opportunity to engage in a visionary activity that included both a series of questions and a mapping exercise. Coinciding with the in-person student engagement session on October 11th, 2022, Carleton's Communication team shared a series of questions regarding the Campus Master Plan Update via Instagram, providing an additional platform for input.



A series of questions were posted on Carleton's Instagram account to engage with viewers. (Carleton Department of University Communications, 2022)

## The following major themes emerged through the consultation process:

### Health and Wellness

- Participants identified the need to increase awareness and support related to physical and mental health and wellness.
- Conversations included an idea of a future 'central hub' for easy access to student services and amenities.
- Faculty, staff and students discussed the need for enhanced food amenities, services, and retail options throughout the campus.

### Indigenous Cultural Representations and Diverse Cultural Inclusions

- Faculty, staff and students voiced a desire to create spaces that respond to the diverse cultural needs of the campus community and increasing international student population.
- The need to ensure that the Indigenous campus community sees themselves reflected on campus.
- The importance of displaying diverse forms of art throughout Carleton's interior and exterior spaces.

### Flexible Learning and Working Spaces

- Students, faculty and staff voiced the need for more multi-purpose spaces for collaborative and quiet studying, informal social areas, and creative hoteling spaces on campus.
- Better outdoor amenities such as study-friendly spaces, comfortable seating, and outdoor educational spaces with electrical outlets.
- The need for enhanced classroom technology and equipment to support flexible learning.

### Leveraging Proximity to the Natural Environment

- Students, faculty and staff voiced the need to elevate, promote, and protect Carleton's natural environment. Emphasis was placed on making better use of the open spaces, courtyards, and pathways.
- A desire to provide better accessibility, use, and connection to the Rideau River, Rideau Canal and surrounding natural environment.
- Students, faculty and staff mentioned considering opportunities to better integrate buildings with outdoor green space.

### Multi-modal Campus

- Participants noted the need for a balanced approach to campus circulation.
- Faculty, staff and students identified the need for tunnel system enhancements and expansions.
- The importance of appropriately phasing construction on campus to reduce congestion and traffic impediments for students, staff and faculty.

### Safe, Accessible, and Legible Campus

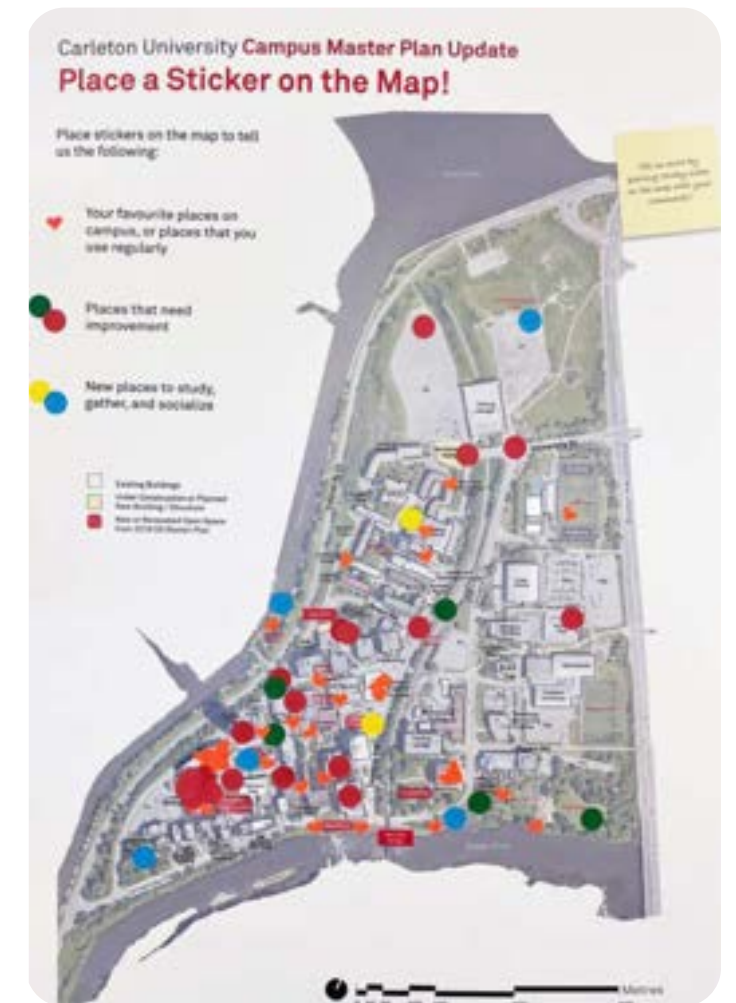
- The need for consistent signage and wayfinding within and across Carleton University.
- The need for a more cohesive, walkable and transit-oriented accessible campus.
- Rethink campus safety for pedestrians, cyclists and vehicles, priority should be placed at intersections, roundabouts and crossings.

### Built Form and Development

- Participants indicated the need for enhanced connections between the interior and exterior of buildings.
- Faculty, staff and students noted the need to better integrate Carleton University with the surrounding community.
- Future development should consider best practices for inclusive, accessible, and sustainable design.

### Four-Season Campus

- Participants identified the need to explore opportunities for year-round outdoor winter programming on campus and connections along the canal and riverfront.
- Students indicated the need for improved air circulation and temperature regulation in the tunnel system.
- The need for outdoor spaces that promote year-round enjoyment with improved access to wi-fi, and weather protected destinations.



Mapping exercise at a student engagement session at Carleton University. Students placed stickers indicating their favourite places on campus, identified areas that needed improvement, and marked potential new places to study, gather, and socialize. (© Brook McIlroy)

\*Note: There is no organizational hierarchy between themes, with the exception of Health and Wellness and Indigenous Cultural Representations and Diverse Cultural Inclusion. These themes have been placed first as they have been identified through various consultation sessions as priority elements for this Campus Master Plan Update



## 2.0 Campus Vision



Nine Guiding Principles have been provided to shape the future development of Carleton University in keeping with the vision and concerns of students, faculty, staff, and community members. The Guiding Principles represent core themes that were derived from the consultation program.

The Guiding Principles provide a reference that will inform decision making throughout the campus design and planning process. The principles are embedded in each Design Framework, Concept Plan and Design Guideline within the Campus Master Plan Update and contribute to the overall direction of Carleton University as envisioned by stakeholders and the Carleton Strategic Integrated Plan. Input from the consultations on Kinàmàgawin and the Outdoor Space Master Plan (2020) inform all aspects of development of this Campus Master Plan Update.

## 1

### Strengthening the Natural Campus

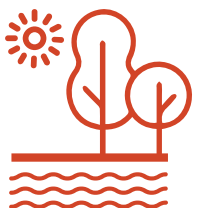
- Promote and protect Carleton's riverfront, canal and natural setting and reintroduce the landscape back into campus open spaces, courtyards, and pathways.
- Strengthen existing green space and outdoor learning opportunities and identify opportunities in existing courtyards.
- Build on existing systems and create additional formal and integrated opportunities for learning, socializing and connecting with the campus edges.
- Provide sheltered spaces and access to wi-fi to provide weather protected destinations.
- Create open spaces that provide a more flexible setting for Indigenous and cultural placemaking and outdoor teaching.
- Incorporate naturalized infrastructure such as bioswales, permeable surfaces, and stormwater reuse for new developments.



View of Richcraft Hall at Carleton University from the Rideau River. (©Moriyama & Teshima Architects)



Example of weaving Indigenous placemaking, stormwater management and landscape into the campus at the University of British Columbia. (© University of British Columbia)



2

### Mixed-Use Complete Campus

- Promote the year-round/all season campus experience through a greater diversity of campus indoor and outdoor programs and spaces.
- Maintain a tight knit fabric of buildings that showcase and frame green spaces.
- Encourage a mixed-use, pedestrian and transit-oriented campus community.
- Provide new, creative, and flexible learning, working, and support spaces with appropriate technology and equipment to complement hybrid learning.
- Create adaptable spaces that suit the changing needs of students, faculty and staff (both collaborative and quiet spaces).
- Consider hoteling spaces to promote efficient, collaborative and creative areas with storage space.



The use of green roofs can promote sustainability initiatives throughout campus (Lawson Centre for Sustainability, University of Toronto Trinity College; Toronto, Canada; © RDHA)



Providing amenities in outdoor spaces can create vibrant, multi-use environments. Ensure outdoor spaces are equipped with furnishing and design measures that support a four-season climate. (Monash University, Melbourne, Australia, TCL © Ben-Wrigley)



3

### Indigenous Cultural Representations and Diverse Cultural Inclusions

- Ensure Indigenous languages (Algonquin Anishinabeg Nation, in particular), artwork, spirituality and philosophical traditions are reflected in buildings, outdoor spaces, landscape design and the naming of spaces.
- Respond to diverse cultural needs through welcoming spaces including program spaces, social spaces, reflection spaces, ceremonial spaces, and food offerings.
- Create spaces on campus for staff, students and faculty, who are Indigenous, Black, Racialized, international, or from other equity deserving groups.
- Display art throughout Carleton’s interior and exterior spaces that is reflective of the diverse campus community.



An example of incorporating Indigenous placemaking elements. (© Brook McIlroy)



Main entrance showcasing parametric wall installation illustrating the motion of water (Waakebiness-Bryce Institute for Indigenous Health; Toronto, Canada © Brook McIlroy)



4

**Legible Campus**

- Reimagine campus streets, paths, signage, wayfinding, and trails as a vital, integrated and human-scaled campus network to improve safety and mobility.
- Enhance wayfinding to and through campus with distinct and legible spaces: entrances, building design, sustainable practices, and balanced parking solutions.
- Improve universal access with respect to the AODA standards and guidelines.
- Enhance pedestrian and cyclist safety at major intersections and priority road crossings (ie. Bronson Avenue and Colonel By Drive).



An example of a vibrant pedestrian precinct with sustainable water management infrastructure embedded in the landscape. (University of Sydney, Jeppe Aagaard Andersen and Turf Design Studio ©Simon Wood)



Window markings can incorporate Indigenous design and aid in wayfinding. (© Brook McIlroy)



5

**Collaborative & Outward-Facing Campus**

- Strengthen community and Ottawa connections through walking and bicycle paths and shared programs and facilities.
- Plan and protect for future building and open space opportunities that promote positive campus growth towards its edges.
- Collaborate with the City of Ottawa, NCC and other relevant stakeholder groups.
- Establish the campus as a community destination.



Enhance connections to existing transit networks to allow for ease of flow to and from campus. (© Brook McIlroy)



Promote active forms of transportation through infrastructure (Flora Footbridge, Ottawa, Canada © DTAH)



5

Sustainability

- Embed sustainability best practices into the decision-making process when evaluating changes to open spaces, transportation networks, and buildings.
- Align projects with the Energy Master Plan to support Carleton’s carbon neutrality goal and prioritize resilience to future weather patterns driven by climate change.
- Evaluate the impact of decisions on waste generation, and prioritize strategies to reduce waste through construction, operations, and end of life.
- Enhance biodiversity and ecosystem health of natural areas within and surrounding the Campus.
- Improve accessibility and sustainability throughout the Campus, focusing on pedestrian pathways and the tunnel system.



A photovoltaic canopy provides cover and contributes to sustainability efforts. (Miller Hull and Lord Aeck © Jonathan Hilyer)



Enhance the campus’ ecological function by constructing green roofs. (© CHUTTERSNAPE, Unsplash)



6

Balanced Access

- Identify a comprehensive and balanced approach to campus circulation, which provides safe, efficient, and comfortable connections for pedestrians, cyclists, transit users, and parking opportunities.
- Create multi-modal campus streets and access, with a focus on pedestrian connections. Campus Avenue and Library Road will become flexible, pedestrian priority streets.
- Improve the campus image and experience through safe sustainable mobility options for people of all abilities.
- Continue to improve and promote the tunnel system as a beloved circulation network.
- Build on the transportation master plan by encouraging transit and alternative mobility options, including scooters, bike rentals and a Transit Hub.



A transit hub will be a key node within the campus and surrounding community. (Neumann Monson Architects © Assassi Architects)



Campus streets should ensure direct, safe and comfortable access for pedestrians, cyclists and motorists. (Brighton, UK© Gehl Architects)



8

### Health and Wellness

- Ensure that new development on the Campus fits within its environment and creates safe and animated spaces for year-round use.
- Provide adequate food choices, retail options, green spaces and buildings that promote health and wellness.
- Showcase the water and natural setting, to promote physical and mental health and wellness needs of students and the entire campus community.
- Consider opportunities to better integrate buildings with outdoor green space.
- Promote health and wellness on Campus through a holistic approach to buildings, open space and streetscape design.



Dining commons at Simon Fraser University provides a variety of healthy food options. (© Simon Fraser University)



Streetscape improvements to promote outdoor activity. (Monash University © Ben Wrigley)

9

### Buildings and Architecture

- Identify potential development opportunities that consider ongoing capital projects; efficiencies in space utilization in existing and new buildings; use of current space; and opportunities for renovation, renewal and expansion.
- Develop guidance for new buildings and structures on campus and create directions for phased development over the short-, mid- and long-term.
- Consider the future of the north campus as a mixed-use land opportunity with city and other stakeholder partnerships.
- Ensure high quality architecture at a balanced scale.
- Enhance connections from the interior of buildings to the exterior.
- Ensure future development considers best practices for inclusive, accessible and sustainable design.

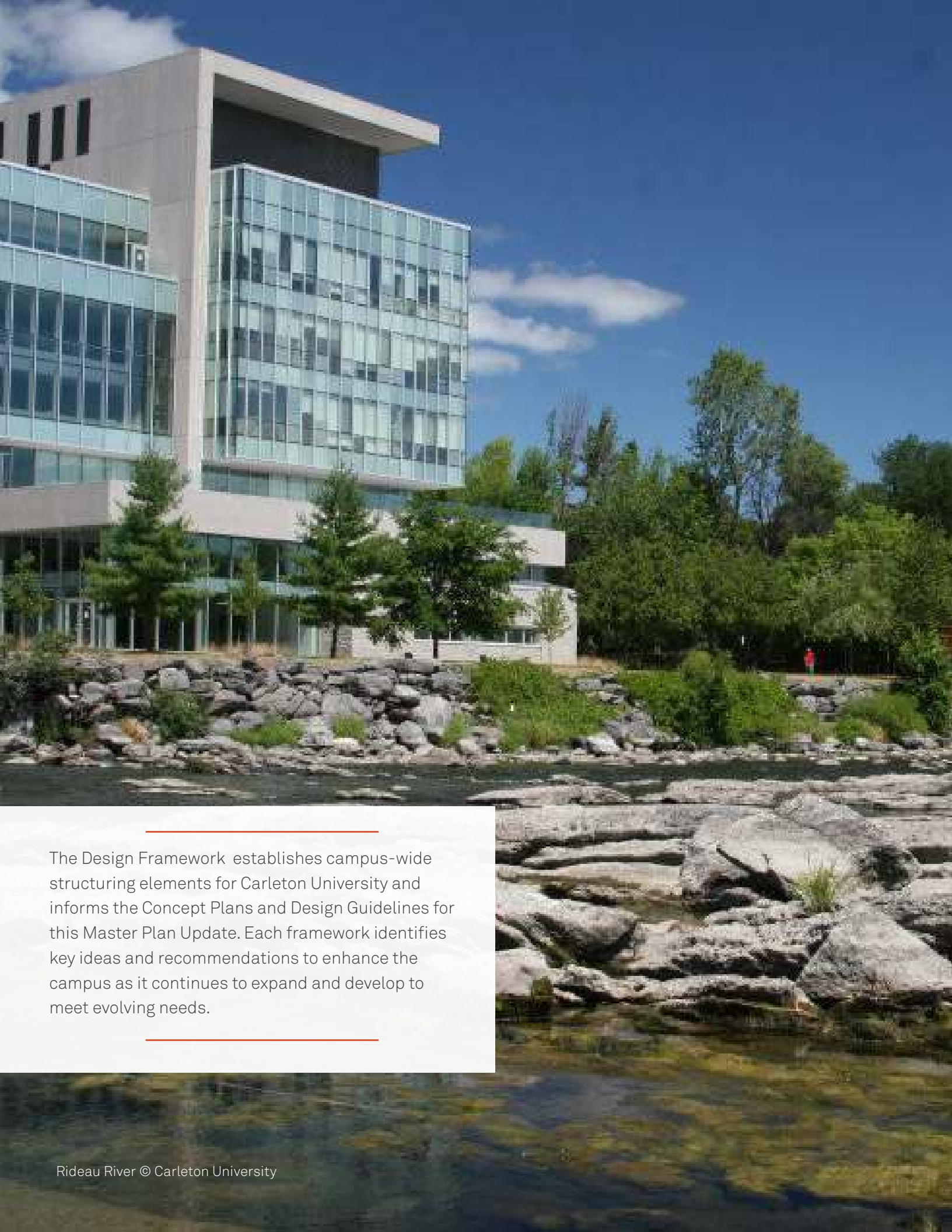


Utilizing daylight to illuminate spaces. (Tulane Commons at Tulane University, New Orleans, USA © Tulane University)



An example of mass timber construction with a glue-laminated timber frame and CLT panels. (Portland, USA; LEVER ©Jeremy Bitterman)





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The Design Framework establishes campus-wide structuring elements for Carleton University and informs the Concept Plans and Design Guidelines for this Master Plan Update. Each framework identifies key ideas and recommendations to enhance the campus as it continues to expand and develop to meet evolving needs.

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## 3.0 Design Framework

- 3.1** Campus Framework for Sustainability
- 3.2** Natural Systems
- 3.3** Universal Design and Accessibility
- 3.4** Transportation Framework
- 3.5** Open Space Framework
- 3.6** Urban Design Framework

## Design Framework & 'Big Moves'

Section 3.0 of this Campus Master Plan Update sets the stage for the 'Big Moves' of this Master Plan, providing design directions and objectives of the overall Plan concept.

The Master Plan Update is guided by the following Design Frameworks: sustainability, natural systems, universal design and accessibility, transportation, open spaces and urban design.

The 'Big Moves' that are informed by the Design Frameworks include:

- The Green Ribbon & Geological Time Trail
- Flexible Campus Streets, Campus Gateways & Pedestrian Networks
- Tunnel Improvements & Expansions
- Restoration of Riparian Habitats & Stormwater Management
- Potential Building Enhancements, Expansions & Developments

It is important to note that principles of sustainability and universal design are woven into each design direction identified above.



**Green Ribbon & Geological Time Trail**



**Flexible Campus Streets, Campus Gateways & Pedestrian Network**



**Tunnel Improvements & Expansions**



**Restoration of Riparian Habitats & Stormwater Management**



**Potential Building Enhancements, Expansions & Developments**

# 3.1 Campus Framework for Sustainability



The Chatham University Eden Hall Campus generates more energy than it uses, produces food, recycles nutrients, and supports habitat and healthy soils. (Pennsylvania, Mithun © Bruce Damonte)

Through its holistic and inclusive approach to sustainability, Carleton has established a commitment to exemplify practices that will achieve a better world for future generations. University staff have emphasized the important role the Campus Master Plan Update can play in demonstrating a visible and measurable commitment to sustainability that engages students, staff, and the local community.

As part of the CMP Update, four Core Sustainability Pillars have been developed to provide guidance for Carleton University. The pillars were informed by a thorough review of existing Carleton policies, plans,

*“Carleton strives to be a leading Canadian university that shapes and strengthens sustainability in society and contributes to the well-being of the community in which it operates... Carleton defines sustainability in an inclusive style, encompassing human and ecological health, social justice, secure livelihoods, and a better world for all generations.”*

- Carleton Sustainability Plan 2020-2025

and reports, as well as site visits, a sustainability workshop, and cross-departmental meetings with Carleton staff members. Opportunities and constraints have been identified for each pillar and will inform the campus Design Guidelines in Section 6.0 of this Plan.

The core sustainability pillars are:

- Energy & Carbon;
- Circularity;
- Health & Wellness; and
- Natural Systems Integration.



Dynamic solar shading systems mounted on the façade can adjust to the specific climate conditions, user patterns and provide optimal daylight. (SDU Campus, Henning Larsen © Martin Schubert)

## Pillar #1: Energy & Carbon

Energy and Carbon play an important role in Carleton’s overarching sustainability vision. As stated in the 2021 Energy Master Plan: *“Carleton University’s carbon neutrality goal is an ambitious step forward that is in alignment with federal and local government policies and strategies toward climate change and its threat to our environment, health, economy and collective future. It demonstrates Carleton’s leadership and commitment to our collective effort to mitigate and reduce the impact of climate change.”*

Opportunities and constraints applicable to the Energy & Carbon Pillar include:



Example of a parking garage with passenger shelters with a solar panel array on the roof to produce a net-zero electricity use for the building. (The University of Northern Iowa’s Multimodal Transportation Center, United States, Substance Architecture © Paul Crosby Architectural Photography)

### A. Low-Carbon Utility Strategy: Fossil Fuel Switch

Carleton’s 2021 Energy Master Plan indicates ongoing campus electrification through the addition of three new nodal heating plants that house electric boilers to generate low-temperature hot water for distribution around campus. There is an opportunity to allocate space for any additional distribution infrastructure required in areas of Campus that are not yet developed and within building renewal guidance. Constraints may appear if competing interests for future land-use and infrastructure installation timing are identified.



## B. Renewable Energy

Onsite renewable energy generation is a part of the campus carbon-neutral strategy outlined in the 2021 Energy Master Plan. There is an opportunity to plan for solar access on new and existing buildings, and align with roof renewal plans where possible. Constraints to consider include: roof capacity, shading, electrical equipment, and structural load analysis. In addition, some areas for photovoltaics (PV) may compete with air source heat pump (ASHP) installations, therefore availability of roof space may be constrained.

## C. Efficient Buildings

Future development can support Carleton's zero-carbon future by incorporating efficient building design and retrofit strategies. Opportunities include carefully considering efficient massing and orientation for new developments, optimizing window-wall ratios, and designing aesthetically attractive façades that are attainable with high performance cladding systems.

## D. New Buildings Performance Standards

There is an opportunity for Carleton to set clear and consistent performance standards for all future buildings. Consideration should be given to the range of certification pathways available, streamlining the decision-making process and aligning with other campus goals where feasible. Constraints in this area include the rapidly changing landscape where references to standards and versions can quickly become out-of-date.

## E. Building Retrofits

Reducing energy demand in existing buildings will help reduce overall campus emissions and operational costs, future utility infrastructure loads, and the associated capital cost. The Carleton Energy Master Plan currently sets an indicative minimum of 19% improvement for annual heating, cooling, and electricity consumption for existing building performance improvement by 2050. Before planning a new development or existing building replacement, consider whether existing buildings can be sustained, renovated, or renewed.

## F. Embodied Carbon Reduction

Tracking and managing embodied carbon emissions at an early stage can help guide a project's design, specifically for structural and envelope considerations. The opportunity to conduct space-use planning with considerations for increasing density and/or renovating existing buildings before deciding to build new should be considered to reduce embodied carbon.

## G. Resilience

There is an opportunity to consider resilience on campus to mitigate climate-related and other potential disruptions. This includes enhancing the ability of buildings and systems on campus to withstand and respond to extreme weather events, maintaining occupant comfort as temperatures increase, and improving the university's ability to adapt to the changing regulatory landscape.

Smart technology such as self-shading and angled exterior louvers can help reduce solar heating and reduce an overall reliance on energy-intensive climate control systems. (Queensland University of Technology Australia; Henning Larsen & Wilson Architects © Christopher Frederick Jones)





Hampshire College's R.W. Kern Center is a multi-purpose facility that is self-sustaining— generating its own energy, capturing its own water, and processing its own waste. (Amherst, Massachusetts, Bruner/Cott & Associates © Robert Bensen)

## Pillar #2: Circularity

Circularity addresses Carleton's desire to reduce physical waste— through construction, operations, and end-of-life— of various materials on campus. Opportunities and constraints applicable to the Circularity Pillar include:

### A. Zero-Waste Operations

The university has a set target to achieve a diversion rate of over 90% in its operations. Space requirements should consider reusable materials instead of disposable, priority placement of recycling and compost collection, effective waste collection and sorting, and visual displays to increase proper diversion practices from campus community members and visitors. Constraints may include existing contracts and receiving facility capabilities.



Building materials can safely incorporate habitats for bees, birds, and bats. The pictured Bee Brick replace a brick in the wall and provides a nesting place for solitary bees within the irregular pattern of holes. (© Green & Blue)

### B. Zero-Waste Construction

Opportunities to support low-waste materials selection and construction practices should be considered, along with synergies under the Energy & Carbon theme of Embodied Carbon. Constraints include complexities in developing policies, implementing practices campus-wide, and updating procurement processes.

### C. Local Food

There is an opportunity to consider allocating space to grow food on campus. Constraints to consider include maintenance responsibility, accessibility, water and sunlight access, security, and protection from animals and pests without harmful pesticides.

### D. Materials

There is an opportunity to encourage use of materials that are reusable, recyclable, and/or compostable at the end of the service life. Providing guidance to support low-embodied carbon materials and those with a longer lifespan should also be considered.



Karen Blixens Plads is an undulating plaza that mimics the surrounding landscape and provides sheltered parking for over 2,000 bicycles for the university's students and staff. (Karen Blixens Plads, Copenhagen, COBE & COAST © Rasmus Hjorthøj)

### E. Water Efficiency

The existing Sustainability Master Plan includes the goal to minimize water consumption through conservation and efficiency measures, water reuse and recycling. There is an opportunity to address water efficiency both indoors, and outdoors. This includes a process for evaluating water fixture retrofits during building renewal conversations, space use planning and assessments for collecting and re-using rainwater and/or greywater, and planning naturalized spaces to support species that do not require permanent irrigation.

## Pillar #3: Health & Wellness

The Health and Wellness Pillar encompasses three core themes: connectivity, comfort, and community. Each core theme includes a number of opportunities for creating a campus that fosters mental and physical health and wellness for members of the campus community, as well as for the natural environment.

Opportunities and constraints applicable to the Health & Wellness Pillar include:

### A. Connectivity

The campus can be designed to support reduced reliance on single-occupancy vehicles, while making alternative travel modes more attractive options for staff, students, and visitors. Themes include: bicycle infrastructure, walkability, transit stops, and electric vehicles.

### B. Comfort

Creating a comfortable year-round experience for the campus community— indoors and outside— was an important theme heard in the Sustainability Workshop.

- **Thermal Comfort:** Increasingly frequent extreme weather events should be considered. There is an opportunity to conduct outdoor thermal comfort analysis that can help inform both building massing strategies and outdoor space designs.
- **Visual Comfort:** There is an opportunity to support an enhanced public realm by incorporating visual comfort features such as art installations, and enhanced lighting and wayfinding.
- **Indoor Air Quality:** Opportunities to improve indoor air quality through strategic locations for building openings and air intakes in relation to pollution sources.
- **Safety and Security:** Considerations should be made in how vulnerable populations will experience the Campus throughout the year to foster a sense of inclusivity.

### C. Community

- **Community Outreach:** Showcase the ambitious sustainability goals the university has set and empower students and faculty to actively participate in ongoing sustainability efforts.
- **Healthy food:** Better inform the campus community on healthy food accessibility, on-site gardens, and ongoing campus policies.
- **Accessibility:** Site infrastructure and building design should consider physical abilities, vision and hearing, age-related needs, etc. (Refer to Section 3.3)



The Green Ribbon and Geological Time Trail provides opportunities to implement Sustainable Urban Drainage Systems. (Fidelity Heart Zone, BID landscape architects © Jack-Hobhouse)



Example of weaving Indigenous placemaking, stormwater management and vegetation into the campus at the University of British Columbia, Vancouver, Canada. (PFS © University of British Columbia)

## Pillar #4: Natural Systems Integration

The Natural Systems Integration Pillar acknowledges the important connection the Campus has with its natural surroundings, and the desire to enhance its role in protecting the local environment.

Opportunities and constraints applicable to the Natural Systems Integration Pillar include:

### A. Stormwater Management

There is an opportunity to manage and reuse stormwater in the campus through bioretention facilities that will improve stormwater runoff quality and reduce total stormwater runoff. Constraints include limited room for revising existing developed areas and reconciling winter snow clearing with alternative pavement strategies.

### B. Vegetated Spaces and Carbon Sequestration

There is an opportunity to align with the OSMP, which suggests elements to contribute to climate-positive design, such as an enhanced tree canopy and converting unused lawn to other plantings to increase biodiversity and offer improved carbon storage in plants and soil. Constraints may be found with competing interests between campus densification and open space.

### C. Wildlife Connection

There is an opportunity to implement a wildlife strategy that highlights and interacts with the native flora and fauna while establishing parameters on how the university can support wildlife around campus through building design (such as bird-friendly glazing requirements) and site planning (protecting nesting areas, for example).



Solar-powered shelters with a living roof planted with a mix of wildflowers helps support biodiversity, provides a resting stop for pollinators, absorbs rainwater and is powered by solar energy. The bus stop is also designed with principles of circular economy. (Bee Bus Stop, ©Brighton & Hove City Council)



Rooftop gardens and greenroofs can be used for outdoor meetings, lectures, and events. Green roofs not only retain water but can act as natural filters for water runoff and can decrease stress on sewer systems at peak flow periods. (Chemnitz, Germany, Meyer-Grohbrügge © Johannes Richter)

## 3.2 Natural Systems



Rideau River Rapids © Brook McIlroy

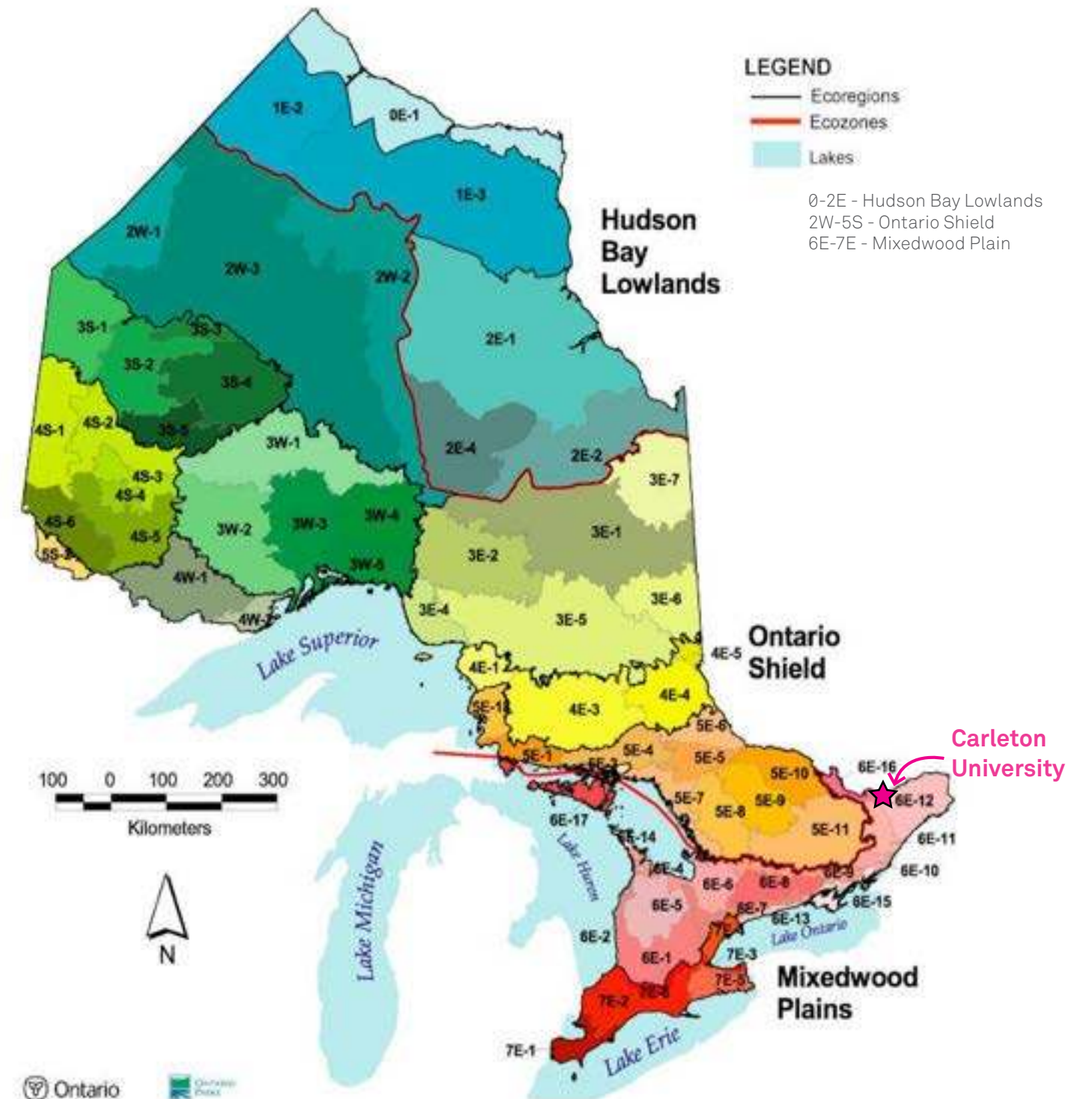
“So . . .  
 Catch!” calls the Once-ler.  
 He lets something fall.  
 “It’s a Truffula Seed.  
 It’s the last one of all!  
 You’re in charge of the last Truffula Seeds.  
 And Truffula Trees are what everyone needs.  
 Plant a new Truffula. Treat it with care.  
 Give it clean water. And feed it fresh air.  
 Grow a forest. Protect it from axes that hack.  
 Then the Lorax  
 and all of his friends  
 may come back.”

— Dr. Suess, *The Lorax*

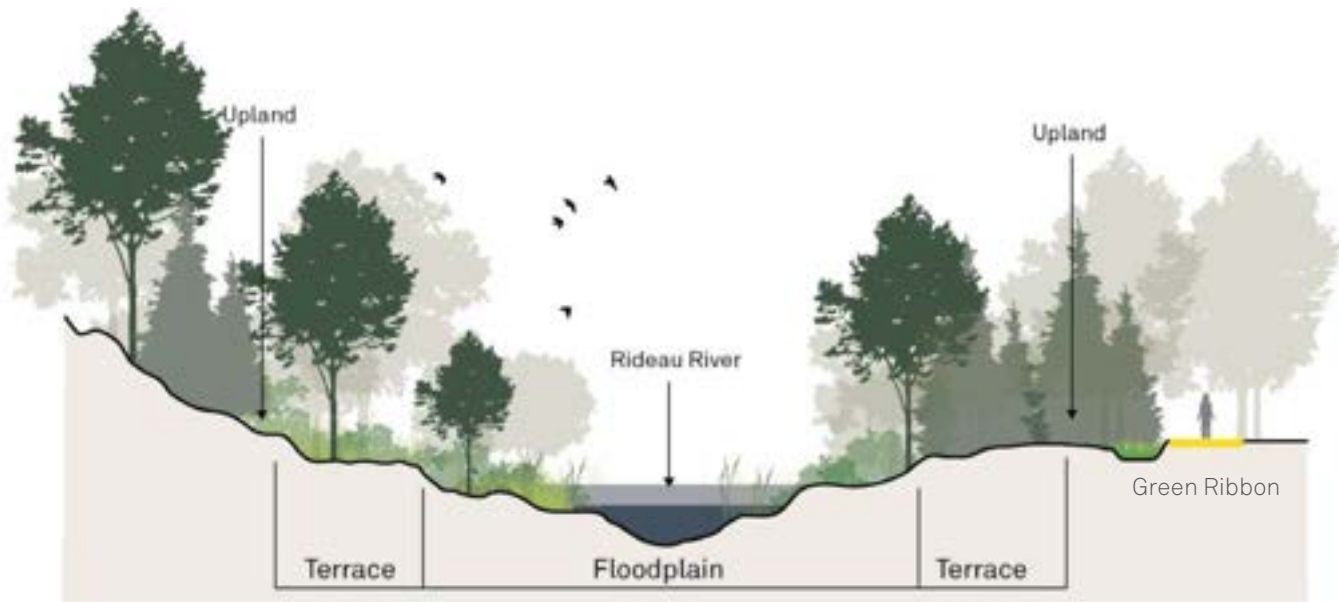
Carleton University is nestled between two water features; one man-made and the other natural. Dow’s Lake and the Rideau Canal flank the north and western edges of the campus, while the Rideau River borders the southern edge. Looking at Carleton’s physical location in these terms primes the campus as a pioneer for integrated approaches between man-made and natural water-based systems.

Enhancing the natural setting and developing new areas with enhanced connections to water and the local ecology is a unique way to situate Carleton University within its regional context. Opportunities for enhancing planting areas should consider

species that are significant to local ecotypes, such as the greater Ottawa Valley, the Ottawa Escarpment, and Eco-region 6E Lake Simcoe-Rideau, as shown on the map to the right. Ottawa lies at the transition between the northern boreal forests (Taiga) and the eastern deciduous forests (Mixedwood Plains), providing the region with an abundance of species from both ecozones. This larger link is physically connected to the campus not only via its location but also through the surrounding water ways which are used by flora and fauna alike to travel great distances.



▲ Located at the northern edge of the Lake-Simcoe-Rideau Eco-region (6E) and close to the Georgian Bay Eco-region (5E), the Carleton Campus ecosystem is influenced by both of these natural communities of flora, fauna and weather. (©Ontario Parks)



**Riparian Ecosystem Cross Section**  
Steep to Gentle Terrain

Healthy streams and waterways should contain a Riparian corridor. Riparian zones border waterways, filtering stormwater run-off, and creating lush wildlife corridors that connect different habitats. (Riparian Ecosystem Cross Section, USDA Forest Service ©Brook McIlroy)

## Riparian Zone

Riparian corridors are the interface between land and waterways, these corridors are made up of a series of transition plant communities which are important in ecology and environmental resource management due to their role in soil conservation, habitat biodiversity and the influence they have on fauna and aquatic ecosystems. Riparian zones are often punctuated with wildlife and rare or uncommon species of plants, insects, and birds.

Often characterized by a full and dense canopy of large deciduous trees and a rich understory, riparian areas vary widely. Riparian forests are bursting with activity, due to the proximity to water, vast amount of food, nesting opportunities and abundance of cover.

Riparian Zones act as the first level of defense against flooding. Rising water levels will cause a breach along the riverbank, which are inherently designed by nature to protect against flooding. Riparian terraces contain water hungry trees and other vegetation that is adapted to seasonal

flooding, providing a layer of protection and acting as a stormwater and flood risk mitigation device. Continued rising water levels pose a high risk to the riparian terraces. Interventions should be in place to prevent the interference with daily campus operations and to reduce the risk of flooding.

The Riparian Zone proposed by the CMPU would act an additional line of defense against high water levels. The inclusion of bioswales and increased vegetation will enable the storage and slowing of rising water levels, lessening the impact on daily campus life.

The Campus Master Plan Update aims to leverage and foster the riparian corridor by integrating the Green Ribbon and Geological Time Trail through the riparian zone, preserving existing natural elements and adding placemaking features, native plantings and furnishings. The CMP Update also aims to increase connections from the campus core down to the river, working to increase linkages between the built form and the natural environment.

## Map Natural Features and Stormwater Management

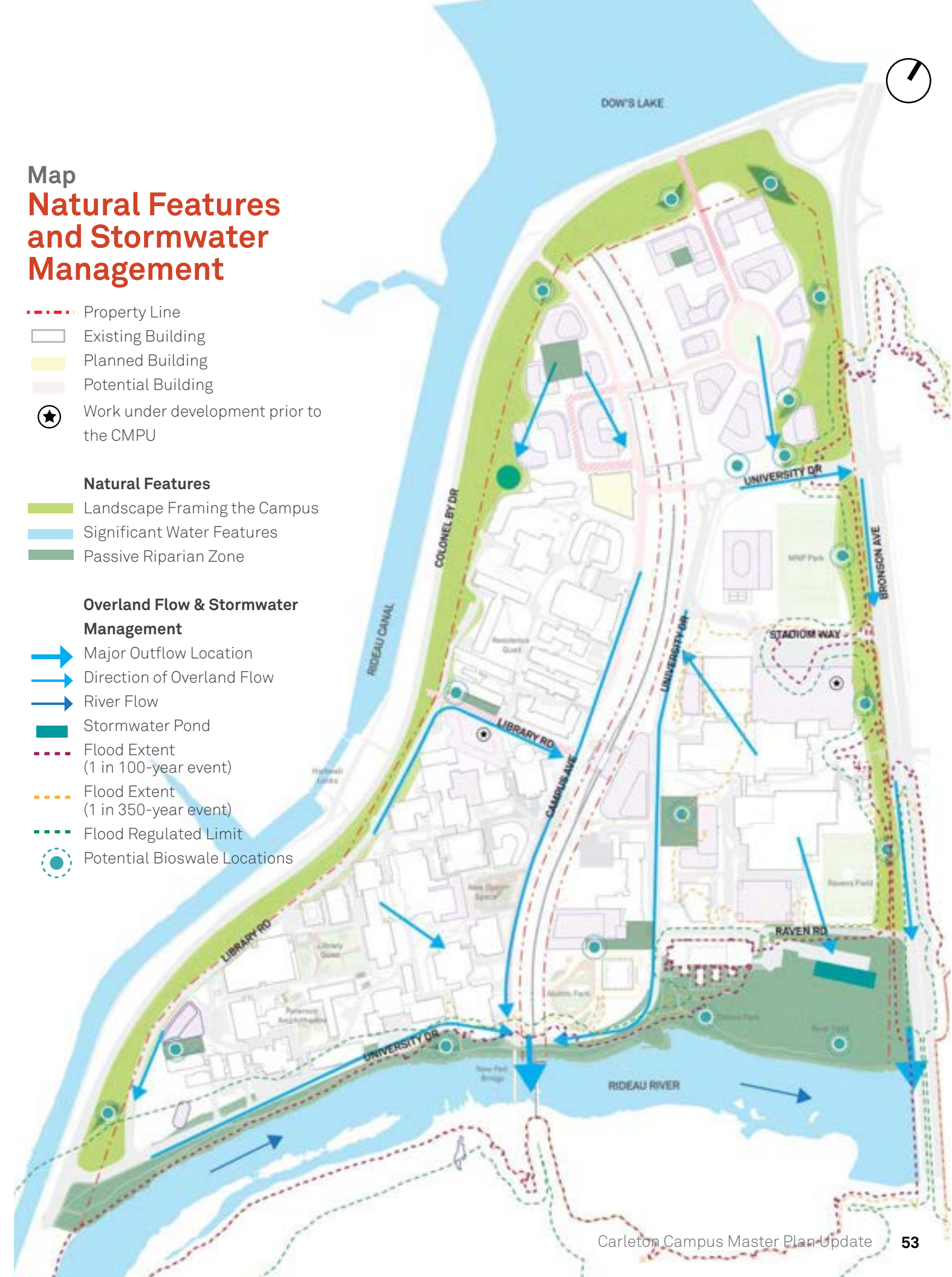
- - - Property Line
- Existing Building
- Planned Building
- Potential Building
- Work under development prior to the CMPU

### Natural Features

- Landscape Framing the Campus
- Significant Water Features
- Passive Riparian Zone

### Overland Flow & Stormwater Management

- ➔ Major Outflow Location
- ➔ Direction of Overland Flow
- ➔ River Flow
- Stormwater Pond
- Flood Extent (1 in 100-year event)
- Flood Extent (1 in 350-year event)
- Flood Regulated Limit
- Potential Bioswale Locations



## Stormwater Management

Nurturing our waterways and minimizing runoff, slowing it and filtering it, are the most immediate ways to have a large impact at a site-specific scale. Stormwater management is often addressed through large retention ponds, bioswales and green roofs. The Campus Master Plan Update suggests incorporating a feasible method of stormwater management that is suitable to Carleton and its surrounding context.

Approximately half of the Carleton University's surface runoff drains directly into the Rideau River, with a large outflow going into the river near Campus Avenue. The remainder drains toward Bronson Avenue, likely flowing into the city sewer network. The Carleton University Stormwater Management Operating Plan identifies potential storm impacts to existing infrastructure, including sewer backups and flooding along streets and within buildings. The Carleton University Stormwater Management Operating Plan proposes upgrades to manholes, catchbasins and incorporating backflow preventer's as a way to limit major impacts.

In addition, stormwater management can be managed directly within the landscape. Implementing water management devices including the strategies below can help minimize the need for future upgrades. Although this is a common way to address stormwater, there are opportunities to integrate ecologically sensitive methods.

Specific strategies that align with those proposed by the OSMP include:

- Reduce impervious surfaces
- Permeable paving
- Snow storage and impervious surfaces to drain towards permeable and semi-permeable surfaces
- Low Impact Development strategies
- Aquatic buffers along the Rideau River to manage sediment and nutrient runoff.

Bioswales create robust stormwater infrastructure that can slow peak overland flows and allow more of it to infiltrate the soil, recharging local aquifers. These landscape areas would be at their most resilient when predominantly filled with native, salt, drought, flood, and pollution tolerant plants.

Carleton University is surrounded by a beautiful landscape that offers plenty of opportunity to enhance local placemaking through native gardens and small celebrations of local ecology. These interventions are simple, low-cost and effective in creating a unique sense of place on campus that can also benefit local and regional ecological habitats and ecoregions/zones. These elements are educational, aesthetic, and help build resilience to climate change.

The CMP Update suggests several interventions that will aid in enhancing linkages to the Rideau River and Canal through pedestrian connections and gateways, as well as through the future Green Ribbon and Geological Time Trail (Section 3.5), a multi-use pathway woven along built and natural areas in the core and periphery of the campus.

Discussion with groups including Parks Canada, NCC and RCVA should take place to ensure for appropriate implementation of the interventions.



Rain gardens collect stormwater runoff and are often planted with native species that do not require permanent irrigation. (Somerville, Massachusetts, OJB © Kyle Cadwell)



In the winter, rain gardens and bioswales can create seasonal interest and become designated areas that require less maintenance. (Somerville, Massachusetts, OJB © Andrew Cridlin)



Bioswales can be designed to look like gardens. By flanking walkways with these gardenesque elements, a calming and natural scenic atmosphere can be created.



Gardens and public spaces can be utilized as water buffers. (Mecanoo © Delfland Water Board)

## 3.3 Universal Design & Accessibility



Accessible pathways should be well-integrated into the site design. (Baggage Building Arts Centre, Thunder Bay, Brook McIlroy ©David Whittaker)

Universal design goes beyond physical accessibility and considers vision, hearing, neurological, developmental, and physical disabilities when designing and developing spaces. It is an intersectional approach to how we develop and interact with our environments to create user-centric, cost-effective, and sustainable accessibility for a diverse range of people and user groups. The principles of Universal Design encourage flexibility, adaptability, safety, and efficiency in our built environment.

The application of Universal Design results in environments that anticipate the needs of users and work systematically to remove labels that stigmatize based on the access provided. Future development should utilize the following directions to the greatest extent possible, to ensure that Carleton University is a universally accessible campus. The following Seven Principles of Universal Design, coined by Ronald Mace will guide the design and development of spaces, products and communications, and offer opportunities for Carleton University to be more universally accessible.



Hard-packed, stable surface materials, and adequate clear height will improve accessibility to recreational trails for all users. (©Mirek Kijewski)

### Seven Principles of Universal Design

#### 1. Equitable Use

The design of spaces should be marketable to and useable by people with diverse abilities.

- Provide same means of use for all users.
- Avoid segregating, stigmatizing, or isolating specific user groups.
- Design should be appealing to all users.



Audio Frequency Induction Loop Systems (A.F.I.L.S) are used by hearing aid wearers to assist them to hear clearly in difficult acoustic environments. (Induction Loop Systems © Sound induction Systems Ltd)

#### 2. Flexibility in Use

The design of spaces should accommodate a wide range of individual preferences and abilities.

- Provide choice in methods of use.
- Accommodate right-handed or left-handed access and use.
- Facilitate user's accuracy and precision.
- Provide adaptability to the user space.

### 3. Simple and Intuitive Use

Spaces should be easy to understand and use, regardless of the user's experience, knowledge, language skills, or current concentration level.

- Eliminate unnecessary complexity.
- Design spaces consistent with user expectation and language skills.
- Accommodate a wide range of literacy and language skills.
- Arrange information consistent with its importance.
- Provide effective prompting and feedback during and after task completion.

### 4. Perceptible Information

The design of spaces should effectively communicate necessary information to the user, regardless of ambient conditions or the user's sensory abilities. The design should seek to eliminate sources of distraction.

- Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
- Provide high colour/tonal contrast between essential information and its surroundings.
- Maximize legibility of essential information.
- Differentiate elements in ways that can be described.
- Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

### 5. Tolerance for Error

The design of spaces should minimize hazards and adverse consequences of accidental or unintended actions.

- Arrange elements to minimize hazards and errors; hazardous elements should be eliminated, isolated, or shielded. Do not place the burden on individuals to utilize person protective measures.
- Provide warnings of hazards and errors in a variety of sensory modes.
- Provide fail-safe features.
- Discourage unconscious action in tasks that require vigilance.

### 6. Low Physical Effort

Spaces should be designed to be used efficiently and comfortably, with minimum fatigue.

- Allow users to maintain a neutral body position.
- Use reasonable operating forces.
- Minimize the need for repetitive actions.
- Minimize sustained physical effort.

### 7. Size and Space for Approach and Use

Spaces should be appropriately sized for reach, manipulation, and use, regardless of user's body size, posture, or mobility.

- Provide clear sight lines to important elements for any seated or standing user.
- Ensure reach to all components is comfortable for any seated or standing user.
- Accommodate variations in hand size and grip size.
- Provide adequate space for the use of assistive devices or personal assistance.



This outdoor space at Drexel University in Philadelphia is highly legible and uses high colour and tonal contrast to help users of all abilities navigate and understand the space. (Korman Center Quad © StreetLife)



# 3.4 Transportation Framework



The O-Train crossing the Rideau River. (© Carleton University)

## The Campus

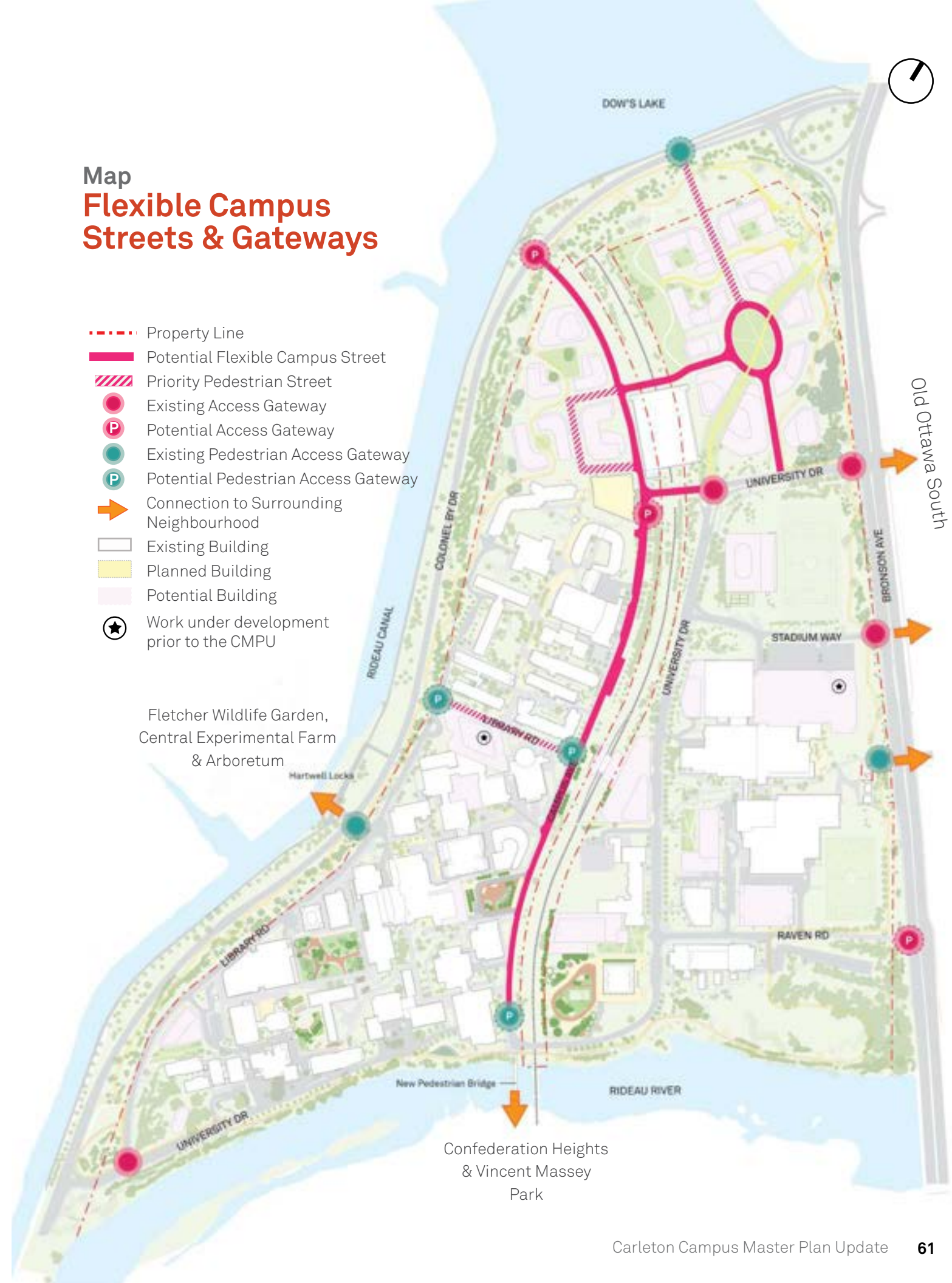
The campus street network is defined by a ring road system that accommodates all vehicle traffic circulation, including OC Transpo bus service with multiple pedestrian and cycling crossings/connections. All campus roads generally consist of two-lane cross-sections, with the exception of the segments approaching Bronson Ave and Colonel By Dr, where they widen to three and/or four lanes.

Carleton University contains a well-established transit network, which has been and will soon again be a defining feature of the campus. The O-Train Line 2 service (Trillium Line) will act as the transportation system's pillar. It runs north-south through the campus with a station located at the campus core, which is supported by conventional bus and Para-Transpo service on the campus ring road.

In recent years, Carleton University has emphasized a more contemporary way of thinking about transportation. As noted in the 2016 Campus Master Plan, "when prioritizing modes of movement on campus, pedestrians have first priority, followed by bicycles, transit, high-occupancy vehicles and single occupant or service vehicles." This multi-modal approach to transportation planning reverses conventional thinking about priority of movement, and will create a more walkable and enjoyable campus environment.

## Map Flexible Campus Streets & Gateways

- Property Line
- Potential Flexible Campus Street
- Priority Pedestrian Street
- Existing Access Gateway
- Potential Access Gateway
- Existing Pedestrian Access Gateway
- Potential Pedestrian Access Gateway
- Connection to Surrounding Neighbourhood
- Existing Building
- Planned Building
- Potential Building
- Work under development prior to the CMPU



Carleton University should strive for a balanced approach in addressing localized congestion and road network inefficiencies through strategic network design, as well as strong transportation and parking demand management strategies. Investments should be made in infrastructure and policies that support walking, cycling, transit, and mobility services (e.g. ride sharing and carpooling) that will improve system performance by reallocating demand from personal vehicles to more sustainable modes.

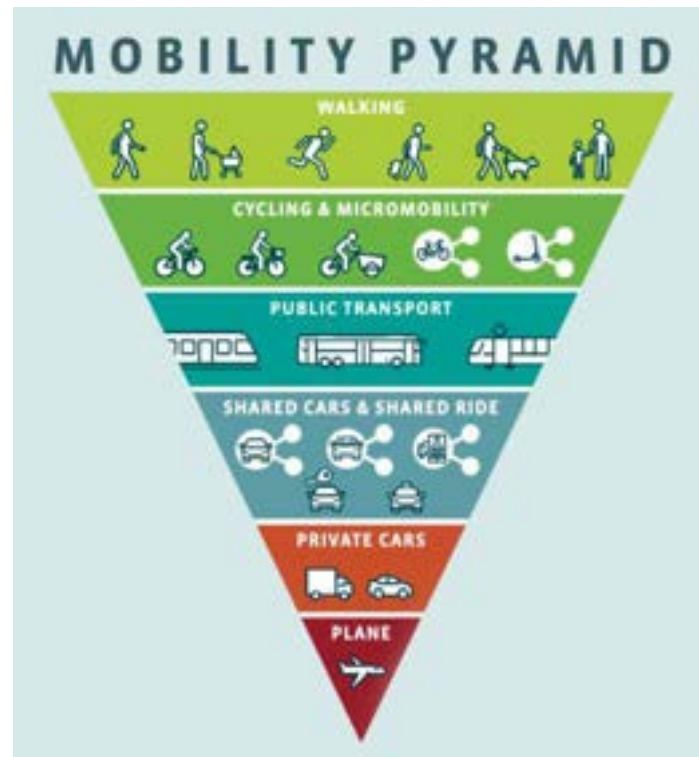
Removing or reducing barriers for active users to reach their destinations by adding or enhancing connections to buildings, transit areas and common areas, as well as providing safer crossings at intersections would enable active users to navigate campus more safely, efficiently and further enhance the campus' multi-modal character.

Strengthening the active transportation network should be afforded the highest level of priority to increase the efficiency of movement of pedestrians and cyclists throughout the campus. Enhancing the quality and capacity of active transportation facilities on existing streets, filling in gaps within the network, and ensuring proper maintenance to enable year-round use should be paramount.

### The 'Big Moves' to support campus transportation are:

#### Campus Avenue

- Shall be converted into a **flexible street** that will enable shared use of the street by all users.
- Will be a low-speed environment with enhanced crossings that will prioritize safety and reduce friction between users.
- Bi-directional cycle tracks enable commuter cyclists a dedicated space to traverse the campus. This facility will connect the new pedestrian bridge across the Rideau River and the Rideau Canal Eastern Pathway across Colonel By Drive at the north end of campus.



The Campus Master Plan Update aims to support more active transportation and limit the use of private vehicle (Mobility Pyramid @share-north.eu)

- General vehicle traffic will be permitted north of University Drive to Colonel By Drive.
- Designed to accommodate trucks, including single unit moving trucks.
- General vehicle traffic and regular OC Transpo bus service will be restricted between University Drive to the north and University Drive by Richcraft Hall to the south, which removes a significant barrier for pedestrians and cyclists that cross Campus Ave and the Trillium Line LRT station as well as Trillium Line crossing points.
- The restricted vehicle access section will permit emergency vehicles, paratranspo, service vehicles, and priority/preferred pickup/drop-off vehicles such as carpool/vanpool vehicles.
- Additional traffic calming measures may be considered in the **flexible street** design in accordance with the City's Traffic Calming Design Guidelines. However, the intervention must give appropriate consideration for accessibility and for larger vehicles, such as emergency vehicles.

- Gateway features shall be placed at transition zones to provide visual and physical cues to vehicles and active users that they are entering/exiting the **flexible street**.
- Appropriate pedestrian and cycling crossing treatments according to OTM Books 15 and 18 should be considered including the Trillium Line LRT Station and Trillium Line crossing points.

#### Library Road

- Library Road shall be converted into a **pedestrian priority street** that will restrict general vehicle traffic while enhancing the pedestrian and cycling realm.
- Will be a low-speed environment that will prioritize safety and reduce friction between users.
- Will be designed to accommodate trucks, such as single unit moving trucks. Limited vehicle use will be permitted if needed, including emergency vehicles, paratranspo, service vehicles, and priority/preferred pickup/drop-off vehicles such as carpool/vanpool vehicles.
- Gateway features shall be strategically placed at transition zones to provide visual and physical cues to vehicles and active users that they are entering/exiting the flexible and pedestrian priority street.

#### Colonel By Drive Connections

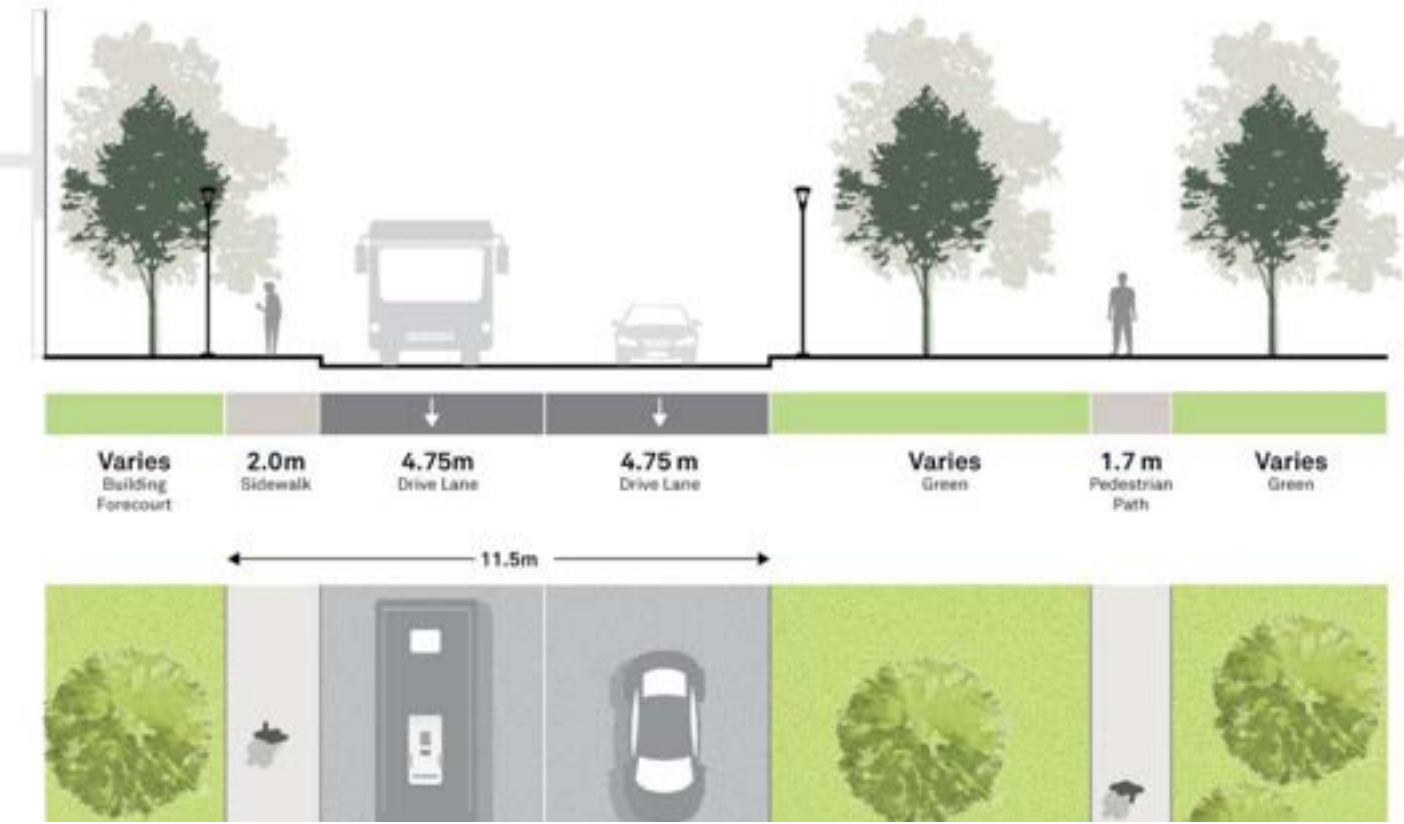
- Opportunities exist for Carleton University to explore new connections and enhance existing connections to Colonel By Drive and the Rideau Canal Eastern Pathway.
- A new signalized intersection at Campus Avenue and Colonel By Drive provides an additional vehicle access point into the North Campus Precinct and will relieve stress on the Bronson Avenue /Sunnyside Avenue/ University Drive intersection.

- The proposed Campus Avenue/Colonel By Drive intersection shall be designed as a fully protected intersection that will prioritize pedestrian and cyclist movement coming to/from the Rideau Canal Eastern Pathway, as well as meet contemporary accessibility design standards.
- Existing Colonel By Drive pedestrian and cycling crossing points at the Hartwell Locks and 150 metres west of Bronson Avenue should be designed to contemporary standards, following OTM Books 15 and 18.
- The City of Ottawa and NCC will be developing a feasibility study for the Hartwell Locks Bridge crossing, which presents an opportunity to explore new connection options, such as aligning a new Colonel By Drive pedestrian and cycling crossing with the Library Road pedestrian priority street, providing a more direct connection to the campus Trillium Line LRT station.
- Gateway features shall be strategically placed at transition zones to provide visual and physical cues to vehicles and active users that they are entering/exiting the "shared street".

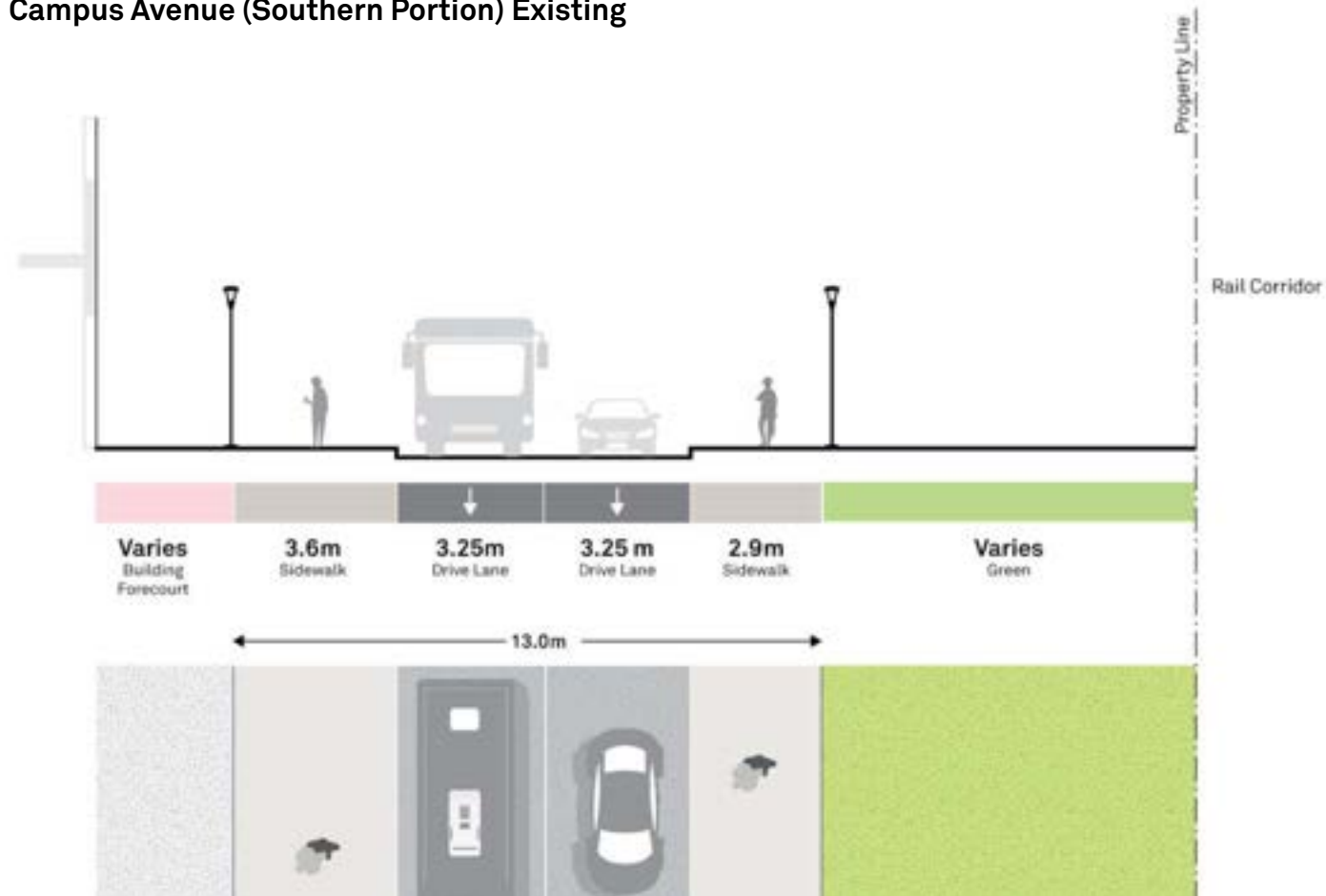


Example of a flexible street design with cyclists, pedestrians and cars. (Netherlands @duoduo)

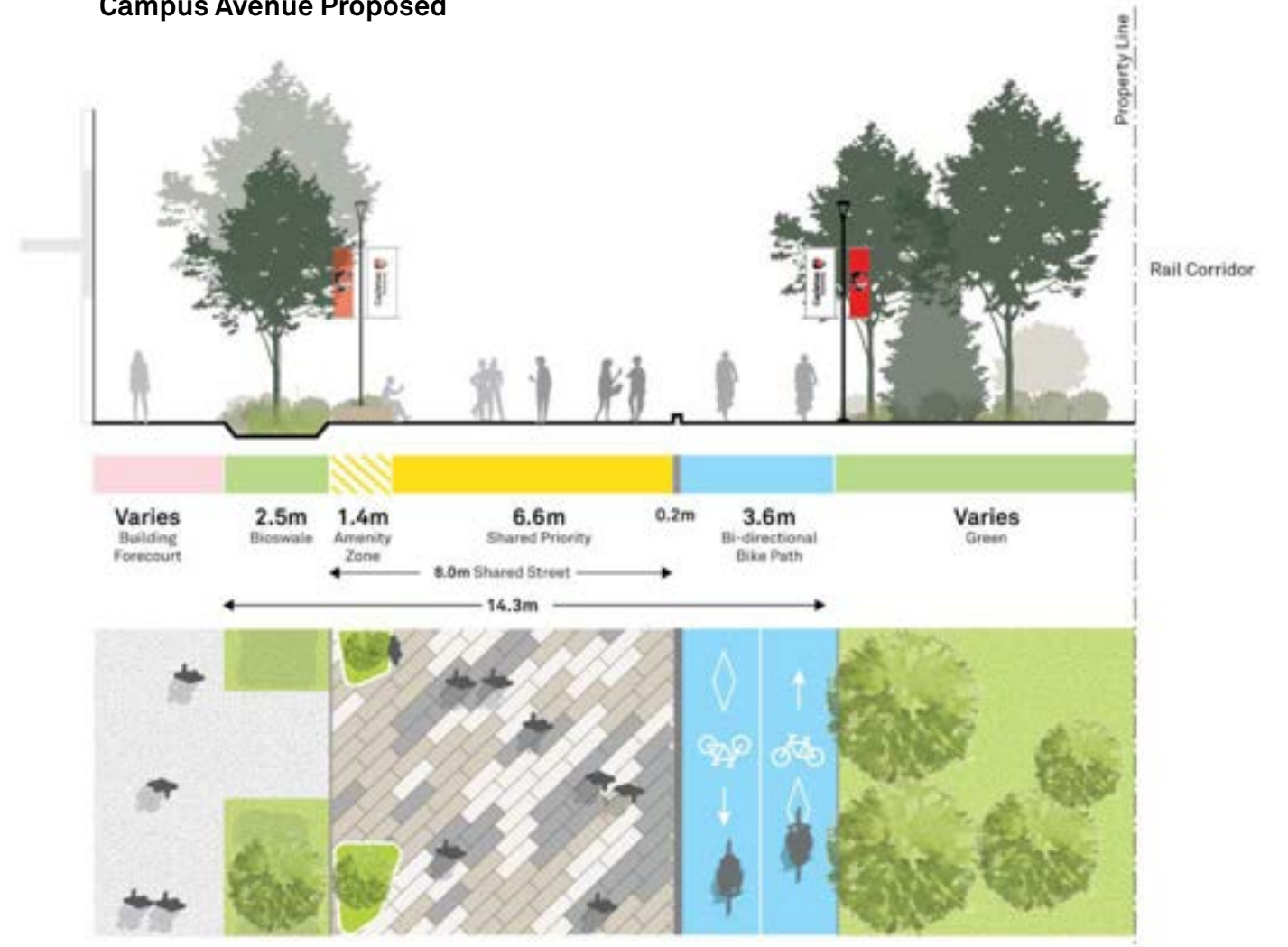
Campus Avenue (Northern Portion) Existing



Campus Avenue (Southern Portion) Existing



Campus Avenue Proposed

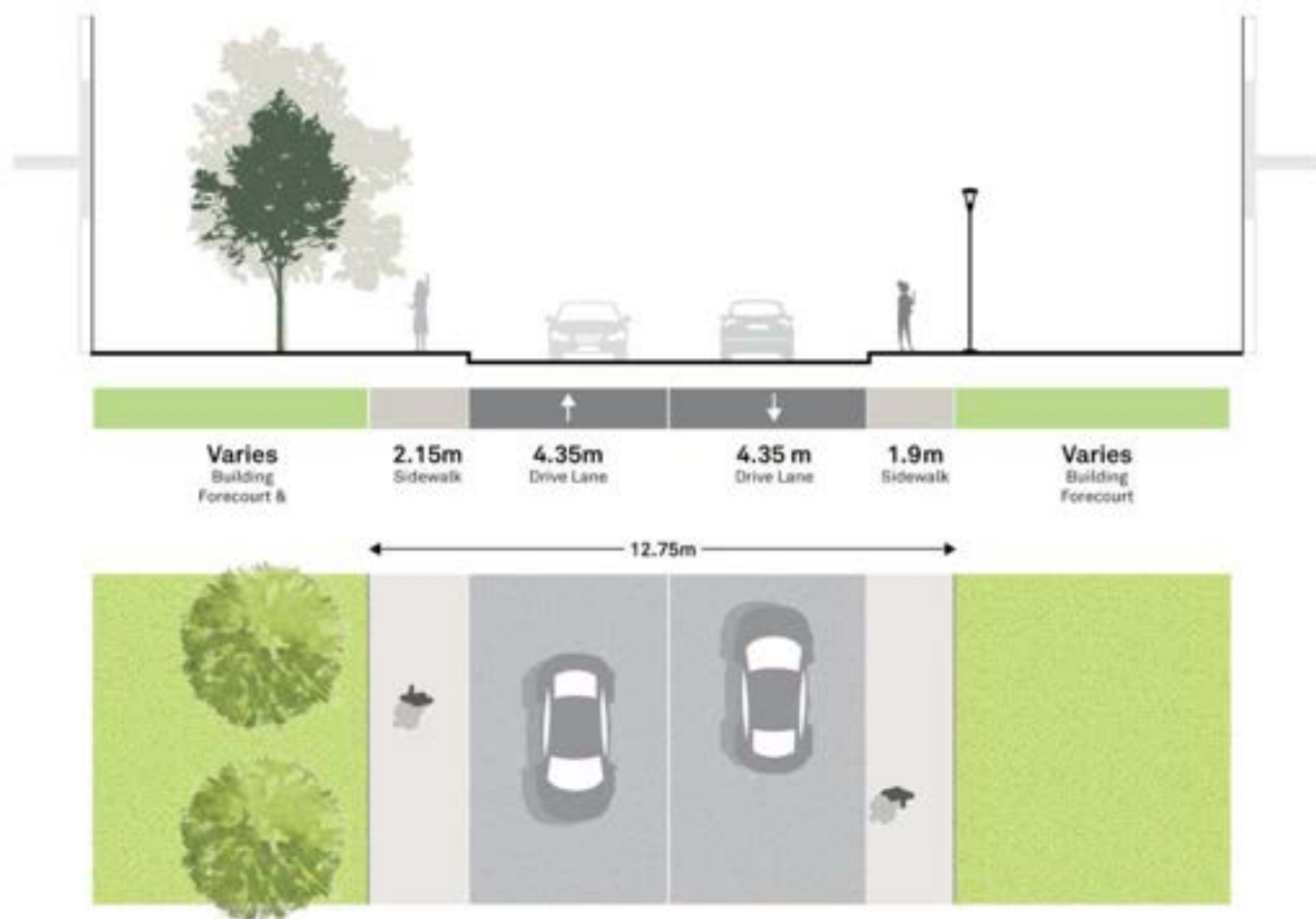


Campus Avenue proposed street section. Ensure that the 'flexible priority zone' will have a 6.6m clearance; free of obstructions to accommodate emergency and service vehicles. The remaining 1.4m is designated as an amenity zone which may contain benches, street furnishings and planters.

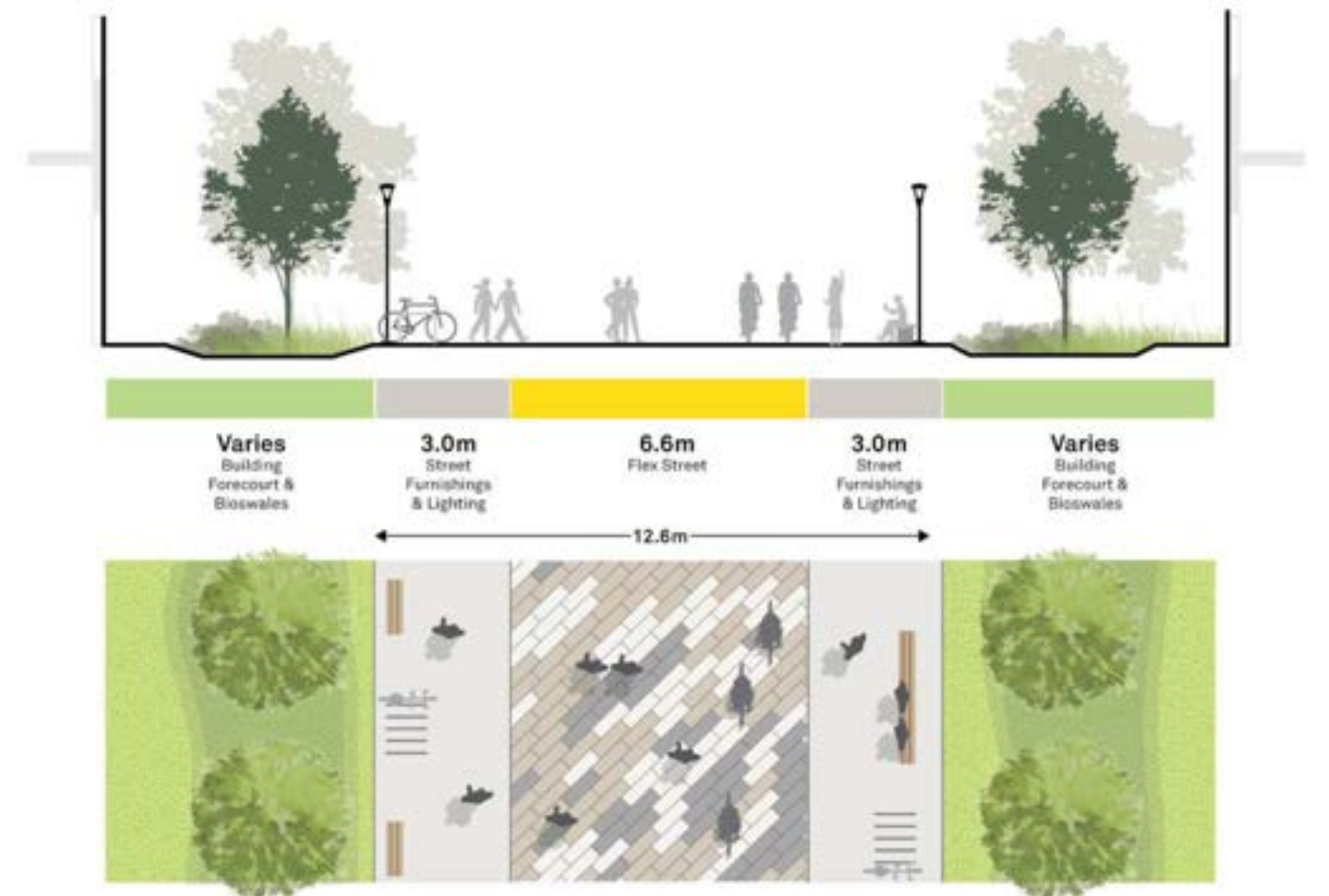
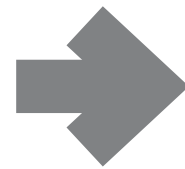


**Library Road (North) Existing**

**Library Road (North) Proposed**



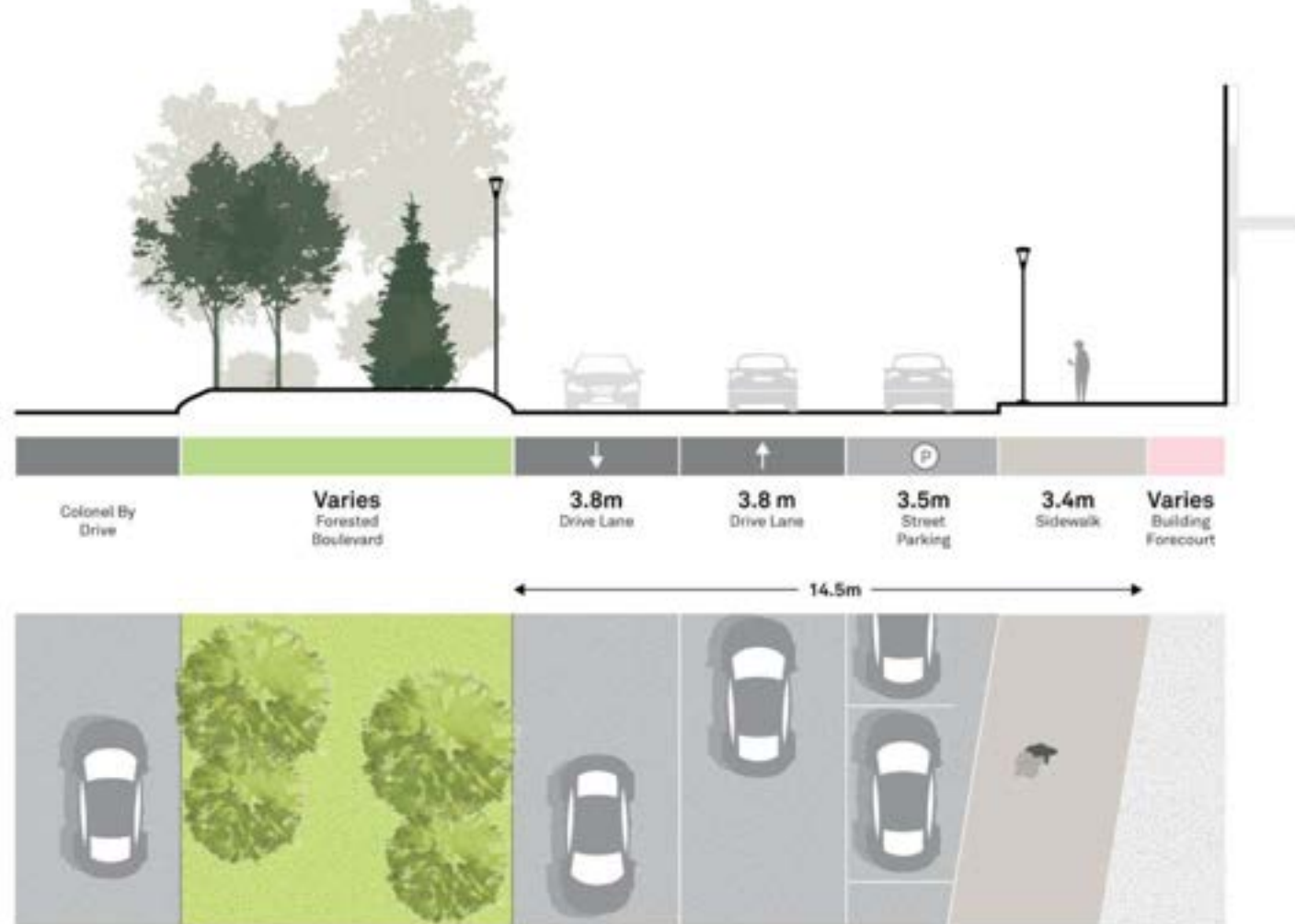
Library Road (north) existing street section.



Library Road (north) proposed street section.

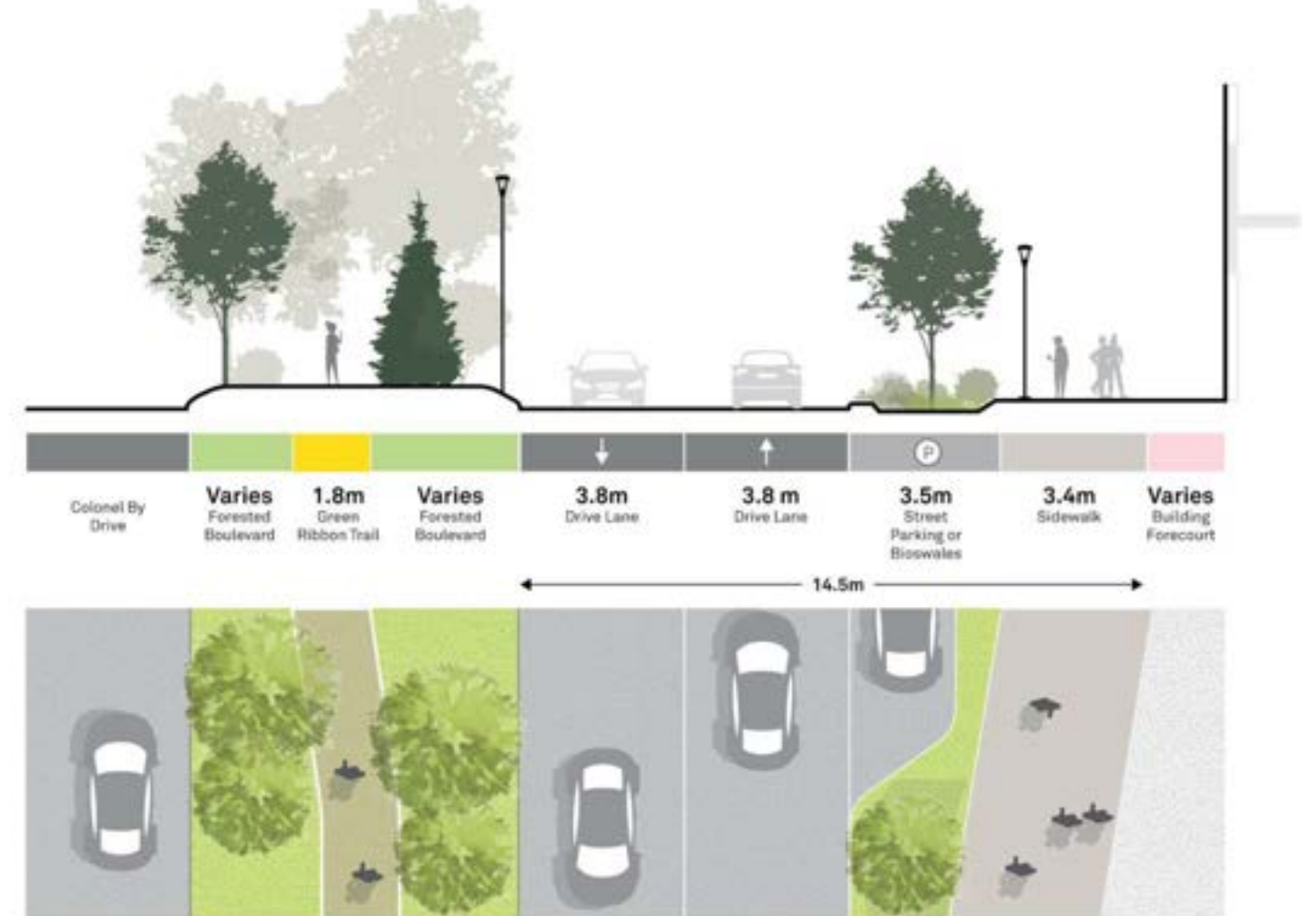


### Library Road (West) Existing



Library Road (west) existing street section.

### Library Road (West) Proposed



Library Road (west) proposed street section. Additional tree and site surveys will be required to determine the placement of the Green Ribbon Trail on the existing green berm between Colonel By Drive and Library Road. This portion of the Green Ribbon trail parallel to Library Road is intended for pedestrian and recreational use only. Note that there is a potential for tree impacts, regrading, and retaining walls. Cyclists would be encouraged to use the Rideau Canal pathway as this segment would meander through existing trees and foliage.

## Raven Road Access

- Providing additional vehicle access points along Bronson Avenue will be an important consideration for the future of Carleton University. The Bronson Avenue/Sunnyside Avenue /University Drive intersection is an existing vehicle bottleneck, despite the campus having a strong transit presence (2019 Transportation Strategy).
- Carleton University should engage the City of Ottawa to investigate the opportunity to redesign the existing Bronson Avenue /Raven Road intersection (currently transit only and permits limited movements) to an all-movement intersection that permits general traffic and enhances pedestrian and cycling priority. This would provide long-term capacity to ensure safe and efficient movement of traffic to/from the campus.

## Stage 2 LRT Plans

- As part of the Stage 2 LRT project, Line 2 (Trillium Line) will be upgraded and extended. Once completed in 2023, Line 2 will extend from its current terminus at Bayview Station in the north, where it connects with existing Line 1 (Confederation Line) to the Riverside South community at Limebank Road. The extension also includes a branch to Ottawa's Macdonald-Cartier International Airport (Line 4).
- As part of the Line 2 project, station platforms are being enlarged to accommodate longer trains, which will result in an approximate doubling of passenger capacity. Trains are anticipated to remain at 12-minute headways during most service periods.
- In the far future, eventual double-tracking and electrification of Line 2 will further increase service and capacity of the line serving Carleton University.

- As part of the rebuilt station, the existing active transportation connection under the rail alignment (south of the station) has been widened to accommodate increased active pedestrian and cycling volumes, while provision for a future pedestrian tunnel has also been made in the station area.
- A new above-grade Trillium Line crossing is proposed within the North Campus Precinct, which further strengthens east-west pedestrian and cycling connectivity on campus.

## Future Bus Circulation

- With the conversion of Campus Avenue into a **flexible street**, bus routing on campus will need to be adjusted. University Drive will become the primary road supporting transit services in both directions, versus northbound-only as it currently stands.
- Retention of the Raven Road access to Bronson Avenue constructed as part of the city's Stage 2 LRT project would assist in maintaining efficient bus circulation, by allowing bus egress onto Bronson Avenue without the need for a turnaround facility on campus.

## Transit Hub

- A location for a future Transit Hub has been identified on the east side of the existing Carleton O-Train Station (P4 parking lot). This hub will accommodate buses serving the campus with the closure of Campus Avenue to bus and general traffic. The Transit Hub offers the opportunity to integrate local buses and LRT as well as redevelopment of the existing parking lot.

## Potential Parking Garages

- Personal vehicle use is expected to continue in the future, and the accommodation of vehicle parking is an important long-term consideration, as it dictates driver behaviour and decisions on which access points and streets to use when arriving on campus.
- Carleton University must strive to reduce general vehicle travel in areas with high pedestrian and cycling activity (e.g. the campus core, across pedestrian/cycling desire lines, near transit facilities/hubs etc.), which means strategically placing future parking supply away from these areas, and closer to access points that limits cross-campus vehicle travel.
- Strategically targeting underutilized access locations, such as Stadium Way, the north end of Campus Avenue (if the future Colonel By Drive intersection is constructed), and/or Raven Road (if the existing intersection at Bronson Ave is reconfigured and open to general traffic) will help balance vehicle demand across multiple access points, which will reduce congestion, improve efficiency of movement for buses, and help reduce conflicting vehicle volumes across pedestrian/cycling desire lines.
- Moving potential parking garages to the periphery of the campus will increase travel distance to the campus core for vehicle users. Carleton University should ensure these users are provided as direct, safe and comfortable a travel experience as possible.

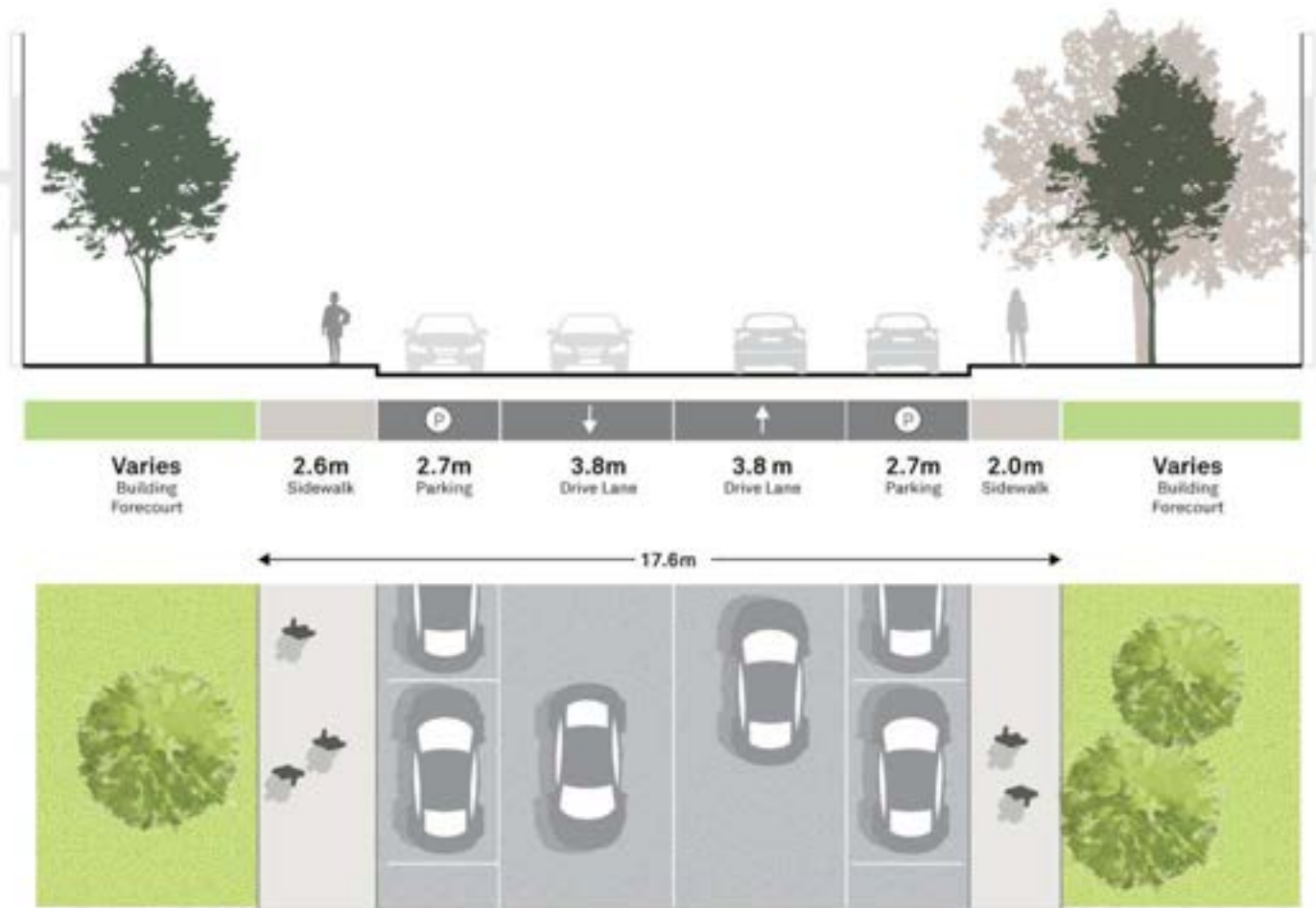
## Accessibility

- Ensure an adequate number of accessible parking spaces are provided at locations throughout the campus to allow those using accessible permits to park adjacent or near to their intended destination.
- Ensure para-transpo vehicles and those with accessible parking permits are able to use the campus' full network of shared and complete streets to park, pick up, and drop off as near as possible to their destinations.
- All internal streets and **pedestrian priority/flexible streets** "will accommodate service and emergency vehicles, with primary access/egress via the Bronson Avenue /Sunnyside Avenue /University Drive intersection" (2019 Transportation Strategy).





**University Drive Existing**



University Drive existing street section

**University Drive Proposed**



University Drive proposed street section. Note that the street section adjacent to the proposed Transit Hub will vary. A 2.1 metre sidewalk is proposed where the sidewalk currently exists along University Drive.

# Tunnel Improvements and Expansions

Carleton University's underground tunnel network is a valued amenity for mobility on campus, particularly in winter months. The tunnels present various challenges as identified through consultation with the broader campus community who use the system as pedestrians and staff who rely on the network for movement of goods, materials, and access to infrastructure. The series of underground passages were originally designed as maintenance paths for university staff, allowing fast movement between facilities in a climate-controlled environment. Today, in addition to serving their original purpose, the tunnels provide the campus community with a highly accessible alternative form of travel through the campus.

The Campus Master Plan Update aims to address a number of existing challenges with the tunnel system and looks to future connections to make the network more robust and useful within the East and North Campus Precincts.

Noted shortcomings of the tunnel system as identified through engagement with the campus community include:

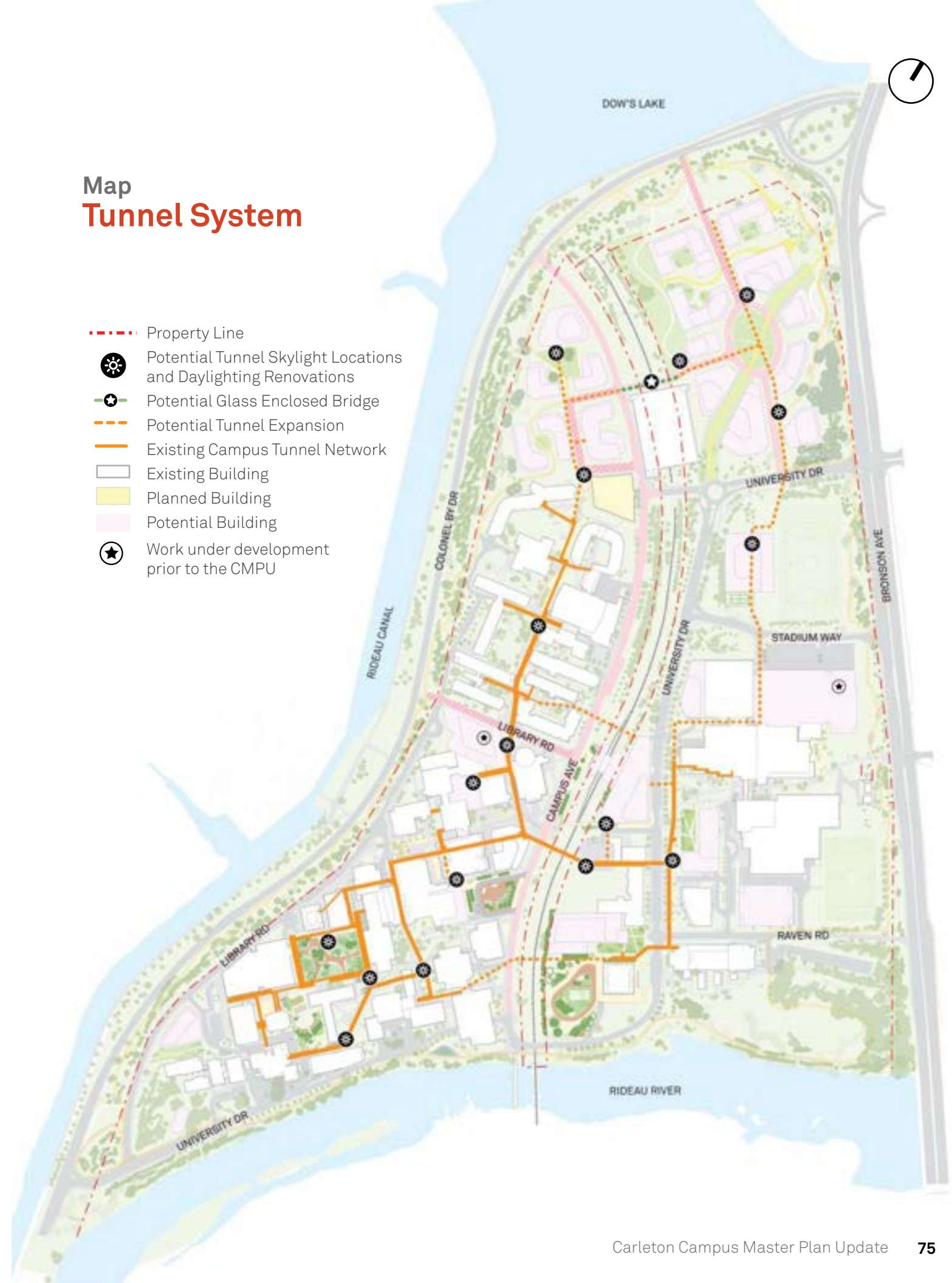
- Challenges in wayfinding for those unfamiliar with the system;
- A utilitarian aesthetic in materials and lighting;
- Lack of natural light; and
- Congestion in busy locations.

Opportunities exist for humanization of the tunnel system through a series of approaches. These include materials and lighting, daylighting, and connections and places.



## Map Tunnel System

- Property Line
- ☀ Potential Tunnel Skylight Locations and Daylighting Renovations
- ★ Potential Glass Enclosed Bridge
- - - Potential Tunnel Expansion
- Existing Campus Tunnel Network
- ▭ Existing Building
- ▭ Planned Building
- ▭ Potential Building
- ★ Work under development prior to the CMPU





## Materials and Lighting

Material finishes can be upgraded in the most well-used areas of the tunnel system to improve the overall look and feel. Most interior tunnel surfaces are concrete and are both aesthetically unpleasing and contribute to noise amplification. Floor, wall, and ceiling finishes can be applied to the base structure to create an experience similar to a hallway within a building above grade. Incorporating a coloured and patterned resilient or tile floor surface, natural wall and ceiling materials such as wood, reflective materials such as glass and acrylic panels, and occasional bursts of colour will improve the aesthetic and acoustic qualities of the space and make them more pleasant to use while remaining robust and low maintenance.

Lighting fixtures within the tunnel system primarily consist of high-colour-temperature fluorescent fixtures which provide low colour-rendering and an institutional aesthetic quality. By retrofitting LED panel light fixtures within the tunnel network, lighting temperature, colour, and overall aesthetic qualities of the spaces can be significantly improved. Modern LED panel light fixtures are lightweight, dimmable, offer multiple colour temperatures, and can be surface-mounted or cable-hung. With high quality lenses, these light panels provide the appearance of a skylight and provide even lighting over large areas.

It is recommended that a pilot project include the addition of new surface finishes and LED panel light fixtures within a short section of the tunnel system. Response from users can be sought and recorded to develop strategies for future improvements of the larger system over time.



Skylights integrated into public spaces. (Amos Rex, a below-grade art museum, Helsinki, JKMM © Mika Huisman)



Westbrook LRT Station, Calgary. (© GEC Architecture)

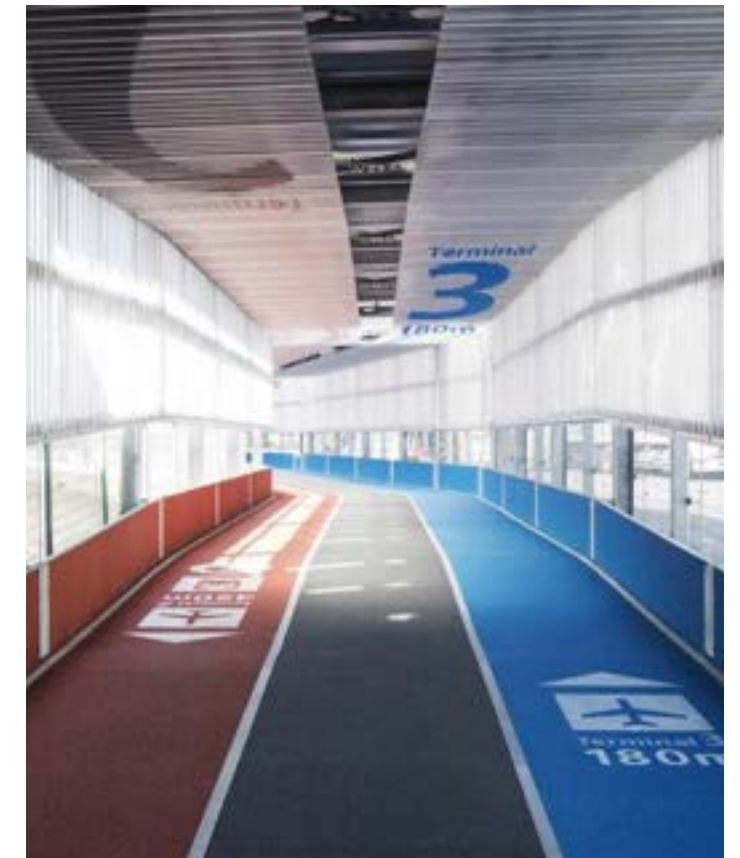
## Daylighting

The introduction of natural light into the tunnel system at key locations will improve mental and physical health by creating visual connections and sunlight penetration into below-grade tunnels, and will improve wayfinding by establishing associations between above-grade landscape elements and nodes within the tunnels. This allows travelers to create a mental mind map that ties together what is happening above grade with the tunnel system, which is key to improving orientation, particularly for those less familiar with the tunnels. At prime locations, openings at the surface can be created with large aperture skylights, filtering sunlight into the tunnel below. Above the surface, the skylight can become a landscape element with integrated seating and planting. As a distinct landscape element in the fabric of the campus, associations can be created from above and below, tying the tunnel network into the overall campus wayfinding system.

### Connections and Places

Creating nodes and additional large open skylit access points within the tunnel network will help animate and humanize the system, improve wayfinding, and encourage movement up into the vibrant ground floor areas of buildings on campus. The approach is best exemplified by the bright, open connection point at the northeast corner of the Nicol Building where natural light and ground floor activity spills into the widened, open tunnel from above. Additional locations for tunnel access points within building expansions, new buildings, and as glazed expansions to building edges will provide better intuitive connections between the tunnels and grade-related activities, introduce natural daylight at key points, and better integrate the below-grade circulation system with campus buildings and outdoor spaces.

Locations for potential daylighting and access points are indicated on the Tunnel System Map. It is recommended that these opportunities are explored as part of larger capital projects involving renovations, construction of new buildings and expansions, and improvements to outdoor spaces on campus. High congestion areas of the tunnel system, including portions between the Nideyinàn and the southwest corner of campus (VSIM, SR, HC, and Loeb) should be prioritized for new access points, daylighting, and aesthetic improvements. Where possible, heavily-used pinch points should be widened or additional redundant routes should be created to alleviate pressures and pedestrian traffic volumes.



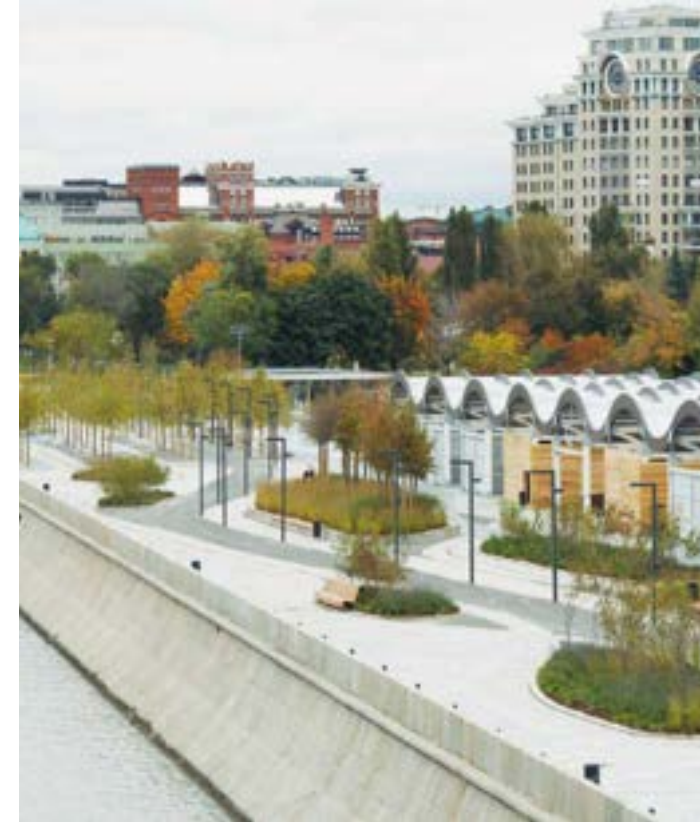
The Narita Airport hosts an exciting and playful wayfinding experience that integrates running tracks used for track and field and added signage for user-friendly guidance. (© Narita International Airport Terminal 3, Nikken Sekkei + Ryohin Keikaku + PARTY)

## 3.5 Open Space Framework



Variety in paving patterns, dense vegetation and large trees give a pedestrian walkway a luscious feeling. Beautiful pathways promote active movement, and can improve the sustainability of the campus by creating more pollinator gardens and bioswales. The immediacy of these elements in the pedestrian realm will reinforce these core values for anyone who visits the Carleton University Campus. (Buffalo Niagara Medical Campus Streetscape © Scape Studio)

As outlined in the Open Space Master Plan, open spaces are intended to promote the university's extraordinary landscape setting as a catalyst for learning and sustainability. This Campus Master Plan Update supports the goals and principles of the OSMP to reinforce the network of quads and outdoor spaces and improve connections to the natural environment, while offering additional design interventions that will enhance and promote open spaces on campus.



Channelized waterways provide opportunities for urban plazas, weaving trails with gardens, buildings, and look out locations. (Channelized waterfront walk way and park, Krymskaya embankment © Wowhaus Architecture Bureau)



This sculptural intervention mitigates shoreline erosion along the Pacific Ocean. A similar approach could be used at Carleton University. (© Paul Sangha Landscape Architecture)

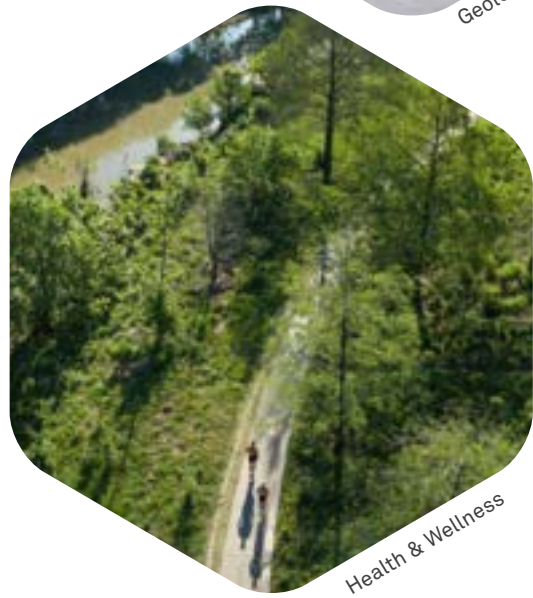


Bioswale Garden at Cornell University, Ithaca, USA (© Chris Kitchen Photography)

# Campus Green Ribbon & Geological Time Trail

The Campus Master Plan Update identifies the opportunity for a 4-kilometre Green Ribbon loop and 4.6-kilometre Geological Time Trail that will form an integral open space network weaving along built and natural areas in the core and periphery of the campus. The potential multi-use trail system will enhance the existing natural landscape of the campus and strengthen the connections between the Rideau Canal, Rideau River, Carleton University, and the surrounding community.

The proposed trail system responds to the campus community's desire for landscape integration, immersive engaging experiences, improvements to pedestrian mobility, recreational opportunities, and links between social spaces. The Green Ribbon and the Geological Time Trail will incorporate themes of Indigenous placemaking, health and wellness, local geological history, and climate adaptation. Furthermore, the trail will provide opportunities for robust landscaping best practices, rain gardens, bioswales, indigenous vegetation and year-round activities.



## Map Green Ribbon & Geological Time Trail

- Property Line
- Green Ribbon Trail
- Geological Time Trail
- Potential Bioswale
- Potential Indigenous Cultural Marker or Artwork
- Existing Building
- Planned Building
- Potential Building
- ★ Work under development prior to the CMPU

The Green Ribbon trail system will reinforce and rejuvenate the existing green frame around the Campus while also increasing opportunities for recreational activities, added connections to the regional ecological patch matrix and provide enhancements to the riparian corridor.



The City of Ottawa, in collaboration with Parks Canada will be undertaking a feasibility study to explore potential modifications to the Rideau Canal crossing at the Hartwell Locks. As part of the dialogue, there is an opportunity to enhance the existing pedestrian and cyclist connection from the Hartwell Locks into the campus through Colonel By Drive. Improving the existing bridge infrastructure and pedestrian crossing from the Rideau Canal into Library Road would increase safety and comfort, further encouraging people to flow from one space into the next, bringing people from the campus core down to the canal. The Campus Master Plan Update also suggests exploring the potential of implementing an additional pedestrian connection farther north, near Lanark House to connect with Library Road which leads to Campus Avenue. In addition, the CMPU proposes new pedestrian crossing enhancements as seen on the adjacent map to address the safety concerns noted by the staff and students during the consultation process.

While understanding the level of physical complexity of the Hartwell Locks, as well as the land ownership on the west side of Carleton, we strongly recommend that Carleton University continue to work collaboratively with the NCC to establish appropriate interventions along the canal to foster mutual benefits to the campus as well as the Rideau Canal.








Aerial view of the Hartwell Locks. (© Google)



Existing view of one of the pedestrian/cyclist crossings at Hartwell Locks. (© Brook McIlroy)

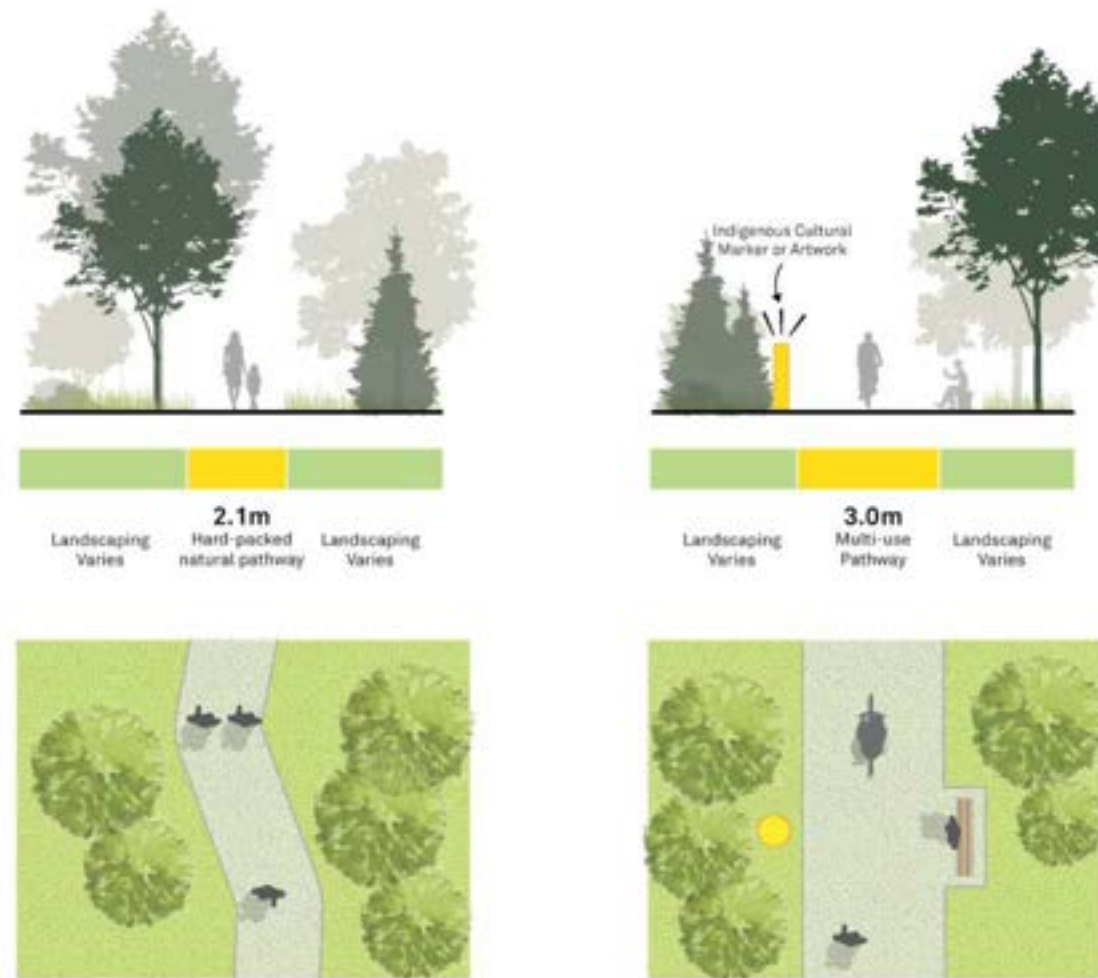
## Map Pedestrian Pathways

- - - Property Line
- Green Ribbon Trail
- - - Geological Time Trail
- Major Pedestrian Pathway
- Minor Pedestrian Pathway
-  Pedestrian/Cyclist Crossing Enhancement
-  Existing Building
-  Planned Building
-  Potential Building
-  Work under development prior to the CMPU





### Green Ribbon Typologies



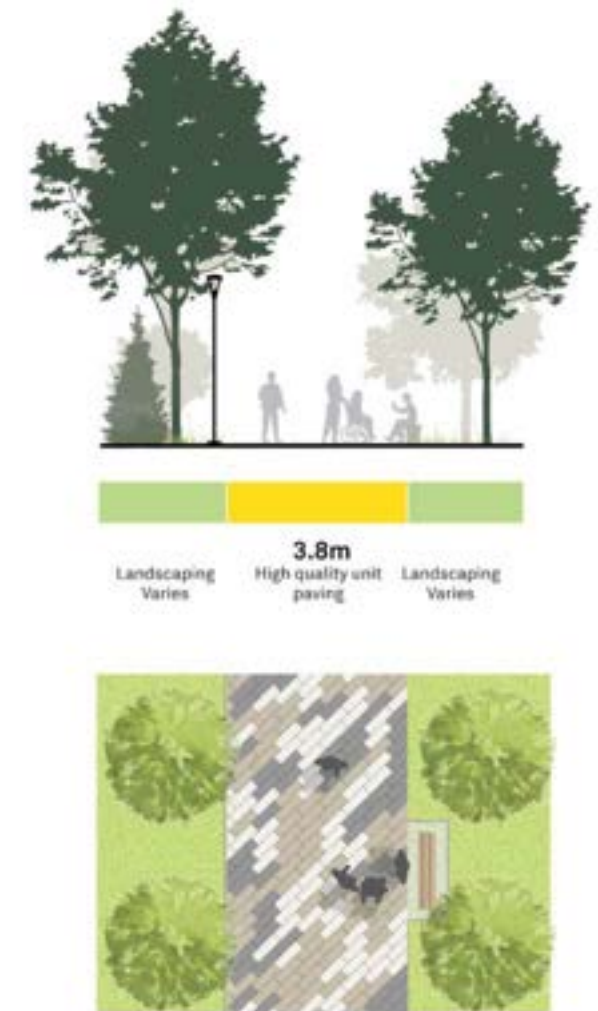
The Green Ribbon Trail will have varying widths ranging from 2.1m to 3m. The trails will provide opportunities for robust landscaping, bioswales, indigenous vegetation and year-round use and activity. Cultural Markers will be interwoven throughout Green Ribbon trail and will be used to communicate Indigenous, cultural and/or historic narrative of the land on which Carleton University resides. In the winter months, the Green Ribbon Trail network can be used for cross-country skiing, snowshoeing and winter trekking. Additional tree and site surveys will be required to determine the exact placement of the Green Ribbon Trail. Refer to key map for proposed widths.

### Minor Pathway



Minor pathways have lower foot traffic than major pathways. These may include access and egress from secondary exits and entrances.

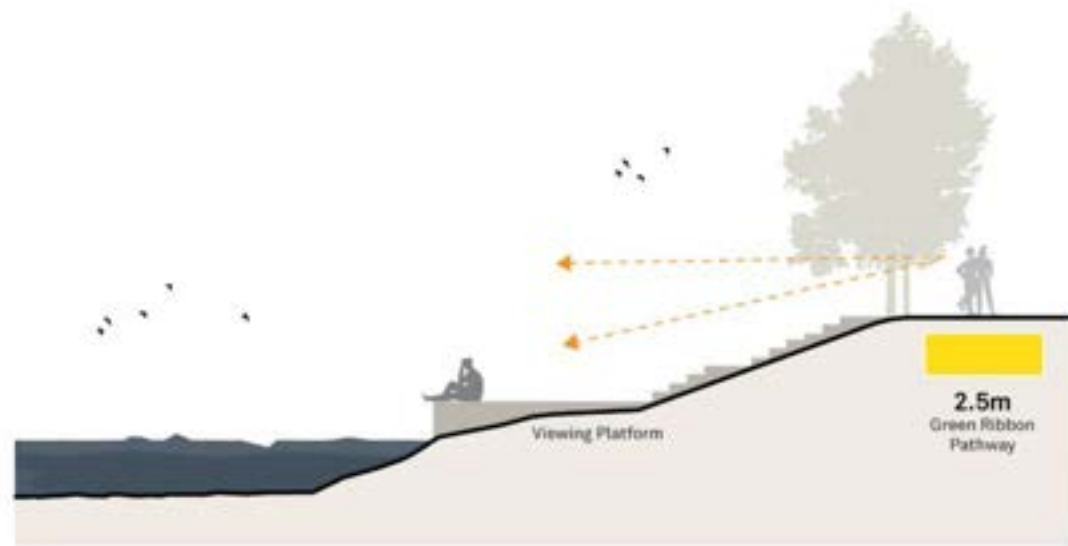
### Major Pathway



Major pathways should be created with the highest quality design standards. Where possible, major pathways should be flanked by a row of trees on each side and have uniform lighting with frequent seating.



**Rideau River Strategic Views & Platforms**



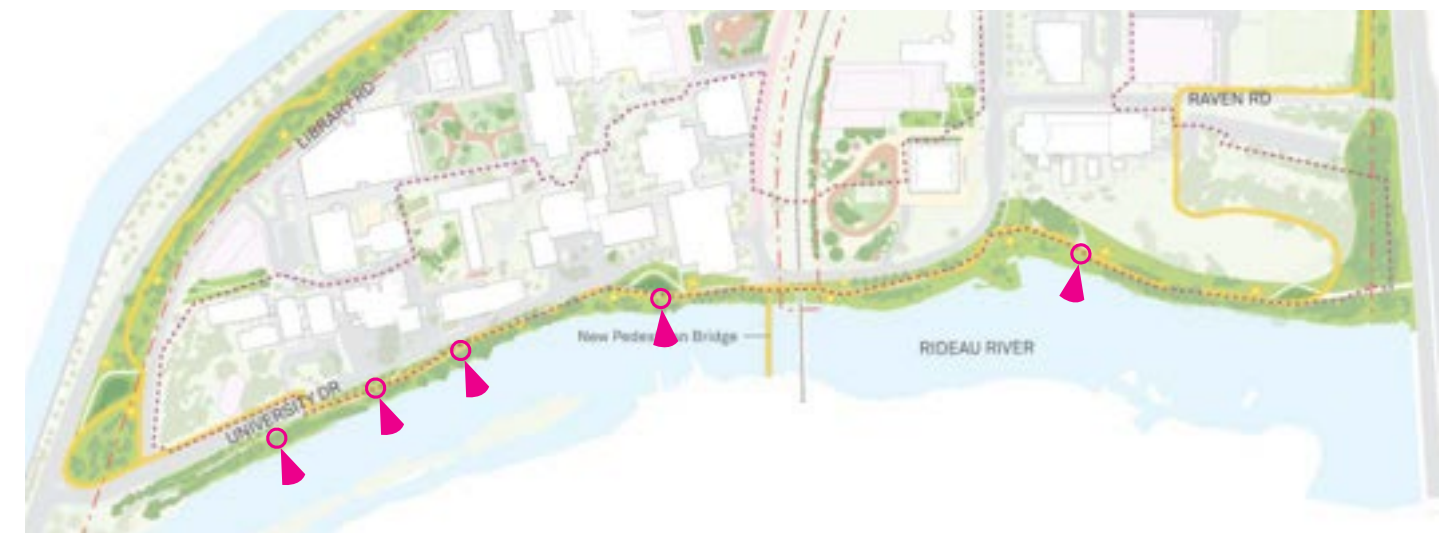
Example of a viewing platform at Låsby Søpark, Denmark.  
(© Skanderborg)



Rideau River rapids looking towards Carleton University.  
(© Brook McIlroy)



The image above is a proposed section of the Rideau River edge.



The image above is a diagram designating potential areas for rest and relaxation with strategic clearing for views. Note any vegetation removed from these viewing points should be replanted.

## 3.6 Urban Design Framework



Learning environments should support project-based learning, varied forms of collaboration and individual study spaces. Indoor and outdoor spaces should be designed to work together. Environmental sensitivity and sustainability should be prioritized in existing and new developments. Circulation around the campus should promote healthy activity, safety, and student engagement. Shaded decks provide space to collaborate and socialize. (TIDE Academy, United States, LPA © Jason O'Rear Photography)

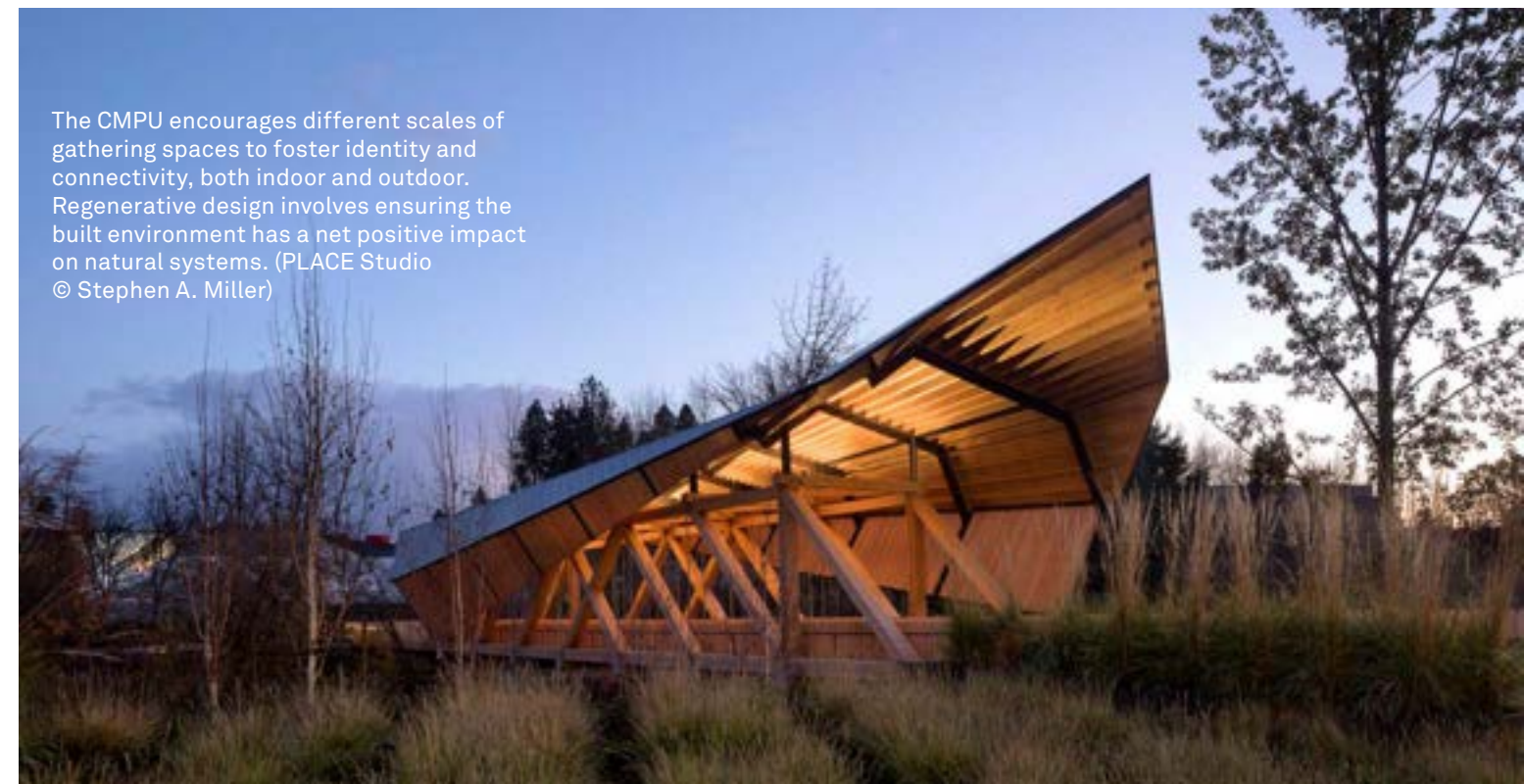
The approach to urban design at Carleton University weaves together each element of the overall Design Framework, including sustainability, natural systems integration, universal design and accessibility, transportation, and open spaces. Interventions that expand and improve existing buildings as well as the identification of sites for future construction to accommodate growth are included in the urban Design Framework. As teaching pedagogies and daily life on campus continue to evolve, so do the needs for spaces that embrace new ways of learning and interacting.

Relationship-building between diverse members of the Carleton community is a key component of the overall campus experience, and contributes to improved mental wellbeing, particularly for students. The urban Design Framework in this Campus Master Plan Update recognizes the short-term need for bright, vibrant social and collaboration spaces at the core of campus as well as long-term needs for buildings and infrastructure that can accommodate growth in academic, research, residence, support, and mixed-use programming.



Different space typologies should be designed to accommodate different types of learning: collaboration, contemplation, and concentration. (TIDE Academy, United States, LPA © Jason O'Rear Photography)

The CMPU encourages different scales of gathering spaces to foster identity and connectivity, both indoor and outdoor. Regenerative design involves ensuring the built environment has a net positive impact on natural systems. (PLACE Studio © Stephen A. Miller)



# Potential Building Enhancements, Expansions, and Development Sites

The Carleton Campus contains a number of locations identified as having excellent potential for enhancements and expansions to existing buildings, construction of buildings with varied programs, as well as landscape and open space enhancements that capitalize on the spectacular natural setting of the campus.

The Campus Master Plan Update identifies development opportunities for renovation, renewal and expansion. New buildings will be strategically

located, well-scaled to fit within the existing context, and will provide opportunities for new and improved open spaces and pathways. The university currently has a number of development projects completed, underway, or planned for completion. These initiatives are considered within the overall long-term strategic development plan. Each major project illustrated in the adjacent plan will be described in more detail in the next chapter.



## Map Potential Development Sites

- Property Line
- Existing Building
- Planned Building
- Potential Development Site
- ★ Work under development prior to the CMPU







# 4.0 Campus Master Plan Concept

- 4.1 Overview
- 4.2 West Academic Campus Precinct Plan
- 4.3 East Academic Campus Precinct Plan
- 4.4 North Campus Precinct Plan
- 4.5 The Multi-Campus Strategy

# 4.1 Overview

## The Multi-Campus Strategy

Carleton University continues to evolve and grow not only at its main campus but also through the establishment of new satellite campus facilities. Carleton's Kanata North Campus and the Carleton Dominion-Chalmers Centre have expanded the geographical reach and presence of the university within the Ottawa region, while also expanding academic and research opportunities as well as connections with the larger Ottawa community. As part of this Campus Master Plan Update, it is important to highlight the presence of all three Carleton campuses in an effort to raise awareness, establish consistency in branding, and create unity between staff, students and faculty at all three locations as integral parts of the larger Carleton community.

## The Main Campus

This Campus Master Plan Update establishes three main precincts: the West Campus, including the academic core and residences, the East Campus, comprising mixed academic, research, recreation, and support buildings, and the future mixed-use North Campus. The precincts have been analyzed through a series of 2- and 3-dimensional plans and models. Each precinct varies in use, size and character, and is analyzed based on its distinct attributes and opportunities. The following plans were shaped by the Campus Vision, and the Design Framework which have all been informed by a rigorous consultation program with Carleton University.

The identified opportunities for this Campus Master Plan Update are outlined through key focus areas located within in each precinct. The 2- and 3- dimensional illustrations convey the proposed recommendations, are conceptual in nature, and

demonstrate what is possible at each site based on the feasibility of the built form and aspirations for the future of the Carleton campus.

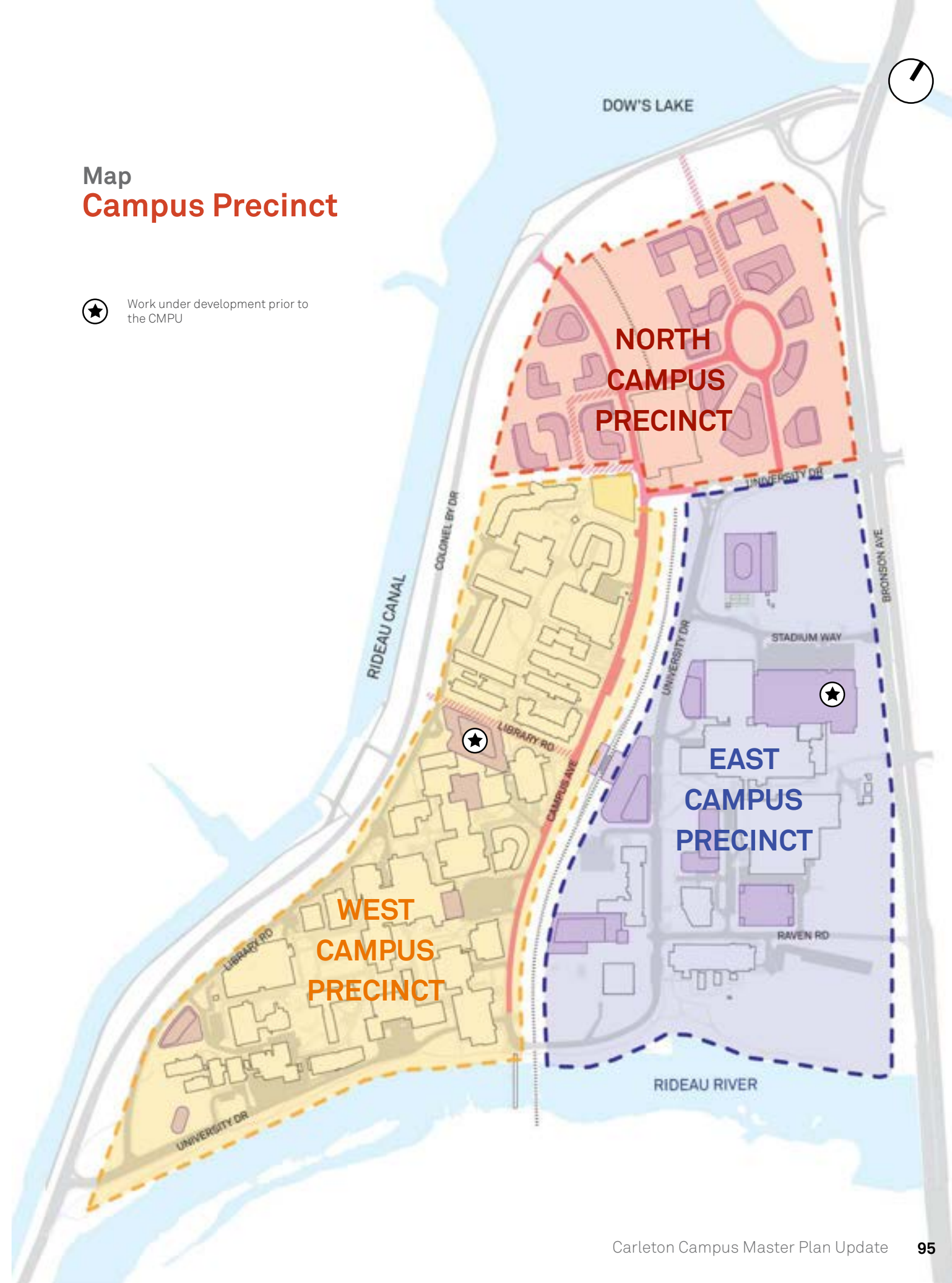
### Precincts for Carleton University include:

- **West Campus (WC)** bound by Leeds House Residence to the north, the LRT corridor to the East, Rideau River to the south and NCC Lands and Rideau Canal to the west.
- **East Campus (EC)** bound by University Drive to the north, Bronson Avenue to the East, the Rideau River to the south and the LRT corridor to the west.
- **North Campus (NC)** bound by Colonel By Drive to the north, Bronson Avenue to the east, University Drive and Leeds House Residence to the south and Colonel By Drive to the west.

This section presents enhancement and development opportunities on campus for the short, mid and long term. The design and development directions for this Campus Master Plan Update are intended to promote high-quality urban design and provide flexibility for future growth on campus. Development is anticipated to occur incrementally to limit congestion imposed by construction and to reflect the evolving space, facility and service needs. Carleton may explore development opportunities beyond the ones that have been identified, however, this will be dependent on funding and evolving campus priorities.

## Map Campus Precinct

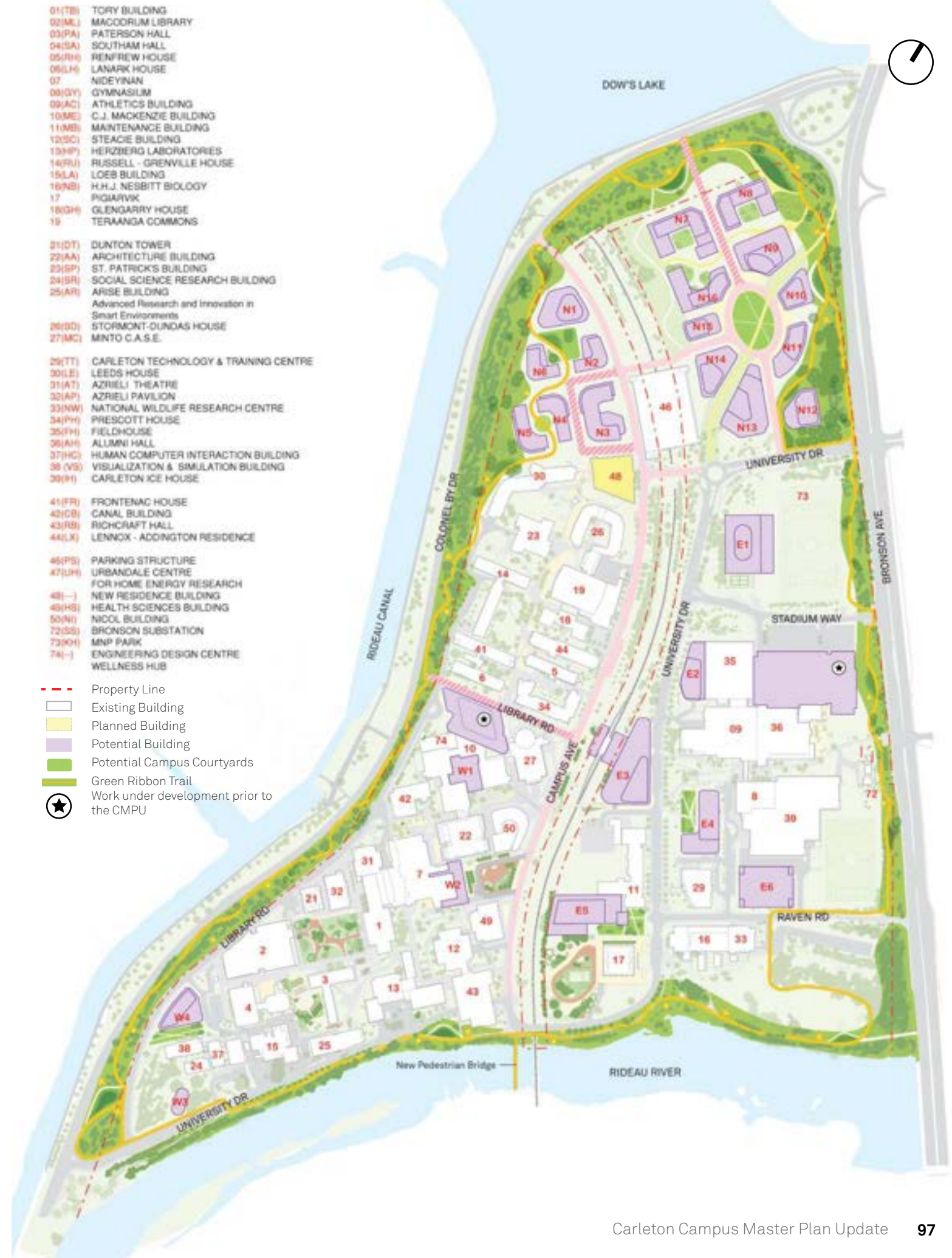
★ Work under development prior to the CMPU



The identified locations for new buildings, building expansions, public space interventions, campus connections and gateways displayed in this document have been selected based on feedback obtained through the consultation process, as well as through specific investigation of site potential and opportunities. Development on campus will work to form a walkable, connected, and human-scaled system of unified and complementary campus spaces that serve users of all ages and abilities at all times of the day and year. This includes landscaped and natural open spaces that encourage gathering and individual creativity, framed by beautiful, thoughtfully-designed buildings. Part 2 of this Campus Master Plan Update provides detailed Design Guidelines that help to inform the comprehensive development, built form, open space, public realm, and circulation across Carleton University.

**Key Campus Master Plan Update moves include:**

- Enhancements to courtyards and outdoor spaces.
- Reinforcement of pedestrian connections and linkages through campus green spaces and courtyards.
- Improvements to pedestrian and vehicle gateways at key entry points to campus, strengthening sense of arrival, wayfinding, and orientation.
- Transition of Campus Avenue and Library Road into pedestrian-oriented and flexible streets with enhanced public realm features.
- Incorporation of cycling infrastructure along Campus Avenue and Library Road to improve active modes of transportation on campus.
- Identification of potential building interventions, expansions, and new building sites to create more flexible collaboration and social space, optimize site uses, define campus edges, improve street animation, and provide opportunities for future growth.
- Addition of a Mixed-Use Transit Hub at the existing P4 parking lot, providing an opportunity to create a consolidated welcoming entry and waiting point at the core of the campus for transit users.
- Creation of a Green Ribbon and Geological Time Trail as a system of pathways woven along built and natural areas in the core and periphery of the campus, establishing additional linkages to the Rideau River and Canal. The path will support sustainable design for climate, biodiversity and stormwater management and provides additional outdoor learning opportunities.
- Improvements for humanization of the tunnel system, including lighting, connections, and material enhancements.
- Implementation of a potential parking garage on the east campus to consolidate and accommodate the removal of surface parking and decommissioning of the P9 parkade in 2024.



## 4.2 West Campus Precinct Plan

### Future Development of the West Campus

The West Campus Precinct, comprised of approximately 52 acres (21 ha) of land, has served as the academic and research core of Carleton University since its inception and continues to be the heart of campus life for many students, staff, and faculty members. The west campus contains a number of program and faculty-specific buildings, as well as shared common spaces that benefit all members of the campus community, regardless of their area of work or study.

Through extensive engagement with hundreds of members of the campus community, the most consistent desire expressed was for increased informal collaborative spaces in the core of the west campus. The need for more flexible, open, bright, and lively spaces that encourage social interaction and collaboration is common on campuses across North America, particularly as technology allows for greater flexibility for work purposes, gathering and studying. The ability to undertake a number of independent and/or collaborative activities surrounded by the vibrancy of daily campus life is what makes spaces like the new Nicol atrium incredibly successful and a defining feature of the Carleton experience.

The envisioned Sustainability Research Centre (SRC), located on the south side of Library Road, is intended to support the growth of the Faculty of Engineering and Design by providing new learning and collaborative spaces. The SRC's proximity to the proposed Mackenzie Atrium provides a unique opportunity for enhanced programming, cross-disciplinary collaboration and connections between the two proposed buildings.

The Campus Master Plan Update's approach to development in the west campus focuses on the creation of new spaces and buildings that add to the success of the Nicol atrium and other precedent spaces by both capitalizing on existing buildings and infrastructure, as well as future opportunity sites. The goal of the west campus is to create spectacular spaces that will draw people to the campus throughout the day and year, and encourage them to stay and experience the best of campus life.



### Map West Campus Precinct

- W# Potential Building
- - - Precinct Boundary
- Existing Building
- Planned Building
- Green Ribbon Trail
- Work under development prior to the CMPU

## 4.2.1 Mackenzie Atrium W1



The inspiration for the Mackenzie Atrium stems from the success of large-volume brightly-lit spaces that tie together adjacent, but separate work and study spaces. Originally referred to as a 'Fort' due to its narrow windows and austere appearance, the building's first two blocks, now the northwest and northeast blocks, together with a central connector, were opened in 1964. The southwest and southeast blocks were constructed several years later and created the Mackenzie courtyard, serving as a principal access point and unifying outdoor space, framed on all sides by the building.

Inspired by the success of the Nicol Building atrium as a cross-disciplinary collaboration and social space catering to all members of the campus community, the courtyard of the Mackenzie building presents an opportunity to create a new, large indoor atrium space that takes advantage of the existing structures and walls of the building, minimizing required construction materials. The vision for the Mackenzie Atrium involves enclosing the space with a glass skylight roof supported by tree-like mass timber columns. A new glass south wall creates a main entrance to the complex and allows the Atrium to function as both main lobby and central social space.



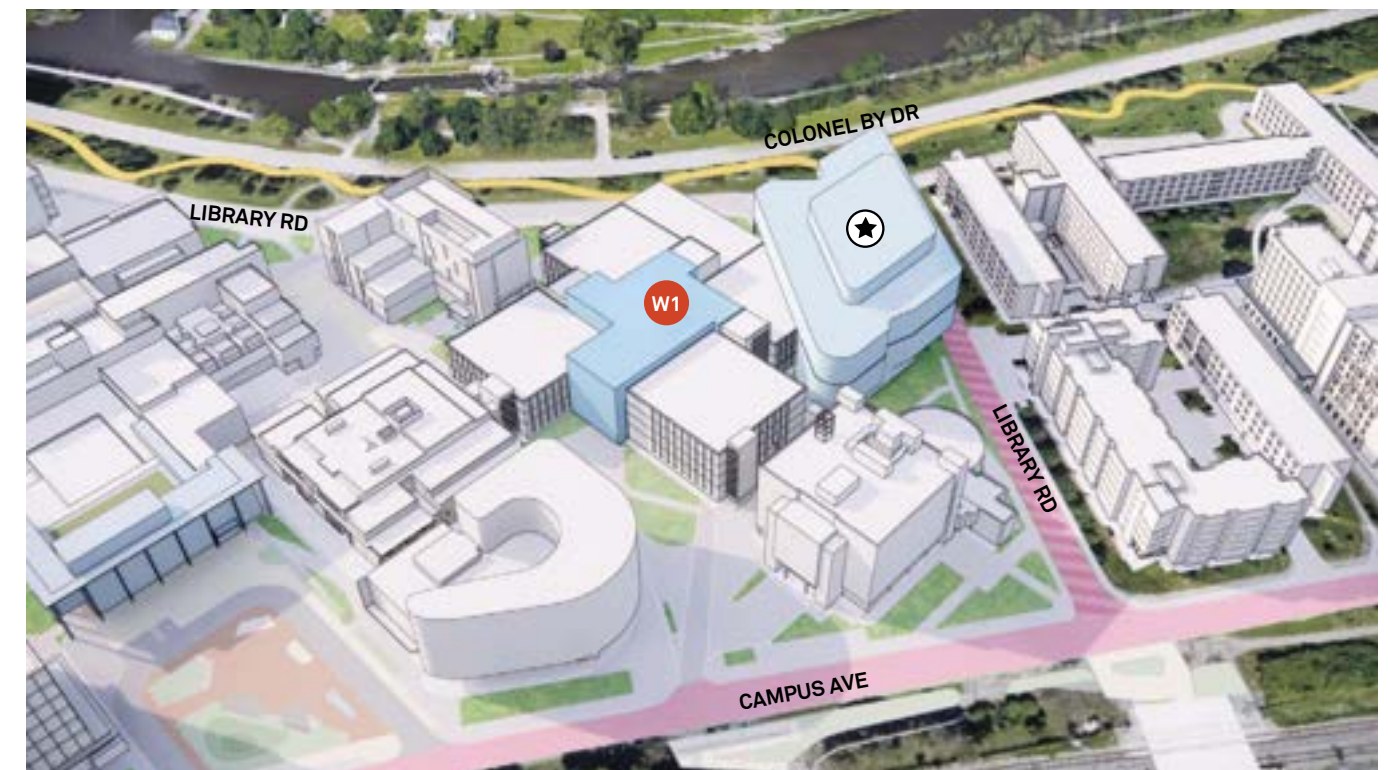
Mackenzie Building northwest and northeast blocks (centre), 1965 © City of Ottawa

## Development & Public Space Opportunities




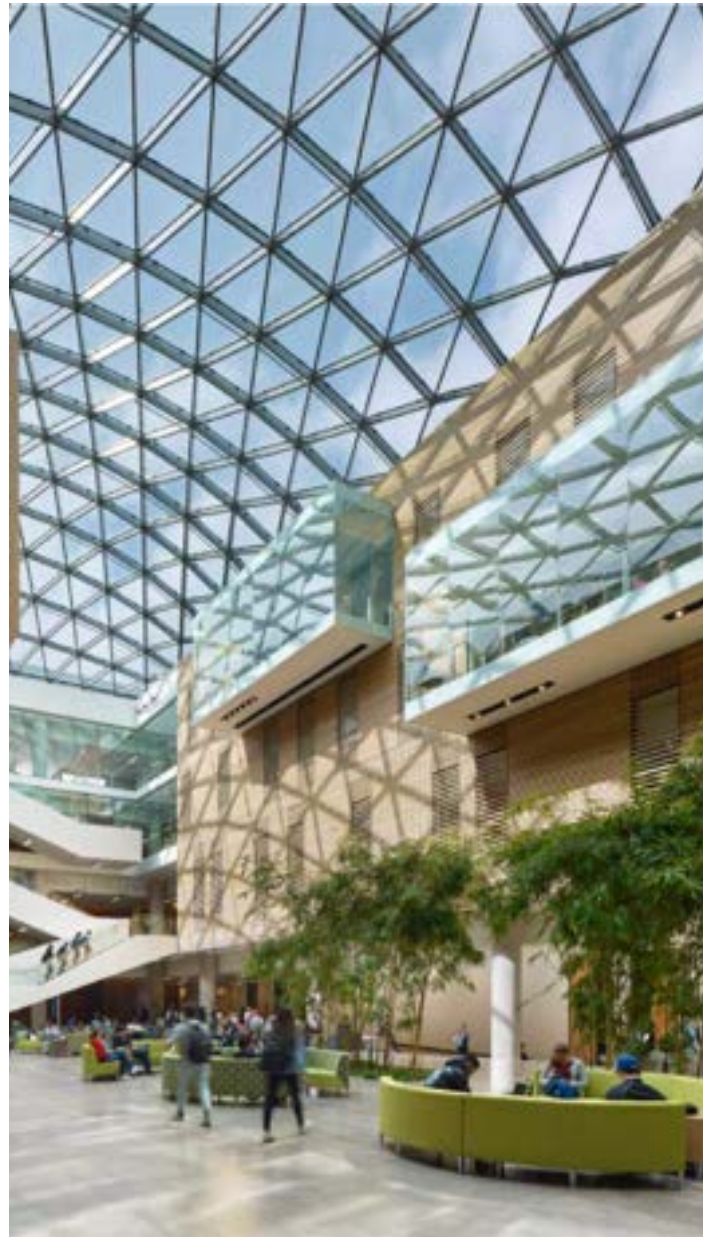
Site W1 opportunities and existing condition. View looking northwest.

- |   |   |  |   |
|---|---|--|---|
|  Bioswale               |  Gateway                  |  Potential Development Site                |  Potential Flexible Campus Street |
|  Pedestrian Connection |  Daylighting Renovations |  Proposed Open Space & Enhanced Landscape |  New Drop-off Loop               |



Site W1 potential courtyard addition. View looking northwest.

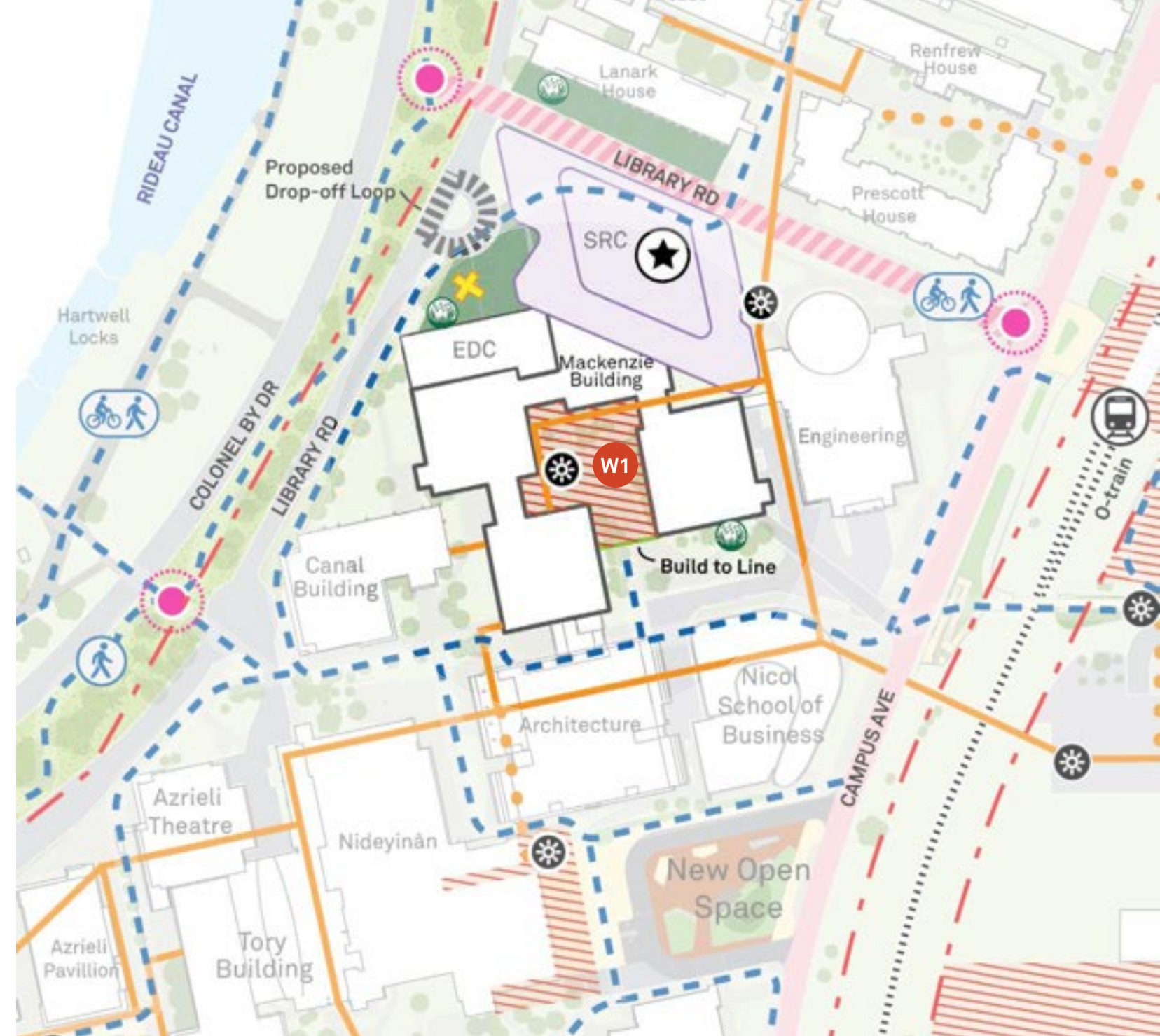
-  Work under development prior to the CMPU



Example of enclosed atrium providing seating for socializing and rest as well as indoor greenery. (Lazardis Hall, Wilfrid Laurier University, Waterloo; Diamond Schmitt Architects & David Thompson Architect © Doublespace Photography and Tom Arban)

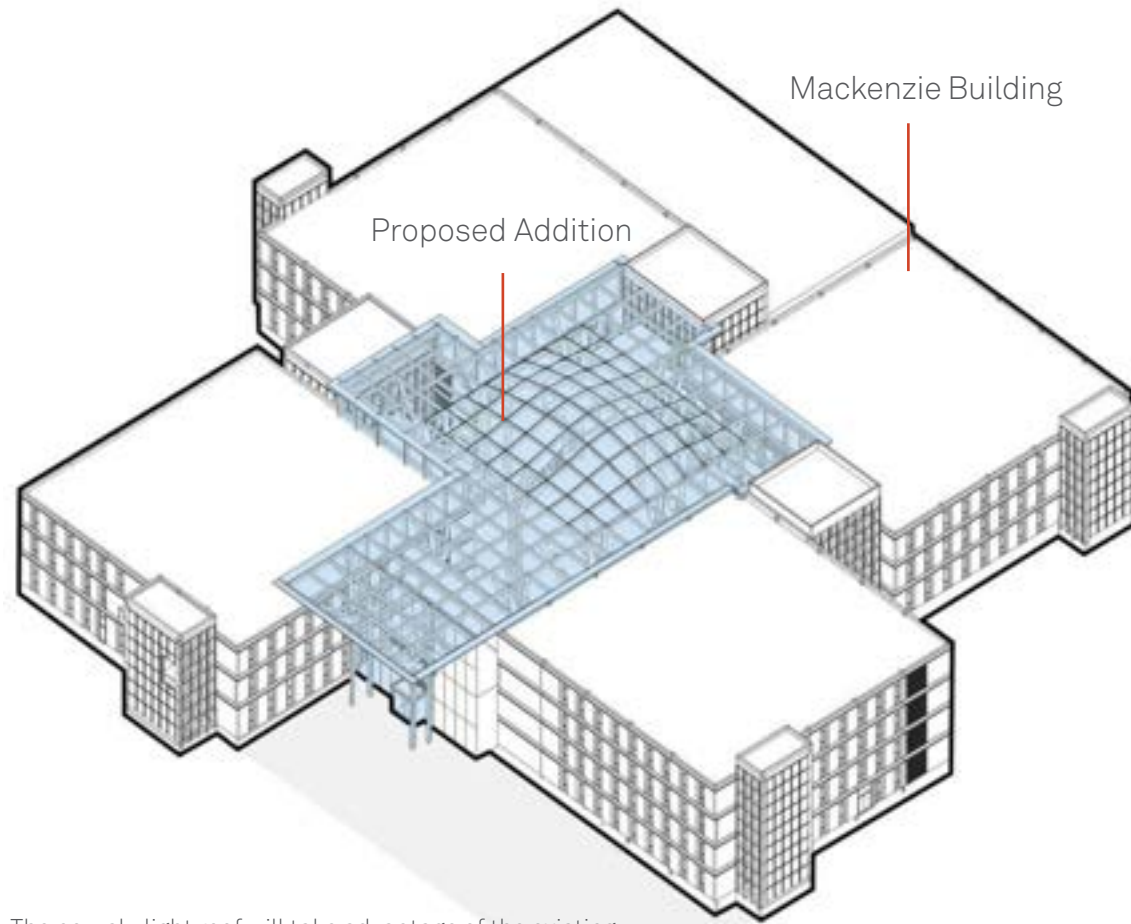


Example of enclosed atrium designed with tree-like columns and natural material cladding to evoke a sense of the outdoors. (Nine Bridges Country Club, Shiguru Ban Architects © Hiroyuki Hiarai)



The above illustration shows Mackenzie Atrium's potential buildable area, adjacent pedestrian connections, potential open spaces, and context.

- Property Line
- Gateway
- Potential Flexible Campus Street
- Priority Pedestrian Street
- Potential Development Site
- Pedestrian and Cyclist Connection
- Priority Pedestrian Access/Connection
- O-Train
- Work under development prior to the CMPU
- Daylighting Renovation
- Existing Tunnel
- Proposed Tunnel Extension
- Potential location for a bioswale, rain garden or pollinator garden
- Green Ribbon
- Potential Open Space
- Potential Cultural Marker/Artwork

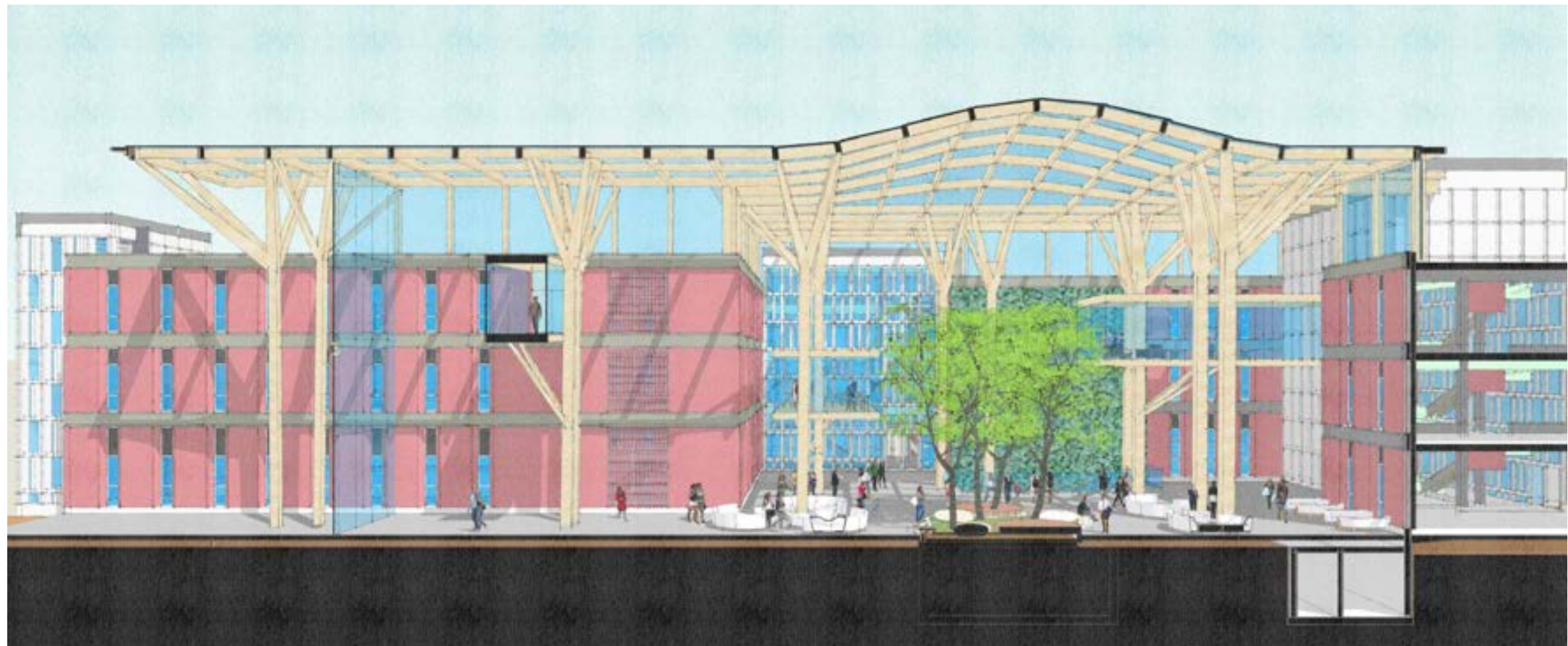


The new skylight roof will take advantage of the existing walls of the building to create a four-storey enclosed atrium. Housing a mass timber structure will allow for a organic shapes to be formed in contrast with the existing austere facades.

Within the Atrium, platforms containing seating and tables are located at various heights and function as intimate breakout and study spaces within the larger four-storey volume. At the ground level, indoor landscape planting, a green wall, and clusters of informal seating and study areas create a large, lively collaborative atmosphere at the heart of the campus. An opening in the floor surface connects the atrium space with the tunnel system below, providing natural light, pedestrian connections, and wayfinding improvements. The Atrium will serve as the first major indoor node of activity south of the new Library Road pedestrian-priority street and student residences farther to the north.

Rendered views of proposed (or "potential") enclosed Atrium space with seating and study spaces at various heights. Indoor trees and mass timber beams bring nature into the space. ▶





- ▶ A staircase descending into the tunnels will create opportunities to bring in natural light, air, and vibrancy.

A bridge linking the two southern building wings will improve overall circulation, accessibility and wayfinding.





On the south elevation, a new transparent façade will act as the main entrance to the building. A row of tree-like columns will offer character to the entryway and provide shelter through the glazed canopy.



## 4.2.2 Nideyinàn East Expansion and Renovation

W2



Throughout consultation and engagement activities for the Campus Master Plan Update, the Nideyinàn was referenced as the building on campus with the most opportunities for improvements in wayfinding, quality of space, and legibility.

As the Nideyinàn expanded and eventually connected to the Tory Building to the west, pedestrian circulation became more challenging. Presently, a series of enclosed stairways in the centre of the building provide access to various spaces and services. Wayfinding is challenging and cannot be resolved with clearer signage— a more legible circulation path with visual connections between components of the building will help in orientation and present opportunities for the creation of new social, study, and collaboration space with integrated vertical circulation and access to upper levels of the building.

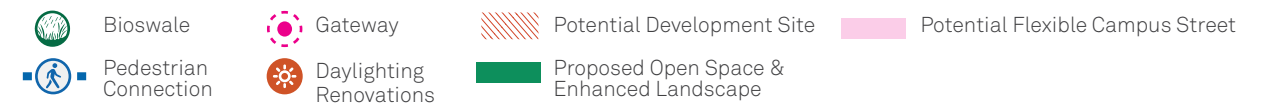
The OSMP presented opportunities for the creation of a new Campus Avenue Quad, framed by the Nideyinàn to the west, Architecture and Nicol Buildings to the north, and the Health Sciences Building to the south. A key recommendation to address many of the issues identified above, as well as to create a strong, welcoming arrival point framing the western edge of the new quad, involves the construction of a narrow eastern addition to the Nideyinàn.

The addition opens the building's east, north, and south facades, creating a new legibility for building navigation from the outside and interior, tying together various components vertically in a tall glass volume. Within the new space, an open stair connects social and collaboration space at the ground floor with existing food services and additional collaboration and study space above, ultimately connecting to a new rooftop terrace and glazed walkway. The generous naturally lit walkway provides direct access to the building's central food, beverage, and student services, and to the Tory Building to the west.

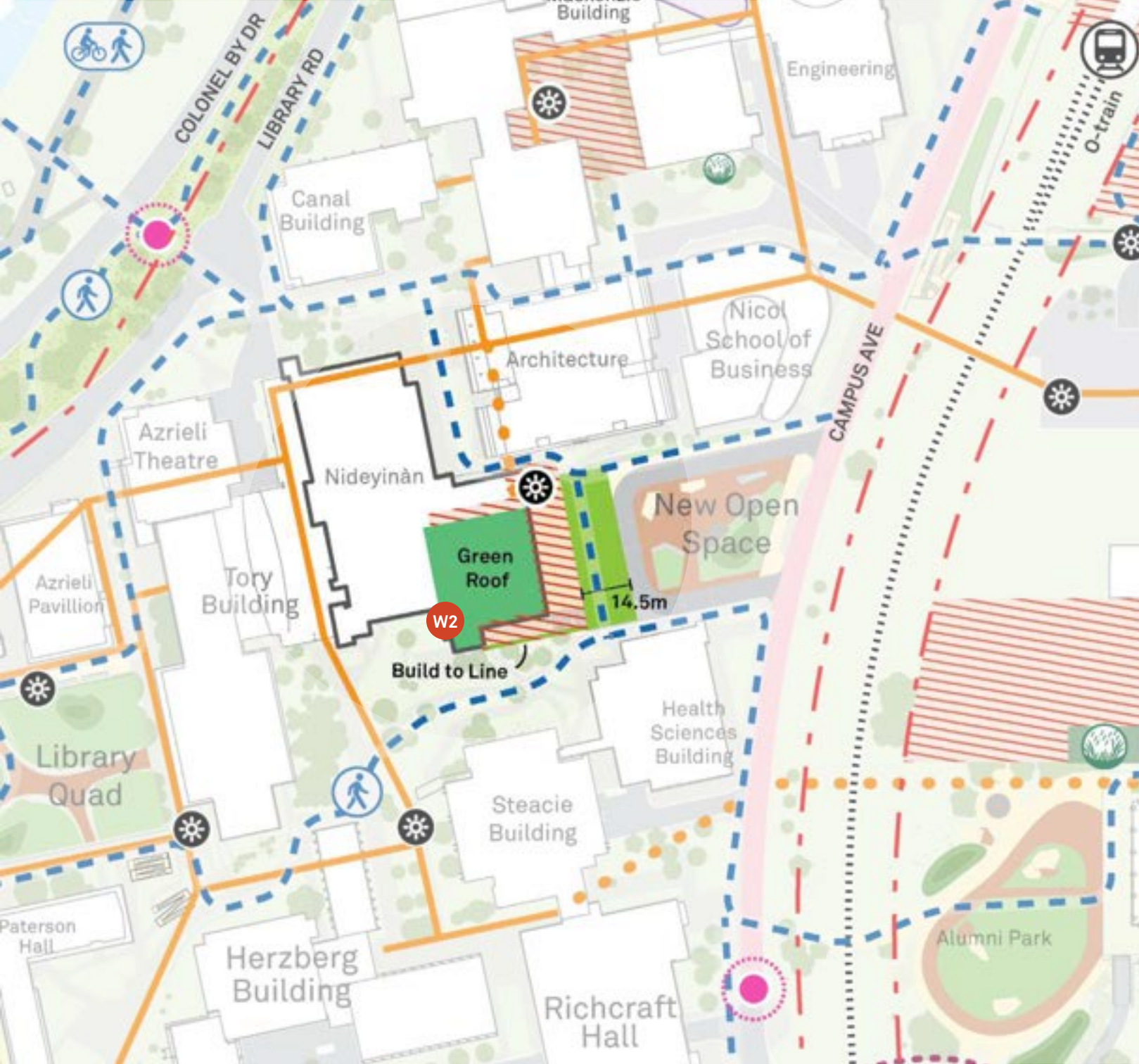
## Development & Public Space Opportunities



Site W2 opportunities and existing condition. View looking southwest.

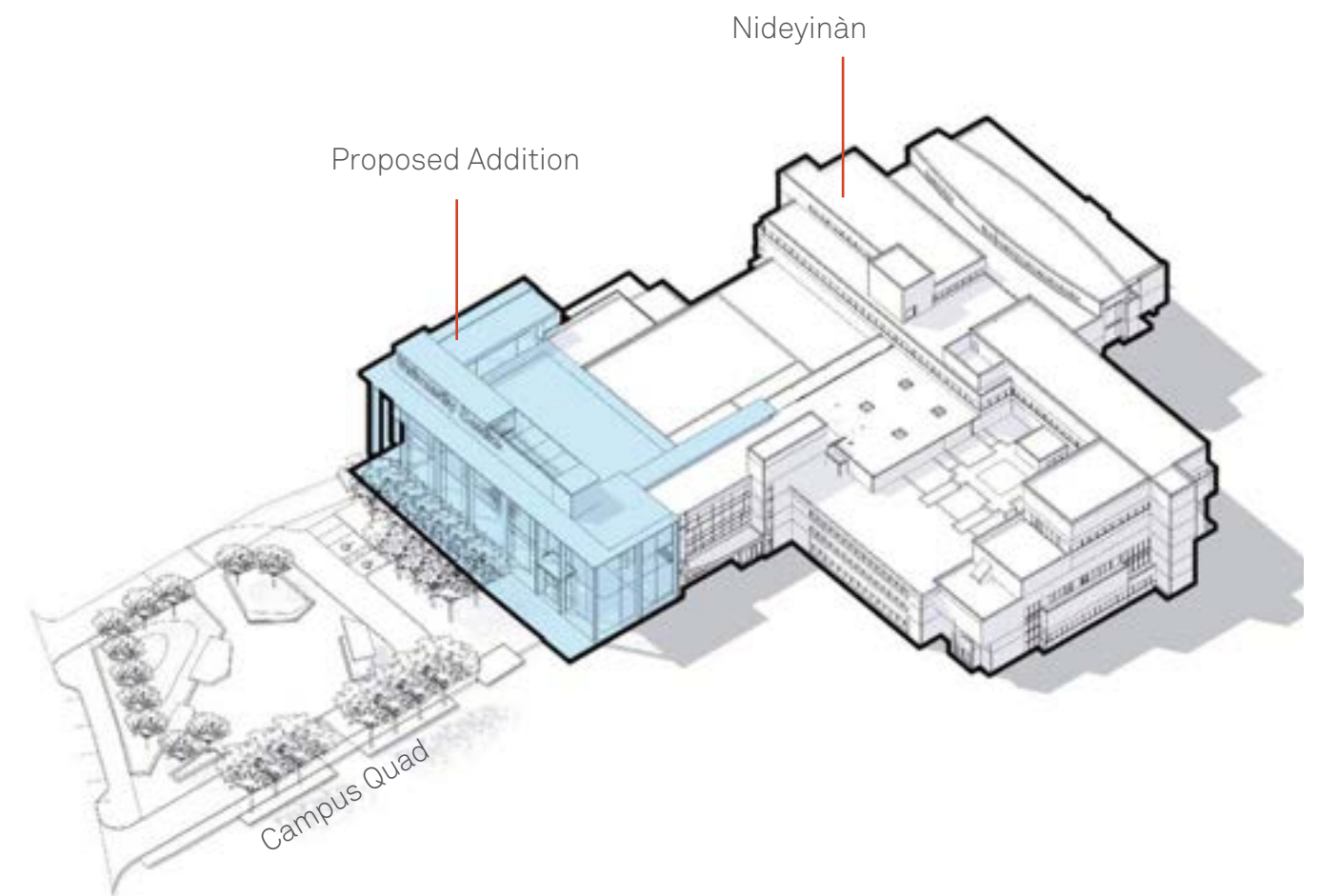


Site W2 potential development. View looking southwest.



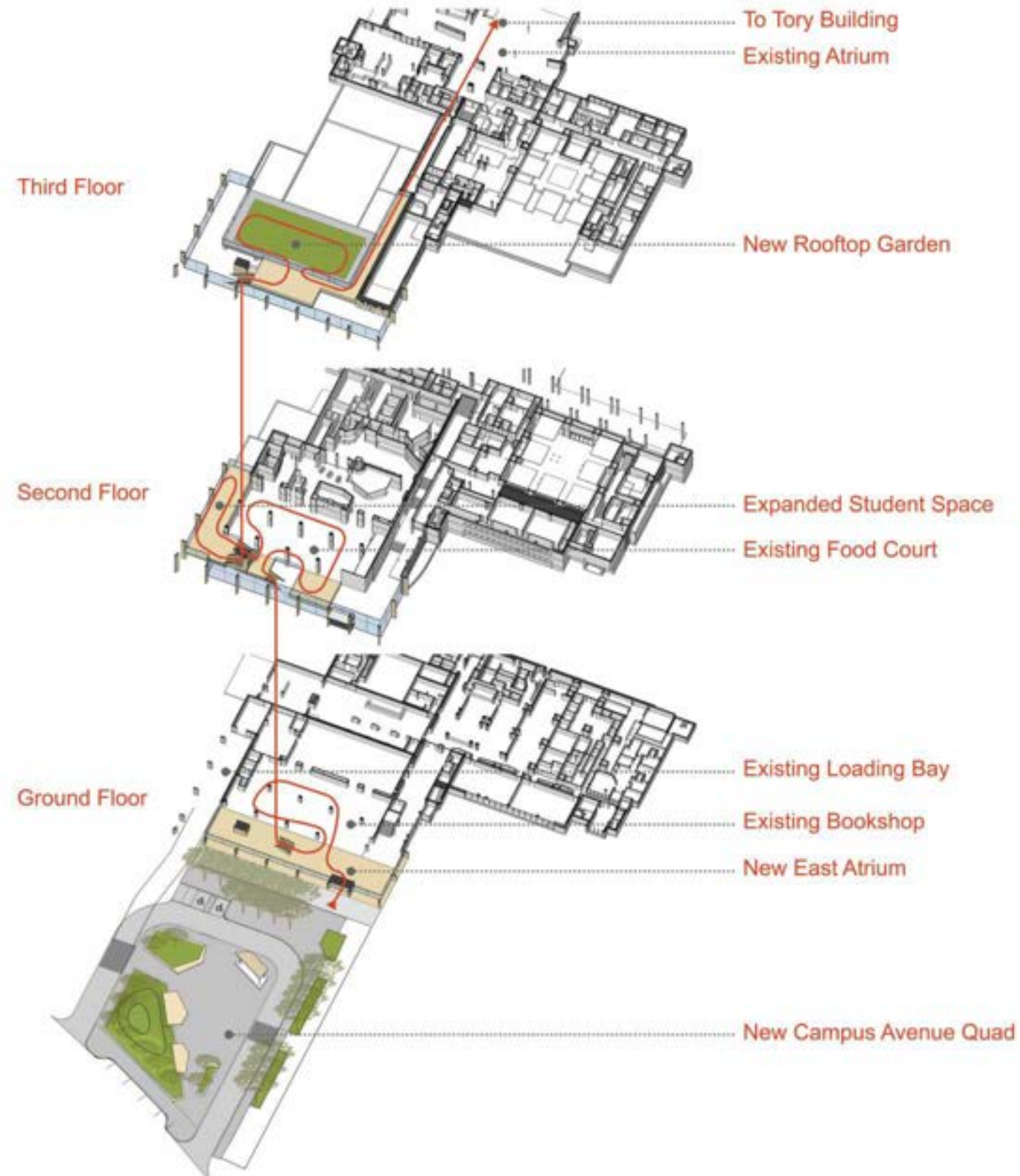
The above illustration shows the Nideyinàn Addition's potential buildable area, separation distance from the Campus Quad, adjacent pedestrian connections, and context.

- Property Line
- Minimum Separation Distance
- Gateway
- Potential Flexible Campus Street
- 🚶  
🚲
 Pedestrian and Cyclist Connection
- 🚶
 Priority Pedestrian Access/Connection
- 🚊
 O-Train
- ☀️
 Daylighting Renovation
- Existing Tunnel
- Proposed Tunnel Extension
- Potential Open Space



The eastern addition to the Nideyinàn improves legibility and provides a new vertical connection to the ground floor of the Tory Building. The renovated façade will frame the new Campus Avenue Quad with an inviting and transparent tall volume.

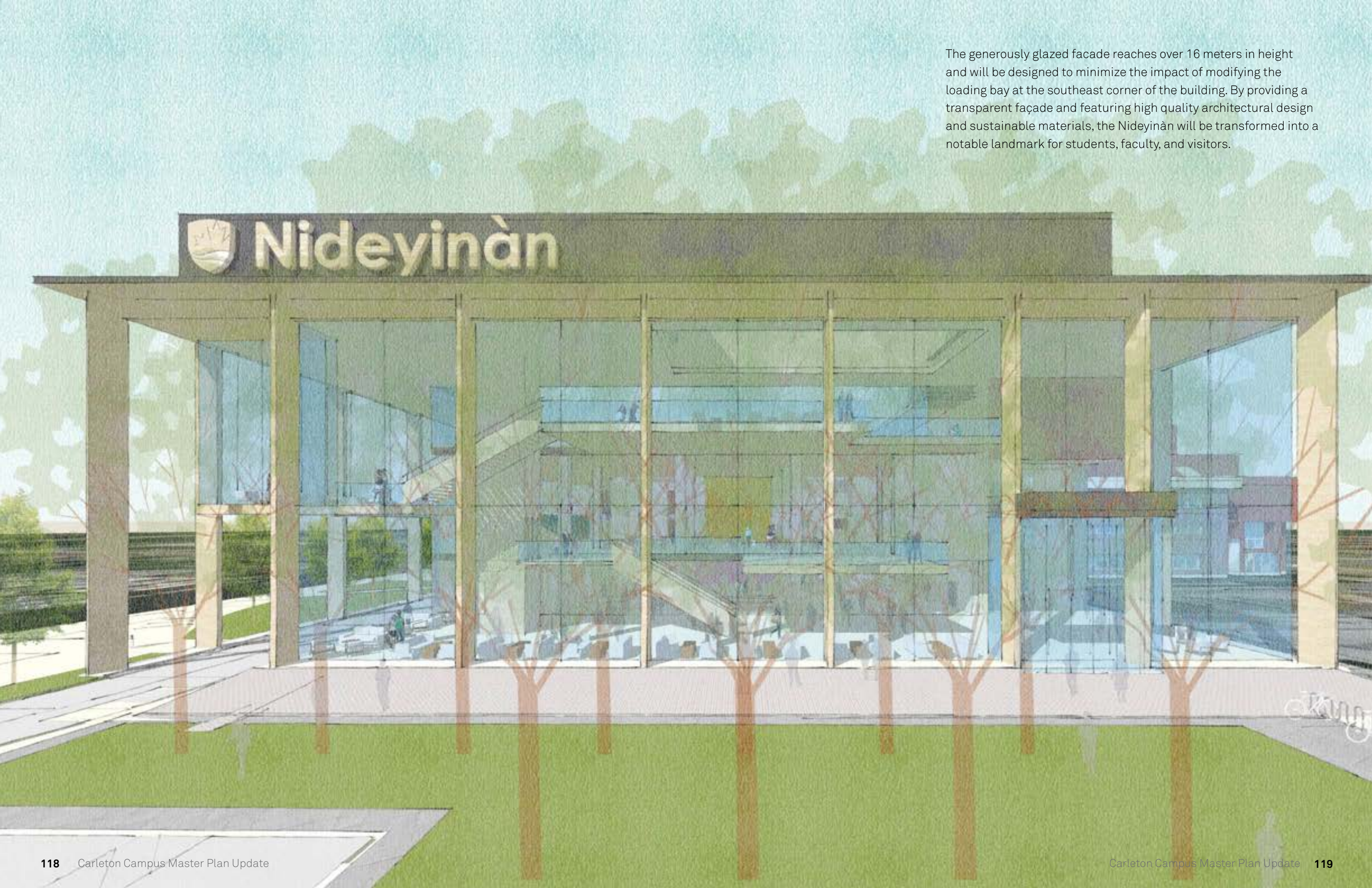
Exploded axonometric view showcasing the proposed building addition.





The new east atrium of the Nideyinàn will provide informal study and social spaces that will benefit from the natural light, air, and expansive new atrium space. It will also provide rooftop access to the existing food court which students and faculty can use during the warmer seasons.

The generously glazed facade reaches over 16 meters in height and will be designed to minimize the impact of modifying the loading bay at the southeast corner of the building. By providing a transparent façade and featuring high quality architectural design and sustainable materials, the Nideyinàn will be transformed into a notable landmark for students, faculty, and visitors.



## 4.2.3 Learning Pavilion

W3



An intimate space near the southwest corner of the campus provides an opportunity to create a small-scale learning pavilion structure that can provide space, services, and programming that is suited to a quiet, calm, natural location on campus. Surrounded by trees and overlooking the Rideau River, the location presents itself as an escape from the intensity of the central campus and provides opportunities for quiet learning, reflection and dialogue, as well as offers services and resources in a sensitive environment. As a location of respite, the Learning Pavilion would be low in scale and relate in material, massing, and scale with its natural surroundings.



Agropur Campus (BC2 Consulting Group Inc. © Immophoto)



Rendering of a land-based learning pavilion with a naturalized bioswale wrapping around the open-air structure. (Memorial University of Newfoundland © Brook McIlroy)

## Development & Public Space Opportunities



Potential location for a Learning Pavilion. View looking northeast.

★ Learning Pavilion Site

## 4.2.4 Institutional Building

W4



A primary large development site to accommodate future institutional growth on the west campus is located in the existing parking lot (P1) north of the VSIM building and west of Southam Hall. The site provides opportunities for new spaces in a four- to six-storey form. Facing Library Road to the west and the VSIM building to the south, the site allows for frontages that directly front and address Library Road, presenting a new face of the campus toward NCC lands to the west and neighbours across the Rideau Canal.

Preserving service and delivery access between the site and Southam Hall, a new green space can be created as a forecourt to the VSIM building and a pedestrian entry point to the campus from the west. A combination of at-grade and tunnel connections will close the loop of access in the southwest corner of campus, allowing pedestrian circulation from the MacOdrum Library, through the new building, and connecting to VSIM, the Social Science Research Building, and the Human Computer Interaction Building, all of which are presently terminus locations of the campus' interior pedestrian network.

## Development & Public Space Opportunities



Site W4 opportunities and existing condition. View looking southwest.



Site W4 potential development. View looking southwest.





The above illustration shows Site W4's potential buildable area, setbacks, pedestrian connections, and potential open spaces, and context.

- Property Line
- Minimum Setback & Separation Distance
- Gateway
- Potential Development Site
- 🚶🚲 Pedestrian and Cyclist Connection
- 🚶 Priority Pedestrian Access/Connection
- 🚗 Vehicular Access
- Existing Tunnel
- 🌿 Potential location for a bioswale, rain garden or pollinator garden
- Green Ribbon
- Potential Open Space
- ✕ Potential Cultural Marker/Artwork

◀ A potential open space nestled between W4 and the Visualization and Simulation Building could provide outdoor seating, study spaces, and pollinator gardens. (Little C mixed-use development, Rotterdam © CULD / Juurlink [+] Geluk)

## 4.3 East Campus Precinct Plan

The East Campus Precinct is comprised of approximately 60 acres (24 ha) of land south and east of University Drive, west of Bronson Road and north of the Rideau River. The East Campus Precinct is a highly visible growth area for buildings and open space, and is intended to be the next area to accommodate future campus buildings once sites within the West Campus Precinct are not longer available or suitable for planned capital projects.

Currently, the East Campus Precinct includes a mix of recreational, academic, administrative, Grounds and Maintenance buildings as well as surface and structured parking (some to be demolished). The East Campus Precinct, together with the long term development intended for the North Campus Precinct will help connect Carleton to its eastern boundary at Bronson Avenue, the Ottawa South neighbourhood Brewer Park, and the surrounding City. The East Campus includes a large segment of the proposed Green Ribbon network, which will also improve the campus' eastern boundary at Bronson Avenue, as well as provide new pathways and views to the Rideau River.

The envisioned Wellness Hub, as a significant expansion to Alumni Hall, is intended to be a highly visible new building, seen by visitors as they travel along Bronson Avenue to and from the campus. Bronson Avenue is a city owned street, currently under review by the City of Ottawa to include traffic calming measures and enhanced cycling facilities. The Canada Lands Corporation's Confederation Heights Master Plan is underway to develop the 465 acre underused Federal lands, south of Carleton, over the next 25 Years for a vital transit-oriented, mixed use community that will also serve as a Federal Hub.

### Evolution of the Rail Corridor

Since its beginnings, Carleton's campus has been bisected by a rail corridor whose evolution to municipal transit has made it a more critical contributor to the liveliness of the campus. Beginning as a freight rail line extending southeast from a roundhouse and train yard at Bayview Road and Wellington Street, the corridor originally accommodated high speed heavy locomotives and freight. As rail transportation evolved, freight through the corridor gave way to regional passenger rail service. Soon, full frequent bi-directional rapid Light Rail Transit service will arrive on campus for the first time.

Carleton has traditionally developed buildings in proximity to the rail corridor respecting a 30-metre minimum setback for noise, vibrations, and safety concerns. While appropriate for high-speed freight rail corridors, a minimum setback is no longer appropriate in the context of urban LRT service corridors. Rather, new buildings containing non-residential uses can safely be located at or near the property line adjoining the transit corridor. When properly designed, noise and vibration concerns can be successfully mitigated. Although the setback requirement has not been officially relaxed, for the purposes of the Campus Master Plan Update, future building footprints adjacent to the rail line have been located within the 30-metre setback. It is recommended that the university pursue negotiations with relevant authorities to lift the restrictions on rail corridor setbacks for future buildings on campus, to preserve valuable development sites and realize a more compact, walkable campus.



### Map East Campus Precinct

- E# Potential Building
- Precinct Boundary
- Existing Building
- Planned Building
- Green Ribbon Trail
- ★ Work under development prior to the CMPU



## 4.3.1 Future East Precinct E1 & E2 Development Sites

In comparison to the more developed West Campus Precinct, where future development sites are fewer and grade changes limit infill and expansion opportunities, the East Campus Precinct has several building opportunities that when undertaken should combine a high level of site and open space design:







**E1** Academic, ancillary use or recreational facility expansion on the Tennis Centre arena air dome, adjacent to the seating MNP Park stadium stands. This site at the eastern side of University Drive is limited in its capacity for a new building due to the need to maintain the significant and mature tree canopy on the site, including the tree line on the west side of the Tennis Centre, and on the east northern edge of University Drive. A midrise academic, ancillary use or recreational facility would be appropriate and sited to frame the corner of University Drive and Stadium Way.

**E2** A building expansion on P12 parking lot, west of the Field House for recreational/food service/student commons space. The proposed building expansion will provide a more attractive and accessible building along this extensive blank wall of the Field House.

### Development & Public Space Opportunities



Site E1 and E2 opportunities and existing condition. View looking southwest.

-  Bioswale
-  Pedestrian Connection
-  Gateway
-  Daylighting Renovations
-  Potential Development Site
-  Proposed Open Space & Enhanced Landscape
-  Potential Flexible Campus Street



Site E1 and E2. View looking southwest.

 Work under development prior to the CMPU



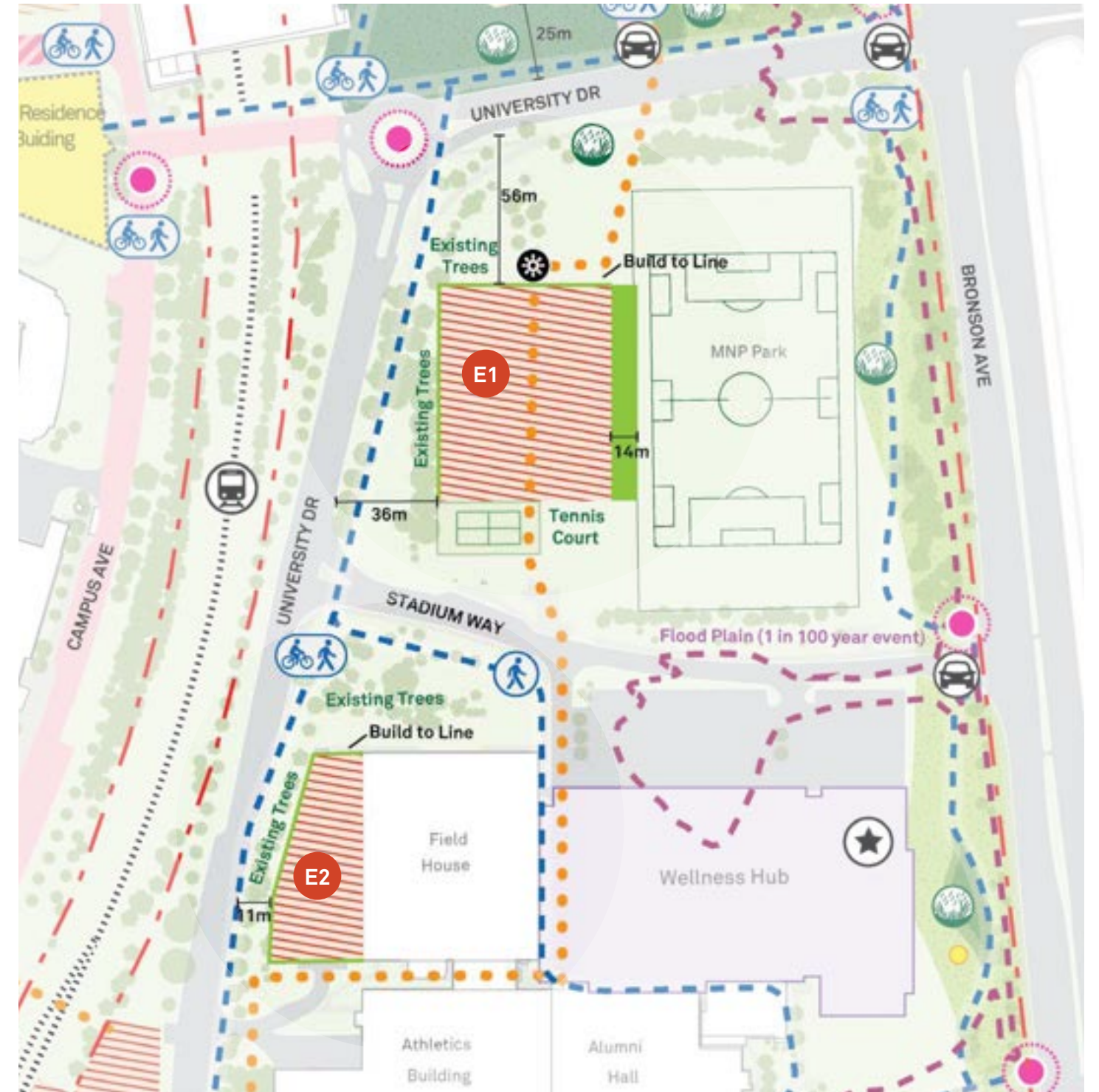
Site E1 has potential to house an indoor running track for athletes and students to use during the winter months. (Toronto Pan Am Sports Centre © University of Toronto & City of Toronto)



The proposed tunnel expansion connecting to the potential Wellness Hub, Site E1 and E2 could feature curated content, including dynamic installations, film, and interactive media of previous Carleton University sports achievements. (© Nike)



The image above shows a bright red tennis clubhouse which acts as an advert for sports and movement. The rooftop also doubles as an expansive seating area for game spectators. Housed inside the structure are utility areas, changing rooms, and kitchen facilities. (Amsterdam Tennis Clubhouse, Netherlands © MVRDV)



The above illustration shows Site E1&E2's potential buildable area, setbacks, pedestrian connections, potential open spaces, and context.

- |  |                                       |                                   |   |
|--|---------------------------------------|-----------------------------------|---|
| Property Line  | Pedestrian and Cyclist Connection     | Daylighting Renovation            | Potential location for a bioswale, rain garden or pollinator garden |
| Minimum Separation Distance                            | Priority Pedestrian Access/Connection | Existing Tunnel                   | Green Ribbon  |
| Gateway  | Vehicular Access                      | Proposed Tunnel Extension         | Potential Open Space  |
| Potential Flexible Campus Street                       | O-Train                               | Potential Cultural Marker/Artwork | Flood Plain   |
| Work completed prior to the CMPU but under development | Potential Development Site            |                                   |   |

## 4.3.2 Mixed-Use Transit Hub E3



Carleton University is at an exciting point in its evolution where soon, rail-based rapid transit will be more convenient, accessible, and frequent than ever before. Improvements to transit access can be coordinated with efforts to create a pedestrian-friendly, walkable campus with pedestrian-priority complete and flexible streets.

The Mixed-Use Transit Hub project provides an opportunity to create a consolidated welcoming entry point and front door at the core of the campus for all transit users, whether arriving by LRT train or bus. The proposed Transit Hub will be replacing the P4 parking lot, located on the west side of University Drive and will be a focus for arrival to Carleton. The Hub will offer a range of opportunities for the university including, a reduction in on campus traffic and a multi-modal transportation area for central campus arrival by O-Train and bus. The central location of the Hub will stimulate opportunities for easier access to new buildings and facilities within the East Campus Precinct. By directing all bus transit to both University Drive and Raven Road

depending on direction of travel, traffic volumes on Campus Avenue will decrease to accommodate pedestrian-friendly streets. Paratransit vehicles and those with accessible parking permits will be encouraged to use the campus' full network of shared and complete streets to park, pick up, and drop off as near as possible to their destinations.

The Mixed-Use Transit Hub project will accommodate safe, weather-protected waiting and loading areas for train and buses within a mixed-use activity hub that also provides services, support, and flexible social spaces on upper levels for students, faculty and staff, and the extended community. With opportunities for leasable retail and food and beverage facilities, the building can begin to introduce a new mix of uses that will be expanded as the east and north campus continue to grow. At four- to six-storeys in height, the Mixed-Use Transit Hub will accommodate an array of programming and become a central social hub that bridges the East and West Campus Precincts.

## Development & Public Space Opportunities



Site E3 opportunities and existing condition. View looking northwest.

- Bioswale
- Pedestrian Connection
- Gateway
- Daylighting Renovations
- Potential Development Site
- Proposed Open Space & Enhanced Landscape
- Potential Flexible Campus Street

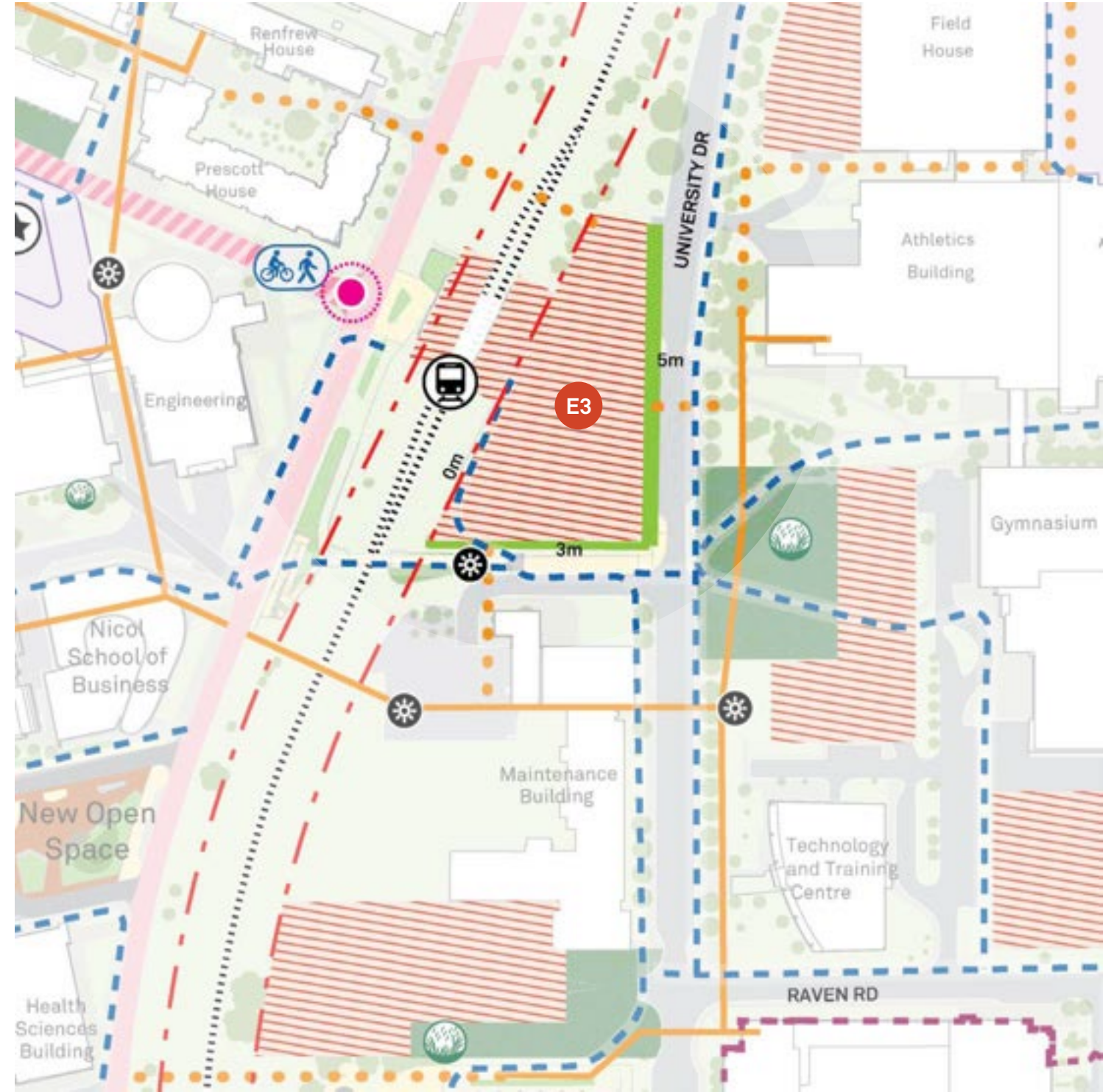


Site E3, Mixed-Use Transit Hub. View looking northwest.

- Work under development prior to the CMPU



The proposed Mixed-Use Transit Hub could be comprised of many services and programs such as: comfortable, enclosed passenger waiting areas, restrooms, secured bike parking, showers, student study spaces, and offices. (Coralville Intermodal Facility, Iowa, United States; © Neumann Monson Architects)



The above illustration shows Site E3's potential buildable area, setbacks, pedestrian connections, potential open spaces, and context.

- Property Line
- Minimum Separation/Setbacks Distance
- Gateway
- Potential Flexible Campus Street
- /// Priority Pedestrian Street
- /// Potential Development Sites
- Pedestrian and Cyclist Connection
- Priority Pedestrian Access/Connection
- Vehicular Access
- O-Train
- Daylighting Renovation
- Existing Tunnel
- Proposed Tunnel Extension
- ✦ Potential Cultural Marker/Artwork
- Potential location for a bioswale, rain garden or pollinator garden
- Green Ribbon
- Potential Open Space

### 4.3.3 Raven Road Sites

#### E4, E5, & E6



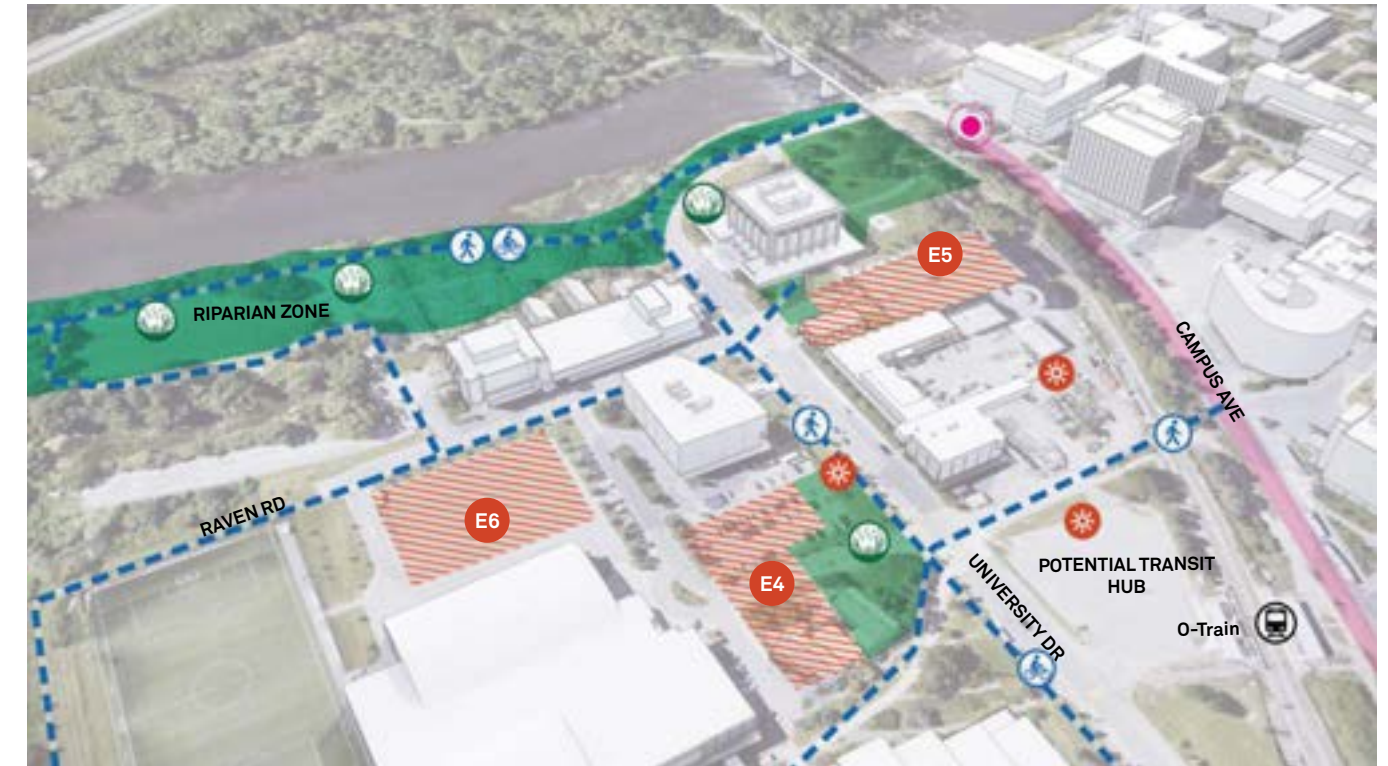
**E4** An Academic Building on parking lot P11, located north of the Technology and Training Centre building. Potential structured parking in close proximity to the Transit Hub may be considered as part of this building site. The L-shaped building is configured to create a front courtyard/garden facing University Drive. A five to seven storey academic building would be appropriate in this location.

**E6** An academic building and/or potential parking garage on lot P3, located on the north side of Raven Road. This is a significant site opportunity south of the Carleton Ice House. The building can be a potential structured parking facility if access to parking is made available from Raven Road, either in and out from Bronson Avenue, or in only from Bronson and out via University Drive. Structured parking should be screened from view by wrapping the building on the first two to three levels with academic uses fronting onto Raven Road.

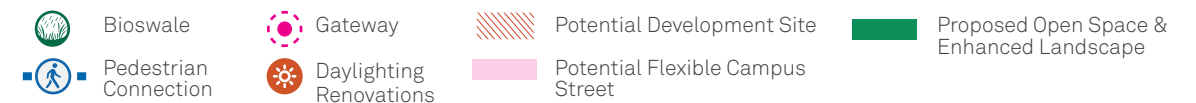
**E5** A Facilities Building expansion, or stand-alone building on P9 (parking garage) planned for demolition. The planned demolition of P9, north of Alumni Park, provides an important new site and academic building opportunity. The site is located at several key view termini including from the new Rideau River pedestrian bridge, the O-Train platform and future Transit Hub and the terminus of Raven Road. The landmark location of this site should influence the form and mass of the future building, as it will be visible from all four sides. Building height in this location should maintain the generally midrise scale of existing and proposed buildings (six to eight storeys), however, moderate height above this range may be appropriate to accommodate future academic programs and promote the buildings stature, while ensuring the building design and massing maintains appropriate scale and mitigates sun/shadow and wind impacts.

Note: potential future development on and/or adjacent to Raven Road must be flood-proofed, or include preventative measures that mitigate flood risk, such as locating critical services above ground level to prevent outages in event of a flood.

### Development & Public Space Opportunities



Site E4-E6 potential opportunities and existing condition.



Site E4-E6 potential development.



Example of a multi-use parking structure with a rooftop synthetic turf sport field that reduces irrigation by 50,000 gallons of water per week, filters water, and reduces discharge into the environment. (Claremont, CA. Watry Design, Inc. © Pomona College)



Potential parking garages could have solar panels on the roof and exterior facades. In the above image, Humber College's parking garage also includes office, retail and commercial spaces. (Toronto, Turner Fleischer Architect Inc. and Newton Group Ltd © Turner Fleischer Architect)



Site E5 has a potential to improve student experience on campus by establishing a welcoming entry and focal point at the intersection of University Dr and Raven Rd. (Toronto, Turner Fleischer Architect Inc. and Newton Group Ltd © Turner Fleischer Architect)



The above illustration shows Raven Road Sites ( E4-E6) potential buildable areas, setbacks, pedestrian connections, potential open spaces, and context.

- Property Line
- Minimum Separation Distance
- Gateway
- Potential Flexible Campus Street
- Potential Development Site
- Pedestrian and Cyclist Connection
- Priority Pedestrian Access/Connection
- Vehicular Access
- O-Train
- Daylighting Renovation
- Existing Tunnel
- Proposed Tunnel Extension
- Potential Cultural Marker/Artwork
- Potential location for a bioswale, rain garden or pollinator garden
- Green Ribbon
- Potential Open Space
- Flood Plain



## 4.4 North Campus Precinct Plan

Carleton's North Campus Precinct is comprised of approximately 32 acres (12 ha) of undeveloped land area and represents a significant future opportunity for resilient and sustainable campus growth. The Plan Update considers a similar pattern of new development from the 2016 Campus Master Plan, centered around a large oval shaped common, and an integrated new street and pathway network, including enhanced vehicular access from Bronson Avenue and Colonel By Drive. This CMP Update includes the Green Ribbon on the north and eastern boundaries where buildings and open space can connect to the campus' wide pathway network. Future use of the North Campus Precinct will be determined by the university's Leadership, but as Ottawa and its neighbourhoods, including Confederation Heights grow along the university boundaries, and transit and access to Carleton increases, the CMP Update illustrates an opportunity to approach the future of the northern lands differently.

Opportunities may include a mix of uses in addition to academic program expansion. Leases to business, partnerships with the City of Ottawa and other stakeholders, similar to models such as Lansdowne Park in Ottawa, can attract commercial, housing, and other complementary uses to Carleton. This mix of uses can be a catalyst to Carleton University moving towards a more vibrant, enriched academic institution within the City and Region, where the campus and surrounding community have access to commercial services such as cafes/restaurants,

banks, and grocery stores. Specialized housing for seniors, Indigenous Peoples and affordable housing options can also be considered. Schools for children, like the University of Toronto Institute of Child Study and University of Toronto Schools, may also be considered at Carleton.

This significant land holding has inherent flexibility for future buildings and infrastructure, and to consider development as part of a comprehensive plan, where building sites and open space are coordinated to promote a beautiful, and memorable area of campus that fosters and reflects an enriched and sustainable learning environment. Future buildings in the North Campus Precinct should be planned to allow for energy sharing

Buildings will generally be taller towards the edges near Dow's Lake and transition to a mid-rise character towards the East and West Campus Precincts. This would maximize sunlight access within the mixed-use district. Due to the long-term development potential of this area, further studies would be required to determine optimal building heights and specific uses. Buildings at the north end and eastern edge of the North Campus Precinct should be designed to contribute to campus visibility as they will be viewed from the city and neighbourhood.



Map  
North Campus Precinct

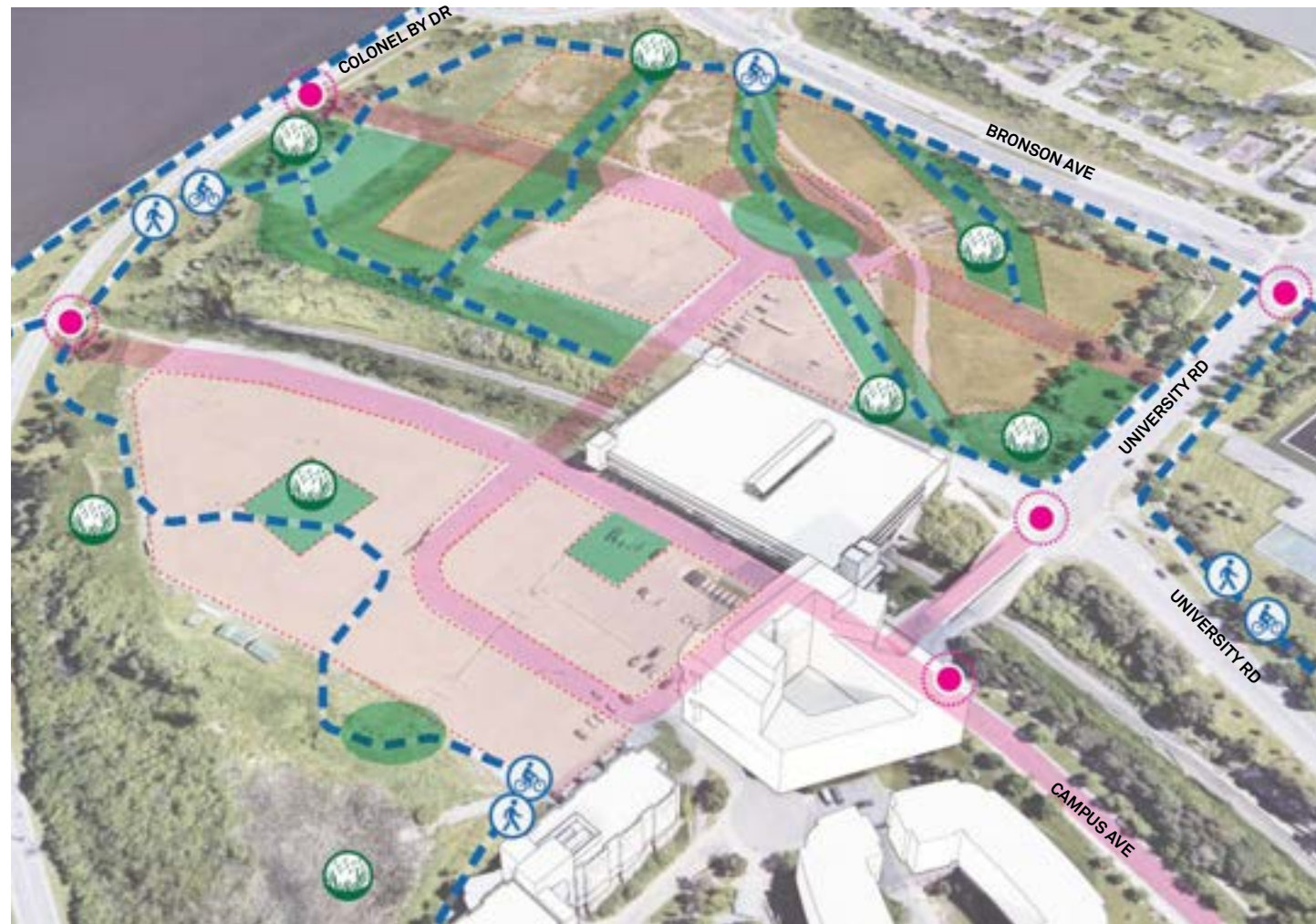
- N# Potential Building
- - - Precinct Boundary
- Existing Building
- Planned Building
- Green Ribbon Trail
- Work under development prior to the CMPU

# 4.4.1 Mixed-Use Campus






N1 - N16

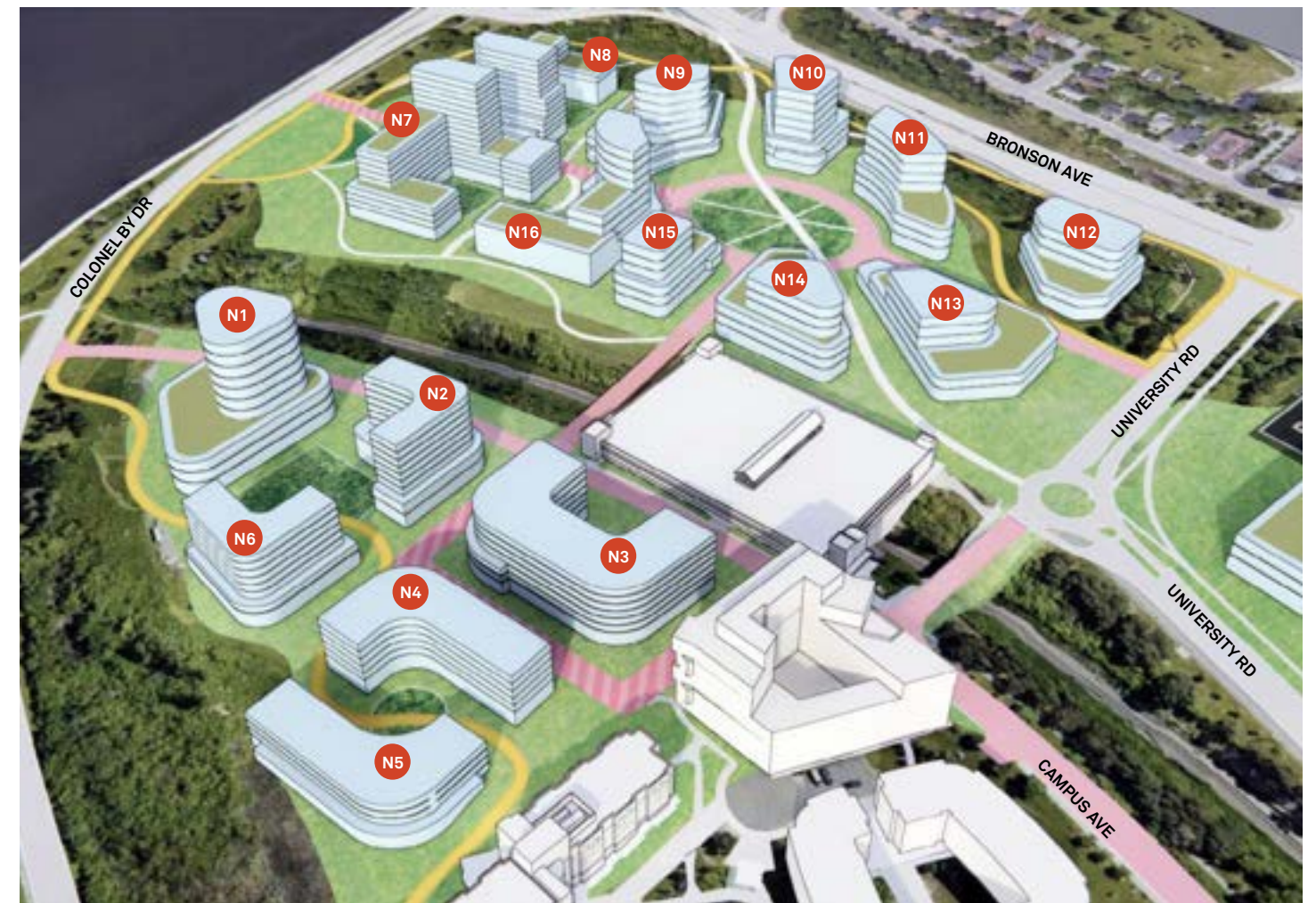


## Development & Public Space Opportunities



North Campus Precinct opportunities and existing condition. View looking northeast.

-  Bioswale
-  Pedestrian Connection
-  Potential Development Site
-  Proposed Open Space & Enhanced Landscape
-  Gateway
-  Potential Flexible Campus Street



North Campus Precinct potential developments. View looking northeast.



► Example of a green oval shaped common framed by campus buildings. (Rendering of Campus Albano, Stockholm, Sweden © Nivå landskapsarkitektur)



Street edges in the North campus Precinct should be visually engaging and contribute to the streetscape through high quality use of materials, colours, and patterns, interior and exterior illumination, views into a building or courtyard, and street plantings. (United States, Aidlin Darling Design © Bruce Damonte)



Inner courtyards have an opportunity to host places to meet, play or relax in shade gardens while featuring sustainable water management practices. (Urban Campus Lieven, Amsterdam © Bureau B+B)



Naturalized areas with soft, curved edges and seating can create slower, more intimate settings on campus. (Panevežys, Lithuania, 501 Architects © Norbert Tukaj)



The above illustration shows the North Campus Precinct's potential buildable areas, setbacks, separation distances, expanded tunnel system, potential open spaces and pedestrian connections.

- |  |                                       |                                   |   |
|--|---------------------------------------|-----------------------------------|---|
| Property Line                          | Pedestrian and Cyclist Connection     | Daylighting Renovation            | Potential location for a bioswale, rain garden or pollinator garden |
| Minimum Setbacks & Separation Distance | Priority Pedestrian Access/Connection | Existing Tunnel                   | Green Ribbon  |
| Gateway                                | Vehicular Access                      | Proposed Tunnel Extension         | Potential Open Space  |
| Potential Flexible Campus Street       | O-Train                               | Potential Cultural Marker/Artwork | Flood Plain   |
| Priority Pedestrian Street             | Potential Development Site            |                                   |   |



North precinct potential developments. View looking southwest,

## 4.5 The Multi-Campus Strategy

Creating unity and awareness between Carleton’s main campus, Kanata North Campus and the Carleton Dominion-Chalmers Centre (CDCC) is an important step. Establishing a multi-campus strategy that highlights the critical role that Carleton’s specialized satellite campuses play in the university’s strategic and academic missions.

Offering unique spaces and programming for academic purposes, as well as community and industry partnerships, collaborations, and outreach, the Kanata North and CDCC campuses should be featured in campus mapping, wayfinding, marketing, and communication materials as integral components of Carleton University. An example of integrating all three campuses is shown on the opposite page. This multi-campus approach should be used for online wayfinding maps, 3D campus illustrations, and communications materials that highlight the university’s physical locations.

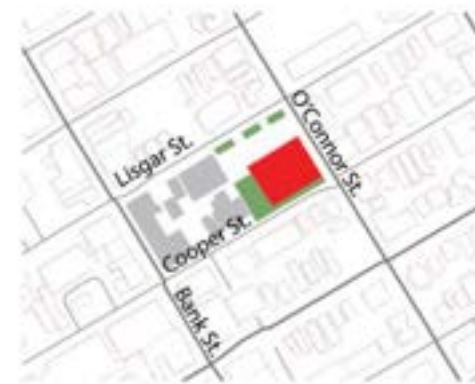
This Campus Master Plan Update recommends undertaking a focused study in the near-term that brings together staff, students, and faculty from Carleton’s Main Campus, Kanata North, and the CDCC to develop a high-level Multi-Campus Strategy for the university. This strategy will help inform optimum approaches to branding, communication, mobility and wayfinding, and the establishment of new systems that can support all three campuses, leveraging each of their strengths.

The following list presents potential opportunities that can be explored as part of the Multi-Campus Strategy Study.

- Explore transit and active mobility options for movement between campuses including LRT and bus connections, cycling corridors, inter-campus bike and e-bike share systems, inter-campus shuttle service, and others.
- Establish consistent branding that highlights the unique aspects of each satellite campus while uniting them under the Carleton University brand.
- Highlight connections to civic infrastructure nearby (parks, services) that can be leveraged as advantages of each satellite campus’ unique urban setting.
- Publicize research, partnerships, and community outreach occurring at each of the satellite campuses, encouraging members of the Carleton community to visit the satellite campuses.
- Create a supply chain system that enables efficient transfer of materials between campuses and readily-available supplies in local satellite storage.
- Explore further opportunities for cross-pollination and partnerships between academic departments and with the surrounding community and industry.
- Further develop relationships between Carleton’s academic and research departments and industry as collaborators, co-op employers, and research partners.



Campus Locations



**Dominion-Chalmers Centre**  
355 Cooper St.



**Kanata North Campus**  
350 Legget Dr. Unit #101



**Main Campus**  
1125 Colonel By Dr.

Potential opportunities specific to the CDCC include:

- Ensure accessibility for all users into and within the Centre by employing principles of Universal Design (reference Section 5.1 of this report).
- Recognize and honour historical and ongoing trauma for members of the Indigenous community related to the Centre’s historical origins as a religious building.
- Explore opportunities to use the CDCC as part of Carleton University’s work towards Reconciliation with Indigenous Peoples.
- Highlight the Centre’s spectacular architecture and performance space to students, faculty, and staff on the main campus to encourage visits and use of the CDCC.
- Leverage the use of the Centre by community groups to engage and reach out to Carleton’s neighbours in downtown Ottawa and the larger region.
- Explore opportunities for the university to directly fund portions of the Centre as non-revenue-generating spaces for academic and administrative support, community outreach, and student collaboration.
- Leverage the downtown urban location, performance venue, and heritage architecture to expand academic offerings to students in multiple departments and faculties (i.e., history, drama, geography, architecture, sociology, music, etc.)



# 5.0 Implementation Framework

- 5.1 Implementation and Phasing Strategy
- 5.2 Plan Review and Update

# 5.1 Implementation and Phasing Strategy

Through the engagement and planning process for the Campus Master Plan Update, Carleton’s leadership and staff have expressed a desire for a balanced approach to infrastructure planning. The Campus Master Plan Update needs to be flexible in proposing short-term facilities while programming for long-term future development on campus. This strategy is essential in fulfilling both immediate needs and long-term goals for improvements, enhancements, and accommodation of growth on campus. Preparation for a robust short-term and long-term framework requires a general understanding that programmatic space allocation is dynamic and dependent on several strategic and financial factors.

The long-term growth potential on campus for future mixed-use institutional, residential, commercial, retail, and potential multi-level parking space is tremendous. However, the Campus Master Plan Update acknowledges that each development project will occur incrementally over several years as a response to immediate space needs, aspirations for introduction of mixed uses, and as opportunities for funding of new academic and research-focused facilities arise. In the near term, enhancement of people-focused elements on campus is the priority. Encouragement of active mobility and transit use, collaboration, socialization, and enjoyment of the campus’ spectacular natural setting and environments will significantly impact the campus community.

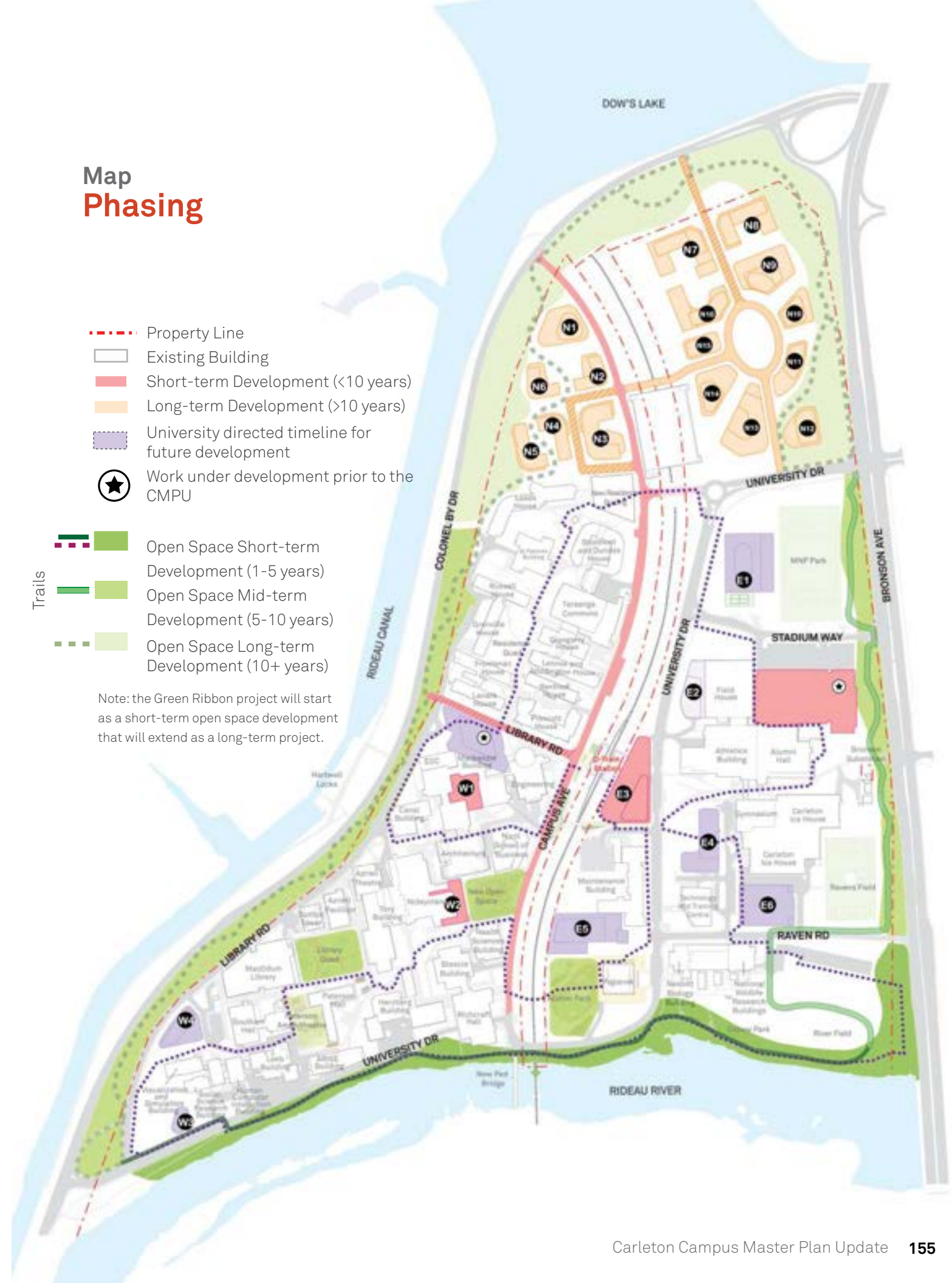
Coinciding with infrastructure upgrade projects, enhancements to Campus Avenue may be realized in the very near term. Projects including the Wellness Centre, Library Road pedestrian priority street, Nideyinàn and Mackenzie Atrium expansions, and the central mixed-use Transit Hub should be prioritized over the next 10 years to improve the quality of campus life in all seasons and at all times of day. Future building footprints have been illustrated for long-term planning purposes and their realization will follow the strategic direction established by Carleton’s leadership team.

Similar to the approach to buildings, enhancements to outdoor spaces will occur in multiple phases over several years. Priority projects include rehabilitating and enhancing the riparian zone and pathways at the edge of the Rideau River, implementing the Geological Time Trail, and the eastern edge of the Green Ribbon to reinforce local stormwater and water mitigation measures. Construction of the Campus Avenue Quad should coincide with the Nideyinàn expansion to create a spectacular new arrival point on campus. Future outdoor space projects including improvements to Alumni Park and the Main Library Quad, as well as completion of the western portions of the Green Ribbon could be realized in the medium-term. Finally, completion of the northern portion of the Green Ribbon may occur as planning for development of the North Campus Precinct takes place in the long-term.

## Map Phasing

- · - · - Property Line
  - Existing Building
  - Short-term Development (<10 years)
  - Long-term Development (>10 years)
  - University directed timeline for future development
  - Work under development prior to the CMPU
- 
- · - · - Open Space Short-term Development (1-5 years)
  - - - - - Open Space Mid-term Development (5-10 years)
  - · - · - Open Space Long-term Development (10+ years)

Note: the Green Ribbon project will start as a short-term open space development that will extend as a long-term project.



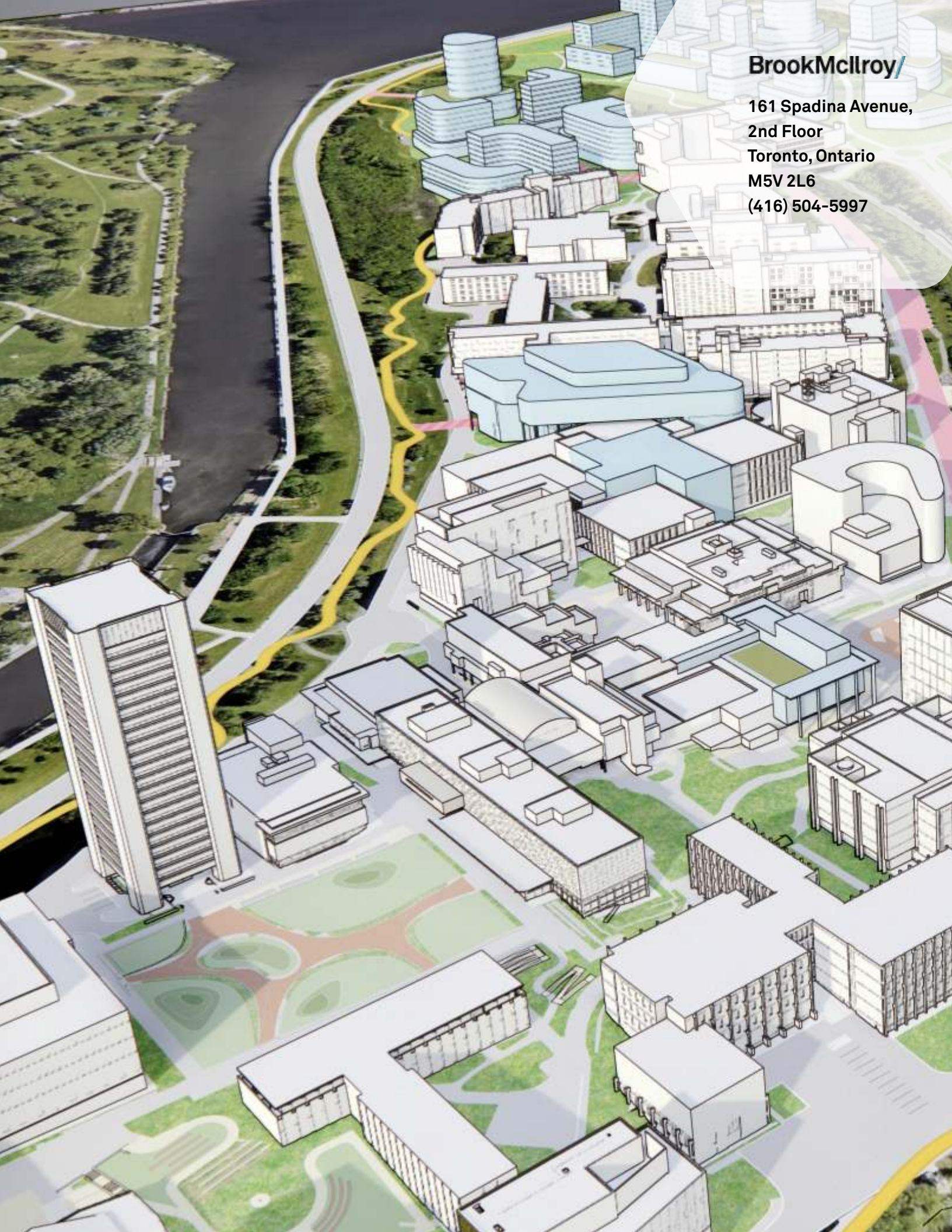




## 5.2 Plan Review and Update

The Carleton University Campus Master Plan Update provides a comprehensive and flexible framework to help guide future design and development decisions pertaining to sustainability, natural systems and open spaces, universal design and accessibility, transportation and mobility, and urban design.

A thorough review and update to the Campus Master Plan should take place every 5 to 10 years in response to the changing needs and priorities of Carleton University, with consideration for an interim review. Community and stakeholder consultation should be undertaken when changes are proposed, to ensure successful implementation of the Master Plan.

An aerial architectural rendering of a city block. The scene features a river on the left side, with a green park area and a winding path. The city block is filled with various buildings, including a prominent tall skyscraper on the left. The buildings are rendered in a light blue and white color scheme. A yellow line highlights a path or road through the block. In the top right corner, there is a semi-transparent white box containing contact information for BrookMcIlroy.

**BrookMcIlroy/**

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Carleton University

# Campus Master Plan Update

## Part 2: Campus Design Guidelines

2023

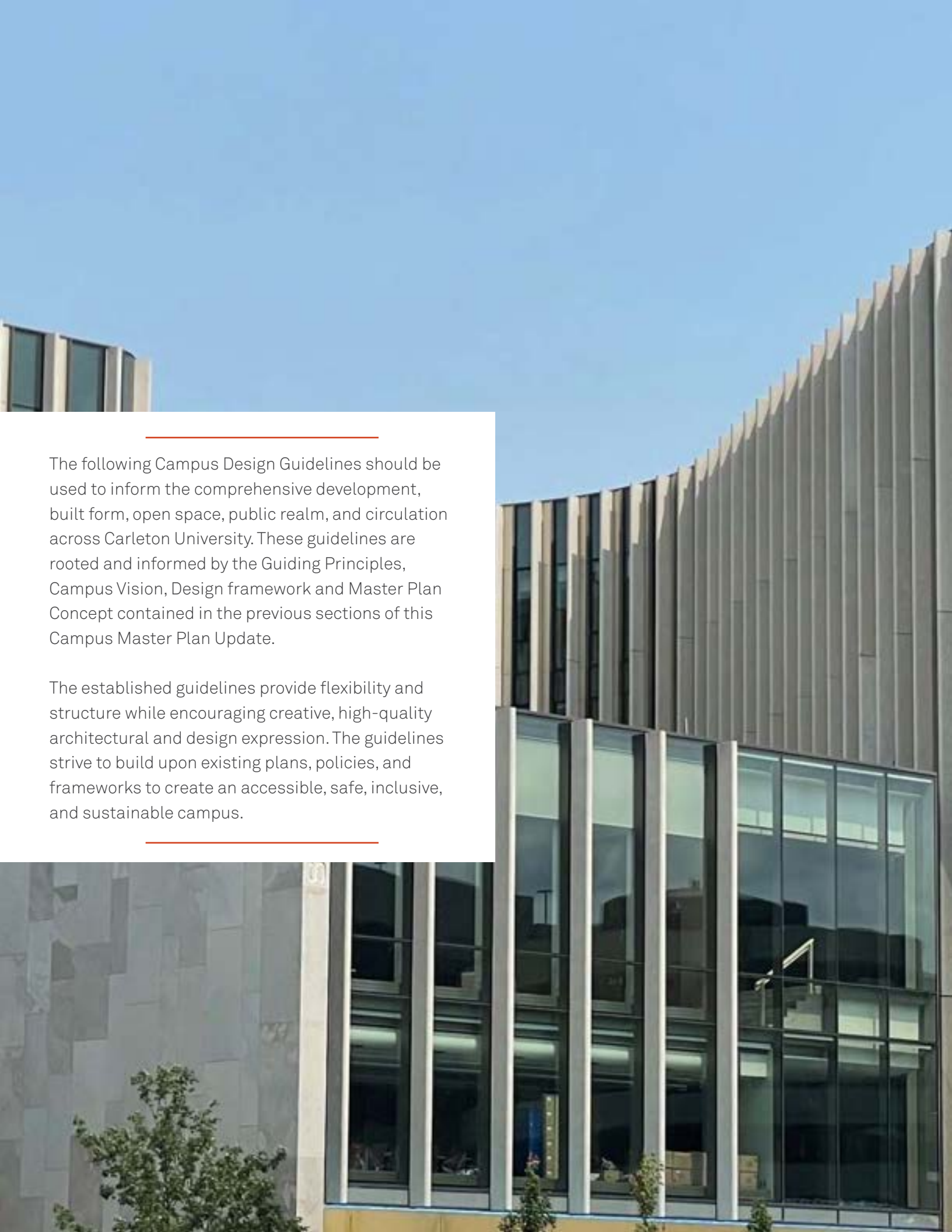
January 9, 2022



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The following Campus Design Guidelines should be used to inform the comprehensive development, built form, open space, public realm, and circulation across Carleton University. These guidelines are rooted and informed by the Guiding Principles, Campus Vision, Design framework and Master Plan Concept contained in the previous sections of this Campus Master Plan Update.

The established guidelines provide flexibility and structure while encouraging creative, high-quality architectural and design expression. The guidelines strive to build upon existing plans, policies, and frameworks to create an accessible, safe, inclusive, and sustainable campus.

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# 6.0 Campus Design Guidelines

- 6.1** Universal Design and Accessibility
- 6.2** Indigenous Placemaking and Placekeeping
- 6.3** Culture and Inclusion
- 6.4** Health, Wellness, and Campus Safety
- 6.5** Building Design, Massing, and Site Integration
- 6.6** Energy and Carbon
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- 6.11** Landscape Design, Open Spaces, and Natural Systems

# 6.1 Universal Design and Accessibility



For the visually impaired, incorporating specific tactile elements in architecture and urban design can vastly improve the navigability of a foreign space. (Paleisbrug, Benthem Crouwel Architects © Jannes Linders)

Universal Design ensures that the design and composition of interior and exterior built environments result in accessible, safe, and comfortable spaces for users of all ages and abilities. It focuses on ensuring spaces are equitable, inclusive and inviting to all users.

Existing and future development should strive to meet the following guidelines to the greatest extent possible. It is understood that at times Universal Design strategies may conflict with other priorities, such as cultural or significant natural features, or may be impractical due to site constraints. In these cases, further consultation with the campus community and accessibility consultants may be required.

Carleton University should work in stronger collaboration with the Paul Menton Centre for Students with Disability to ensure disability services on campus are prioritize. Additional support should be provided to Carleton’s Attendant Services Program, which offers free personal care services to students with physical disabilities living in residence.

Building on Carleton’s Coordinated Accessibility Strategy, the Universal Design and Accessibility guidelines intend to address the following:

- Ensure that a wide range of accessible design standards and guidelines are followed from the start of the development process and

throughout. This will assist in achieving an inclusive and universally accessible built environment.

- Meet and exceed minimum accessibility requirements of National and Provincial Building Codes, as well as the AODA, and follow best practices, recognizing that inclusive design goals, objectives and principles will inform the broader design of the Carleton campus.



Pathways should allow for unimpeded mobility through a site. (© Rick Hansen Foundation)



Vibrant, high-contrast pathways and tactile ground surface indicators can assist navigation within the interior of buildings. In the image above, a bold, orange feature ramp can accommodate mobility devices of various widths. (100 Broadview © Quadrangle)

- Address and incorporate future accessible design requirements that may be implemented at the Federal level to further achieve excellence in design and to support broader user groups and people with disabilities. This will aid Carleton in continuing to be a leading post-secondary institution in accessibility.

## General

- a. Create campus wide visual and physical connections between buildings, tunnels, and pathway systems.
- b. Integrate wayfinding and signage consistently and continuously into the landscape and open space design.
- c. Utilize principles of Universal Design throughout the campus.
- d. Use high quality, durable and smooth materials to ensure accessibility, comfort, and safety are maintained.
- e. Place wayfinding at intuitive locations to provide navigation ease in all conditions and seasons by implementing digital wayfinding platforms and developing/maintaining a robust maintenance plan for pathway clearance.
- f. Avoid creating grade changes that would require stairs or winding ramps.
- g. Improve connections and permeability to transit, parking, and active transportation opportunities.

## Exterior Environments

### Exterior Paths of Travel

- h.** Exterior paths should have a minimum clear width of 2100mm. Where high traffic is expected or at shared use pathways, this should be increased to 2500mm to ensure adequate space for pedestrians, cyclists, mobility aids, and strollers.
- i.** Pedestrian pathways should be firm, stable, and slip resistant with proper drainage considerations.
- j.** Gradual running slopes should not exceed 5% (1:20) and cross slopes should not exceed 2% (1:50).
- k.** As part of detailed ramp design, ensure the integration of any required landings, with suitable dimensions and at maximum intervals. Provision of other design features such as clear width surface, high colour/tonal contrasting strips, handrails, guards, and edge protection.
- l.** Provide an intuitive, direct, accessible route to key use areas and provide a logical, direct, and accessible path from parking, transit, and pathways to building entrances.
- m.** Ensure doors do not swing into paths of travel. Where this cannot be avoided, ensure that a cane detectable guard or other barrier is installed perpendicular to the wall containing the door.
- n.** Straight paths of travel are preferable to a winding, indirect path, as straight paths are easier to follow for people who are blind or have low vision.
- o.** In large open areas, both indoor and outdoor, consider using textured surfaces to differentiate paths of travel from adjacent areas.
- p.** Ensure a smooth transition is provided between sidewalk segments.
- q.** Where gratings are present in the path of travel, such as sewer catch basin covers or drainage grates, ensure that any openings are situated perpendicular to the path of travel. Openings in gratings shall be no wider than 13 mm.
- r.** For stair systems, provide closed risers, required riser/tread dimensions and handrails/guards. Ensure uniform riser height and tread depth throughout. Provision of high colour/tonal contrast horizontal marking strips (50 mm depth) is required, located at the leading edge and extending the full width of treads. Tactile Walking Surface Indicators (TWSI's) should be provided at the top landing of all exterior stair systems. Handrails should contain suitable grasping dimensions, appropriate handrail mounting height, use of colour contrast and clearances from mounting surfaces.
- s.** Curb ramps should integrate the provision of tactile walking surface indicators (TWSIs), with high colour / tonal contrast compared to the mounting surface, as a navigational aid for users with vision loss. Suitable clear width (2100mm minimum), transition areas at top and minimal slope should be provided to benefit users of mobility aids and people with vision loss.
- t.** Provide site furniture and amenities that highly contrast against surroundings and adjacent mounting surfaces, as well as for the identification of accessible rest areas.

### Landscaping

- u.** Avoid planting thorny and poisonous plants as well as those with large seed pods or fruit bearing trees bordering in public areas.
- v.** Ensure that tree limbs and overhead plantings that overhang pathways and accessible routes do not impede the clear headroom of 2100 mm.
- w.** Provide accessible rest areas with a range of seating options. Ensure to include a suitable mix of shelters at strategic and central locations for shade and protection from elements.
- x.** Utilize landscaping as a buffer between pedestrians and elements that are potential hazards.

### Accessible Parking & Passenger Loading Zones

- y.** Where a potential parking lot or parking structure is designed to serve multiple buildings or accessible entrances, distribute accessible parking spaces to provide users with options for more convenient parking locations.
- z.** Locate accessible parking spaces as close as possible to accessible route(s) and primary accessible entrances. Integrate information and directional signage to assist with locating designated parking spaces, connecting buildings or routes, and exit/entry points.
- aa.** Accessible parking spaces should be designed with suitable dimensions and clearly marked access aisles. Gently sloped curb ramps or level access should provide continuous accessible pedestrian routes, as required.
- ab.** Designated accessible parking spaces should have a clear path of travel to pathways and sidewalks.
- ac.** Provision of an accessible route, no greater than 30m distance from the accessible passenger loading zone leading to an accessible entrance of any adjacent facility.

- ad.** Access aisles must be provided alongside and parallel to the vehicle pull-up space at an accessible passenger loading zone.
- ae.** Access aisle dimensions must be a minimum of 2440 mm wide by 7400 mm long, with covered accessible rest areas located nearby.
- af.** Maintain overhead height clearance at a minimum of 3600 mm at any accessible passenger loading zone, as well as along vehicle access and egress route(s).
- ag.** Consider additional overhead height clearance of 4000 to 5000 mm high, where larger double-deck buses may be used at accessible passenger loading zones.

### Rest Areas

- ah.** Provide handrails along extended paths of travel for users with limited mobility.
- ai.** Provide rest areas at intervals along extended paths of travel. Ensure rest areas include a variety of seating types, as well as clear space for wheeled mobility devices.
- aj.** Seating areas adjacent to paths of travel should offer a mix of options to suit different user needs. Incorporate furnishing with shelter and shaded spaces to support a four-season climate.
- ak.** Avoid planting high allergen producing vegetation and trees in open and shared outdoor spaces.
- al.** Provide accessible shelters and rest areas at high-use accessible transit stops.

## Entrances

- am.** Main entrances should link to exterior accessible routes and should be step and transition free, excluding the provision of required accessible threshold transitions at doorways.
- an.** Ensure main entrances and other high-use entrance/exit doors provide ample clear width (950 to 1100 mm preferred, 860 mm minimum). Suitable hardware (lever or D-pull type) with minimal opening force required.
- ao.** Provide automatic or sliding doors at all main entrance circulation doors, where possible. Provide power operated doors if automatic doors are not feasible.
- ap.** Power door operator controls installed on the pull side of doors are to be located no more than 1500 mm beyond the door swing. Power door operators installed on the push side of doors should be located at least 600 mm from the edge of the door frame.
- aq.** A clear floor space of 900 mm by 1500 mm minimum should be provided adjacent to any power door operator control.
- ar.** Clear distance between two doors in a series, as part of an entrance vestibule should be 2500 mm. Clear floor space also provides suitable turning spaces for a wheeled mobility device and space for high levels of pedestrian traffic.
- as.** Provide suitable shelter or overhead canopies at all main entrances and/or where there is a high level of pedestrian use.
- at.** For fully glazed doors, sidelights, or adjacent window wells, provide a continuous opaque and visually contrasted strip, decal, or logo mounted at eye level between 1350 mm and 1500 mm high from the floor or ground level, with a minimum width of 50 mm.

- au.** Service animals should be welcomed at key venues and locations, including offices, recreation centres, sports venues and assembly areas, as well as the provision of exterior service animal relief areas, which are required to be located near a main entrance.

## Winter Maintenance

- av.** Design for weather protection by including covered accessible entrances at buildings to protect users and visitors from elements.
- aw.** Provide continuous street and pathway lighting to provide a high level of illumination and to mitigate shorter daylight hours.
- ax.** Protect accessible routes, ramps, stairs, and sidewalks from ice and snow.
- ay.** Include consideration of new snow removal technology, particularly at curb cuts and ramps, which tend to collect snow and ice.
- az.** Design sidewalks and pathways to support the storage and removal of snow outside paths of travel.
- ba.** Align new developments to maximize sunlight penetration into buildings and public spaces, as well as provide protection from prevailing winds.
- bb.** Ensure overall ground design prevents any excess glare throughout interior spaces.
- bc.** Ensure building roofs are designed to prevent falling snow, ice, and water from accumulating on accessible entrances, pathways, and surfaces in the path of travel.

## Interior Environments

### Interior Circulation

- bd.** Where ramps are required, ensure maximum running slope ratio between 1:25 (4%) and 1:20 (5%), with cross-slope at a maximum of 2%. As part of detailed design, ensure the integration of any required landings, with suitable dimensions and at maximum intervals. Provision of other design features such as clear width, surface, high colour/tonal contrasting strips, handrails, guards, and edge protection.
- be.** Provide closed risers for stair systems, as well as required riser/tread dimensions and handrails/guards. Ensure uniform riser height and tread depth throughout. Provision of high colour/tonal contrast horizontal marking strips, located at the leading edge and extending the full width of treads is required. TWSI's to be provided at the top landing of all stair systems.
- bf.** Handrails should contain suitable grasping dimension, handrail mounting height, use of colour contrast and clearances from mounting surfaces.

### Lighting

- bg.** Provide even light distribution at ground surfaces and at floor level for all occupied floor areas, including exterior and interior accessible routes, and at the leading edge of stairs and ramps.
- bh.** Ensure lighting levels of at least 100 lx are present at the ground level and on ground surfaces, along pedestrian pathways and accessible routes.
- bi.** Provide continuous lighting to mitigate dark or shadowed areas. Avoid using lighting fixtures or features that cause glare or additional shadowing.
- bj.** Avoid pools of light, areas of shadow, and any reflective glare from surfaces where possible.

### Additional Considerations

- bk.** Environments should be designed to minimize distracting and/or disorienting sound such as echoes while still allowing for necessary auditory cues that are useful for wayfinding.
- bl.** Ensure that the types of auditory cues provided are consistently implemented and do not result in excessive noise.

## Facility Systems and Communications

### Operating Controls & Building Systems

- bm.** All operating controls intended for public use are to be mounted at an accessible height, between 900-1100 mm from the finished floor.
- bn.** Provide occupancy sensors for lighting systems at frequently used locations and spaces such as meeting rooms, washrooms, and classrooms, where possible.
- bo.** At doorways, where there is secured access to buildings, provide proximity readers with the following features:
  - Audible indicator when activated.
  - Visual indicator when activated.
  - Where power door operators and controls are provided, locate the secure access in close proximity, or sync the two systems to ensure full accessibility.
- bp.** Provide assistive listening systems and/or devices for users with hearing loss.



## Emergency Planning (Fire & Life Safety Systems)

- bq.** An emergency plan should be in place for the evacuation or sheltering of individuals with mobility and wheeled mobility devices, and/or for individuals who cannot evacuate buildings or shelter in place independently.
- br.** Clearly identify locations for accessible areas of refuge with accessible signage and use of pictograms, with large print, tactile, and braille features.
- bs.** Provide areas of refuge at central and strategic locations for floor levels below or above grade that are suitably sized, away from any door swing, and located as part of an accessible route.
- bt.** Ensure the design of areas of refuge comply with applicable building and fire code requirements. Accessible areas of refuge are typically adjacent to firefighter elevators and/or at the exit stair locations with landings large enough to accommodate mobility devices. A 2500 mm turning space is ideal.
- bu.** Equip all areas of refuge with an accessible, two-way communication system, including identification and instructional signage, audible and visual indicators, as well as accessible operating controls, with hands-free speaker communication and induction loop system integration.
- bv.** Include visual elements in fire alarms such as strobes, throughout interior areas and at all common use areas, washrooms, corridors, and tunnels etc.
- bw.** Emergency backup power should be provided for all power door operators and for the lighting of key interior spaces.
- bx.** Ensure accessible emergency exiting signage is visible and placed in logical locations.
- by.** All accessible exiting and egress points should lead to a level muster point.

## Signage & Wayfinding

### Navigational Signage

- bz.** Signage should be placed in consistent locations that are highly visible and should identify the nearest accessible path, washroom, and building entrances (or accessible entrance if separate from the main entrance).
- ca.** Signage that identifies the accessible entrance of a building should be obvious and visible from a distance.
- cb.** Where possible, informational signage for buildings should list what is contained within the building i.e., faculties, offices, or food options.

### Building Signage

- cc.** Signage placed on buildings should be visible from a distance.
- cd.** Signage should be illuminated and contrasting with mounting surfaces. Building signage helps in signaling the intended entry point(s) from the exterior, as well as from the tunnel network.

### Room Signage

- ce.** Room signage should be consistently placed on the latch side of doors and should include both tactile characters and braille. Always avoid placing tactile and braille signage on doors.
- cf.** Room signage should be mounted at a consistent height throughout the campus.

### Wayfinding

- cg.** Utilize auditory and olfactory cues as they promote health and wellbeing, while contributing to enhanced wayfinding and inclusion for diverse users of the space.
- ch.** Provide high colour contrast for key elements of the built environment for enhanced wayfinding, overall visibility, as well as usability for persons with vision loss and cognitive impairments.



The Exhibition, 'In the Forest', educated visitors on topics of biodiversity, moors and forest as CO2 binders, formation of groundwater, sustainable use of wood and importance of natural forestry. (Berlin, hochC Landscape Architects © Winkelmeier)

## 6.2 Indigenous Placemaking and Placekeeping



The Awen' Gathering Place was designed by architects and landscape architects of Brook McIlroy's Indigenous Design Studio in collaboration with renowned educator, artist, and poet Dr. Duke Redbird of the Saugeen First Nation. The concept, based on the teachings of Dr. Redbird, is a representation of the layers of the food forest, with each layer linked to one of the Seven Ancestor Teachings. (Collingwood's Awen' Indigenous Gathering Place © Brook McIlroy)

Carleton University is located on the traditional territory of the Algonquin Anishinabeg Nation. The Campus Master Plan Update intends to weave Indigenous narratives, imagery, languages, histories, and cultures throughout the campus' buildings and open spaces.

The objective of placekeeping is to create special gathering places, focal points, and landmarks that promote connectivity, sociability and comfort while strengthening one's sense of attachment to place. Indigenous placekeeping is specific to the histories, narratives, cultures, ontologies and pedagogies

of Indigenous Peoples and communities. Through elevating and bringing into focus Indigenous ways of knowing and doing, and through the teachings of Indigenous knowledge keepers and practitioners, we may begin to create more inclusive spaces and continue the work of reconciliation.

Placekeeping establishes connections to the land and its inherent stories, languages, and culture. It works to keep the cultural memories associated with a locale alive, while supporting the ability of local people to maintain their way of life. Indigenous design and placekeeping are important tools for

sharing and celebrating diverse Indigenous cultures, expressions and ways of life. These practices acknowledge connections to the land and create unique, iconic spaces that can facilitate mutually respectful relationships between Indigenous and non-Indigenous people.

Indigenous placemaking at the university should include a co-design process with local Indigenous communities and groups, including though not limited to, Carleton's Strategic Indigenous Initiatives Committee (CUSIIC). It is critical to engage and consult Indigenous peoples when designing elements that incorporate Indigenous imagery, languages, and processes. Co-design processes (also known as co-operative or participatory design) are a form of engagement that involve groups in the design process to ensure that the final outcome is representative of the communities' wishes. Co-design processes with Indigenous communities provide opportunities for employment, internships, and training of Indigenous peoples in the placemaking professions.

Carleton is situated on unceded Algonquin Anishinabeg territory. Therefore, the spaces that are created should reflect, respect, and celebrate Algonquin histories, stories and cultures and the specific connections between experiential, land-based learning and Indigenous knowledge and world views. Further to this, recognizing that universities are spaces in which many diverse people come together, including Indigenous people from different Nations and cultures, creating environments for Indigenous people to get to know one another is a critical part of fostering community and support for Indigenous learners.



Incorporating Indigenous placemaking elements that tell stories and act as campus wayfinding cues (Toronto, Ontario; © Brook McIlroy)

The following guidelines intend to be a launching point for further Indigenous engagement at Carleton University. It is important that Indigenous community members are actively consulted with for any Indigenous related projects and/or development on Carleton University. These guidelines build upon existing frameworks the Carleton has established in working with Indigenous communities, including the Kinàmàgawin (Carleton's Indigenous Strategy) and the OSMP.

## General

- a. Foster a campus culture that understands, acknowledges, and respects connections to the place, the land, and the Indigenous Nations and People of the area, past and present.
- b. Ensure placemaking features and structures are representative of Algonquin Anishinabeg culture and ensure that there is meaningful inclusion and representative of other First Nations, Inuit and Metis Peoples from across Turtle Island.
- c. Embrace Indigenous-led design and placekeeping opportunities as a means of contemporary expression. Maximize opportunities for Indigenous involvement at every level (design, labour, craft, entrepreneurship, art, cultural programming). Ensure that collaborators are appropriately recognized and credited.
- d. Design welcoming spaces that embody Indigenous worldviews, values and histories.
- e. Maximize opportunities for Indigenous involvement at every level of campus development, including design, labour, craft, entrepreneurship, art, and cultural programming.
- f. Include traditional building practices, artisanship, and craft while embracing contemporary technologies. Use of natural, local and recycled materials should be encouraged.
- g. Avoid locating placemaking spaces in isolated areas where visibility is low to increase awareness and use of placemaking elements.
- h. Consider themes for buildings and open spaces that express the location, natural features, and the Indigenous identity, history, cultural characteristics, stories and practices specific to the Algonquin Anishinabeg traditional territory, land in which Carleton University is located upon, as well as the greater histories of Indigenous Peoples across Turtle Island.
- i. Accommodate flexible use over the years, seasons and times of day to respond to space requirements and needs.
- j. Placekeeping elements may be integrated into hardscaped areas and functional elements of the streetscape such as transit shelters, planter walls and tree planting grates. These may include inlaid poetry, text, murals, imagery or unique painting motifs, or distinctive paving patterns.
- k. Indigenous placekeeping should be integrated into wayfinding elements, such as language, imagery and symbolism. Consult with and give recognition to local Knowledge Keepers who speak the language in this process.
- l. Design with Indigenous flora, fauna and natural medicines in mind when considering future landscaping.



Collection of images from Algonquin College, Centre for Innovation and Learning. By drawing strong connections between the land and built form, and by imbuing cultural references through art and iconography, the design welcomes Indigenous and non-Indigenous students into an inclusive and supportive learning environment. (Ottawa, Ontario; Brook McIlroy © Tom Ridout)

## Environmental Stewardship

- m. Articulate the intrinsic value of nature in interpretive signage, storytelling or themes. Embed messaging that encourages environmental responsibility and relationship to the land.
- n. Communicate Carleton's proximity to the Rideau River and Canal by weaving opportunities to learn about environmental and natural systems.
- o. Model environmental stewardship and sustainability for other communities at Carleton University.
- v. Interpretive or artistic expressions in the built environment should relate to the natural world and natural systems such as earth, trees, water systems, fire, and air.
- w. Awareness and opportunities to learn about Algonquin Anishinabeg history and culture can be achieved through signage, markers and other Indigenous placemaking opportunities.
- x. Ensure the interpretive information on the history of the area has been consulted on with Indigenous community members and is clearly communicated.

## Safety, Accessibility, and Inclusion

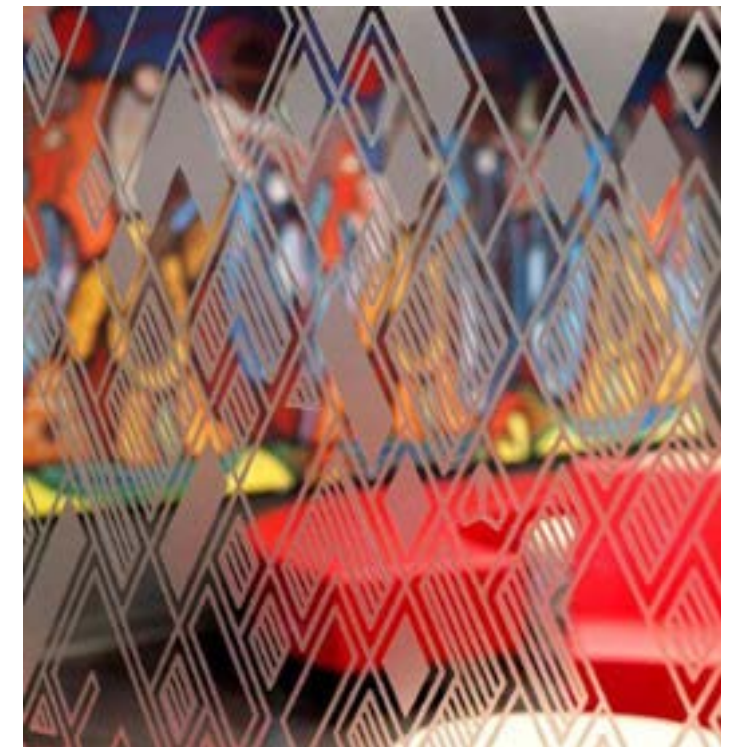
- p. Ensure that all community members can fully experience placemaking spaces and features, regardless of age, ability, and means.
- q. Strive to create accessible and inclusive places that reveal the deep culture of Indigenous communities and their relationships to the land.
- r. Prioritize the safety, accessibility, and inclusion of Indigenous peoples and perspectives in Indigenous placekeeping features on campus.
- s. Connect placekeeping features and spaces with their surroundings and with the public realm.
- t. Locate placekeeping spaces and features at locations where there are supporting programs and activities nearby to activate the space and provide stewardship.
- u. Cluster Indigenous design features and elements in close proximity to each other to create activity nodes, supported by university-led programming to foster community building.



Placekeeping elements should be well integrated into the Carleton University fabric and interwoven into the Green Ribbon as a standalone element embedded into other structures. (Humber College Cultural Markers, Toronto, Brook McIlroy; ©Tom Ridout)

## Learning, Engagement and Relationship Building

- y. Ensure engagement with Indigenous communities occurs early on in the design process and continues throughout to avoid cultural tokenism and appropriation, and to display authentic and genuine engagement.
- z. Build and foster authentic relationships with local Indigenous communities to allow for more meaningful engagement and to work towards building trust with Indigenous communities.
- aa. Ensure interpretive information on the history of the area is borne through engagement with Indigenous communities, specifically the Algonquin Anishinabeg Nations.
- ab. Indigenous design must be done in consultation with, under supervision by, and/or directly by Indigenous peoples, communities, Elders, knowledge-holders and practitioners.
- ac. Schedule frequent engagement sessions and conversations with local Indigenous Peoples, representatives and communities including the Pikwakanagan, Tungasuvvingat Inuit and the Kitigan Zinbi, and groups such as Carleton University's Strategic Indigenous Initiatives Committee, as campus development occurs.
- ad. Use Indigenous design to provide opportunities for social interaction and active and healthy lifestyles, as well to teach Indigenous and non-Indigenous people about the cultures and customs of the Anishinaabeg Algonquin Nation and other Indigenous Nations across Turtle Island.
- ae. In projects developed for and with Indigenous Peoples, establish programming and engagement strategies to promote use of the Indigenous spaces. Provide opportunities to learn about Indigenous cultures, histories, and the importance of the natural environment within these spaces.
- af. Provide appropriate services and programming at Carleton University to support the existing and growing Indigenous population.
- ag. Provide educational material on campus to better inform the campus community of Indigenous cultures and histories and how they relate to Carleton University.



Glass panels dividing the office are decorated with custom geometric decals portraying the story of the Thunderbird. This is the origin of the name Waakebiness. In the Anishinaabemowin language, it means Radiant Thunderbird from the South. (Waakebiness-Bryce Institute for Indigenous Health, Dalla Lana School of Public Health, University of Toronto; Brook McIlroy © David Whittaker)

## 6.3 Culture and Inclusion



(© Carleton University)

Carleton University is committed to fostering a campus that celebrates and supports the diverse cultures, ethnicities, and peoples at the university. The university aims to create a campus community that is welcoming, equitable, safe, and inclusive for people of all backgrounds, faiths, sexualities, genders, and abilities. As part of the university's ongoing work towards developing services and programs to meet the needs of the evolving population, an action plan and accessibility strategy were created. The Equity Diversity and Inclusion (EDI) Action Plan outlines the university's commitments to cultivating, encouraging, and supporting differences

on campus. The Coordinated Accessibility Strategy (2021-2022), creates a platform for Carleton University to be a catalyst for creating a more accessible and inclusive society.

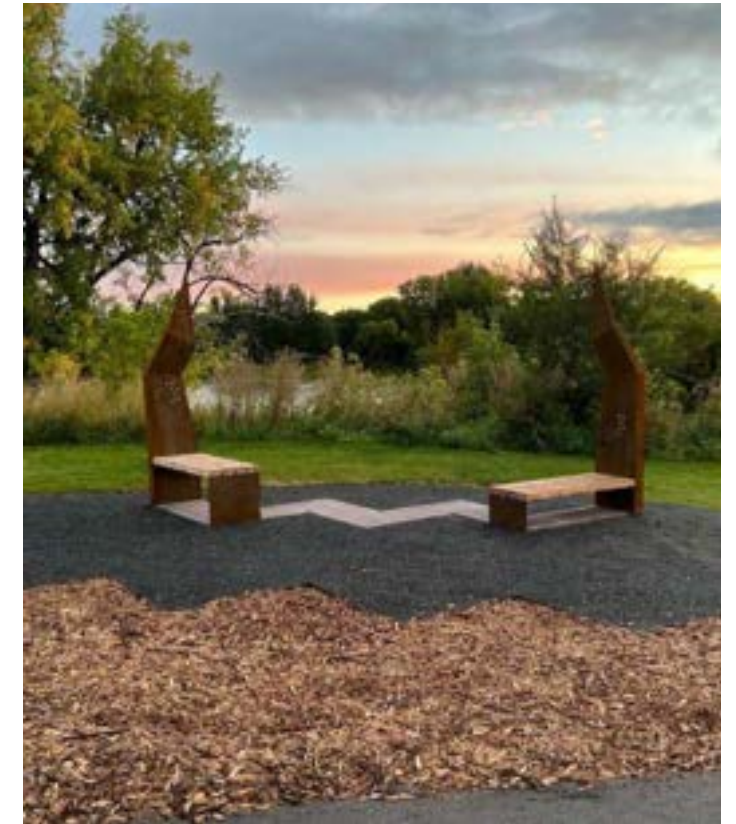
The Campus Master Plan Update acknowledges the significant role that the built environment plays in supporting inclusivity on campus. The plan details components relating to barrier free access, legible and accessible wayfinding, displaying diverse forms of art, and creating spaces on campus that meet the needs of the campus community.



International flags on display at Carleton University's Nideyinàn. (© Brook McLroy)

### General

- a. Ensure that the entire campus community can fully participate and feel welcome on campus, regardless of age, ability, and means.
- b. Ensure the needs of diverse equity-seeking groups and individuals are considered in the design of campus environments.
- c. Use multilingual signage to create an inclusive wayfinding experience that allows users to experience the environment in their preferred language. Ensure wayfinding and signage is inclusive and accessible for people of all abilities.
- d. Ensure that future development on Carleton University is informed and supported by its current and projected diverse population i.e., international students and Indigenous population.
- e. Incorporate and enhance visual representation of cultures and underrepresented groups across the campus through artwork, murals, and multi-language wayfinding. This will also promote Carleton University's brand as one that values EDI.
- f. Ensure diverse voices are reflected in buildings, outdoor spaces, landscapes, and the naming of spaces.



Bizindaadiwag is part of the Speech Act Project and aims to advance the knowledge of Indigenous language, and encourages people to listen and learn in the context of the land. (Point Douglas's Michaëlle Jean Park, Winnipeg © Ryan Gorrie and Suzy Melo)



The implementation of gender-neutral washrooms has become increasingly prevalent. Gender-neutral washroom designs have been successful in maintaining the privacy and safety of the user, and reduces discomfort. (Rhode Island School of Design Student Center; WORKac © Bruce Damonte)

### Inclusive and Accessible Buildings and Spaces

- g.** Provide multi-purpose and safe places on and across campus that respond to the diverse cultural needs through welcoming spaces, reflection spaces, prayer rooms and ceremonial spaces.
- h.** Provide diverse food offerings on campus that is reflective of the campus community i.e., increasing international student population.
- i.** Ensure spaces on campus are flexible, accessible, welcoming and can accommodate a wide range of uses.
- j.** Provide gender-neutral and accessible bathrooms and change rooms in every building across campus.
- k.** Ensure provisions for privacy, security, and safety are equally available for all visitors, staff, faculty, and students.
- l.** Ensure all disabilities are considered in the design of spaces i.e., hearing, visual and physical impairments.

### Programs and Services

- m.** Ensure that Carleton University's programs and facilities continue to adapt to meet the needs of all cultures and peoples on campus.
- n.** Engage and consult with traditionally underrepresented students, staff and faculty to better understand their needs and wants.
- o.** Increase strategic outreach to, and recruitment of, students from historically underrepresented communities.
- p.** Ensure that hiring practices and policies align with EDI goals and directions and ensure that senior positions accurately reflect the diversity on campus.
- q.** Improve data collection methods to enhance the accuracy of demographic statistics to better identify and address existing servicing and programming gaps on campus.
- r.** Accommodate flexible use of space over time to actively support current and future EDI programming.



The Rainbow Butterfly, Red Dress Warming Hut is dedicated to the lives and memories of Indigenous women, girls and Two-Spirit People. The structures flowing red form and iridescent interior commemorates the experiences and memories of victims and survivors while humanizing their resiliency in an uplifting way. (© Brook McIlroy)

### Inspire Learning and Connecting

- s.** Develop resources with and for students, faculty, and staff to increase competencies and knowledge regarding EDI.
- t.** Ensure EDI initiatives follow the frameworks outlined in the EDI Action Plan and the Coordinated Accessibility Plan.
- u.** Highlight Carleton University's efforts to promote EDI on campus.
- v.** Share and promote EDI resources and publish and showcase reports on EDI initiatives.
- w.** Increase formal and informal opportunities for students, staff and faculty to participate in intercultural and intracultural learning on campus.

# 6.4 Health, Wellness, and Campus Safety



Reflective surfaces can be designed to highlight architectural and natural beauty of its surroundings. Interventions such as the urban mirror can be used as a tool to transform traditional outdoor spaces into meeting points to support culture and wellbeing. (Urban Mirror © Metalco)

Health, wellness and campus safety are key factors in the long-term success of Carleton University. They should be viewed with a holistic lens and consider the social, physical, mental, emotional and spiritual wellbeing of the campus community. This approach is rooted in the understanding that all these elements affect one's overall wellbeing.

Supporting and promoting a culture of wellbeing for those who work, live, play, and learn at Carleton University contributes to a happy and productive campus community for all. Providing a safe and secure campus environment encourages students, faculty and staff to spend more time on campus, beyond work and education.

Carleton University developed a Student Mental Health Framework (SMHF) in 2016. This framework builds a holistic, campus wide approach to mental health and wellbeing and contains 38 recommendations under six areas of focus.

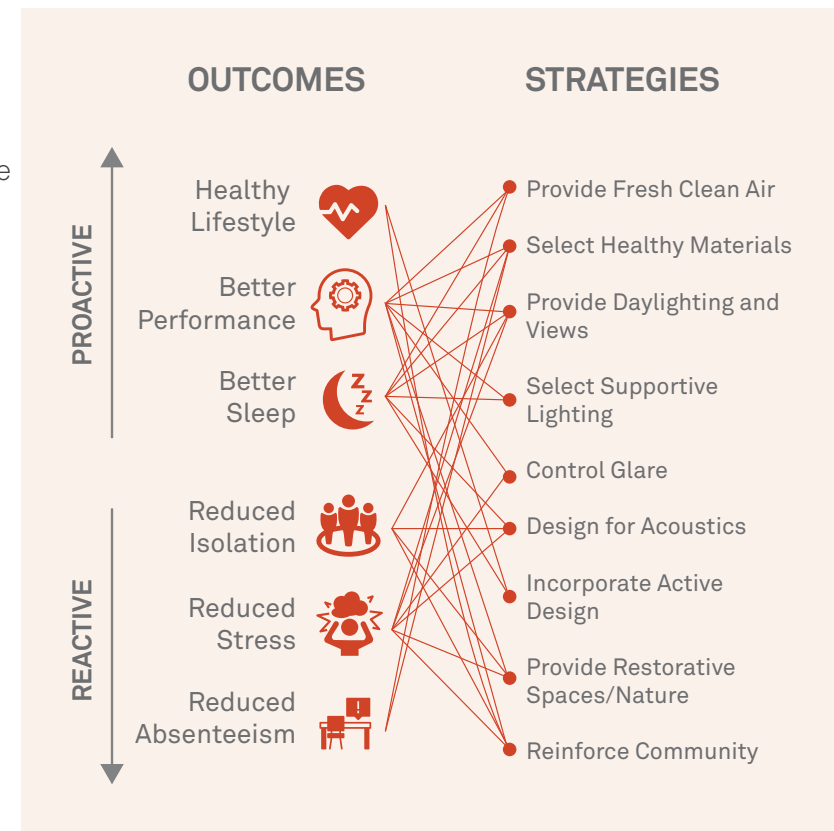
The design decisions for this Campus Master Plan Update will assist in reinforcing health, wellness, and campus safety as a priority on campus and looks to the SMHF for specific directions for these guidelines.

## General

- a. Buildings, open spaces and streetscapes on campus should promote and support health and wellness through design, campus greening, and lighting that illuminates the campus setting.
- b. Buildings should be integrated with outdoor green space to enable natural flow from the interior of buildings to the exterior. Enhancing interior and exterior connections improves lighting and views inside buildings and creates a flow into outdoor spaces, promoting wellbeing through connections to nature.
- c. Enhance connections to the waterfront and existing green space on campus. Additionally, incorporate native planting on campus where feasible.
- d. Create supportive, comfortable and inclusive spaces and conditions on campus for students to collaborate, engage and relax. Provide a range of environments with varied acoustic qualities-quiet to active.
- e. Additional support should be provided to Carleton's existing Attendant Services Program and the Paul Menton Centre (PMC) to enhance disability services on campus.
- f. Increase and enhance health and wellness services on campus. Carleton should embed opportunities to teach students about the importance of sleep, proper nutrition, movement throughout the day, and connection with others in building lifelong healthy habits.
- g. Ensure that health and wellness services are located in prominent and easily accessible locations.
- h. Ensure food offerings and services on campus promote and support health and wellness. Include foods that nurture mental and physical health and provide spaces on campus for communal cooking and nutritional education.

## Education and Training

- f. Work collaboratively with students, the broader campus community and campus partners to establish health and wellness policies and programs that work to foster and increase health and wellness on campus and beyond. Increase discussion around mental health within faculties and the broader campus community to aid in reducing stigma associated with mental health.



Research conducted by VMDO Architects on various strategies to promote proactive and reactive health outcomes. Strategies will vary based by building type, location, and occupancy. Diagram by Brook McIlroy.



Rendering of a potential Wellness Hub at Carleton University.  
©Perkins+Will



Public spaces should address community safety concerns, preserve the canopy of mature trees, contain pedestrian-scaled amenities and have active year-round use. (James Canning Gardens; Toronto, Canada; Janet Rosenberg & Studio © Michael Muraz)

- j. Provide educational programs, training and services for staff and faculty with an emphasis on understanding the intersections of health and wellness and equipping Carleton's faculty with tools to support the student population.

### Campus Safety and Wellbeing

- k. All buildings and open spaces should be designed to adhere to the principles of Crime Prevention Through Environmental Design (CPTED).
- l. Buildings and open spaces should be designed to create safe and animated spaces for year-round use.
- m. Strategically update, evaluate, and survey existing locations of red emergency and assistance phones throughout the campus.
- n. Ensure the placement of emergency phones have unobstructed sightlines from various points across the area. Emergency call stations should be vandal-resistant and coastings designed to resist extreme weather conditions and provide direct communication to first responders. These can extend security in parking lots, walkways, and open spaces on campus.
- o. Increase awareness of Carleton's Emergency Notification System (ENS) and work to establish an app that can further promote campus safety and that offers individuals the option to upload and report campus concerns or damages.
- p. Increase awareness of Carleton's emergency response team and establish additional measures to ensure the team is well supported.
- q. Provide opportunities for emergency housing on campus for Carleton community members. Further studies and consultations will be required to determine strategic locations and required facilities.

- r. Clear sightlines should be maintained to allow people to see and be seen. Ensure that future designs do not create blind corners, bends, grade changes, and other elements which may obscure views.
- s. Transparent materials should be used in potential parking garages, stairwells, and other isolated areas where feasible to improve visibility.
- t. Active uses such as social spaces, retail uses, and common areas are encouraged to be located along streets to provide opportunities for informal surveillance. Glazing along the ground floor of these spaces is encouraged to provide increased visibility.
- u. Building entrances should be well lit, defined, and visible from the nearby streets, paths, and open spaces to ensure ease of access in times of crisis.
- v. Ensure building uses such as common areas, entrances, pedestrian pathways and laneways provide clear visibility onto the surrounding areas. Pathways should create unobstructed sight lines and direct visual connections between buildings and open areas on campus.
- w. Provide adequate pedestrian-scaled lighting on all pedestrian pathways, open spaces, and bicycle and vehicle parking areas on campus to promote pedestrian safety and comfort.
- x. Light fixtures should be easily replaceable without the need for mechanical skyjacks.
- y. Access to building rooftops should be controlled, secured, and easy for maintenance staff. Publicly accessible rooftops should be designed with a combination of set-back guardrails, walls, and planted areas to prevent falls.



Transparent and animated facades highlight uses within buildings, increase campus safety, and improve wayfinding. (University of British Columbia Bookstore, Vancouver, Office Of Mcfarlane Biggar Architects + Designers Inc. ©Ema Peter)



## 6.5 Building Design, Massing, and Site Integration



ECHO at Technical University of Delft was created as a future-proof, multi-functional and flexible inter-faculty building. Echo is centered on the adaptability and wellbeing of the user, programmed with a series of agile spaces that invite students and faculty to learn, collaborate and co-create. The building also harvests and produces more energy than it consumes. (Echo Energy-Generating Interfaculty Teaching Building, Delft, Netherlands, UNStudio © Plompvozes)

Excellence in building design and site integration will enhance Carleton's campus identity and contribute to a high quality, accessible, animated, and sustainable campus environment. Building design and massing support the establishment of a mixed-use and accessible campus that promotes active forms of mobility and living and that elevates the mental and physical wellbeing of the campus community.

Proposed capital projects and physical plans should be executed at the highest possible design merit and should respect Carleton University's unique

physical character and surroundings. To encourage a connected campus, the university should continue to enhance the connection and relationship between the surrounding neighbourhood communities from Confederation Heights, Brewer Park, Dow's Lake, and Dominion Arboretum.

Buildings will continue to play a critical role in providing a mix of uses to enhance and promote an active, diverse, and tight knit campus community. The following guidelines intend to promote a healthy dialogue for buildings, landscape, and development of the campus.

### General

- a. The massing, scale, and shape of campus buildings should be compatible with adjacent buildings, land uses and contribute to a comfortable pedestrian experience on streets, pedestrian connections, and open spaces.
- b. Buildings should have an active and transparent ground floor to accommodate a flexibility of uses and create a synergy between the interior and exterior. Buildings should be tightly knit and frame green spaces to promote safety, weather protection, access to nature and an active public realm.
- c. Buildings should contain appropriate connections and circulation to outdoor spaces, natural settings (ie., Rideau River), nearby buildings, and transportation networks such as the LRT, bus routes and the tunnel system to promote active transportation and enhance campus integration.
- d. Buildings should be future proofed to maximize whole life value and to support campus programming and services.
- e. New buildings should be designed with contemporary building practices, and compatibility with the existing built form should be achieved through sensitive building placement, appropriate massing, and architectural excellence.
- f. Older buildings with historical significance that have unique materiality or features should be retained, conserved, and upgraded with identical elements as much as possible. Significant architectural features should be repaired rather than replaced where possible. Buildings with historical significance should also be renovated based on prior research related to the original design and construction method.
- g. The design of campus buildings should support and enhance the quality of the public realm. This can be done through the design and framing of green spaces, creating a compact campus, and providing flexible outdoor furnishings in open spaces throughout the campus.
- h. Building entrances should have clear and prominent architectural expressions to provide orientation and enhance the campus' identity.
- i. Employ on-site stormwater management systems to mitigate run-off and adapt for climate resiliency. The conveyance of water from rooftops to grade should be outlined in the rooftop design, especially where opportunities exist to connect to the Green Ribbon and overall stormwater management system.



A passive-first design approach takes full advantage of the site while reducing energy consumption. The sun, wind, and ecosystem can influence everything from the initial planning decisions to the building details. (Stanford University School of Medicine Center for Academic Medicine; HOK © Alan Karchmer)

## Building Materials and Façade Design

- j. Life cycle costs should be optimized using durable, low maintenance materials and finishes.
- k. Roofing materials should be selected for their low environmental impact, such as low embodied carbon, high emissivity, and durable components.
- l. Rooftop mechanical penthouses should be architecturally screened, fully enclosed, or integrated into the design of the overall building.
- m. Building materials should be complementary to the character of the area in which a building is located. Materials should promote quality, durability, sustainability, and permanence.
- n. High-quality façade materials are encouraged to promote visual diversity in texture and colour and to reduce maintenance.
- o. Long buildings should be articulated through design elements including recesses, projections, and the placement of doors and windows to break up the length of the façade and bulk of the building.
- p. Potential parking garages and/or structures should contain sustainable facades and explore the opportunity to integrate green roofs and/or multi-purpose facilities at grade, or on rooftops.
- q. Buildings should employ best practices in bird-friendly design, including bird-friendly glazing and site lighting practices.



Mass timber building constructed at Oregon State University, Corvallis, USA (Oregon Forest Science Complex, Michael Green Architecture; ©Josh Partee)



Building articulation and design assists in providing more natural daylight into the building. This also creates a strong urban edge and establishes a visual proportion, scale, and relationship to the street. (Laboratory Research Centre, Winnipeg, Number TEN Architectural Group © Stationpoint Photographic)

(TU Delft, Echo Energy-Generating Inter-faculty Teaching Building / UNStudio © Eva Bloem)



- r. When feasible, apply Ottawa's Bird-Safe Design Guidelines.
- s. Exterior lighting fixtures should be Dark Sky compliant. Rooftop and exterior facade architectural illumination should be directed downward and turned off between the hours of 10:00 pm and 6:00am.
- t. Building façades fronting onto street edges, pedestrian pathways or open spaces should reinforce pedestrian-scaled design and feature generous glazing with bird-friendly treatments and façade articulation that frames the space. This will establish a connection between the building's interior and exterior, provide day lighting, and promote safety.



Buildings framing green spaces should have generous ground floor setbacks filled with native planting and vegetation to create a comfortable micro-climate for pedestrians. (Oregon Forest Science Complex, Michael Green Architecture © Josh Partee)

### Building Heights

Existing buildings on Carleton University range in height from 2 to 11 storeys, apart from Dunton tower at 22-storeys. Future development is encouraged to maintain the existing mid-rise character and pedestrian scale of the campus.

- u. Buildings should appropriately transition to adjacent areas to ensure access to light, views, and privacy. This can be accomplished using landscape buffers and design interventions including setbacks and stepbacks, amongst others.
- v. Buildings exceeding 3-storeys should have shaped upper storeys, using stepbacks and terraces to emphasize lower portions of buildings and reduce scale at the pedestrian level.
- w. Position taller buildings at prominent locations to form view termini and to aid in wayfinding and landmarking.

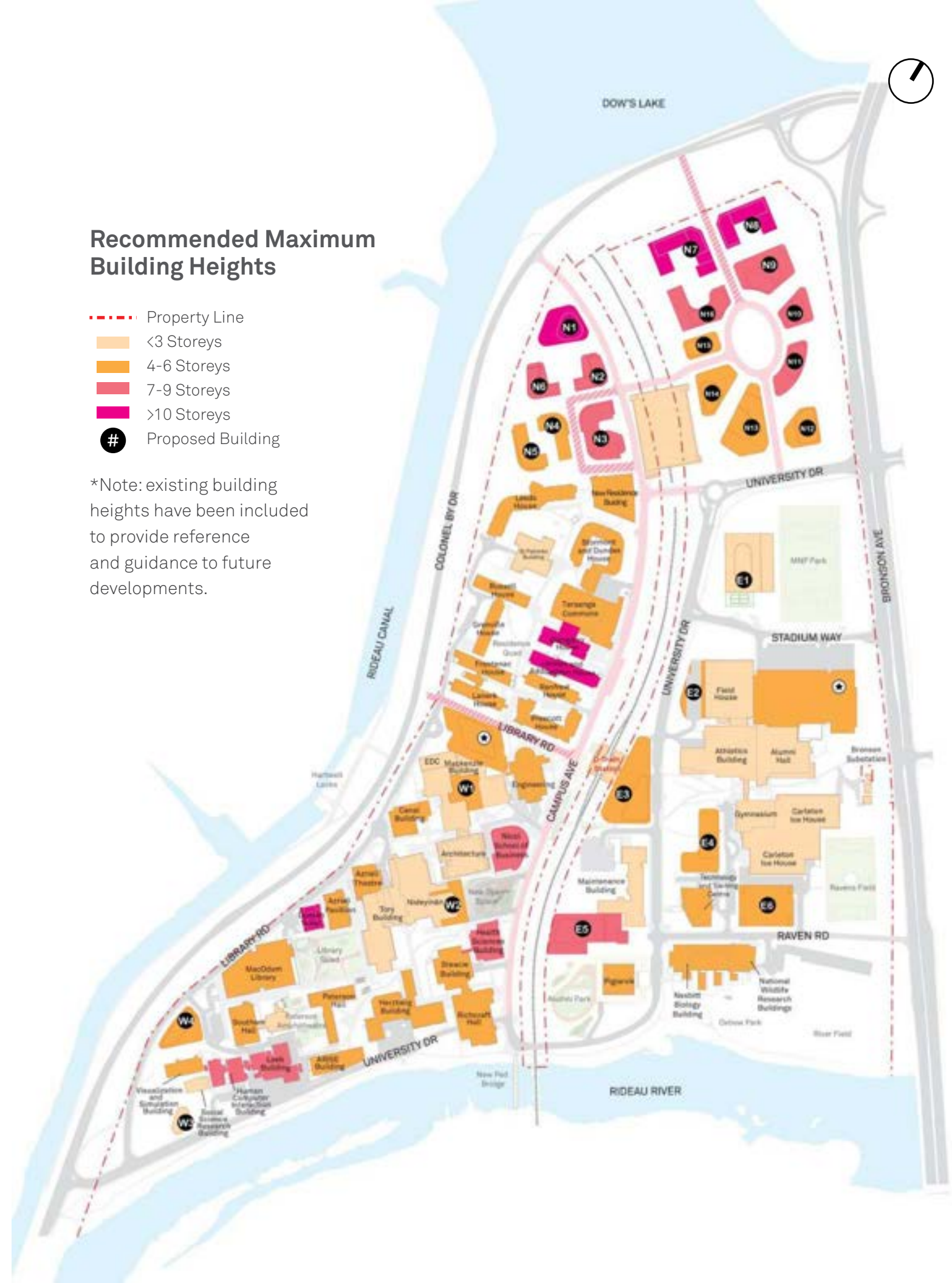


Nicol Building at Carleton University. (Hariri Pontarini Architects © Brook McIlroy)

### Recommended Maximum Building Heights

- Property Line
- Light Orange <3 Storeys
- Orange 4-6 Storeys
- Red 7-9 Storeys
- Dark Red >10 Storeys
- # Proposed Building

\*Note: existing building heights have been included to provide reference and guidance to future developments.



- x. Building heights should create appropriate built form, landscape, and natural area transitions to open spaces along the Rideau River, Rideau Canal and buildings located along Library Road, University Drive, and Raven Road.
- y. A minimum floor-to-floor height of 3.0-3.5 metres should be employed for new residential buildings above grade to accommodate flexible uses.
- z. A minimum floor-to-floor height of 4.0 to 4.5 metres should be employed for new academic and ancillary buildings above grade.
- aa. Developments that exceed mid-rise form would be subject to detailed studies with respect to implications of sunlight, access, shadow impacts, wind, and microclimate.

### Setbacks and Frontages

- ab. Setbacks along primary building frontages such as University Drive and Library Road should contribute to pedestrian-scaled design and comfortable streetscape conditions. Setbacks will also provide space for generous plantings and pedestrian clearways.
- ac. Consistent setbacks should provide sufficient distance from campus open spaces and green spaces to maximize sunlight penetration for trees and plantings, and for year-round use and enjoyment by the campus community.
- ad. Provide adequate space in the right-of-way and circulation networks to accommodate street tree planting, landscaping, and stormwater management features.
- ae. Future site-specific studies should be undertaken to inform building and outdoor space setbacks and further definition of site boundaries.

### Building Stepbacks

- af. Buildings should generally express a 3-storey street wall base, and step back a minimum of 3 metres at the fourth storey to maintain a pedestrian-scaled primary façade, and to ensure sunlight access is maintained for streets, greenways, and open spaces.
- ag. Building facades facing green spaces should stepback a minimum of 4 metres at the fourth storey or below, to visually frame view corridors toward the Rideau River and Rideau Canal.

### Ground Floor Building Design

The ground floor design of a building has profound impact on the quality and use of the public realm, daylighting, and safety. The base of campus buildings should create visual interest and contribute to a vibrant campus environment.

- ah. The design of campus buildings should frame connections and open spaces and reinforce pedestrian-scale design.
- ai. Due to the Ottawa's harsh winters and varied climate, it is important that the ground level of buildings be transparent, and incorporate canopies, breezeways, and colonnades for pedestrian comfort.
- aj. Buildings should include active at-grade uses to animate streets and open spaces (e.g. cafes, common spaces, interactive lab spaces, etc.) and provide opportunities for casual surveillance. Where feasible, active uses at the ground-level of buildings should be complemented by outdoor spaces to improve synergies between indoor and outdoor activities.





Designed to provide daylight and fresh air through the roof, VELUX Modular Skylights help create healthy, comfortable and productive indoor spaces. The modular system can be configured to a range of different skylight solutions and offers several features for climate control, ventilation, and shading. (Trumpington Community College, Great Britain ©VELUX)

- ak.** The primary entrances of academic, residential, and mixed-use buildings should be oriented towards streets, open spaces, or main pedestrian connections. Primary building entrances should incorporate outdoor weather-protected areas including overhangs, canopies, and wind protection, as well as vestibules for minimizing heat loss.
- al.** Building entrances should have clear and prominent architectural expressions to aid in wayfinding and orientation, and to enhance campus identity.
- am.** Building porosity should be apparent in the ground floor design, particularly where interior connections form part of the larger campus pedestrian network.



Native plant species are a resilient choice for campus landscaping, and can provide educational and placemaking opportunities. (Saugeen First Nation Creator's Garden, Allenford, Brook McIlroy)

### Low-Carbon, Energy Efficient Building Design

Carleton University has undertaken initiatives to ensure that future development of the campus is sustainable and energy efficient. Carleton University's Energy Master Plan (2018-2021) includes a framework for the university's energy and carbon reduction initiatives. Additionally, the university released the comprehensive Sustainability Plan (2020-2025), which identifies key areas where the university can make the biggest sustainability impact. One of the key areas outlined in the sustainability plan aims to promote social, economic, and environmental sustainability in the development and operations of both built and natural environments. Carleton has a strong mandate to promote sustainability within their building design initiatives. The Campus Master Plan Update considers and incorporates Carleton's sustainability directions into the following guidelines.



Landscape and building materials improve visibility in spaces, such as circulation corridors and stairwells, that may otherwise be narrow and isolated. (Algonquin College, Ottawa, Canada, Brook McIlroy; © Doublespace Photography)

- an.** The design of campus buildings should comply with the goals set out in the Energy Master Plan (2018-2021), the Comprehensive Sustainability Plan (2020-25), and other relevant standards and guidelines.
- ao.** Utilize tools such as STARS (Sustainability Tracking and Assessment Rating System) certification program and Green Globes building assessment as laid out in the Energy Master Plan 2018-2021.
- ap.** Additional metrics for tracking energy and carbon emissions of buildings include:
  - Greenhouse Gas Intensity (GHGI): GHGI is affected by how much energy is used and the carbon intensity of the energy source.
  - Energy Use Intensity (EUI): The annual total energy consumed in a building. This metric is a useful management tool as data is readily available through energy bills and outcomes are in control of building operators and occupants.
- Standards like Passive House, Toronto Green Standard, Ottawa High Performance Development Standard, and the Canada Green Building Council Zero Carbon Building Standard .
- Thermal Energy Demand Intensity (TEDI): This measures the quality of a building envelope and is influenced by the efficiency of ventilation systems. A low TEDI supports resilience, occupant comfort and enables the use of low-temperature heating equipment that can best leverage low-carbon energy sources.
- aq.** The orientation, location and design of campus buildings should promote sustainability best practices (e.g., natural ventilation, daylighting, passive heating) to maximize energy performance and occupant comfort.
- ar.** Building design should contribute to reduced greenhouse gas emissions through clean energy, efficient energy distribution, and low levels of energy consumption.

- as.** Buildings should be designed with high-performance building envelopes and high efficiency building systems to minimize thermal bridging, air infiltration, and contribute to lowering the energy demand of a building.
- at.** Buildings should consider including sustainably harvested mass timber structures that add beauty, emphasize connections to nature from building interiors, and contain lower embodied carbon than other structural materials.
- au.** Carleton University should use high-efficiency equipment for heating and cooling such as electric heat pumps and heat recovery systems for exhaust air.
- av.** Buildings should have a higher proportion of solid area than glazing in facade design to minimize energy demand.
- aw.** Retrofits of existing buildings should employ passive design techniques and install energy and resource efficient materials, equipment, and fixtures.
- ax.** Buildings should be oriented to optimize the potential for solar energy generation from rooftops and facades (particularly south and west) by minimizing self-shading and shading from adjacent buildings. For example, building penthouses should be located at the northern portion of the building roof to maximize potential for solar-related productive roofscapes.
- ay.** Future climate change resiliency studies should be considered for major new construction or renovations.
- az.** Consider using sustainable building standard certifications for new buildings such as Passive House, LEED, WELL, BREEAM, and Zero Carbon Building Standard to measure and communicate the desired sustainability outcomes of building projects.



Building rooftops should be used for renewable energy production. (Echo Energy-Generating Interfaculty Teaching Building, Delft, Netherlands, UNStudio © Plompmozes)



Landscapes adjacent to buildings can serve as a critical stormwater and water mitigation feature. The Green Ribbon, bioswales, and LID features offer new opportunities for Carleton's campus community to engage with the local ecology via a network of paths, revitalized open spaces, and stopping points in the landscape. (Issy Coeur de Ville Apartments, France; Valode & Pistre © Jared Chulski)

## 'Circular' Buildings and Future Use

- ba.** Buildings should be future proofed to maximize flexibility in use over time.
- bb.** Structural systems should be robust to withstand future modifications to interior partitions and mechanical services. This flexibility allows for changes in tenancy and use and extends the life span of a building.
- bc.** Future studies should be undertaken to explore the potential of refurbishing existing parking garages into future academic and/or institutional uses.
- bd.** Floor-to-floor heights within buildings should be designed to accommodate a range of uses and mechanical systems above and below the occupied space. As technologies evolve, mechanical systems can be replaced and upgraded without requiring alteration to the core structure of the building, extending the building's life span.
- be.** Building components and systems with shorter life cycles should be readily accessible and installed for servicing, upgrading, and replacement, without requiring demolition of the core structure. From shortest to longest life span, these include: interior finishes and furnishings; interior partitions and space layouts; heating, ventilation, air conditioning, and plumbing services; and building envelope components.
- bf.** Design future campus infrastructure and buildings to support multiple life cycles through reuse and re-purposing. Strategies include: prefabrication to optimize construction, incorporating utility corridors for all systems to minimize disruption required for replacement, choosing reusable materials, designing adaptive buildings, and considering the replaceability of HVAC systems.

- bg.** Consider adaptive reuse options for built infrastructure on campus that have become severely underutilized. This process limits carbon output and conserves resources and the historic value that sites possess. Reusing and upgrading existing buildings opposed to their demolition and replacement would have a substantial immediate and long-term impact in achieving carbon emission reduction targets.



An example of an adaptive reuse project where a historic building was transformed into an innovation hub for Centennial College's Aviation and Engineering Technology program. (Centennial College; Toronto, Canada; MJMA in associated with Stantec Architecture Institutional © Doublespace Photography)

## 6.6 Energy and Carbon



Green roof with solar panels. (Town and City Hall in Viborg, Denmark, Henning Larsen© Thorbjorn Hansen)

Energy and Carbon play an important role in Carleton University's overarching sustainability vision. As stated in the 2021 Energy Master Plan: "Carleton University's carbon neutrality goal is an ambitious step forward that is in alignment with federal and local government policies and strategies toward climate change and its threat to our environment, health, economy and collective future. It demonstrates the university's leadership and commitment to our collective effort to mitigate and reduce the impact of climate change."

The Energy and Carbon guidelines build on the 2021 Energy Master Plan and address the following:

- Sources of low carbon energy such as renewable energy and sewage heat recovery systems that eliminate the need for fossil fuel combustion;
- Passive and active design measures reduce the buildings energy demand;
- Design strategies and material considerations to reduce embodied carbon, minimizing the whole life carbon of new developments.

This section is to be read alongside the 2021 Energy Master Plan. Refer to Section 4: Carbon Neutral Campus Strategy and Section 5: Next Steps, of the 2021 Energy Master Plan for the detailed campus decarbonization strategy and implementation framework.

### Low-Carbon Utility

Natural gas makes up over 85% of the University's carbon emissions, and therefore the Energy Master Plan focuses on transforming the existing utility infrastructure to a low-carbon, low-temperature hot water district energy loop served by electric boilers in 3 new nodal plants across campus. These Guidelines support connection to this system, and encourages the exploration of other low-carbon energy supply opportunities

- a. Evaluate expected building heating and cooling demands during concept design and locate buildings with complementary loads (e.g., an office and a student residence) to facilitate energy sharing between buildings.
- b. Consider including district system nodal plants within the building footprint of new developments and deep retrofits, designed with the necessary spatial and technical requirements.
- c. Explore the potential to use a sewage heat recovery system to supply supplementary thermal supply for design options that use low temperature hot water.
- d. Additional design guidelines are presented in Section 4: Carbon Neutral Campus Strategy and Section 5: Next Steps of the 2021 Energy Master Plan.

### Renewable Energy

- e. Assess the potential to generate carbon-free electricity on-site for new developments and major retrofits. Consider the implications for building design, including the architectural vision, structural capacity, electrical infrastructure, and available roof space. Both well-established technologies (e.g., rooftop and building-integrated solar photovoltaics, and small-scale vertical access wind turbines), and emerging technologies should be considered. For further information on the renewable energy Campus Solar Capacity refer to Section 5.2.3 Renewable System (PV) and Appendix G – Campus Solar Capacity of the 2021 Energy Master Plan.
- f. Evaluate the potential to incorporate roof-top solar panels when undergoing roof replacement or renewal projects, including structural capacity.
- g. Consider the cost of renewable power purchase agreements and carbon offsets when evaluating the feasibility of on-site renewable energy generation. A financial sensitivity analysis of future offset price is recommended whenever offsets are to be used. For further information on carbon offsets refer to Section 4.1.5 Carbon Offset of 2021 Energy Master Plan.
- h. New buildings should be oriented to optimize the potential for solar energy generation from rooftops and facades (particularly south and west) by minimizing self-shading and shading from adjacent buildings. For example, building penthouses should be located at the northern portion of the building roof to maximize potential for solar-related productive roofscapes.

## Efficient Buildings

- i. Perform periodic energy and/or carbon audits on all existing buildings to identify opportunities to reduce energy consumption and carbon emissions.
- j. Perform deep retrofit feasibility studies to evaluate and determine an energy performance target for different campus building types. For further details see Section 5.2.1 Existing Building Energy Retrofit of the 2021 Campus Energy Master Plan.
- k. Retrofit existing buildings to connect to the new district heating system which uses centrally supplied low temperature hot water. Consider conducting a steam conversion feasibility test to identify technical requirements and economics. For further details see Section 5.2.2 Steam to Hot Water Conversion Retrofit of the 2021 Campus Energy Master Plan
- l. Establish metrics for tracking energy and carbon emissions of buildings, including Greenhouse Gas Intensity (GHGI), Energy Use Intensity (EUI), and Thermal Energy Demand Intensity (TEDI). Use the latest Carleton Development Standards and Ottawa High Performance Development Standard to establish targets that are in-line with the most recent Energy Master Plan (see 2021 Energy Master Plan Appendix – Memo Report for details on building performance of future developments).
- m. High-efficiency equipment for heating and cooling should be provided, such as electric heat pumps and heat recovery systems for exhaust air.
- n. Buildings should have a higher proportion of solid area compared with glazing area to minimize energy demand and improve indoor thermal comfort.
- o. A digital building automation system should be provided for each building, including retrofits, to enable monitoring and control of building systems and equipment.
- p. For all new buildings that are designed to use on-site fossil fuel combustion, prepare a transition plan as part of the design process including a financial comparison of the capital cost premium and the operational cost savings over a 30-year period for a non-combustion alternative (e.g., heat pumps or other electric heating system).
- q. Specify energy efficient equipment and appliances, such as ENERGY STAR labelled products.
- r. Evaluate impact of new developments on the campus electrical infrastructure. For further details see Section 5.2.5 Electrical Infrastructure of the 2021 Campus Energy Master Plan.
- s. The siting and design of campus buildings should promote passive design measures (e.g., natural ventilation, daylighting, passive heating, self-shading) to maximize energy performance and occupant comfort.
- t. If possible, design buildings to maximize north and south exposure with a narrow floor plate to allow for better daylight conditions.

## New Buildings Performance Standards

- u. All building rooftops should be productive and used for a combination of renewable energy production, solar thermal technology, green/living roofs, and stormwater management.
- v. Buildings should be designed with high-performance building envelopes that minimize thermal bridging and air infiltration, to reduce energy demand and improve passive survivability.
- w. Use sustainable building standard certifications to measure and communicate the desired sustainability outcomes of building projects. Examples include Green Globe 4 Stars, City of Ottawa's High Performance Development Standard, Toronto Green Standard, Passive House, LEED, WELL, Living Building Challenge and Zero Carbon Building Standard. These should be considered when establishing metrics and targets for building projects.
- x. For further details see Section 4.1.2 New Developments and Section 5.2.4 New Building Performance Standard Development of the 2021 Campus Energy Master Plan.



New buildings should establish a vibrant sense of place and ecological stewardship. (Rogers Environmental Studies Magnet School, Connecticut, USA © Mikyoung Kim)



## Embodied Carbon Reduction

Embodied carbon refers to the carbon emissions associated with materials and construction processes through the whole lifecycle of a building. As buildings become more efficient, the embodied carbon of a building becomes increasingly important source of emissions.

- y. Consider opportunities to repurpose buildings before demolition. Building retrofits that maintain a building's structure can significantly reduce embodied carbon. Similarly, consider whether space in an existing building can be reallocated to meet space use needs before building new.
- z. Use life-cycle embodied carbon assessments (LCA) to quantify building material and infrastructure that have the greatest contribution to embodied carbon emissions, set embodied carbon targets, evaluate alternative material selections, and measure outcomes.
- aa. Consider using performance-based specifications to procure low carbon solutions to large contributors of embodied carbon such as concrete, structural, steel, rebar, insulation, and glazing.
- ab. Specify locally sourced, reclaimed, and recycled products and materials, where possible, to minimize emissions. Maximize opportunities for the inclusion of traditional building practices, artisanship and craft. See Section 6.2 Indigenous Placemaking and Placekeeping for further guidance.
- ac. Consider use of sustainably harvested mass timber for structural building components to add beauty, emphasize connections to nature from building interiors, and reduce embodied carbon relative to other structural materials.



Using screens and opaque materials will reduce light pollution, sky glow, encourage a bird-friendly campus minimize energy demand and improve indoor thermal comfort. (Tracy Aviary, ajc architects ©Joseph Pollard)



Buildings should utilize a variety of innovative and low-tech climate concepts to minimize environmental impact. (Karl Miller Center, Portland State University, USA, Behnisch Architekten, SRG Partnership © Brad Feinknopf)

## Resilience

- ad. Design natural and constructed infrastructure systems to function in both the current and projected future climate with an appropriate level of service risk. Design systems with appropriate buffers to deal with changing climate (e.g. more intense rainfall events and temperature extremes).
- ae. Evaluate the location of critical infrastructure to reduce damage from climate related risks. For example, avoid below-grade placement of electrical servicing equipment.
- af. Refer to Section 5.5 Stormwater Management of the 2020 Outdoor Space Master Plan for low impact development strategies to manage stormwater including bioretention facilities such as rain gardens, bioswales, green roofs, and permeable pavement.
- ag. Design buildings for passive survivability by ensuring critical life-support functions remain operational during extended periods of absence of power, heating fuel, and/or water.
- ah. Consider thermal resilience so buildings can sustain liveable indoor temperatures in the event of a power outage or disruption in fuel supply for a prolonged period of time.
- ai. Design new and retrofitted buildings to include a refuge area with heating, cooling, lighting, potable water, and power. Determine which spaces are to be capable of functioning as a temporary shelter for vulnerable members of the community to gather to stay warm or cool, charge cell phones, access the internet, store medicine, refrigerate basic food necessities, access potable water and toilets.

- aj. Refer to Section 6.1 Universal design and Accessibility – Emergency Planning for further design details to be included in refuge areas.
- ak. Provide 72 hours of back-up power to the refuge area and to essential building systems.



Green roofs offer many environmental and human health benefits such as air purification, increased biodiversity, reduced building energy costs and urban heat island amelioration, and stormwater runoff mitigation. (Lawson Centre for Sustainability, Trinity College, University of Toronto ©RHDA and Mecanoo Architecten)

## 6.7 Circularity



The Natural Pavilion showcases innovative bio-based construction and circular design that can be easily disassembled and rebuilt in a different configuration at a different location. (The Natural Pavilion, Netherlands, DP6 architectuurstudio © Daria Scagliola & Stijn Brakkee)

Circularity addresses the University’s desire to reduce physical waste—through construction, operations, and end-of-life options of various materials on campus. It is based on three principles:

1. Eliminate waste and pollution.
2. Circulate products and materials (at their highest value).
3. Regenerate nature.

The guidelines presented in this section enable circular practices – such as material reuse, products as a service, and adaptable buildings – to flourish. However, no one actor can achieve circularity. The success of the University’s circularity will depend on collaboration with a variety of stakeholders including on and off campus businesses, the local community, government support, and most importantly, the students, staff and faculty.

### Zero-Waste Operations

- d. Establish protocols to track, measure, and report waste stream flows. Conduct periodic material flow analyses to map campus wide material inputs and outputs for different sectors (e.g., food waste, building construction and demolition materials) and identify potential for on-campus circular systems.
- e. Identify spaces in new buildings and retrofit projects that could be used to encourage reuse, repair, and the sharing economy. For example, a material exchange hub, a tool library, clothing swap and repair store, or bike repair station.
- f. Standardize on-campus waste collection spaces and signage to promote proper material sorting.
- g. Provide waste sorting stations for multiple material streams that are readily accessible to all occupants.
- h. Consider opportunities when designing new buildings or retrofitting existing ones to make waste infrastructure visible to building occupants to encourages them to think about where “waste” goes.
- i. Provide sufficient space for the storage of hazardous waste, electronic waste, and difficult to recycle materials.
- j. Work with on campus vendors to transition to zero waste models. For example, consider an on-campus refillery for cleaning products, personal care products, and food products.
- k. Work with food vendors to implement a take-out container reuse program to minimize food packaging waste.
- l. Work with food vendors to eliminate single-use plastic service ware.
- m. Consider a digital platform / marketplace to facilitate the exchange of materials within the community.
- n. Implement educational events that promote circular resource use.
- o. Refer to the Operations Section in the 2020-2025 Sustainability Plan for further information on strategic actions and targets regarding waste and recycling.

### Zero-Waste Construction

- p. Consider the ability of a building to be deconstructed at the end of its life when designing new buildings and preparing construction specifications. This can include minimizing the use of adhesives, glues, and other building techniques that prevent materials from being disassembled, avoiding the use of finishes that could damage the future usability of a product, and selecting materials that have a high reuse value.
- q. Encourage deconstruction companies to salvage materials during renovations or full deconstructions. Salvaged materials should be reused on-campus if possible.
- r. Where possible, reuse materials or incorporate salvaged materials into fit-outs, retrofits, and new construction projects.

- s. Track material resources used during construction and establish landfill diversion targets.
- t. Design buildings and infrastructure constructed for short-term uses to be fully relocatable. Relocatable buildings are modular buildings designed for deconstruction and made of durable, high-quality materials.
- u. Participate in material take-back programs (e.g., carpet and ceiling tile take-back programs), when available.

## Local Food

- v. Assess opportunities to participate in a local circular food system to minimize food waste.
- w. Establish a zero-waste food program to address surplus food from campus cafeterias, and campus event catering.
- x. Maintain campus-wide food waste composting program (see the Operations section in the 2020-2025 Sustainability Plan) and work with food vendors to ensure organic waste is minimized and separated from other materials.
- y. Implement educational food waste sessions.
- z. Source local, sustainably raised, and grown food.
- aa. Assess opportunities to expand on-campus food production. Consider rooftop space and interior spaces capable of accommodating vertical farms.

## Materials

- ab. Design buildings to maximize flexibility in use over time. Structural systems should be designed to be robust and stay in place while interior partitions and mechanical services are moved, rearranged, and replaced over time. This flexibility allows for changes in tenancy and use and extends the life span of the core building.
- ac. Design floor-to-floor heights within buildings to accommodate a range of uses and mechanical systems above and below the occupied space. As technologies evolve, mechanical systems can be replaced and upgraded without requiring alteration to the core structure of the building, extending the building's life span.
- ad. Design building components and systems with shorter life cycles to be readily accessible and installed in such a way that they can be serviced, upgraded, and replaced without requiring demolition of the core structure. From shortest to longest life span, these include: interior finishes and furnishings; interior partitions and space layouts; heating, ventilation, air conditioning, and plumbing services; and building envelope components.
- ae. Evaluate materials for impacts to human health across the material's entire lifecycle. Health is of the utmost importance for products intended for circularity as they will be potential circulating within the economy for many decades. Certifications such as Declare, and Cradle-to-Cradle can be used in addition to material ingredient disclosures such as a Health Product Declarations.

- af. Advocate for material transparency and health to suppliers and manufacturers when material information is not available,
- ag. Track data on materials throughout the campus by applying material passports and using building information modelling to support new life cycles.

## Water Efficiency

- ah. Assess opportunities to pilot closed-loop water systems in which all water used for a defined area is captured, treated, used/reused, and/or released on campus.
- ai. Capture rainwater in cisterns or rain barrels to use for irrigation and toilet flushing.
- aj. Design all buildings to use greywater for toilet flushing.
- ak. Avoid the use of potable water for non-potable uses.

## Operations that Support a Circular Economy

- al. Demand for resources throughout the campus should be reduced by designing systems that make efficient use of material resources.
- am. Design campus infrastructure and buildings to support multiple life cycles through reuse and re-purposing. Strategies can include maximizing prefabrication to optimize construction, incorporating utility corridors for all systems to minimize disruption required for replacement, choosing reusable materials, designing adaptive buildings and considering the replaceability of HVAC systems.

- an. Apply a life-cycle view of costs to all development to account for impacts of design decisions on operating and maintenance costs.
- ao. Consider 'business as a service' or 'performance procurement' business models for products or materials that the university does not need to own. In these scenarios the service (e.g., lighting) is procured from a provider who maintains ownership of the product and responsibility for operations and maintenance costs.
- ap. Establish metrics for tracking the university's level of circularity. Tools such as Circulytics can be used to assist.



The Chatham University Eden Hall Campus exemplifies many sustainability and circular practices such as generating more energy than the campus uses, food production, recycling of nutrients, and enhancing biodiversity. (Pennsylvania, Mithun © Bruce Damonte)

## 6.8 Four-Season Design



Improvements to Alumni Park intend to provide active use of the space in all seasons. A proposed skating trail provides winter programming, while the park can be used for large events and as passive open space in the spring, summer, and fall. (Colonel Sam Smith Skating Trail, City of Toronto © PMA Landscape Architects)

The design of streets and connections, built form, open spaces, and public realm at Carleton University should create an overall attractive and comfortable campus that promotes year-round use. Providing comfortable facilities and programs in parallel with active transportation can help establish a year-round pedestrian-accessible campus.

A large portion of Carleton's staff, faculty and students spend the majority of their time on campus during the winter months. Incorporating appropriate design interventions can enhance the winter experience for the campus community. The location

and orientation of buildings and outdoor areas have a direct impact on the quality and comfort of spaces. It is important that buildings and site components minimize any adverse microclimate impacts onto surrounding areas and sites to ensure pedestrian comfort. Winter design recommendations also provide a multitude of benefits, including safety, support for barrier-free movement, durability, and resilience of infrastructure.

The following guidelines aim to create an inviting campus that can be enjoyed year-round.

### General

- a. Outdoor space design should encourage winter programming, recreation, and general use, including sheltered or weather-protected and warming areas, equipped with wi-fi.
- b. Campus landscaping should allow for high-quality and attractive landscape design year-round, including plant species that flower, provide colour, and texture at different times of the year. Priority should be given to planting native and pollinator species.
- c. The use of colour should be employed in the design of the campus to brighten the winter environment, which may include building façade treatments, lighting, landscaping elements, seating, structures, and public art.
- d. Design high-quality and attractive open spaces that create visual interest and delight through all seasons.

### Infrastructure

- e. Infrastructure including shelters and structures, furniture, and walkways should be maintained and accessible during winter months. Use durable materials for furnishing that are thermally comfortable year-round (e.g. wood seating, high quality composite, or recycled materials).
- f. Incorporate and encourage outdoor winter activities, programming, and sports in outdoor public spaces.
- g. Incorporate slip-proof paving material along prominent pedestrian streets such as Library Road and Campus Avenue.
- h. Consider implementing heated walkways along prominent pedestrian streets such as Library Road and Campus Avenue.

- i. Use highly visible and distinctive surface markings, lighting and signage at road crossings and along prominent pedestrian and bicycle paths.
- j. Signage and wayfinding design and implementation should consider future proofing, durability, and account for weather-related demands.



Bizindaadiwag is an action to make audible Indigenous language present and publicly available. It provides a place where anyone on their language learning journey can pause to listen, perhaps speak and to meet others who have the same interest. (Point Douglas's Michèle Jean Park, Winnipeg © Ryan Gorrie and Suzy Melo)



## Snow & Ice

Snow brings a magical ambiance to a campus and is highly reflective which can provide additional lighting during the winter months. It is important to consider snow and ice conditions in design interventions and future campus development as they require significant resources to clear. Additionally, although salting sidewalks is traditionally used to maintain snow clearance, it causes significant environmental hazards to groundwater, soils and surface water and should only be used when necessary.

- k. Campus paths and multi-use trails should be clear of snow, prioritizing heavily used pedestrian routes and bicycle lanes.
- l. Use environmentally friendly deicers in favour of plain rock salt and calcium chloride for snow clearing management.
- m. Building roofs should be designed to shed snow and ice away from entrances and walkways.
- n. Designate multiple snow storage areas on campus.
- o. Snow storage locations should be scattered across campus. A strategy should be explored to identify and designate these locations to minimize impacts to vegetation and reduce runoff.
- p. Use durable materials and paving that can withstand the use of salt, sand, and gravel and freeze-thaw cycles.
- q. Explore the opportunity to use electric vehicles in favour of snowplow/removal fleet in support of a more sustainable campus.
- r. Provide necessary charging stations and equipment to support an electric fleet.

Integrating innovative design features that capture and utilize rainwater in warmer months can act as a unique feature in the winter. (Algonquin College, Brook McIlroy; top image © Tom Ridout, bottom image © Jocelyn Squires)

## Sun

- s. Access to sunlight should be maximized through the orientation and design of buildings and site components, including maximizing southern exposure for open spaces where possible.
- t. Location and massing of buildings should allow for adequate sunlight onto open spaces, including streets, courtyards, green spaces, and pedestrian and bicycle paths.
- u. Site design should minimize shadow impacts onto adjacent streets, sidewalks, and open spaces, encouraging a comfortable and high-quality public realm for all seasons.
- v. The design of buildings, overhangs, canopies, and the incorporation of tree canopy should provide shade during warmer months of the year to improve outdoor thermal comfort.

## Trees

- w. Plant deciduous trees adjacent to buildings and exterior public spaces to allow access to sunlight during the winter.
- x. Incorporate coniferous plantings along the northern edges of open spaces and pathways to reduce the severity of the wind tunnel effect.
- y. Select plant species adjacent to roadways and paths that can withstand exposure to salt, gravel, and sand.
- z. Ensure plantings are set back a sufficient distance from sidewalks, road edges, and parking areas to accommodate snow storage.
- aa. Select plant species that are suitable and can withstand a four season climate.

## Wind

- ab. Building entrances should feature canopies and/or weather-protected areas for year-round shelter.
- ac. Buildings should be designed with breaks along frontages and should create mid-block connections to provide relief and shelter from wind conditions.
- ad. Consider windbreak panels at entrances or vestibules to protect against wind conditions.
- ae. Development on campus should incorporate design solutions that minimize pedestrian-level wind and microclimate conditions. Appropriately orientating and locating buildings, open spaces, public realm features, landscaping, and trees will aid in minimizing impacts from climate conditions.



Interactive art installations encourage people to be outdoors in the winter months and create visual interest around campus. (Sling Swing; Toronto, Ontario © WMB Studio)

## 6.9 Signage & Wayfinding



Using braille on wayfinding elements ensures a higher degree of accessibility. (University of Sydney Wayfinding Strategy, Australia © Minale Tattersfield Sydney Australia)

Signage and wayfinding are important features of the public realm that assist with campus navigation and orientation. They work to direct all forms of travel across and through spaces and assist in establishing a sense of arrival on campus. Wayfinding contributes to a more walkable campus by positioning gateways, landmarks, signage, and other visual cues at a pedestrian scale.

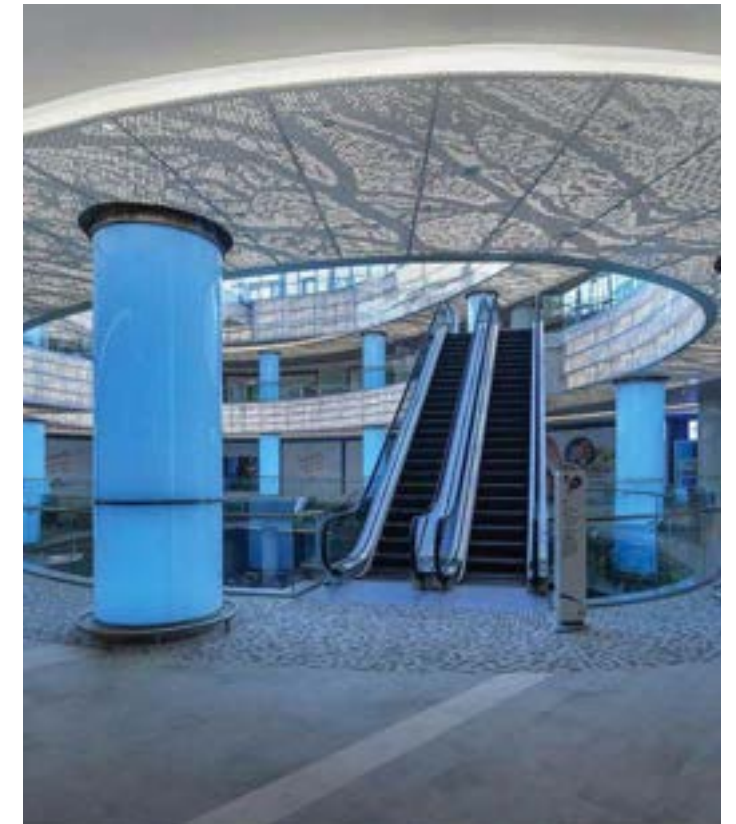
Signage and wayfinding can include components such as ground-related signs, wall signs, building signs, visual markers, and non-signage specific elements. They should be legible, intuitive, and



should conform with Carleton University's branding. It is important that signage and wayfinding elements are future proofed to allow for simple maintenance and alterations as the campus continues to evolve. Improvements to the wayfinding experience enhances mobility and cohesion on campus.

### General

- a. Circulation routes, signage, building entries, parking areas, and other public spaces should be adequately lit, using fixtures and materials to reduce shadows and glare.
- b. Ensure that signage and wayfinding is generally located at a consistent height along building façades. They should be visible and legible from the public realm.
- c. High transparency between indoor and outdoor spaces is encouraged in locations where key outdoor spaces are adjacent to or surrounded by buildings.
- d. In general, a colour temperature of 3000K to 4000K and a minimum Colour Rendering Index (CRI) of 85 is recommended for all indoor and outdoor lighting. Lighting choices should be balanced with the goal to reduce light pollution and maximize pedestrian and animal safety and wellbeing.
- e. Site and building signage and wayfinding should complement the existing character and design of the surrounding context.
- f. Universal symbols of accessibility should be integrated and used in conjunction with campus signage and wayfinding.
- g. Explore the installation of digital mobile map applications to provide navigation ease across campus. Maps should provide direction to emergency call centre locations, classrooms, accessibility areas, pedestrian paths and linkages and washrooms.
- h. Pedestrian and vehicular entrances on campus should be designed as visual gateways, featuring unique design treatments such as enhanced landscaping, paving, signage, and public art. Gateway designs should emphasize a sense of arrival on campus for motorists, cyclists, and pedestrians.



Multi perforated suspended ceilings offer design flexibility and customization available with LED lighting, heating and cooling, thermal insulation, and acoustic insulation. (Suspended Ceiling - Multi-Perforated Metal © Kasso)

- i. Differentiation in gateway signage design should be made to distinguish pedestrian gateways from vehicular gateways (e.g. gateway signage at Library Road and Campus Avenue, versus signage at University Drive and Colonel By Drive)
- j. Use durable material for outdoor signage that will withstand tampering, environmental deterioration and weathering.
- k. Install indoor digital kiosks to assist students and faculty in navigating through and across campus.

## Branding, Consistency and Accessibility

- l.** Site and building signage design should be future proofed and use a consistent palate of materials, colours, and fonts across Carleton University.
- m.** Incorporate signage at all campus gateways (pedestrian and vehicular), with consistent branding associated with Carleton University. The size of signage should be appropriate to its location and use.
- n.** Signage should clearly distinguish the university from the surrounding community.
- o.** Address discrepancies in building names – official, colloquial, donor, and/or historic as such discrepancies lead to confusion. Effort should be made to reconcile diversity in nomenclature and terminology.
- p.** Strategically position signage in locations to avoid visual obstructions. Follow wayfinding design best practice when designing and selecting locations for signage.
- q.** Expand the existing signage and wayfinding network to address existing navigation challenges and to create a more intuitive wayfinding experience.
- r.** Incorporate accessible formatting including larger print, recorded audio and tactile and visual braille indicators into building and open space design, including areas of high pedestrian activity such as intersections with shared and vehicle routes. This promotes safety of use by persons with visual and/or hearing impairments.
- s.** Accessibility signs should be clear at designated wheelchair-accessible ramps, entrances, and elevators.

## Indigenous Wayfinding Opportunities and Multilingual Signage

- t.** Include multilingual signage to foster an inclusive wayfinding experience on campus. This allows users to see themselves reflected in spaces, and to experience the campus environment in their preferred language.
- u.** Avoid information overload when including multiple languages on signage by removing unnecessary words and using pictograms.
- v.** Consult and engage with local Indigenous communities (Anishinaabe Algonquin Nation) to ensure that language on signage is accurately describing the location, destination, amenity, and/or other information that the signage is relaying.
- w.** Incorporate cultural wayfinding interventions into the public realm to act as landmarks and navigation tools. This includes native plantings, Indigenous cultural markers and diverse artwork. These elements provide a welcoming experience and communicate the values of Carleton University.



Placekeeping elements should be well integrated into their surroundings and contribute to the public realm. (Humber College Cultural Markers, Toronto, Brook McLroy © Tom Ridout)

## Wayfinding and Landscape Design

- x.** Visual markers and unique paving designs should be incorporated into campus wayfinding. These elements can serve a dual purpose by also acting as landmarks, aiding users with campus navigation and orientation.
- y.** Incorporate artistic and creative wayfinding interventions into the public realm, including landscaping, paving, visual markers and artwork to establish a more vibrant, inviting and welcoming campus experience.
- z.** Landscaping should support intuitive wayfinding by outlining paths of travel through plantings etc.
- aa.** Clearly identify campus trails and pathways with wayfinding and signage, including directional markers and information indicating distances to places and destinations.
- ab.** Primary signage, such as gateway identification signs, should be integrated into their surroundings through landscaping for an aesthetically pleasing and welcoming user experience.

## Public Art

Campus art should be incorporated into the design of buildings, sites, and open spaces to further liven and animate sites across and throughout Carleton University. Art contributes positively to place by adding culture and representation into spaces, enabling the Carleton campus community to feel reflected and represented on campus.

Campus art includes temporary installations and permanent pieces at a variety of scales, including monuments, markers, statues, murals, sculptures, and digital pieces. It provides the university with an opportunity to display diverse forms of artwork,

represent Indigenous cultures and history and display work from local community members. Scattering artwork across campus encourages natural interaction and introspective engagement to occur.

Art installations also contribute to wayfinding and campus navigation by acting as a distinctive and recognizable landmark on campus.

**ac.** Campus art should be located in areas on campus with high pedestrian activity. These include open spaces, campus focal points and commonly traveled pedestrian routes. Key areas for public art at Carleton University could include the Nideyinàn, the tunnel network, along the Green Ribbon path and at the future Transit Hub and existing bus termini.

**ad.** Ensure that campus art is located and designed in a way that does not impose on pedestrian and/or vehicular movement and sight lines.

**ae.** Campus art should be incorporated into the design of public realm features such as signage and wayfinding, landscaping seating, planters, bus and bicycle shelters and paving.

**af.** Artwork for new development on campus should be located at prominent locations and should be identified during the planning and design phase.

**ag.** Ensure that campus art is diverse and reflective of the campus community. Ensure options exist for temporary installations, and permanent campus art pieces.

**ah.** Incorporate creative technology, colour, and lighting in the design of campus art to provide interactive site elements and to animate the public realm.

## 6.10 Mobility & Movement



Flexible and wide streetscapes allow users to feel comfortable and can facilitate a multiplicity of uses. (Brighton, UK © Gehl Architects)

The design of campus pathways, greenways, streets, and connections should ensure direct, safe, and comfortable access for all users regardless of age, ability, and form of travel. Carleton's proximity to natural amenities such as the Rideau River, Rideau Canal, Dow's Lake, Fletcher Wildlife Garden, Vincent Massey Park, and Brewer Park are major places of interest to students, staff, and visitors.

This Campus Master Plan Update reinforces recommendations made by Parsons in the 2019 Transportation Master Plan for Carleton University. One of the key strategies in the CMPU is to increase and enhance active forms of transportation on campus as it plays a vital role in reducing single

occupant vehicle usage which in turn reduces carbon emissions, promotes healthy and active lifestyles, and reduces congestion and parking demand. Considerations will also be made for enhancements to the well-travelled tunnel system, brightening and humanizing the network, as well as to other micro mobility options i.e., electric scooters, balance boards etc.

The strategic design of streets and pathways will enhance connectivity and circulation through and across the campus. The following guidelines encourage the development of a pedestrian oriented campus community that also positively contributes to the aesthetic quality of the campus.

### General

- Campus streets should accommodate multi-modal transportation, including designated travel routes for cyclists and pedestrians that are separate from vehicular traffic. Priority should be given to pedestrians along the future **pedestrian priority and flexible street**- Library Road and Campus Avenue, as they are intended to become pedestrian-oriented boulevards.
- Campus streets and connections should prioritize active forms of mobility through enhanced infrastructure design, including attractive walkways, sheltered bicycle parking areas, dedicated bicycle paths, and landscaping that enhances view corridors and provides natural beauty, as well as shade and shelter, supporting four-season use and enjoyment.
- An enhanced and continuous network of pedestrian and cycling connections should be pursued in the north-south and east-west directions. This will increase circulation and connection to and through campus buildings, streets, and open spaces, in addition to enhancing connections between the campus and surrounding neighbourhoods..
- The pedestrian circulation network should be designed to support barrier-free access and provide safe and convenient accessibility for all users.
- Ensure additional paths and trails, including multi-use routes allow for space to be shared between pedestrians and cyclists. The CMPU suggests paths, trails and routes that will permeate through the campus between buildings and across open spaces. In addition, consider separation of pedestrians and cyclists on high-volume multi-use routes.



(The Holyrood North in Edinburgh, Scotland ©HarrisonStevens)



Teesside Park, UK (Macgregor Smith Landscape Architects)



- f. The design of pedestrian paths should encourage and promote a sense of community by cultivating casual encounters and interactions between passerbys on campus. This can be achieved through the strategic placement of pathways, furnishings, and open spaces.
- g. Main campus streets should be designed to prioritize pedestrians and cyclists, and slow vehicle movements (i.e., raised sidewalks at driveway entrances, narrow lanes, reduced curb radii, textured pavement materials, etc.).
- h. Where feasible, create dedicate facilities for cyclists. This Campus Master Plan Update proposes bi-directional, dedicated bicycle lanes along Campus Avenue, improving rider safety and comfort. In circumstances where dedicated facilities are not achievable, encourage reduced vehicle speeds through design interventions, and provide appropriate lane widths to support shared road usage.
- i. Explore the addition of a Transit Hub on campus, as a central arrival point for bus and LRT service at Carleton University. A mix of uses can be accommodated within the Transit Hub (i.e., social spaces, study spaces and food offerings).
- j. Reroute bus access to the East Campus to accommodate the future Transit Hub and the transitioning of Campus Avenue into a flexible street.
- k. Explore the potential use of Raven Road beyond its current temporary use (only permits transit vehicles).
- l. Improvements to campus streets should minimize the removal of existing trees. If tree removal is required, ensure trees are re-planted in alternate locations to support health and wellness, and the wildlife habitat on campus.

- m. Service Laneways and Emergency Access Routes should be integrated into the overall design of the pedestrian-oriented boulevards. Vehicle access for servicing and emergency vehicles should be provided , while primarily functioning as a pedestrian-oriented street with integrated landscaping, and furnishings.
- n. Locations for truck deliveries, service vehicles and loading should be located close to the public right-of-way and within the building envelope wherever possible. Truck activities should be minimized within the campus.
- o. Beautification and illumination of campus streets and connections is encouraged and can be accomplish through updated furnishings, pedestrian-scaled lighting, street trees, landscaping, and paving material.
- p. Contiguous tree plantings should be incorporated along existing and redeveloped streets and connections, as appropriate.
- q. Ensure that shared spaces and streets provide direct, safe and comfortable access for all modes of transportation. Shared areas should avoid permanent street installations that may impede emergency vehicle access and pose a safety hazard.
- r. Select hardscape materials to reduce urban heat island i.e., light-colored, high albedo surface materials.

Street trees should be provided with appropriate soil volumes and spacing to ensure long-term growth and health. Tree-lined pathways should be planted in combination with other plant materials to improve the streetscape and biodiversity of the surrounding area.





## Streets and Pedestrian Connections

- s. Library Road and Campus Avenue should be designed as pedestrian priority and/or flexible streets that safely accommodate multi-modal transportation, including pedestrians, cyclists, and delivery and servicing vehicles. Motor vehicles are accepted along certain segments of Campus Avenue (North Precinct) but should operate at a lower speed. Appropriate interventions should be in place to slow traffic along these street segments.
- t. Pedestrian-oriented campus streets should feature curbless or low-profile roll-curb design, with bollards and raised pedestrian crossings at key locations and intersections for enhanced pedestrian safety.
- u. Pedestrian-oriented campus streets should feature attractive unit paving through visual and tactile means, reinforces the street's role as a pedestrian-priority space.
- v. Pedestrian-oriented campus streets should consider appropriate sidewalk widths based on the level of demand, and include opportunities for landscaping, street furnishings including lampposts with seasonal banners, garbage and recycling containers, and seating.
- w. The proposed Green Ribbon and Geological Time Trail network should enhance the campus' sense of place by highlighting view corridors to natural landscape elements of the Rideau River and Canal.
- x. The proposed Green Ribbon and Geological Time Trail should be lined with large-growing native tree species that frame views and provide seasonal shade.
- y. The proposed Green Ribbon and Geological Time Trail should function as a multi-use trail and should enhance connections to and throughout Carleton, as well as increase connections to the natural landscape and surrounding community.
- z. Design interventions should be made to humanize the beloved tunnel network i.e., daylighting, improved wayfinding and use of aesthetic materials.
- aa. Additional tunnel connections should be explored on campus to increase connectivity and provide protection during colder months.

Segments of the Green Ribbon could be filled with 'social infrastructure' from benches, small amphitheatres, and outdoor teaching areas with fully-enabled wifi. (The Goods Line, Sydney, Australia, Aspect Studios © Florian Groehn)

## Vehicle Parking and Access

Vehicle parking and access strategies provide opportunities to mitigate the impact of parking and vehicular movement on streetscapes and the public realm.

To support the Campus Master Plan Update's vision of being a pedestrian-oriented campus, a range of strategies are recommended to minimize vehicle usage on campus, while increasing active transportation and transit use.

Parking on Carleton University is predominantly provided through surface parking lots, which occupy a significant quantity of potential future developable lands (with the exception of new parking garage P16). With the opening of the LRT extension (2023) it is anticipated that parking needs will decline as individuals will opt to use the LRT.

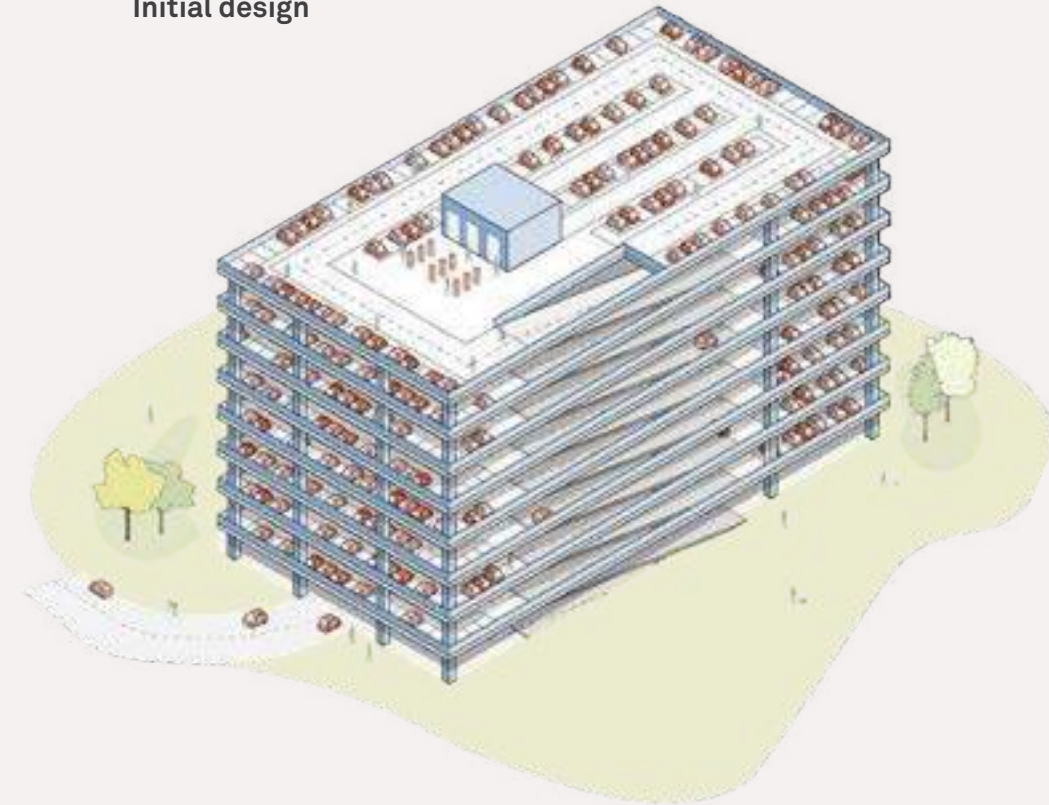
Through a variety of strategies, surface lots can gradually be redeveloped to support greater use, density and increase walkability. As the campus evolves, opportunities to incorporate potential parking facilities above ground in parkades similar to P16, or underground in new buildings where geological conditions allow, will arise.

The following guidelines aim to reduce vehicular and parking demands on campus and provide appropriate design directions that prioritizes pedestrian safety and comfort on campus:

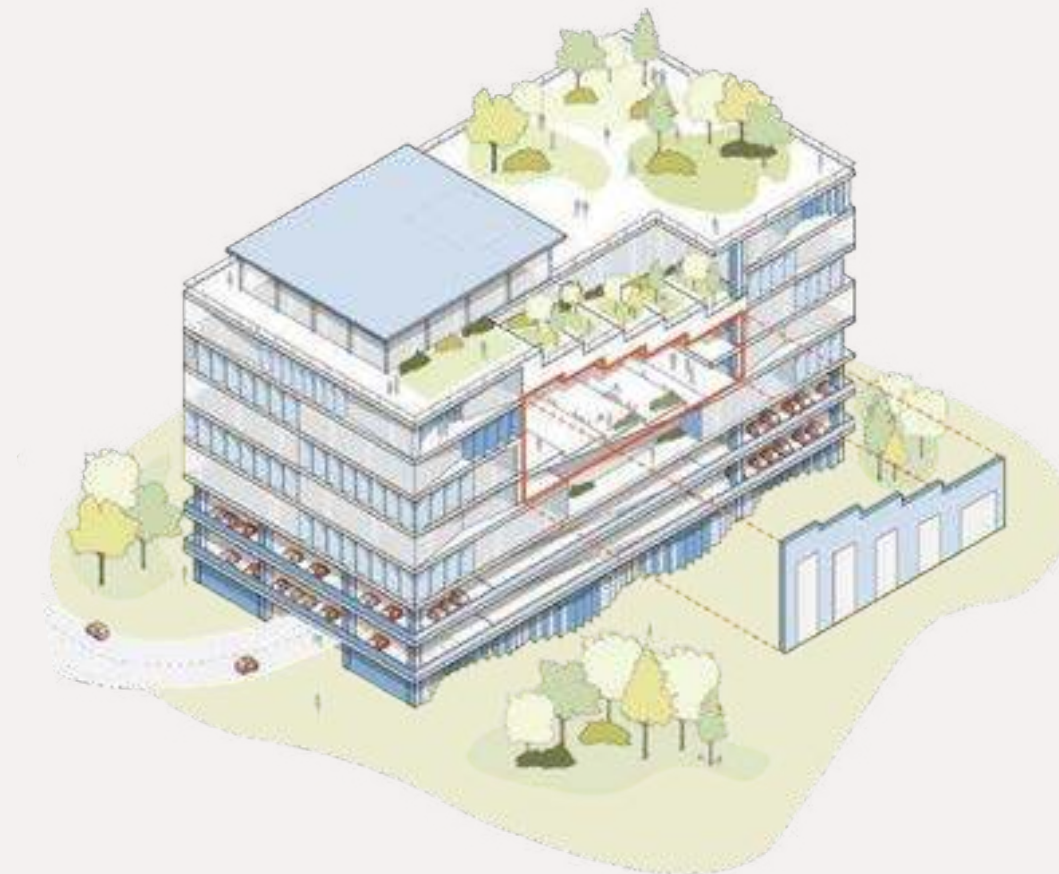
- ab.** Carleton University should encourage use of alternate modes of transportation by gradually reducing the existing vehicle parking supply. On street parking may be implemented at certain locations to ensure for accessibility (e.g. once LRT Stage 2 is complete and operational).
- ac.** Expanding or adding parking areas should be balanced with other modal opportunities, including strengthening access to public transit, walking, and cycling.

- ad.** Parking associated with new development or redevelopment should be integrated within building envelopes where possible.
- ae.** The creation of new surface parking lots should be minimized.
- af.** Required surface parking lots should be located at the side or rear of properties, not adjacent to streets or campus open space.
- ag.** Required surface parking should be visually screened from the public realm through low-level landscaping, fencing, and/or architectural elements.
- ah.** Carleton should continue to promote and support the use of electric vehicles (EV) on campus. As demand increases, EV charging stations should be integrated into existing parking lots through retrofitting and/or into potential new parking structures.
- ai.** Parking and charging stations for electric and carpool vehicles should be located close to building entrances. This would include allocating 10% of spaces for carpooling and 5% spaces for electric or green vehicles.
- aj.** Carleton should strive to reduce on-street parking over time beyond designated locations to accommodate priority visitors, pick-up and drop-off, and accessible users.
- ak.** Design new parking garages to be "EV-ready" by providing conduit and space for electric charging stations for all spaces that aren't provided a charging station initially, and sufficient sizing of transformer rooms.
- al.** Carleton should ensure that parking spaces closest to building entrances are designed as universally accessible and barrier-free.
- am.** Pedestrian walkways should be incorporated into surface parking lots to provide safe and direct connections to building entrances and open spaces. Ensure walkways are buffered by pedestrian-scale lighting and high-quality landscaping.

### Initial design



### Future adaptation



This diagram illustrates a potential opportunity to re-purpose above-ground parking garages in the future.

Potential parking structures could be strategically designed in a way that ramps and cores could be adapted and converted for academic, institutional and/or commercial use.

This would save significant economic and environmental costs rather than demolishing and rebuilding a structure at a higher cost.

(Flexible Parking Garage Graphic © SIDEWALK LABS)

- an.** Differentiate pedestrian walkway surfaces from vehicle routes. Utilize material such as permeable paving, patterned concrete, mega pavers, crushed limestone, and asphalt to create appropriate distinctions.
- ao.** Provide pedestrian level light standards along walkways and higher level light structures for security and vehicular circulation within parking lots.
- ap.** When structured parking locations are required, consider integrating a mix of uses, particularly when located adjacent to streets and/or open spaces.
- aq.** The creation of shared driveways is encouraged to minimize curb cuts and the interruption of the pedestrian boulevard.
- ar.** All potential future parking lots and/or garages should be designed to include softscape areas and trees to minimize the percentage of hardscape surface. Potential structured parking areas should be designed with high-quality building materials.
- as.** Carleton University should reduce the impact of impermeable surfaces through narrowed paved areas, use of permeable paving materials where possible, and generous landscaping.
- at.** Identify and locate areas for snow clearance and storage to ensure sufficient surface parking remains available for use throughout the winter months.
- au.** Existing surface parking areas should maximize the area of permeable paving to assist in on-site stormwater management (i.e., granular permeable surfaces oppose to asphalt paving).

## Bicycle Parking and Access

The accommodation of bicycle parking across Carleton University is critical to its future success as a cycling and pedestrian-oriented campus that prioritises health and wellness, sustainability, and accessibility. Bicycle parking on Carleton University should be conveniently located and appropriately designed to support a four-season climate.

Carleton currently contains three bicycle storage compounds on campus: one located beneath the pool deck at Athletics across from the Colonel By Child Care Centre, one located at the Teraanga Commons and a newer facility located between Dunton Tower and Azrieli Pavilion on Library Road. In addition, Carleton supports cyclists by providing bicycle racks throughout the campus and by offering a bike share program called VeloGo. The following guidelines support active transportation on Carleton University:

- av.** Bicycle parking should be located near main building entrances, pedestrian walkways, and at key open spaces to increase convenience, visibility and security.
- aw.** Secure short and long term bicycle parking should be located at strategic locations throughout the campus, and should be made available for use by faculty, students, and staff.
- ax.** Bicycle parking/storage should contain weather-protected features suitable for a four-season climate.

- ay.** Carleton University should incorporate change rooms and shower facilities into new buildings, such as the proposed Transit Hub, to encourage active transportation to campus.
- az.** The amenity zone located along streets and open spaces should incorporate bike parking, trees, landscaping, seating, and waste and recycling receptacles outside of the travelled way to ensure uninterrupted pedestrian mobility.
- ba.** The location of bicycle parking should not obstruct or adversely impact pedestrian traffic, accessibility, snow clearing, or any active programming at grade.
- bb.** Bike racks should be installed in groups and should be embedded into the ground where possible.
- bc.** Bike repair stations should be incorporated on campus within buildings and along key cycling connections, as feasible.
- bd.** Provide infrastructure for EV bicycles. Consider storage options for other micro mobility options (such as electric scooters).



Bike repair stand and bicycle pumps on campus encourage cycling. (© Cyclesafe)



Adding bike kiosks on campus would allow for community members to have access to sufficient services to make active transportation easier. (University of Manitoba Bike Kiosk; Winnipeg, Canada © UM Today Alumni)



Bike shelters encourage biking in varying weather conditions and provides identifiable spaces for bike storage. (University of Warwick, England © Broxap Street Furniture)

## 6.11 Landscape Design, Open Spaces, and Natural Systems



Catharijnesingel, Utrecht, Netherlands. (OKRA© Antoine Thevenet)

Landscapes, open spaces, and natural systems at Carleton University should respect and reinforce the campus' unique location, which is embedded within a beautiful natural environment. These spaces should also work to support community-building and learning, recreation, social gathering, research, access to the outdoors, biodiversity, and stormwater management.

### Flood Plain/Flood Risk Management

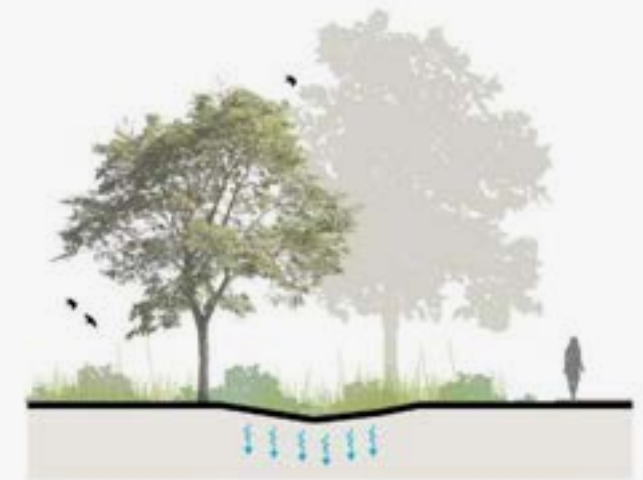
Flood risk management is an important component of this Campus Master Plan, as Carleton University is largely located within a flood plain (1-100 and 1-350 years). Campus development should ensure for maximum protection from potential flood risk and incorporate flood management interventions that provide protection to the campus.

The future potential Wellness Hub located within the East Precinct is located within a reduced flood risk zone, however, should incorporate flood management interventions to ensure for future protection.

Carleton should work collaboratively with the various regional authorities including, Parks Canada, the NCC and RVCA to ensure the proposed designs and strategies ensures for health of the watershed as well as the protection of Carleton's investments in new developments.

- a. Existing plant species should be maintained and protected.
- b. Educational awareness, signage or wayfinding along the river to emphasize the 'high risk' levels of flooding
- c. Where new development, enhancements or repairs are required in the flood plain or riparian zone, an environmental impact assessment should be conducted and any species at risk must be identified and protected.
- d. New planting in riparian areas should include species from the Rideau Valley Native Shoreline Species List. Plants to be selected should contain the same requirements that the existing or proposed condition will provide, including moisture levels, sun exposure, and soil types.
- e. The RVCA's Transitional Procedures and Guidelines should be reviewed and followed for development in relation to flood risk management.
- f. Landscape design should be designed to future proof the campus from global climate uncertainty, including resilience to 100-year storm and flooding events and other storm related infrastructure, including increased snow storage.

### Naturalized Bioswale Typologies



Bioswale



Bermed Bioswale



Low Berm

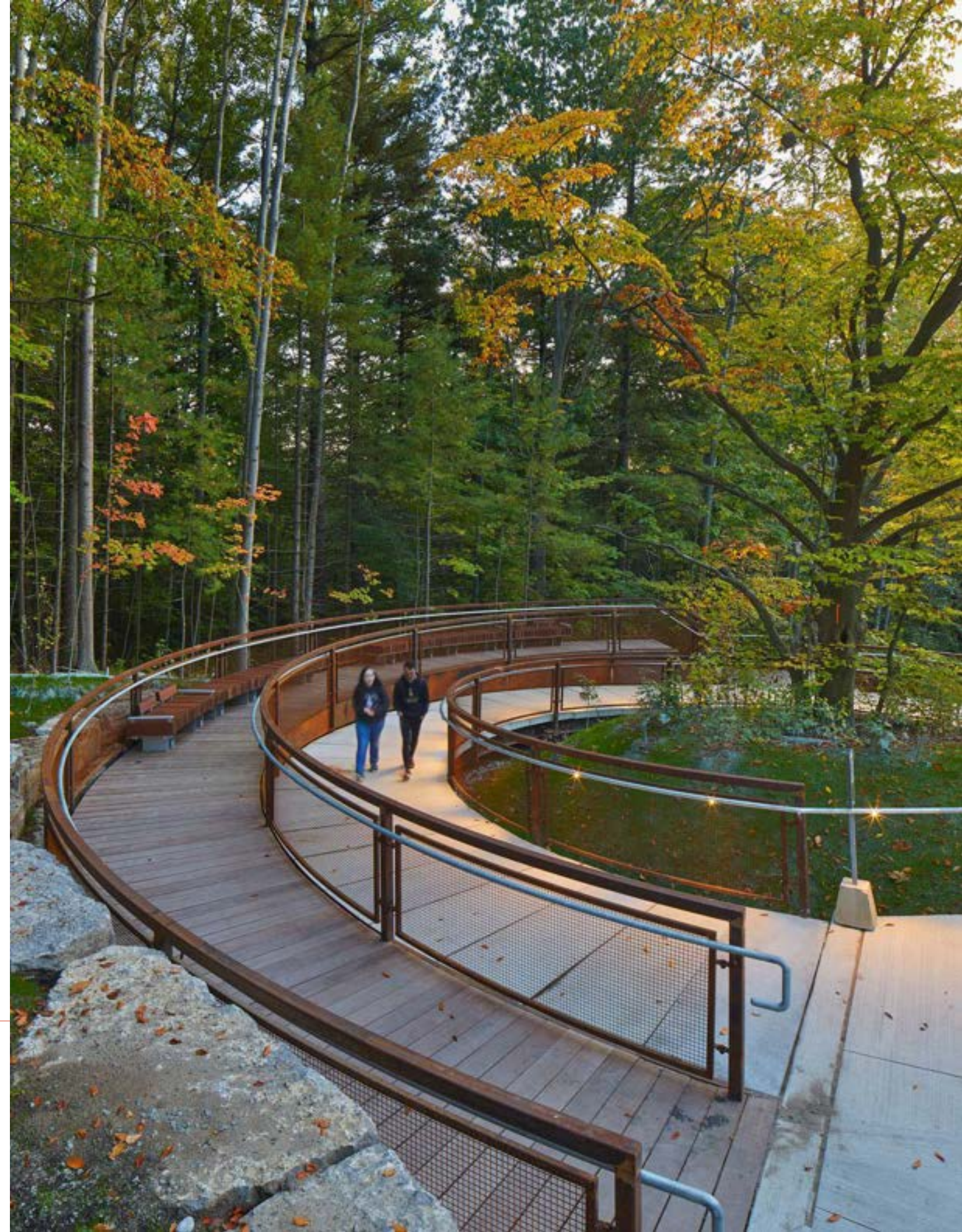
## Landscape Design

Landscape design contributes to a campus' identity and helps establish a sense of place, refuge, and comfort within spaces. Exterior spaces and landscapes should be designed to smoothly weave together the fabric of the campus by creating spaces with a variety of scales and characters. When feasible buildings should naturally flow into outdoor spaces, promoting use and activity and enhancing connections between areas on campus.

- g.** Soft landscaping should be diverse and include a mix of trees, shrubs, perennials, and grasses that provide all-season interest. Form, bloom colour, timing, as well as general structure and habit should be considered when designing a planting bed.
- h.** Tree planting areas should be robust and trees should be spaced relative to their mature size and be provided with ample soil volume (minimum 15 cubic metres per tree) to ensure healthy growth. If compaction is a concern or if available planting beds do not satisfy soil requirements, soil cells should be used.
- i.** Preserve existing mature trees on Carleton University where possible.
- j.** Include water features within gardens to support pollinators.
- k.** Plant pollinator gardens and encourage natural habitat areas where possible.
- l.** Special consideration should be given to plants commonly used by local Indigenous communities with medicinal or healing functions.
- m.** Planting of invasive species must be avoided. In areas where invasive species are known to exist, removal and remediation measures should be employed to ensure that species do not reappear.

- n.** Planting of mono cultures should be avoided. Diversity of species is beneficial in terms of aesthetics, habitat potential, and pest resistance. Groups of no more than 10 of the same plant species are recommended to be planted alongside one another.
- o.** Campus infrastructure such as shelters, structures, furniture, and walkways should be easy to use, comfortable and accessible year-round for people of all abilities, and should complement the surrounding context.
- p.** The design of built structures, including park pavilions, kiosks, and etc., should incorporate green infrastructure, green roofs, and sustainability measures to the greatest extent possible.
- q.** Landscape design should prioritize species that do not require permanent irrigation.
- r.** Establish a common vocabulary of landscaping materials (i.e., planting, furnishing, fences, etc.) that fulfill the physical needs of the campus and complement adjacent buildings and open spaces.
- s.** Refer to the OSMP (2020) guidelines for decisions relating to landscape furniture, pathway design, structures, and stormwater management to contribute to a unified campus identity.
- t.** Further develop a comprehensive palette of native plants that reflect local plant communities. Plants should be low maintenance, salt and drought tolerant, and tolerant of urban pollution.

The Valley Land Trail employed a comprehensive engagement strategy that involved faculty, students, conservation authorities and an Indigenous Elder. 600 native trees, 5000 shrubs, perennials, seed mixes and medical plants were integrated into the trail. The design is a successful example of creating a unique, accessible and memorable place that can be experienced and appreciated by all. (University of Toronto, Scarborough Campus © Schollen & Company)



- u. Special landscape treatments are encouraged to emphasize site access points and building entrances.
- v. Landscaping should be designed with consideration for future climate scenarios including increased precipitation events and related stormwater impacts.
- w. Select plants that will thrive in the conditions in which they will be planted. Sun and wind exposure, hardiness, growth rate, propagation style, pollution sensitivity, salt tolerance and use of irrigation should all be considered when selecting a plant species.

### Stormwater Management

Landscape design and the design of the campus hydrology should be intertwined in a unique and systematic way with the public realm. Bioswales, rain gardens, and stormwater ponds should be part of the public realm experience and be visibly connected to buildings, where appropriate. The Campus Master Plan Update's large scale landscape design strategy addresses stormwater management with surface run-off capture and storage, water mitigation, localized filtration gardens, and other sustainable measures.

- x. The Carleton University Stormwater Management Operating Plan recommends that more risk reduction be implemented on campus to minimize required sandbagging protocols for existing structures and sewer infrastructure.
- y. Stormwater should be considered as a resource in the design of new campus spaces.
- z. Stormwater should be slowed, stored, or infiltrated into the landscape through water reuse systems whenever possible.
- aa. Movement of stormwater should occur above ground as much as possible, through vegetated swales and other designed features.
- ab. Outlets of stormwater into municipal sewers should be minimized where possible.
- ac. Landscape design should contribute to on-site stormwater management plans and Low-Impact Development (LID) elements should be incorporated such as bioswales, rain gardens, rainwater collection tanks and green roofs.
- ad. Planting in vegetated swales or LID features should use species from the Rideau Valley Native Shoreline Species List as much as possible. Plants to be selected should have the same requirements that the proposed condition will provide, including moisture levels, sun exposure, soil types and general salt and pollution tolerance if needed.



Example of weaving Indigenous placemaking, landscape design, ecology, and stormwater management into a prominent public space. (© University of British Columbia)

## Open Space

Open spaces on campus should foster a welcoming and animated public realm. The network of open spaces envisioned by the OSMP and the CMPU works to establish a strong sense of place and destinations for the campus community. Open spaces provide various opportunities to integrate Indigenous placemaking, campus art, and landscape treatments to enhance their use and programming.

Campus open spaces encompass quads, forecourts, green spaces, and gardens, and fill the in-between spaces of campus buildings, streets, and connections. The following guidelines will help shape open spaces across Carleton University, further promoting a strong and resilient natural ecosystem, with prevalent tree plantings supporting and enhancing the existing canopy.

The CMPU suggests enhancements to existing outdoor spaces for flexible uses and recreational programming, and incorporates the Green Ribbon and Geological Time Trail as a multi-use pathway system that binds the campus together. This trail network will loop throughout the campus and provide a variety of functions and uses.

- a. Strengthen the existing network of open spaces on campus by enhancing existing open spaces (i.e., landscaping and pedestrian connections) and establishing new open spaces with suitable and appropriate landscaping treatments. Ensure new open spaces are equipped with appropriate linkages and connections.
- b. Open spaces should be visible and accessible from both public walkways and private buildings, increasing safety and permeability.
- c. Open spaces should vary in scale, character and feel to provide comfortable and usable spaces for all seasons and people of all abilities.

- d. Design open spaces to promote outdoor gathering, recreational activities, as well as increased passive activities including studying or reading.
- e. Ensure open spaces include a full range of complimentary site furnishings that help form a cohesive design aesthetic. Details such as seating, waste and recycling receptacles, bicycle parking, lighting, and weather protection should be cohesive in colour, form, and aesthetic.
- f. Indigenous and cultural placemaking should be considered in the design of open spaces. Elements such as gathering structures, native plant filled medicinal gardens, and aspects that express Indigenous languages, culture, and imagery (i.e., art and wayfinding features), should all be created in collaboration with Indigenous Elders and communities.
- g. Integration of electronic elements including wi-fi, GFCI receptacles, and other kinds of audio/visual connectivity are encouraged to support a diversity of uses and learning opportunities.
- h. Create areas for outdoor education to encourage land-based learning and to provide students, faculty and staff, as well as the larger community with places to learn about the geological and ecological characteristics of the campus.
- i. Open spaces should provide and enhance views and physical corridors into natural areas and riparian zones.
- j. Outdoor space design should support winter programming, recreation and general use. This may include warming areas, utilizing the sun for solar gain, or winter sports such as skating or skiing.
- k. Ensure open spaces are up-kept and maintained throughout the year to allow for activation and use.



Low Impact Development strategies such as rain gardens and bioretention zones should be considered in tandem with water management for new and existing buildings. (Television Centre, London, UK, Gillespies Landscape Architects © John Sturrock)



(The Goods Line, Sydney, Australia, Aspect Studios © Florian Groehn)





Integrated seating and lawns will help promote informal social gatherings and interactions. (Television Centre, London, UK © Gillespies Landscape Architects)

## Natural Systems

Carleton University's campus is uniquely situated in a natural and green setting bordered by the historic Rideau Canal to the west and Rideau River to the south. During the consultation process, students and faculty stressed the importance of having increased access to the natural environment and waterways during the consultation engagement process. Preserving existing trees, strengthening natural infrastructure, and renaturalizing banks of the river for habitat creation and riparian restoration are key ambitions of the Campus Master Plan Update.

The Plan Update encourages Carleton to continue to leverage, promote and protect the natural context that surrounds the campus. Implementing additional tree and other plantings through existing and proposed street networks and open spaces, the creation of the Green Ribbon and Geological Time Trail, and small and large design interventions

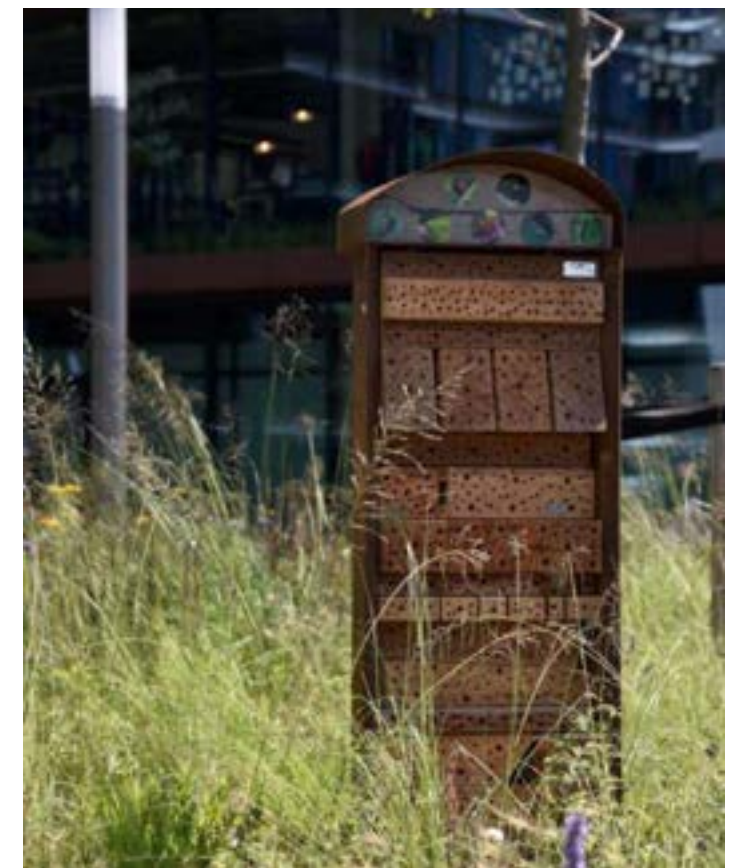
that support sustainability and climate resiliency will further promote its natural setting and be a leader in the future of sustainability initiatives on campus. Carleton University should continue to build in harmony with existing natural systems on and surrounding the campus, as well those within the region.

The following guidelines support the preservation and function of natural systems:

- a. Opportunities to enhance the campus' ecological function should be pursued. Examples include planting native plants, removing invasive species, creating pollinator gardens and habitat hotels, as well as managing and enhancing natural forests and streams.

- b. Water run-off should be captured, stored and filtered in both natural and man-made structures such as bioswales and oil and grit separators. This helps help maintain the health of the Rideau River by preventing contaminated surface run off from entering.
- c. Riparian restoration ecology should be considered along the Rideau River. This may involve bank reinforcement, plantings, and invasive species removal.
- d. Retain and enhance existing natural woodlands, riparian conditions, and tree canopies. Continue to plant new trees and convert lawns to pollinator meadows as outlined in the OSMP.
- e. Retain and enhance connections to water features surrounding Carleton University. This can be achieved through lookouts, view corridors, and physical connections.
- f. Enhance awareness of underlying natural and ecological ecosystems by integrating new developments, pathways, educational plaques and student-led clean ups of natural areas.
- g. Actively help grow pollinator populations by building pollinator friendly planting and policies such as eliminating the use of pesticides and herbicides on campus.
- h. Create opportunities for nesting facilities such as insect hotels and areas of refuge for different insects including butterflies, native bees, birds, and bats, especially to accommodate winter month conditions.
- i. Natural areas should be enhanced and continuous around and through the campus, connecting it to the larger regional landscape matrix.
- j. New development should be integrated harmoniously with the existing site grading. The natural landforms should inform building siting, parking locations, etc.

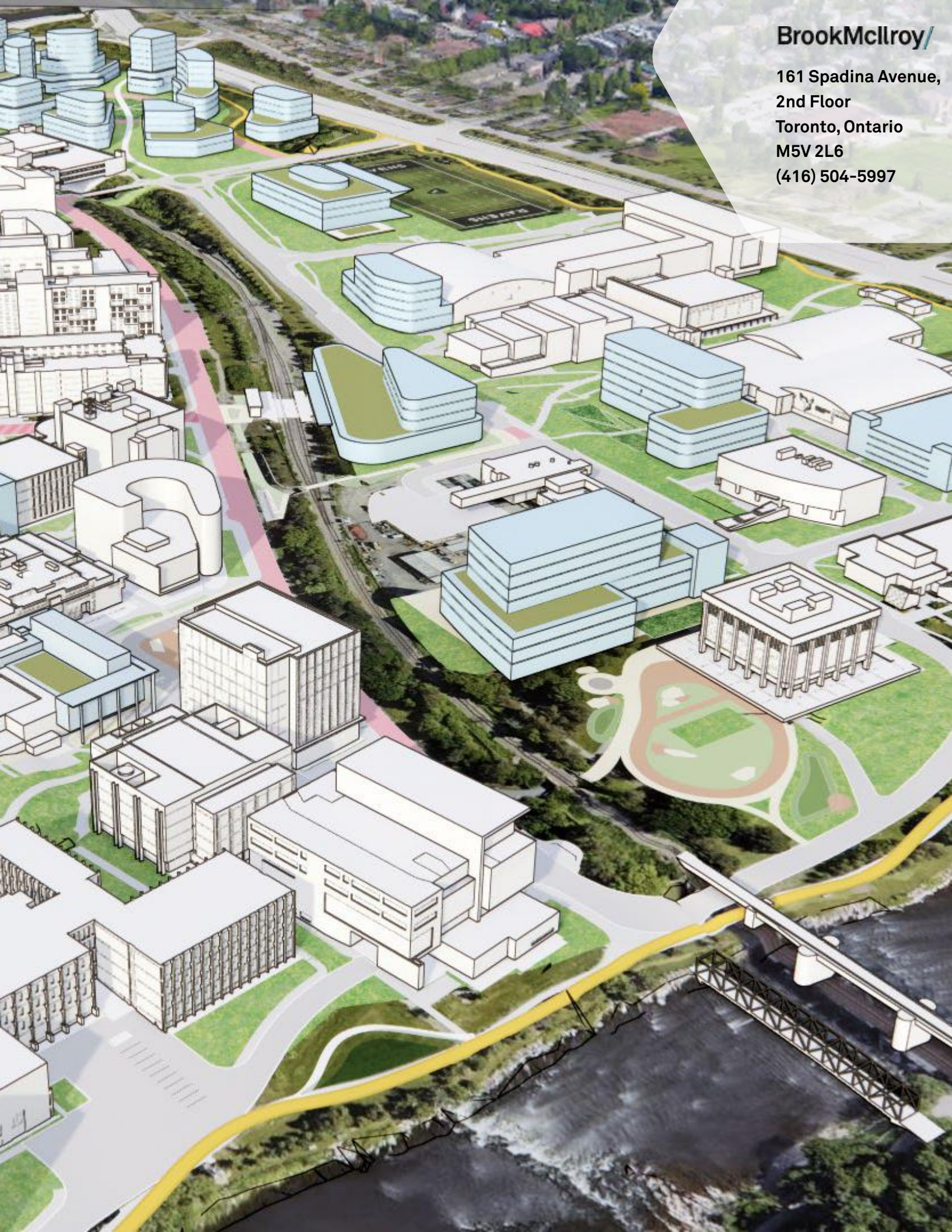
- k. Planting diverse species of trees and other plants should be prioritized. Plants proven to be a significant habitat for insects and animals should be prioritized. For example, Ginkgo biloba trees have been widely criticized for their lack of habitat value in Southern Ontario, and should be avoided, while native species such as Oak, Maple, Beech, Birch, Pine, Fir, Spruce, etc. should be prioritized.
- l. Explore partnerships with the Rideau Valley Conservation Authority and faculty to restore habitat, monitor progress, and adaptively manage the riparian area in the future.



Excess wood from street furniture could be made into insect hotels. Projects like the Insect Hotel by Grijsen supports circular design and sustainability initiatives while improving local biodiversity and habitat creation. (© Grijsen)

**BrookMcIlroy/**

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# **AGENDA ITEM**

**5.4**

<b>To:</b>	Board of Governors	<b>Date of Report:</b> 5 April 2023
<b>From:</b>	Building Program Committee Finance Committee	<b>Date of Meeting:</b> 24 April 2023
<b>Subject:</b>	<b>Loeb Building Renovations – Capital Proposal Form</b>	
<b>Responsible Portfolio:</b>	Vice-President (Finance and Administration)	

## 1.0 PURPOSE

For Approval    For Information    For Discussion

## 2.0 MOTION

On the recommendation of the Building Program and Finance Committees, approve the Capital Proposal Form and proceed to a Project Planning Report to include a schematic design and a Class "C" estimate for the Loeb Building Envelope Remediation and Replacement Project at a project cost not to exceed \$40 million, as presented.

## 3.0 EXECUTIVE SUMMARY

Loeb was built in 1965, consisting of four main office buildings linked with five connecting towers. It houses the Faculty of Public Affairs, Music Department and many others. The enclosure of the Loeb Building is beyond its lifespan, as per the Building Condition Assessment that was completed in 2021. Facilities Management and Planning (FMP) has been in communication with its key internal stakeholders and work is progressing in two phases.

**Phase 1:** The immediate safety repairs to the interior stairs and exterior guardrails has been awarded to a general contractor and work is underway.

**Phase 2:** This was initiated in October 2022. The building envelope remediation is currently in the Conceptual Design Phase with a class D estimate. The project team has been reviewing constructability methods and phasing, materials performance, and energy efficiencies such as Building-Integrated Photovoltaics (BIPV). Completing this work while the building is occupied will constrain the methodology, overall project costs and potential cost savings. Funding approvals of the concept design will lead to Schematic and Developed Design phases with a subsequent execution phase.

## 4.0 INPUT FROM OTHER SOURCES

The Loeb Building Renovations – Capital Proposal Form was prepared by Facilities Management and Planning (FMP), in collaboration with the design team consisting of architects, engineers, building envelope specialists, sustainability consultants, and the cost consultant (quantity surveyor).

## 5.0 ANALYSIS AND STRATEGIC ALIGNMENT

As highlighted in the 2021 Building Condition Assessment Report, Loeb’s building envelope is at its end-of-life span and presents safety concerns. The Loeb Facility Condition Index (FCI) is 0.35 which is rated “poor to critical” on the FCI scale. The building envelope has a Facility Condition Index of 0.55 which is rated “de-invest” on the FCI scale.

Upon funding approval, the Loeb Building Envelope Remediation and Replacement Project provides the opportunity to ensure that the building cladding is renewed and performs efficiently, and presents no safety risks. The project also aligns itself with the following:

- **Campus Master Plan** The Loeb building envelope design follows the Campus Design Guidelines and adheres to the guiding principles. The established guidelines provide flexibility and structure,

encourage creative, high-quality architectural and design expression and move the university closer to its sustainability goals.

- **Coordinated Accessibility Strategy** Building on the principles of the Campus Master Plan and its design guidelines - to create an accessible, safe, inclusive environment – this project aligns with the Coordinated Accessibility Strategy focus number 4, the elimination of accessibility barriers. This opportunity is related to the removal of access barriers to the level 3 roof terrace which will be addressed through the Loeb Building Envelope Remediation and Replacement Project.
- **Energy Master Plan** Loeb could generate around 30KWH/year (equal to saving of around \$10,000 annually) and would help to meet the objectives and targets identified in the Carleton University Energy Master Plan as follows:
  - Increase the number of renewable or alternative energy projects on campus through the use of Building-Integrated Photovoltaic (BIPV) panels.
  - Achieve annual energy (electricity and gas) consumption reductions with the use of the Pressure-Equalized Rain-Screen Insulated Structure Technique (PERSIST) Technology and Building-Integrated Photovoltaic (BIPV).

## 6.0 FINANCIAL IMPLICATIONS

The Loeb Building Envelope Remediation and Replacement project is currently estimated at \$40 million (Class D estimate) for the overall project. This would be funded from the Debenture over a four-year program. As the project progresses, detailed cash flows will be provided.

## 7.0 RISK, LEGAL AND COMPLIANCE ASSESSMENT

The current risks identified for this project are as follows:

- The Class D cost estimate that was prepared in 2021 as part of the building condition assessment will not reflect current market conditions.
- Although we have a construction implementation methodology placing the occupants within the building during the implementation, swing space may be needed.

## 8.0 REPUTATIONAL IMPLICATIONS AND COMMUNICATIONS STRATEGY

Anticipated annual energy consumption reductions through Pressure-Equalized Rain-Screen Insulated Structure Technique (PERSIST) Technology and Building-Integrated Photovoltaic (BIPV) panels will positively impact Carleton’s reputation by improving our impact on the environment and creating a functionally improved space for our community.

The project management team will update project sponsors and stakeholders regularly, and make them aware of any financial, schedule and operational risks that the project may face. Regular meetings will be scheduled to allow for open communication and transparency in regards to the project implementation and execution.

## 9.0 OVERALL RISK MANAGEMENT ANALYSIS

	VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH
<b>STRATEGIC</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>LEGAL</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>OPERATIONAL</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>TECHNOLOGICAL</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>FINANCIAL</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>REPUTATIONAL</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Project Name:** LA-156262- LOEB Envelope Remediation

**Department:** Planning, Design and Construction

**Last Updated:** March 9, 2023

**Author:** Leila Alijani

**Project Manager(s):** Leila Alijani, Ingi El-Hadi

**Executive Sponsor:** Lorraine Dyke, Vice-President (Finance and Administration)  
Gary Nower, Associate Vice-President (Facilities Management and Planning)

**Project Business Case**

<b>Project Overview</b>
<p>Loeb was built in 1965. It consists of four towers and is home to the Faculty of Public Affairs, Music, and many others. There are currently two projects underway in the Loeb building constituting two phases of renewal. Phase 1 includes immediate repairs to the interior stairs and exterior guardrails. Work is in progress. Phase 2 is the replacement of the exterior cladding on all four towers. The cladding is beyond its useful life, as per the Building Condition Assessment that was completed in 2021.</p> <p>The project team has been working on Phase 2 and has been reviewing constructability methods, scheduling, materials performance, and energy efficiencies such as Building-Integrated Photovoltaics (BIPV) with the intention of including solar cladding as part of the project.</p>
<b>Issue/Opportunity</b>
<p>As highlighted in the 2021 Building Condition Assessment Report, Loeb’s building envelope is at the end of its useful life, and presents safety and energy issues.</p> <p>Upon funding approval, Phase 2 of the Project has the opportunity to:</p> <ul style="list-style-type: none"> <li>• Improve the facility condition and address existing safety concerns</li> <li>• Generate around 30KWH/year equal to savings of around \$10,000 annually which would contribute to the objectives and targets identified in the Carleton University Energy Master Plan through the following: <ul style="list-style-type: none"> <li>○ Increase the number of renewable or alternative energy projects on campus through the use of Building-Integrated Photovoltaic (BIPV) panels.</li> <li>○ Achieve annual energy (electricity and gas) consumption reductions with the use of Pressure-Equalized Rain-Screen Insulated Structure Technique (PERSIST) Technology and Building-Integrated Photovoltaic (BIPV) panels.</li> </ul> </li> <li>• Increase daylight due to larger windows.</li> </ul>

### Project Goal

The goal of Phase 2 is to improve the overall condition of the building cladding while increasing our commitment to sustainability, reducing our carbon footprint, and realizing cost savings by offsetting energy consumption through the use of renewables.

### Project Duration Estimates

Project Milestone	Date Estimate	Confidence Level
Project Start Date	2022/10/28	High
Schematic Design, Class D Cost Estimate	September 2023	High
Begin Design Process	February 2024	Medium
Project Planning Report	April 2024	Medium
Construction	February 2025	Medium
Project End Date	2027	Medium

### Project Conditions

#### Project Assumptions

- The project will be executed with a phased approach while the building is occupied with minimal disruptions to occupants.

#### Project Risks

Key risks have been considered and summarized below:

- The current market for materials and labour is in flux. This presents a risk related to schedule and budget.
- The age of the building increases the probability of unforeseen conditions which may impact schedule and budget
- Secondary effect such as repairs to interiors will be assessed.

#### Project Constraints

The project is to be delivered with the building fully occupied with minimal shutdowns and disruptions throughout construction.

#### Environmental Considerations

- The environmental impacts are negligible.

## Project Financing

### Project Costs

The project budget of \$40 million was established in 2021. A Class D Total Project Cost (TPC) estimate has been completed as part of the concept design and aligns with the allocated budget.

### Project Funding

Debenture

### Project Operating Impact

- The project's operating impact will be minimal given that the majority of the work will take place while the building is occupied. Additional refurbishment work to replace existing flooring, walls, and ceiling finishes may be required.

### Financial Assumptions

The following financial assumptions have been made in the preparation of the cost estimate:

1. The budget for the project is \$40 million and will be allocated from the debenture
2. No 'accelerated' schedule premiums will impact the budget.
3. The project will be competitively bid to ensure that the university receives the best outcome.
4. No additional scope is required.

### Financial Resources Signoff:

## Project Critical Success Factors (Key Performance Indicators)

### Project Critical Success Factors

**Quality** – The building is anticipated to perform efficiently from an energy perspective based on the following:

- The use of the BIPV will generate 30,000 KWh/yr. which translates to further cost savings.
- As part of the Carleton University GHG emissions targets the project will reduce emissions annually by 500 tonnes which equates to 92 cars and light trucks not being used.



- The Facility Condition Index and System Condition Index will decrease as the condition of the building improves.

**Cost** – Budget vs Actual

**Schedule** – Planned vs Actual

## APPROVALS

Project Manager: \_\_\_\_\_ Date: \_\_\_\_\_  
Ingi El-Hadi  
Senior Project Manager

Executive Sponsor: \_\_\_\_\_ Date: \_\_\_\_\_

AVP Facilities  
Management  
Planning: \_\_\_\_\_ Date: \_\_\_\_\_  
Gary Nower

Vice-President  
Finance & Adm.: \_\_\_\_\_ Date: \_\_\_\_\_  
Lorraine Dyke

President: \_\_\_\_\_ Date: \_\_\_\_\_  
Benoit-Antoine Bacon

# Loeb Building Renovations – Capital Proposal Form

April 2023

# Executive Summary

Carleton University has retained the services of Hariri Pontarini Architects for the development of a Conceptual Envelope design for the Loeb Building.

## Design Methodology

Focusing on the building exterior envelope and energy efficiency, while balancing the aesthetics and architectural integrity of the original façade.

Total estimated cost: \$40 million



# Existing Building Envelope



- Joint between precast panels
- Ribbed red copper panel (replace)
- Insulated Glass Unit (IGU) (replace)
- Copper flashings (replace)
- Exposed aggregate precast panel (replace)



All exterior elements are at end of life.



# Preliminary Concept

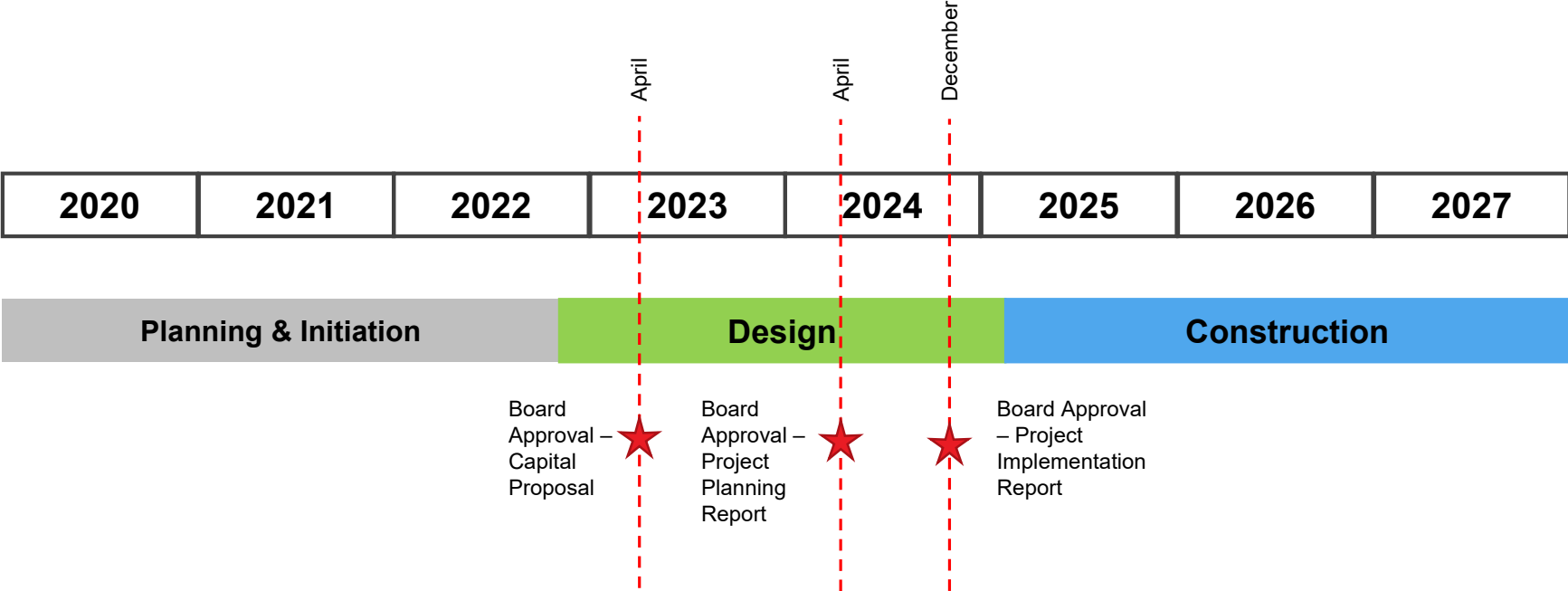


Bricks, Building-Integrated Photovoltaic Panels and Large Windows with Sunshade Fins

# Opportunities

- Building-Integrated Photovoltaic (BIPV) energy generation system producing 30,000 KWh/y, approx. value of \$10,000 annually.
- The solar panels are maintenance free for the contract duration of 25 years.
- GHG emission of 500 Total Carbon Dioxide (equivalent to 92 cars and light trucks.)
- Brick panels offer low maintenance ownership.
- Improve the energy efficiency of the building utilizing the Pressure-Equalized Rain-Screen Insulated Structure Technique (PERSIST) technology allowing for a continuous exterior insulation minimizing heat loss.
- Copper recycling, ±23,000 sq.ft of copper panels & ±7,400 linear ft. of copper flashing.
- Increased daylight due to larger windows.

# Project Schedule



# Stakeholders, Funding & Risks

## Stakeholders

- Faculty of Public Affairs
- Facilities Management and Planning (FMP)

## Funding

- Debenture
- Potential Facilities Renewal Program Funding

## Risks

- Occupied building during the construction
  - **Mitigation:** Swing space – Hybrid Schedule – Extended schedule
- Inflation and Budget Constraint – based on 2021 report – Class D
  - **Mitigation:** Design assist, Budget reconciliation



# Summary

- ❑ Opportunity to address safety concerns.
- ❑ Improve the overall condition of the building.
- ❑ In line with Carleton's commitment to sustainability.
- ❑ Reduce Carleton's carbon footprint.
- ❑ Realize direct cost savings in energy consumption.
- ❑ Minimize the required maintenance over a 25-year span.

## **Motion:**

Move to recommend to the Board of Governors, to approve the Capital Proposal Form and proceed to a Project Planning Report to include a schematic design and a Class “C” estimate for the Loeb Building Envelope Remediation and Replacement Project at a project cost not to exceed \$40 million, as presented.

# **AGENDA ITEM**

**5.5**

<b>To:</b>	Board of Governors	<b>Date of Report:</b> 5 April 2023
<b>From:</b>	Building Program Committee Finance Committee	<b>Date of Meeting:</b> 24 April 2023
<b>Subject:</b>	<b>Decommissioning of P9 Parking Garage - Capital Proposal Form</b>	
<b>Responsible Portfolio:</b>	Vice-President (Finance and Administration)	

## 1.0 PURPOSE

For Approval    For Information    For Discussion

## 2.0 MOTION

On the recommendation of the Building Program and Finance Committees, move to approve the Capital Proposal Form and proceed to a Project Planning Report for the decommissioning of P9 Parking Garage at a project cost not to exceed \$5 million, as presented.

## 3.0 EXECUTIVE SUMMARY

Constructed in 1969, the P9 parking garage is approaching 55 years old and continues to show progressive deterioration. In 2012, the services of a structural engineering firm Halsall, (now WSP), were retained to review the structure and provide a capital plan for the parking garage (P9). The findings were presented in the Halsall report dated March 22, 2013, along with a 25-year capital plan. This 25-year capital plan was contingent on not encountering any systemic issues or extraordinary deterioration or damage over the course of the 25 years of repair. In 2018, extensive cracking was observed in five beams, which led to several meetings and consultations with Carleton stakeholders and, as part of those consultation meetings, it was agreed that the implications of recovering the garage would be cost prohibitive and the end result would be still be an aging building that was in an advanced state of corrosion. Following that meeting, the engineering firm prepared a five-year expenditure plan targeting decommission of the building in 2024.

P9 is currently entering the final year, year five of five, of ongoing monitoring and progressive repairs required in order to keep the structure operational until its final decommissioning and demolition in spring 2024. A feasibility report was completed in June 2021 by Moriyama Teshima Architects, which analyzed different demolition techniques. Approval of this Capital Proposal will allow for further consultation and analysis regarding the best approach to handling site services and a more detailed estimate of total project costs to be incorporated into the Project Planning Report planned for early 2024. The P9 decommissioning project will allow Carleton to safely demolish the aging structure which has reached the end of its useful life, and will obviate the need for continued investment in maintaining a deteriorated asset.

## 4.0 INPUT FROM OTHER SOURCES

The project manager and key stakeholders were consulted in the preparation of the report as follows:

- Carleton University
  - o Facilities Management and Planning Project Management Team
  - o Parking Services Management Team
- Professional Services
  - o WSP – 2018 Capital Plan Report
  - o Moriyama Teshima Architects – 2021 P9 Demolition Feasibility Report
  - o A.W. Hooker – Cost Consultant (Quantity Surveyor)

## 5.0 ANALYSIS AND STRATEGIC ALIGNMENT

The project will be guided by Carleton's [Sustainability Strategic Plan](#) and all construction waste will be disposed of in accordance with regulatory standards and processes.

## 6.0 FINANCIAL IMPLICATIONS

The preliminary estimate of total costs is \$5 million. Based on cost consultant A.W. Hooker's 2022 Class D estimate (+/- 25%), the cost for the demolition portion only is \$3,888,000, excluding taxes. This estimate is based on the demolition of the structure at and above grade. Below grade infrastructure, inclusive of but not limited to, footings, tunnel, high-voltage loop, fiber optic cabling, and project soft costs are not included as part of the 2022 estimate. Further design development and consultant studies are required in order to provide an accurate total project cost. It is anticipated that the costs of demolition will be covered by Parking Services as shown in the Capital Proposal form. The continued annual investments in maintaining P9 will cease once the asset is decommissioned.

## 7.0 RISK, LEGAL AND COMPLIANCE ASSESSMENT

The ongoing beam monitoring and repair program, set to be completed in August 2023 (year five of five), is currently mitigating risks with respect to the existing structure. A primary risk associated with the demolition of P9 is its close proximity to surrounding occupied buildings and the City of Ottawa rail line. An enhanced co-ordination and communication strategy, traffic management strategy and site-specific safety plan will be required prior to and throughout the demolition of the P9 structure. Additional risks may be associated with the relocation of existing infrastructure as it relates to the final solution at this site following demolition. Budget risks have been addressed by retaining the services of A.W. Hooker, who will monitor and advise on budget risks as the project progresses. To mitigate the risks associated related to procurement, FMP will work with Procurement Services throughout the process.

## 8.0 REPUTATIONAL IMPLICATIONS AND COMMUNICATIONS STRATEGY

As the decommissioning of P9 will displace current parking permit holders, the development of a communications strategy will be needed. The demolition of the building will generate a significant amount of construction debris, the actual demolition should be planned around any significant events on campus in order to minimize the reputational implications. As demolition will have a significant impact on the adjacent buildings in regards to building access and noise, a communication and logistics plan will need to be established early on in the project to minimize disruptions.

Ongoing communications with the campus community and key stakeholders are part of project management oversight.

## 9.0 OVERALL RISK MANAGEMENT ANALYSIS

	VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH
STRATEGIC	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEGAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OPERATIONAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TECHNOLOGICAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FINANCIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
REPUTATIONAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Project Name:** P9 Parking Garage Decommissioning

**Department:** Facilities Management

**Last Updated:** March 9, 2023

**Author:** Eric Fletcher

**Project Manager(s):** Eric Fletcher / Brian Guzzo

**Executive Sponsor:** Parking Services - Brian Billings

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### Project Business Case

Project Overview
As per the 2018 Parking Garage Capital Plan Report, P9, is currently entering the final phase (year five of five) of ongoing monitoring and progressive repairs required in order to maintain and keep the structure operational until its final decommissioning and demolition in spring 2024. A demolition feasibility study has been completed. The P9 decommissioning project will allow Carleton to safely decommission and demolish the aging structure which has reached its end-of-life.
Issue/Opportunity
P9's progressive structural deterioration has required Carleton to invest annually in required repairs throughout the eight split-level facility. Decommissioning and demolition of the structure will allow Carleton to eliminate ongoing expenses on a diminishing asset at its end-of-life.
Project Goal
The completion of the P9 decommissioning and ultimate demolition will allow Carleton to cease funding annual repairs required to maintain the structure and ultimately repurpose the area it currently occupies. The original 25-Year Capital Plan called for a total expenditure of \$13.2 million. The repair expenditures from 2013-2024 are estimated at \$8.2 million. The balance (forecasted expenditures) from 2024-2037 would have been \$6.6 million, based on the original estimate, however in 2018, the deterioration was discovered to be more extensive. This resulted in the development of a five-year plan working towards its decommissioning. The cost to remedy this deterioration and to warranty the structure safe for ongoing use was deemed to be cost prohibitive, as per the engineering firm WSP.

### Project Duration Estimates

Project Milestone	Date Estimate	Confidence Level
Project Start Date	March 2023	High
Requirements Gathering & Project Scope Definition	April 2023	High

Construction Start	June 2024	Medium
Construction End	August 2024	Medium
Project End Date	October 2024	Medium

## Project Conditions

<p><b>Project Assumptions</b></p> <ul style="list-style-type: none"> <li>• The P9 Parking Garage was built in 1969. In 2024, it will be 55 years old. Parking garage structures of this type of construction and in this type of climate have an average lifespan of 50 years.</li> <li>• The P9 Parking Garage has reached its end of service life and is no longer safe to extend for further use.</li> <li>• Complete demolition of P9 and existing P9 tunnel infrastructure is required.</li> <li>• After demolition, the area will be graded to meet adjacent boundaries and resurfaced.</li> </ul>
<p><b>Project Risks</b></p> <ul style="list-style-type: none"> <li>• There may be impacts to adjacent buildings and LRT infrastructure during demolition due to proximity.</li> <li>• Service disruption and retrofits or re-routing of utilities during decommissioning may be required to ensure access for service repairs.</li> <li>• Code and egress requirements related to the tunnels may be challenging.</li> </ul>
<p><b>Project Constraints</b></p> <ul style="list-style-type: none"> <li>• There may be logistical constraints in the removal of debris.</li> <li>• Existing infrastructure services may need to be relocated.</li> </ul>
<p><b>Environmental Considerations</b></p> <ul style="list-style-type: none"> <li>• The project will be guided by Carleton’s Sustainability Strategic Plan and Waste Diversion plan and all construction waste will be disposed of in accordance with regulatory standards and processes.</li> <li>• Designated Substance Reports (DSR) will be completed to ensure hazardous materials are contained and disposed of according to provincial guidelines.</li> <li>• An Environmental Site Assessment will need to be completed early in the process to identify any potential issues.</li> </ul>

## Project Financing

<p><b>Project Costs</b></p>
-----------------------------

The spreadsheet below details the budget for the P9 Parking Garage Decommissioning project in 2024 and its impact on the budget of Parking Services. The budget assumes a \$5 million total project cost (Class “D” estimate) for the demolition, to be updated and refined throughout the stages of the design. Further assumptions include increases to parking rates which will result in the return of Parking Services to an accumulated surplus by 2030.

### Project Funding

The spreadsheet below details the annual budget for Parking Services and maps the recovery from a deficit position, assuming the ancillary bears the entire cost of demolition and decommissioning of the P9 Parking Garage.

### Project Operating Impact

PARKING SERVICES - 10 YEAR FORECAST											
Assumptions for permit revenue											
		10%	10%	10%	10%	10%	10%	3%	3%	3%	3%
	2023-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33
	Projection	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget	Budget
	('000's)	('000's)	('000's)	('000's)	('000's)	('000's)	('000's)	('000's)	('000's)	('000's)	('000's)
Revenue <sup>1</sup>	5,020	6,093	5,971	6,335	6,787	7,278	7,812	8,046	8,288	8,536	8,791
Operating expenses <sup>2</sup>	2,771	2,844	2,901	2,983	3,066	3,151	3,239	3,329	3,422	3,519	3,618
<b>Net income from operating activity</b>	<b>2,249</b>	<b>3,249</b>	<b>3,070</b>	<b>3,352</b>	<b>3,721</b>	<b>4,127</b>	<b>4,573</b>	<b>4,717</b>	<b>4,866</b>	<b>5,017</b>	<b>5,173</b>
<b>Renovations and Capital Debt</b>											
Deferred maintenance & capital projects	2,189	2,089	2,761	1,975	1,279	1,069	1,333	1,063	2,276	2,492	906
Decommissioning of P9 garage <sup>3</sup>	-	-	5,000	-	-	-	-	-	-	-	-
Internal loan - P18	1,236	1,236	1,236	1,236	1,236	1,236	1,236	1,236	1,236	1,236	1,236
	3,425	3,325	8,997	3,211	2,515	2,305	2,569	2,399	3,512	3,728	2,142
<b>Surplus (deficit) for the year</b>	<b>(1,176)</b>	<b>(76)</b>	<b>(5,927)</b>	<b>141</b>	<b>1,206</b>	<b>1,822</b>	<b>2,904</b>	<b>2,418</b>	<b>1,354</b>	<b>1,289</b>	<b>3,031</b>
<b>Accumulated surplus (deficit)</b>	<b>(2,172)</b>	<b>(2,248)</b>	<b>(8,175)</b>	<b>(6,034)</b>	<b>(4,828)</b>	<b>(3,006)</b>	<b>(1,002)</b>	<b>(584)</b>	<b>770</b>	<b>2,059</b>	<b>5,090</b>

<sup>1</sup>Assumes all non permit revenues after 2025-26 increase at 3% per year  
<sup>2</sup>Assumes operating expenses after 2025-26 increase at 3% per year  
<sup>3</sup>Cost to decommission garage is an estimate

### Financial Assumptions

1. The cost for the garage decommissioning in the above spreadsheet is an estimate, to be refined throughout the design phase.
2. Costs related to the tunnel and infrastructure relocation are to be funded by a separate funding source other than parking.
3. To return Parking Services to a surplus position by 2030 (paying out the deficit).

### Financial Resources Signoff:

## Project Critical Success Factors (Key Performance Indicators)

### Project Critical Success Factors



**Quality** – From a quality KPI:

- P9 access is restricted June 1, 2024
- Demolition of the structure to eliminate the risk of a potential infrastructure failure and need for Carleton to continue to invest in a deteriorating asset.

**Cost** – Budget vs Actual

**Schedule** – Planned vs Actual

**APPROVALS**

Project Manager: \_\_\_\_\_ Date: \_\_\_\_\_  
Eric Fletcher  
Senior Project Manager

Executive Sponsor: \_\_\_\_\_ Date: \_\_\_\_\_  
Brian Billings  
Director, Safety Services

AVP Facilities  
Management  
Planning: \_\_\_\_\_ Date: \_\_\_\_\_  
Gary Nower

Vice-President  
Finance & Admin: \_\_\_\_\_ Date: \_\_\_\_\_  
Lorraine Dyke

President: \_\_\_\_\_ Date: \_\_\_\_\_  
Benoit-Antoine Bacon

# Decommissioning of P9 Parking Garage

April 2023

# Executive Summary

- Parking Garage P9 was built in 1969.
- It is exhibiting signs of significant structural deterioration and in line with the 2018 Capital Plan Engineering Study, is reaching the end of its service life
- Carleton is entering the final year of a five-year monitoring and repair program employed to maintain the parking structure until its planned decommissioning in summer 2024
- Preliminary estimated cost is \$5 million



# Feasibility Study

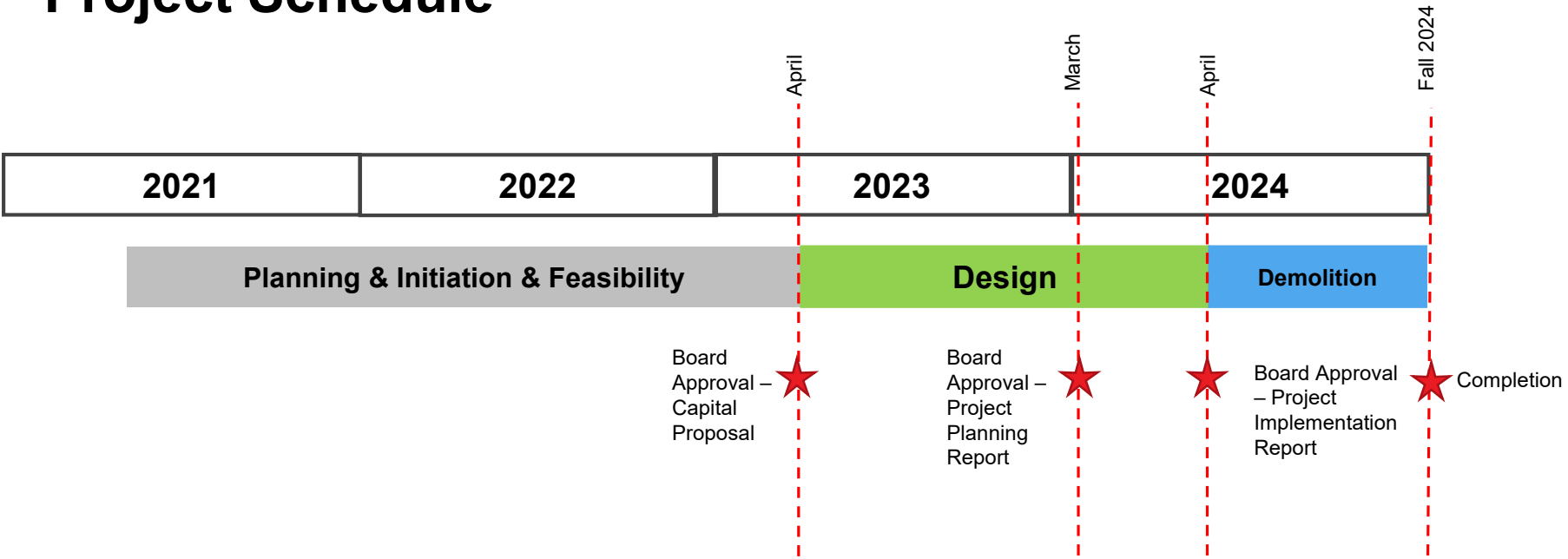
- In 2021, Moriyama Teshima Architects (MTA) prepared a feasibility study for the planned decommissioning of P9 which includes:
  - Options for potential demolition methods
  - Review of the existing service tunnel below the south side of P9 and proposed courses of action
  - Potential impact on the ITS fiber cable and high voltage loop below structure
  - Code consultant analysis regarding the tunnel connections
  - Site options to support future development
  - Preliminary cost analysis

# Project Objective

- Eliminate the need for Carleton to continue the allocation of funds for maintaining a deteriorating asset.
- Decommission P9 in a way that best supports the intended use of the site in the future.



# Project Schedule



# Stakeholders, Funding & Risks

## Stakeholders

- Parking Services
- Facilities Management and Planning
- Environmental Health and Safety
- P9 Permit Holders
- Adjacent building occupants

## Funding

- Parking Services

## Risks

- P9 is in close proximity to adjacent occupied buildings and the City of Ottawa O-Train rail line
  - **Mitigation:** Clear communication plan
- Inflation and Budget Constraint
  - **Mitigation:** Design assist, Budget reconciliation
- Decommissioning of P9 will impact multiple permit holders
  - **Mitigation:** Early communication with P9 permit holders, and alternate parking solutions

# Summary

- P9 is at the end of useful life and requires demolition
- Demolition is planned for spring 2024
- After demolition, site to be graded to meet adjacent boundaries and resurfaced
- Updated Class “C” estimate to be provided as the project advances further into the design phase



## **Motion:**

Move to recommend to the Board of Governors, to approve the Capital Proposal Form and proceed to a Project Planning Report for the decommissioning of P9 Parking Garage at a project cost not to exceed \$5 million, as presented.

# **AGENDA ITEM**

## **6.1**

<b>To:</b>	Board of Governors	<b>Date of Report:</b> 6 April 2023
<b>From:</b>	Vice-President (Students and Enrolment)	<b>Date of Meeting:</b> 24 April 2023
<b>Subject:</b>	<b>Coordinated Accessibility Strategy Annual Report</b>	
<b>Responsible Portfolio:</b>	Vice-President (Students and Enrolment)	

## 1.0 PURPOSE

For Approval  For Information  For Discussion

## 2.0 MOTION

This report is for information only.

## 3.0 EXECUTIVE SUMMARY

Carleton's Coordinated Accessibility Strategy (CAS) was officially launched in June 2020 under the guidance of the four Vice-Presidents. Through the cross-representational Steering Committee, the first phase of implementation brought together diverse voices and perspectives to draft proposed action plans. This past year, the CAS has continued in an action phase, with projects underway across the university. Each project ensures that the voices of lived/living experience guide the path forward. There is also an intention for equitable representation that reflects the diversity of our campus community.

The CAS implementation team continues to make progress towards its intermediary outcomes, such as internal recognition of accessibility as part of our culture, embedded in roles and greater representation. The team is also working with units on campus to support policy reviews and improved employment and employee support. These outcomes are the result of continued consultations and feedback from the Carleton community, and this report outlines specific actions taken in service of these outcomes in each of the CAS areas of focus.

Over the past year, 7 recommendations are in the planning phase; 13 recommendations are underway; 16 recommendations have the status of continuous, meaning that key targets have been accomplished although work continues; and 4 recommendations are upcoming in the near-to-mid term. Since the launch of the CAS, definitive actions have been taken on 36 of the 40 recommendations.

This annual report is respectfully presented to the Board of Governors as the CAS's ongoing commitment to transparency in the Carleton community.

## 4.0 INPUT FROM OTHER SOURCES

The Coordinated Accessibility Strategy (CAS) falls under the purview of the Accessibility Institute (formally the Research, Education, Accessibility and Design (READ) Initiative). However, the ongoing implementation of the recommendations in the CAS could only occur through the many collaborations with faculty, staff, and students from across the university.

## 5.0 ANALYSIS AND STRATEGIC ALIGNMENT

As stated in Carleton's Strategic Integrated Plan under Strive for Wellness, Strive for Sustainability, we continue to strive to make our campus, country and world accessible for all. Over many years, Carleton has led the accessibility conversation across Canada's higher education sector. Carleton has an extensive history of making its campus, courses and culture increasingly accessible, and is committed to being the most accessible campus in Canada. Leveraging the Coordinated Accessibility Strategy (CAS) and leadership in the Canadian

Accessibility Network (CAN), as well as other initiatives and programs across campus, Carleton will advance accessibility across research, training, employment, policy, and community engagement.

The CAS is approaching its third anniversary. We continue to reflect, listen, and learn as a community what is working and what needs to be improved. Progress on this implementation is a direct result of a dedicated group of more than 40 people spanning 20 units across all aspects of campus life whose creativity and innovative mindsets are advancing the needle of accessibility at Carleton.

## 6.0 FINANCIAL IMPLICATIONS

There are no financial implications.

## 7.0 RISK, LEGAL AND COMPLIANCE ASSESSMENT

Failure to implement the strategy and any actions contained therein would constitute reputational and strategic risk. The risk is mitigated by the actions being taken to implement the strategy and the communication plan to highlight the various initiatives.

## 8.0 REPUTATIONAL IMPLICATIONS AND COMMUNICATIONS STRATEGY

Failure to implement the strategy and any actions contained therein could constitute reputational risk. The risk is mitigated by the actions being taken to implement the strategy and the communication plan to highlight the various initiatives. It is essential that we continue to implement, evaluate, and communicate the recommendations of the Coordinated Accessibility Strategy, which impacts Carleton's reputation as being Canada's most accessible university.

Strategic communications are core to increasing visibility and awareness and also serve as the potential for educational tips on how others can engage in more accessible practices. A strategic communications team has formed as a partnership between the Accessibility Institute and the Paul Menton Centre for Students with Disabilities.

## 9.0 OVERALL RISK MANAGEMENT ANALYSIS

	VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH
<b>STRATEGIC</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>LEGAL</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>OPERATIONAL</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>TECHNOLOGICAL</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>FINANCIAL</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>REPUTATIONAL</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# **Coordinated Accessibility Strategy Annual Report 2022-2023**

**Presented to the Board of Governors**

**Accessibility Institute (formerly Research, Education, Accessibility and Design  
(READ) Initiative)  
April 24, 2023**

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## ***From the Coordinated Accessibility Strategy Implementation Team***

Carleton University continues to lead from a place of service and commitment, encouraging us to acknowledge the humanity in all of us and, by doing so, make space for recognition, understanding and compassion.

Our committed community working on the implementation of the Coordinated Accessibility Strategy (CAS) continues to evolve. In fall 2022, Carleton realized a goal ten years in the making with the establishment of the Accessibility Institute (formerly the Research, Education, Accessibility, and Design (READ) Initiative). From a CAS point of view, we have 25 action-based groups working on specific projects. Progress on this implementation is a direct result of a dedicated group of more than 40 people across all aspects of campus life whose creativity and innovative mindsets are advancing the needle on accessibility at Carleton. In the following pages, we share the highlights for each area of focus. It is important to recognize that while presented more linearly, the reality is that there are interrelated aspects across focus areas, creating ripples across the continuum of the strategy.

The CAS is approaching its third anniversary. We continue to reflect, listen, and learn as a community what is working and what needs to be improved. We will also continue to engage the community as an essential step so that Carleton continues to be a place where people of all abilities have the choice and agency to engage fully in all aspects of campus life.

On behalf of the CAS implementation team and the teams advancing our strategy, thank you for your continued advocacy and leadership for a more accessible world.

To our continued success,



Cathy Malcolm Edwards  
*CAS Implementation Lead*

## **Executive Summary**

Carleton University's [Coordinated Accessibility Strategy \(CAS\)](#) officially launched in June 2020 under the guidance of the four Vice-Presidents of the institution. Through the cross-representational Steering Committee, the first phase of implementation brought together diverse voices and perspectives to draft proposed action plans. This past year, the CAS has continued in an action phase, with projects underway across the university. Each project ensures that the voices of lived/living experience guide the path forward. There is also an intention for equitable representation that reflects the diversity of our campus community.

The CAS implementation team continues to make progress towards its [intermediary outcomes](#), such as internal recognition of accessibility as part of our culture, embedded in roles and with greater representation. The team is also working with units on campus to support policy reviews and improved employment and employee support. These outcomes are the result of continued consultations and feedback from the Carleton community, and this report will outline specific actions taken in service of these outcomes in each of the CAS areas of focus.

Over the past year, 7 recommendations are in the planning phase; 13 recommendations are underway; 16 recommendations have the status of continuous, meaning that key targets have been accomplished although work continues; and 4 recommendations are upcoming in the near-to-mid term (see [Appendix 1](#)). Since the launch of the CAS, definitive actions have been taken on 36 of the 40 recommendations.

This annual report is respectfully presented to the Board of Governors as part of the CAS's ongoing commitment to transparency within the Carleton community.

### **A note about language**

It is essential to recognize the power of language. People self-determine how to express their identities. As such, some people identify with person-first language (e.g., people with disabilities), others use identity-first language (e.g., disabled person), and some may decide to use broader acknowledgement of the ability continuum (e.g., people with varying abilities). The emphasis on equity, diversity, and inclusion (EDI) continues to evolve for the representation of those who have been marginalized by society. This acknowledgement is often expressed through language such as lived/living experience, which can acknowledge the multiple social identities any given person may have (e.g., gender, ethnicity/race, ability) and the intersection of them. While the CAS has adopted 'persons with disabilities' as its language, we have varied the language to create space where more people feel seen and represented.



## Context

Carleton University strives to be an inclusive community. This aspiration allows us to form deeper connections with one another as we work through barriers of language, stigma, and biases. We are grateful to the land which supports us in this pursuit, the traditional and unsundered territory of the Algonquin people.

The following guiding principles continue to anchor implementation efforts for the strategy:

1. We collectively support accessibility for those with visible and non-visible disabilities, including cognitive, developmental, intellectual, medical, mental, physical, and sensory disabilities.
2. We commit to being flexible to support each individual's fullest participation in activities and society in any place, space, item or service, whether physical or virtual.
3. We recognize and work to address attitudinal and systemic barriers to inclusion.

In 2018, Carleton undertook a collaborative process to develop its first Coordinated Accessibility Strategy (CAS). After extensive consultations with the community, where an emphasis was placed on listening to and reflecting on experiences, seven areas of focus emerged, each with a set of objectives and recommendations. Collectively, these serve as pathways to a more accessible campus for all.

Continuing with a human-centred approach for the implementation of the CAS, the first year (2020-2021) centred on activities and efforts in planning the implementation of the strategy. Last year (2021-2022), more than 30 people in 15 units were actively engaged in action projects that will address elements in the overall system that require improvement. This year (2022-2023), more than 40 people across 20 units contributed to the details found in [Reporting Back](#) (Figure 1).

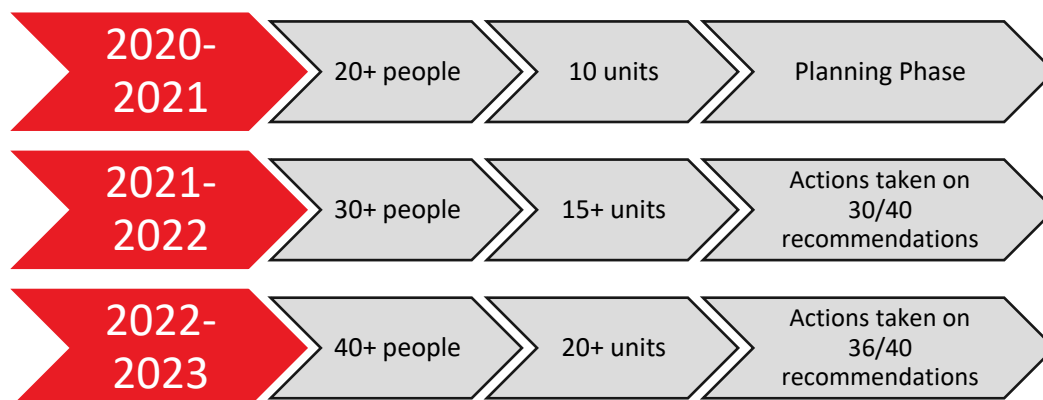


Figure 1 – Capacity and growth of CAS since inception

## Governance

The Coordinated Accessibility Strategy (CAS) is governed by a distributed leadership team that is responsible for the overall coordination and leadership (Figure 2). The CAS Lead continues to interface with Executive Champions to ensure access and support to coordinate cross-functional initiatives. Activities are informed by the Theory of Change that was developed in 2021-2022 ([Appendix 2](#)).



Figure 2: Team supporting coordination and leadership

<sup>1</sup> CAS co-chairs

<sup>2</sup> Part-time student resources and alumni

<sup>3</sup> Paul Menton Centre CAS Liaison

<sup>4</sup> Access to staff members at the Institute for coordination and communications

## **Reporting Back - Highlights of Progress in the Areas of Focus**

The following section provides an overview of the exceptional work led by more than 40 people, spanning 20 units on campus who are directly involved in CAS implementation. Note that each highlight and next step is mapped to a recommendation from the CAS. Please see [Appendix 1](#), which contains a table of all of the objectives and recommendations as outlined in the CAS per area and related status.

### **Area of Focus #1: Coordination and Leadership**

The Research, Education, Accessibility and Design (READ) Initiative was launched in 2012 and celebrated its ten year anniversary in fall 2022. This celebration included recognition of the tremendous work over the past decade by acclaiming the unit as Carleton University's Accessibility Institute. The team continues to grow with core and project team members, all dedicated to accessibility and inclusion of persons with disabilities at Carleton and in the local, national, and global community. Since its inception as an independent department in 2018, the Institute has brought in \$11.5M in funding. The Institute is just one way that Carleton continues to promote an increased emphasis on areas of disability, accessibility, and inclusion.

#### **Highlights:**

- In fall 2021, a provincial committee sought feedback on proposed standards for the Accessibility for Ontarians with Disabilities Act (AODA), specific to postsecondary institutions, to help make education more accessible for students with disabilities. In summer 2022, the participating units were contacted again regarding any progress made or barriers being faced regarding more accessible practices. This process helps us better understand the state of accessibility on campus and helps prepare us should a separate legislation come into effect for post-secondary institutions. ([Area of Focus 1, R.a](#))
- Work continues on Carleton's [accessibility landing page](#) in partnership with Web Services. Outcomes from focus groups in March 2023 involving those with living/lived experience will inform the continual accessible design of the site and inform more accessible university templates for the web. ([Area of Focus 1, R.a](#), [Area of Focus 3, R.d](#))
- Development of a workshop series that brings awareness to the power of language in challenging ableism as well as increase understanding about why accessibility matters. It has been delivered to leaders in the Accessibility Institute, Library, Residence Life (including student leaders), and students in the Research and Education in Accessibility, Design, and Innovation (READi) program. Also working with a team led by Adrian Chan to create accessibility training and awareness modules for use in engineering and design (pilot). ([Area of Focus 1, R.d](#))
- Our leadership continues to be reflected in the continued growth of the Canadian Accessibility Network (CAN) with its national office at the Accessibility Institute.

CAN has brought 18 new Collaborator Organizations on-board, bringing the total number of CAN Collaborator Organizations up to 70. The Network launched the bi-monthly newsletter in May 2022, which has grown to a readership of over 400 individuals. Additionally, CAN launched four new Communities of Practice (Education & Training Community of Practice with 35 members; Employment Community of Practice with 34 members; Policy Community of Practice with 27 members; and Research, Design & Innovation Community of Practice with 37 members).

- Completed a review of the 158 policies at Carleton, of which 15 (9.5%) mention terms related to inclusion, including accessibility, representation, mental health, or minority populations. There are others that could perhaps benefit from a review through the lens of accessibility. This will be part of the work in 2023-24. (across the portfolio and [Area of Focus 4, R.f](#))

## Area of Focus #2: Education and Training

Over the years, Carleton has committed to better practices as well as mobilizing knowledge, skills, and attitudes. In both formal academic programs and professional development training environments, the goal remains to educate instructors and the student population on how to make campus and campus life more accessible. Efforts in this focus area build on established practices on campus (e.g., Accessibility for Ontarians with Disabilities Act (AODA) training, universal design for learning, and web accessibility workshops).

### Highlights:

- Teaching and Learning Services (TLS) has reviewed and included aspects of accessibility in digital tools and design in all existing programming. They have refocused workshops to stress the simple things that instructors can change for all students as well as developed a summer institute to be offered which embraces universal design for learning. ([Area of Focus 2, R.a](#))
- Reconvened monthly meetings for the TLS Accessibility Seekers Community of Practice. ([Area of Focus 2, R.c](#))
- The Experiential Learning Hub will involve a team of students who will receive broad training around accessibility. TLS, working with the Accessibility Institute and the Paul Menton Centre for Students with Disabilities (PMC), will advise on this process. ([Area of Focus 2, R.d](#))
- TLS, Facilities Management and Planning (FMP), Scheduling and Exam Services (SES), and the Accessibility Institute regularly review learning spaces across campus with the goal of improving and addressing accessibility concerns. Persons with disabilities are key partners. ([Area of Focus 2, R.d](#))

### Area of Focus #3: Information and Communications

The release of the Carleton Digital Strategy solidifies that Carleton operates in two environments, one which is physical and one that is virtual. The commitment to accessibility in both environments remains paramount to the university. Below, we have captured several highlights that speak to leadership in this focus area.

#### Highlights:

- The communications and event guide is evolving to be a knowledge base co-managed by Conference Services and the Accessibility Institute. The knowledge base serves as a self-service library that can be expanded on as required. ([Area of Focus 3, R.b](#))
- Web Services have conducted approximately 40 scans over the past 18 months, scanning several thousand pages over this period. ([Area of Focus 3, R.a](#))
- Web Services completed new accessibility training modules and are advertising them widely via social media and other university channels. There are six larger modules, comprising approximately 20 lessons with completely revamped resources and new tutorial videos ([Area of Focus 3, R.d](#), [Area of Focus 3, R.e](#))
- Procurement Services, in close consultation with key stakeholders across campus, including the newly formed Accessible Procurement Advisory Group (APAG), has put into place the components for Accessible Procurement at Carleton. The soft launch will begin summer 2023. This includes updating the Procurement policy to include accessible procurement considerations. ([Area of Focus 3, R.e](#))

### Area of Focus #4: Physical Campus

For most people, we do not really notice the built environment until it gets in our way. Carleton is fortunate to have a team of dedicated trained professionals working towards making campus as accessible as possible. By adopting the Rick Hansen Foundation's Accessibility Standard, as well as Brock University's accessibility design guidelines, Carleton continues to challenge its standard of excellence, which far exceeds compliance with codes and regulations.

#### Highlights:

- Campus Map Upgrades: With the release of the new Carleton Mobile app, there is an opportunity to upgrade the map feature by pulling from the existing data on the web. Additionally, with the investment in the Rick Hansen audits on campus, a process is being drafted to update the accessibility content for future iterations. Phase 1 of the project could enable the existing accessibility features in Banner to be used in the exams module of Carleton Mobile during the spring exam period. ([Area of Focus 4, R.a](#), [Area of Focus 4, R.f](#))

- Accessible Room Characteristics have been set up and are available in the Enterprise Space Portal. ([Area of Focus 4, R.a](#), [Area of Focus 4, R.b](#))

### **Area of Focus #5: Employment and Employee Support**

While Carleton University is well known for being a leader in accessibility, the CAS highlights the need for further attention to services and supports for Carleton employees with visible and non-visible disabilities. More needs to be done for employees to address structural inequities that may exist inherently, particularly in our practices and processes.

#### **Highlights:**

- The leadership and management team in Human Resources is examining the current state of their services and supports and identifying gaps from the benchmarking project. As a first phase, the team is meeting with key advisors on campus to assess process and resources. ([Area of Focus 5, R.a](#))
- A policy framework is being developed that will be used to implement employment-related policy, including accessibility. ([Area of Focus 5, R.b](#))

### **Area of Focus #6: Student Support Services**

Over the year, strides have been made to develop more supports for students not registered with the Paul Menton Centre for Students with Disabilities (PMC), as well as for graduate students. Additionally, the teams behind both the implementation of the CAS and the recently updated Student Mental Health Framework (SMHF) continue to collaborate to support the mutual goal of a more inclusive campus.

#### **Highlights:**

- Services and support are now available to students who are not formally registered with PMC, including information meetings with a PMC coordinator for prospective and current members of the Carleton community, virtual support groups (ADHD, Graduate Writing, Anxiety), and the new graduate student series. ([Area of Focus 6, R.a](#))
- PMC conducted a survey of current graduate students that identified needs and gaps in services at the graduate level. The four main gaps identified were: more formal processes to support accommodation requests for outside of course specific accommodations, graduate funding, resources for supervisors who work with students with disabilities, and raising awareness of the PMC when grad students are accepting their offers of admission. Discussions with FGPA and other campus partners on how to address these gaps are ongoing. Currently PMC is offering increased graduate student programming and support in

response to the survey results. ([Area of Focus 6, R.b](#), [Area of Focus 6, R.c](#), [Area of Focus 6, R.e](#))

- The brand new Wellness Services Navigator has streamlined resource navigation for students by creating curated lists of resources, while the new Wellness website has been updated to better reflect the identified needs of our students based on the SMHF 2022-2026 consultations, including more accessible and transparent information. ([Area of Focus 6, R.d](#), [Area of Focus 6, R.e](#))

### Area of Focus #7: Research and Development

Research plays a vital role in advancing inclusion in society. Carleton's research reputation continues to grow in parallel to its ongoing commitment to accessibility. In the last calendar year, more than \$2.97M in research funding was awarded representing areas such as transportation, employment, and neurodiversity. It is worth noting that many of the opportunities came from outreach to Carleton based on its reputation.

A key element for competitive graduate programs is the ability to attract research funding to support leading-edge, socially relevant projects. Since 2018, the university has attracted a minimum of approximately \$3M per year in research revenue for accessibility research. The ability to bring in consistent funding year over year demonstrates ongoing capacity in Carleton's research enterprise to support the training of students interested in accessibility-related research. This understanding is at the forefront of the continued work to develop the first-of-its-kind collaborative masters' specialization in Accessibility.

#### Highlights:

- The Accessibility Institute, along with its campus partners, has launched a project to conduct agile analysis to 1) explore what disciplines make up the field of accessibility and 2) understand how Carleton is positioned within the field. Collectively, the outputs will help identify the current and future states for the university in this emerging area and identify ways that the Accessibility Institute and the research enterprise at Carleton can support the excellence of the researchers on campus. ([Area of Focus 7, R.a](#), [Area of Focus 7, R.b](#), [Area of Focus 7, R.c](#))
- A new collaborative Master of Accessibility, with a commitment for a research chair, has been approved by Senate. The development team is led by Adrian Chan, Systems and Computer Engineering; Kelly Fritsch, Sociology and Anthropology; Vincent Kazmierski, Law and Legal Studies; and Boris Vukovic, Accessibility Institute and School of Industrial Design. ([Area of Focus 7, R.d](#), [Area of Focus 7, R.e](#))

## *What is next?*

Over the next 12-18 months, the CAS implementation team will focus on progress towards intermediary outcomes that resulted from continued consultations and feedback from the Carleton community. It is critical that we collectively create opportunities for the campus community to identify with and recognize our culture of accessibility. We will continue to see accessibility embedded more formally in roles and in the policies that guide the institution.

Some specific activities that will support the outcomes include:

1. Creation of a roadmap for 2025 and beyond.
2. Completion of the physical campus audits. ([Area of Focus 4, R.b](#))
3. Working with senior leadership to explore ways to have accessibility embedded in roles and resources as a priority at all levels. ([Area of Focus 1, R.c](#))
4. Creation of accessibility and design training modules. ([Area of Focus 1, R.d](#))
5. Implementation of formal processes and policies for student supports for disabled graduate students. ([Area of Focus 6, R.a](#), [Area of Focus 6, R.b](#), [Area of Focus 6, R.c](#))
6. Development of supports and resources for accessible employment. ([Area of Focus 5](#))

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*"Carleton is extremely passionate about working towards making our community as accessible as possible...Not only does this make me a proud Carleton student but it makes me feel very welcome in the Carleton community."*

*Max LeMoine, Student Accessibility Champion*

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## Appendix 1: Areas of Focus and Recommendations Status

This Appendix contains the Objectives and Recommendations directly outlined in the [Coordinated Accessibility Strategy \(CAS\)](#). A status column has been added with the following indicators:

- **Planning:** Activities (e.g., planning, coordination) have been initiated in the current reporting cycle.
- **Underway:** Activities are currently underway and being implemented.
- **Continuous:** Activities are complete, but implementation is an ongoing process with no definitive end date.
- **Upcoming:** Activities that are planned in the near-to-mid term.

The table below can be summarized as follows:

- 7 recommendations are in the planning phase,
- 13 recommendations are underway,
- 16 recommendations are considered in a continuous phase, and
- 4 recommendations are upcoming.

As recommendations are actioned, it is worth noting that the implementation is an ongoing process with no definitive end date. This is reflective of accessibility not being an end state but instead a continuous state of adaptation. Since the original launch of the CAS, definitive actions have been taken on 36 of the 40 recommendations.

### Area of Focus #1. Coordination and Leadership

Recommendations	Status
a. Conduct a thorough environmental scan and create a living document of all accessibility initiatives at Carleton.	Continuous
b. Establish an interdisciplinary Centre of Excellence in Accessibility that provides leadership, coordination, best practices, research, support, training, and knowledge mobilization.	Continuous
c. Formalize the senior leadership responsibility for accessibility across the University's portfolios.	Upcoming
d. Increase depth of accessibility training of people in leadership positions.	Planning

e. Expand University-wide and community events and campaigns to increase awareness and foster a culture of accessibility.	Underway
f. Develop membership and contributions to accessibility partnerships, organizations, and consortium, partnering at the local, provincial, national, and global level.	Continuous
g. Establish a central resource to disseminate and receive information on accessibility.	Continuous

## Area of Focus #2: Education and Training

Recommendations	Status
a. Increase the number of in-depth training opportunities in accessibility on campus that are relevant to different settings and exceed minimum requirements.	Underway
b. Increase the number of community activities that build greater awareness and understanding of accessibility and disabilities, barriers, and exclusion, as well as opportunities for change.	Continuous
c. Provide educators on campus with incentives, skills, and resources to consider accessibility in the design of academic activities and experiential learning, including the principles of universal design.	Planning
d. Include persons with disabilities and value their lived experiences as a source of knowledge in the design of teaching and learning.	Continuous
e. Expand interdisciplinary academic programming and professional development in accessibility and disabilities for members of the internal and external community.	Underway
f. Address issues of accessibility and disabilities within the Faculties and Departments and encourage faculty to utilize relevant teaching and learning services.	Planning

**Area of Focus #3: Information and Communications**

Recommendations	Status
a. Perform system audits for accessibility, driven by individual units.	Continuous
b. Establish process for support for providing accommodations, and adaptive and assistive devices for Carleton events.	Underway
c. Establish a reporting protocol to identify information and communication related accessibility barriers and areas for improvement.	Planning
d. Establish best practices for accessibility in all knowledge creation and sharing (e.g., documents, presentation, websites, social media, conferences), which are shared internally and externally.	Continuous
e. Provide guidelines and training opportunities on accessibility in knowledge creation and sharing for faculty and staff.	Continuous
f. Ensure accessibility to be part of the procurement requirements.	Underway

**Area of Focus #4: Physical Campus**

Recommendations	Status
a. Create a Carleton University standard for accessibility of physical spaces based on best practice guidelines and certifications that surpass minimum requirements.	Continuous
b. Perform a full accessibility audit of the physical campus with input from the campus community, particularly persons with disabilities.	Continuous
c. Undertake systematic retrofitting to address current problems and meet the new standards for the physical campus.	Planning
d. Establish a reporting protocol to identify accessibility barriers and areas for improvement.	Continuous
e. Establish a permanent University budget and related supporting resources for accessibility of physical spaces.	Upcoming

f. Review University policies and practices to consider accessibility where relevant to the physical campus.	Underway
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### Area of Focus #5: Employment and Employee Support

Recommendations	Status
a. Institute effective processes and go-to resources on campus for disability-related accommodations and supports for employees across all levels and stages of employment.	Underway
b. Review and identify gaps in employment-related policies, practices, and training that support accessibility, accommodations, and disability-competent inclusion.	Continuous
c. Provide targeted opportunities across campus that promote career development and training for Carleton employees with disabilities.	Upcoming
d. Include employees with disabilities for input and participation to improve accessibility in employment for persons with disabilities.	Planning
e. Review Carleton's rates of employment of persons with disabilities and address gaps in representation where they exist.	Upcoming

### Area of Focus #6: Student Support Services

Recommendations	Status
a. Optimize resources through accessibility lens to be responsive to the growing needs for accommodation and support of students with disabilities.	Continuous
b. Review and identify gaps in student services programming and delivery with consideration of both undergraduate and graduate students with disabilities.	Underway
c. Provide accessibility and disability-related training specific to different student services programs.	Underway

d. Build knowledge, awareness, and attitudes in accessibility and accommodations across all student-facing services and points of contact on campus.	Continuous
e. Establish formal student feedback and program evaluation protocols for disability-related student services for continuous quality improvement.	Underway

### Area of Focus #7: Research and Development

Recommendations	Status
a. Develop a strategic plan for accessibility and disability research and knowledge mobilization (e.g., research informed campus initiatives).	Underway
b. Create a university-wide network of researchers in accessibility and disability.	Continuous
c. Grow the research capacity in accessibility and disability, including increasing the number and retention of researchers, research funding, research infrastructure, and community partnerships.	Underway
d. Pursue research chair(s) in accessibility and disability.	Planning
e. Establish academic programming to support research in accessibility and disability.	Underway

## Appendix 2: Theory of Change Development

A small working group met in 2021-2022 to develop a theory of change for the CAS. A theory of change can be a valuable tool to guide the evaluation of complex, interwoven and interdependent outcomes, including leadership and cultural change. Represented as a logical process, the theory of change starts with desired change and then applies backwards design to determine what are the outcomes, outputs, and activities needed to achieve the desired change. Figure 1 shares the impact statement of the CAS, namely, that our community fully supports the inclusion and participation of all its members, regardless of ability. This commitment is the heartbeat of why the CAS exists and is supported by the intended outcomes of representation and engagement of living/lived experiences of disability that act as a catalyst for change both on campus and more broadly in society. An active community will create more fulsome, accessible experiences that collectively authenticate Carleton's position as a national and global leader.



Figure 1: CAS impact and higher-order outcomes

Central to the theory of change is an acknowledgement of the pre-conditions needed for success and any assumptions being made. As per Figure 2, the assumptions carry over from the development of CAS, namely that:

- the approach continues to recognize the vital need for promotion of agency, co-design;
- acceptance that change is possible;
- representation of disabled people (also referred to as living/lived experience) is essential; and,
- The CAS implementation team recognizes the intersectionality of our identities.

The implementation of the CAS requires pre-conditions such as relationships and people, financial investment, accountability to commit and deliver, and lastly, strength in our community to be successful.



Figure 2: Theory of Change Assumptions and Pre-conditions

It is also important to acknowledge the barriers and enablers to accomplishing our goals and objectives with the CAS, as expressed in Figure 1. Doing so helps set and manage expectations. Figure 3 represents some of the barriers to more accessible environments, both systemic in society and also specific to the Carleton environment. It is worth noting that impacts of the COVID-19 pandemic and organization priorities are strongly interrelated; that is to say that the pandemic has played a heavy role in the capacity of units to prioritize activities and efforts for the CAS, though the commitment to accessibility has not diminished. This commitment is key to the enablers listed. Continually, the strength of our community is evident through collaborations, innovative thinking, and co-design approaches.

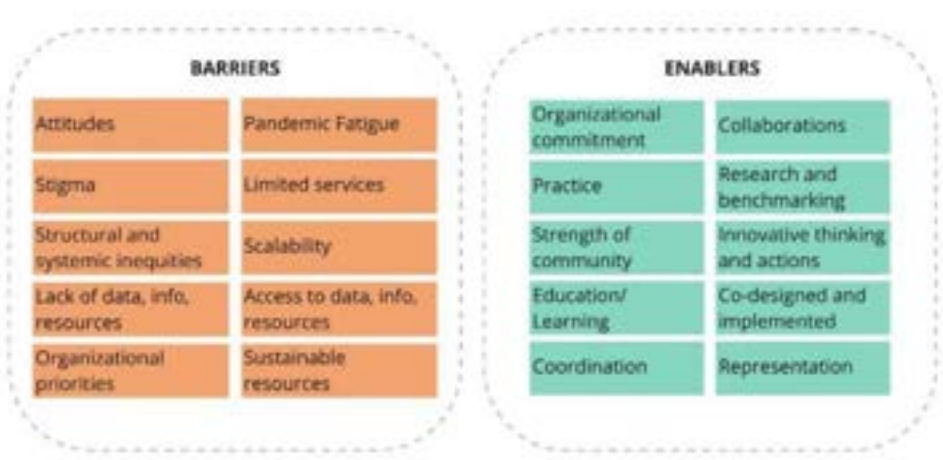


Figure 3: Barriers and Enablers for Theory of Change

The primary activities and nearer-term outputs act as the progress measures to meet the intermediary and longer-term outcomes associated with the CAS. These elements are documented in [Reporting Back](#).

# **Coordinated Accessibility Strategy Annual Report 2022-2023**

Board of Governors

April 24, 2023

Presented by Cathy Malcolm Edwards

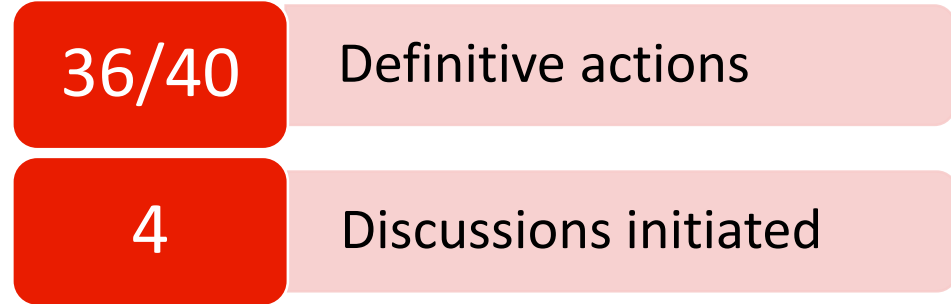


# Progress on Recommendations

## Since April 2022 Report



## Since CAS Launch



# Highlights

## Coordination and Leadership

- Accessibility Institute
- Advancement of the Canadian Accessibility Network



## Education and Training

- Accessibility Seekers group
- Engagement of living/lived experience
- Accessible learning spaces



# Highlights

## Information and Communication

- Website technical audits
- New web training modules
- Accessible procurement policy



## Physical Campus

- Continued partnership with Rick Hansen Foundation
- Campus map project



# Highlights

## Employment and Employee Supports

- Mapping of processes
- Identification of pathways



## Student Support Services

- Graduate student support
- Growth of accessibility lens
- Wellness navigator



# Highlights

## Research and Development

- Accessibility Standards Canada
  - Acoustics
  - Neurodiversity
- Defining the field of accessibility



\$11.5+ M research  
funding since 2020  
(Carleton-wide)

\$2.97 M funding in 2022  
(Accessibility Institute)

# Next Steps (12-18 months)

- Creation of a roadmap for 2025 and beyond
- Completion of the physical campus audits
- Accessibility embedded in roles and resources as a priority at all levels
- Creation of accessibility and design training modules
- More accessible graduate student experiences
- Supports and resources for accessible employment

# Special acknowledgements to...

- Accessibility Institute
- AODA Committee
- Campus Audit Team
- Carleton Disability Awareness Center (CDAC)
- Carleton University Research Community
- Conference Services
- Dedicated Access Fund Committee
- Equity and Inclusive Communities
- Facilities Management and Planning
- Health and Wellness Services
- Housing and Residence Life
- Human Resources
- MacOdrum Library
- Office of Quality Initiatives
- Office of the Vice-President (Finance and Administration)
- Office of the Vice-President (Students and Enrolment)
- Paul Menton Centre for Students with Disabilities
- Procurement
- Scheduling and Exams Services
- Student Mental Health Team
- Teaching and Learning Services
- University Safety
- Web Services

**Thank you**



# **AGENDA ITEM**

**6.2**



# International Strategic Plan

2020-2025

# Agenda

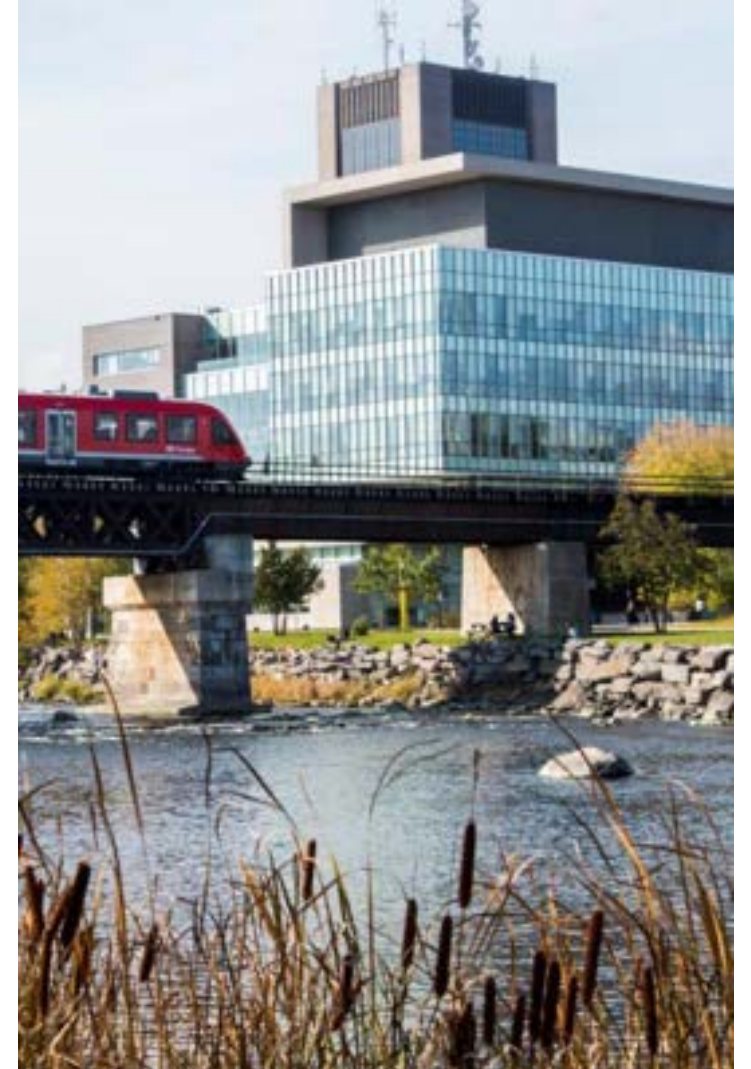
1. Introduction
2. Our Strategic Vision
3. Our Global Presence
4. International Goals
5. Challenges and Opportunities
6. Roadmap for the Final Two Years of the International Strategic Plan



# Our Strategic Vision

**Vision:** Serve the World, Nurture Global Citizens

**Mission:** Carleton University will enhance its international reputation for research and teaching in programs that respond to the needs of our society today and anticipate the needs of the future. This will increase the capacity of Carleton students, faculty, and staff to engage in and lead international initiatives, hereby nurturing global citizens.



# Our Global Presence



Carleton University has an extensive international outreach. Dots represent actual international linkages (MOUs, visiting scholars, mobility, and international research projects).

**177,000+** alumni worldwide

---

**4,490** international undergraduate and graduate students

---

**64** active MOUs and **133** student exchange agreements

# International Goals

## International Mobility & Experiential Learning



- Increase international mobility and experiential learning opportunities
- Showcase our successes

## Internationalization at Home



- Leverage our location in the national capital
- Promote intercultural learning events
- Develop global engagement certificate



## International Research & Funding

- Create research collaborations
- Expand student research mobility
- Increase research funding



## International Students

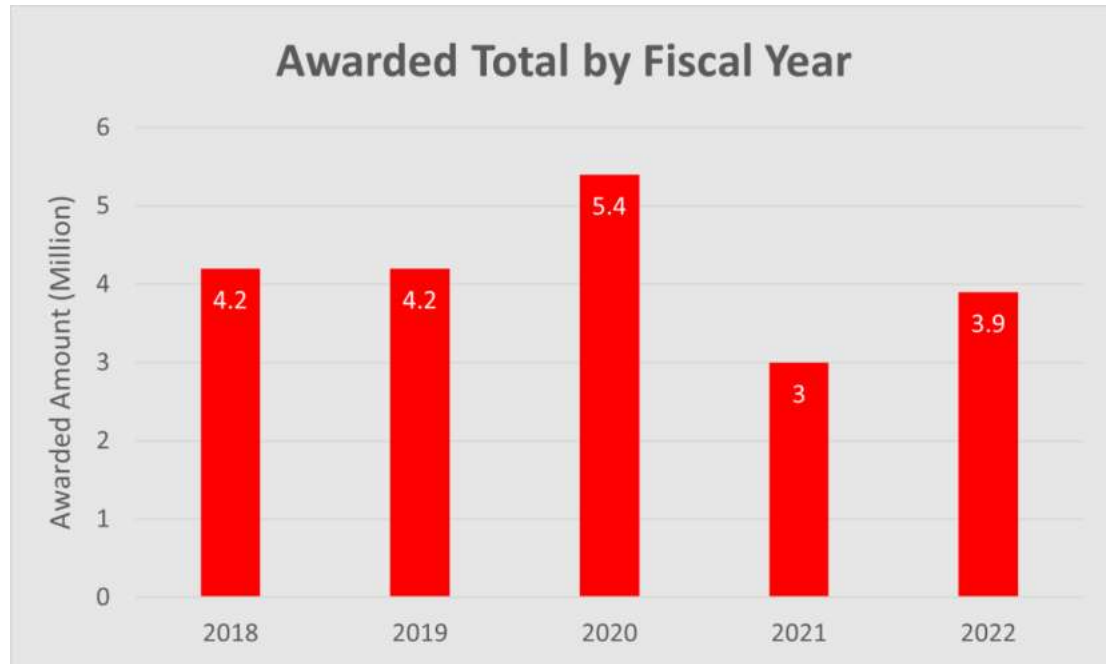
- Diversify student population
- Enhance student experience
- Celebrate international students' contributions



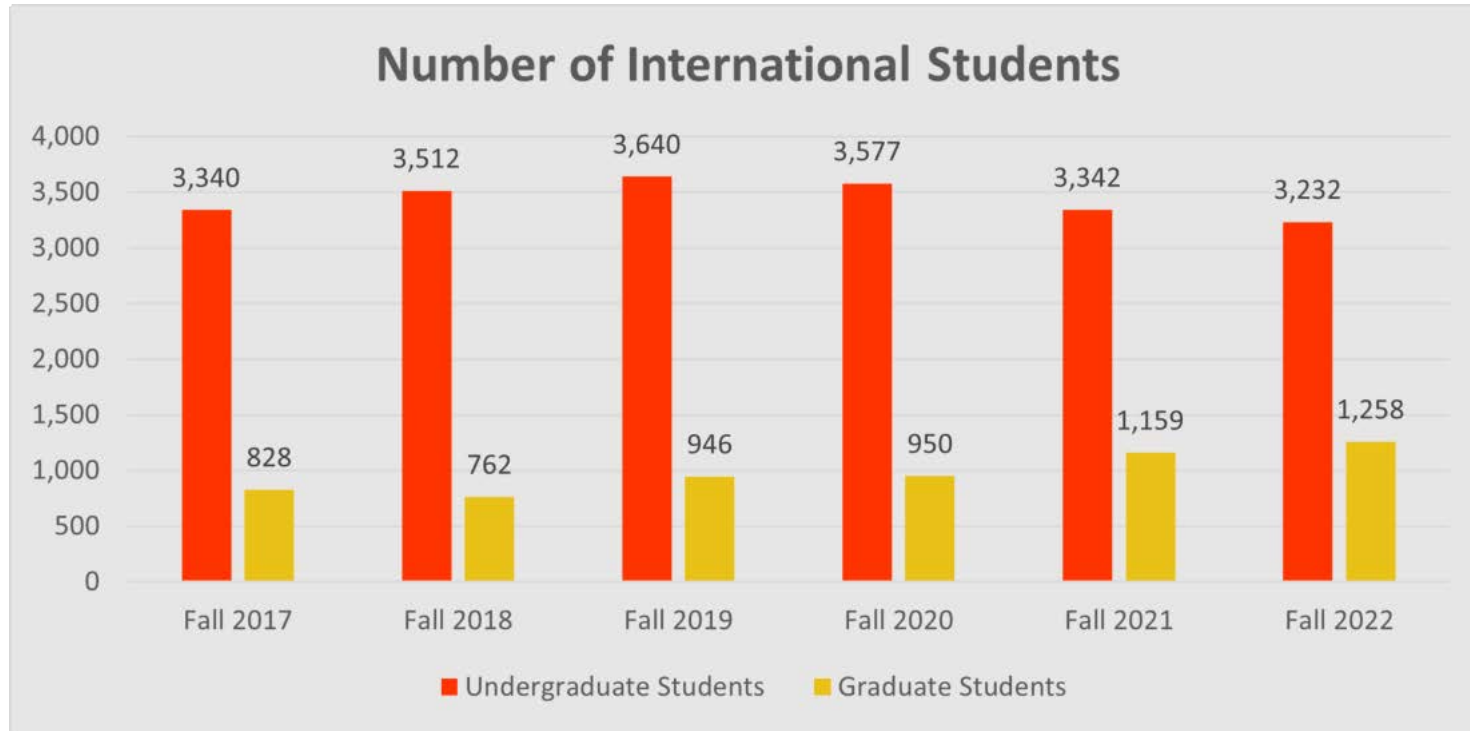
## International Teaching, Knowledge & Expertise

- Expand international programs
- Attract international scholars
- Expand online academic offerings

# Progress Toward Goal 1: International Research and Funding



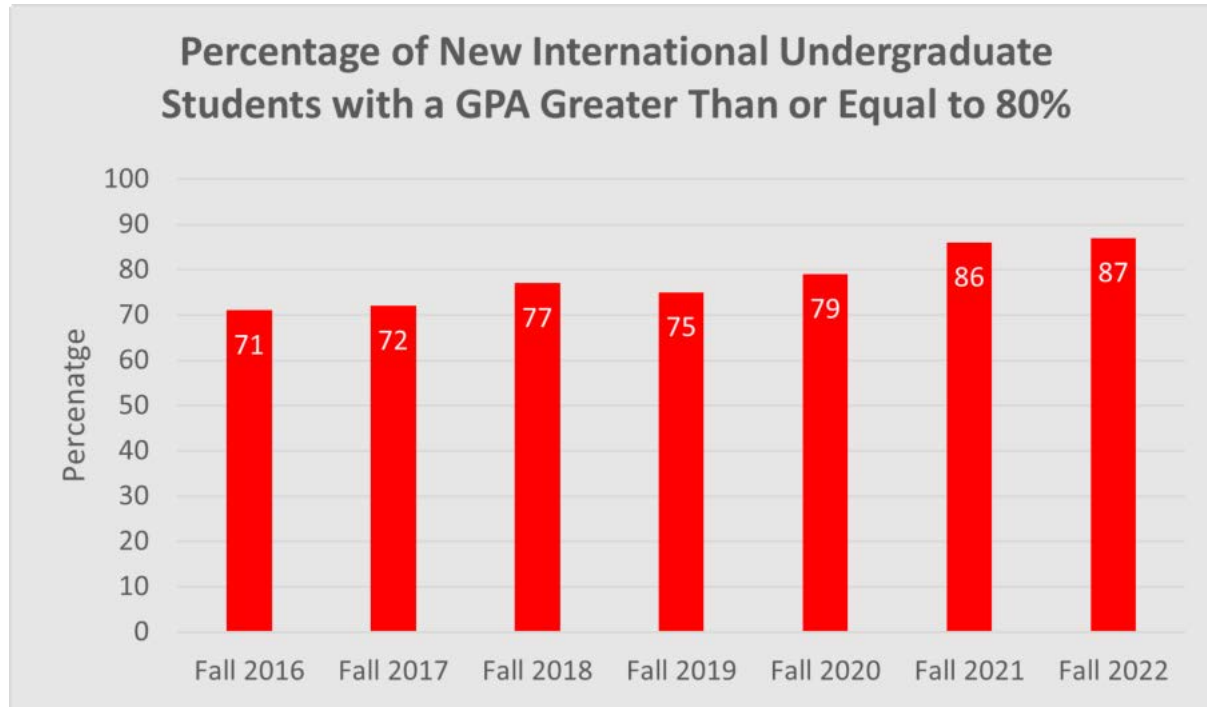
# Progress Toward Goal 2: International Students



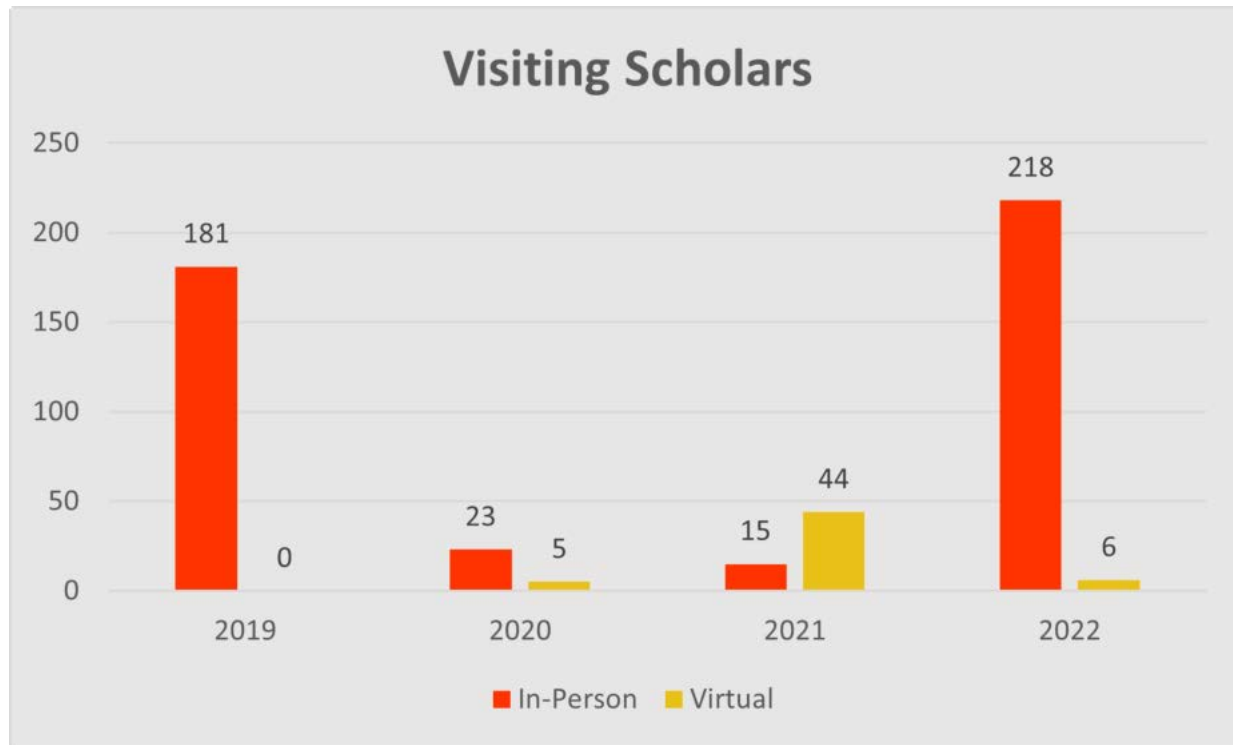
Students have come from  
**142** countries in the 2022/23  
academic year



# Progress Toward Goal 2: International Students



# Progress Toward Goal 3: International Teaching, Knowledge, and Skills Transfer, Co-creation of Expertise



Since 2000, we have hosted approximately  
**1,700** researchers from over 80  
countries and 740 institutions

# Progress Toward Goal 3: International Teaching, Knowledge, and Skills Transfer, Co-creation of Expertise



## International Internship Program:

**26** students placed for  
in-person internships  
(summer 2022)

**52** students placed for  
in-person internships\*  
(summer 2023)

# Progress Toward Goal 4: Enhance Awareness and Reduce Barriers for International Mobility and Experiential Learning Opportunities



**13** students have been approved for or awarded the Globalink Research Award\*

**50** students have been approved for the Globalink Research Internship program

"Research mobility holds many advantages. It allowed me to cultivate new connections, garner inspiration from my surroundings, and dream bigger than I had previously allowed myself.

"Challenging yourself is the quickest way to self-actualization and growth. In my experience, travelling gives you the opportunity to do just that."

-Alexandra Lamb  
Past Globalink Research Award recipient



# Progress Toward Goal 4: Enhance Awareness and Reduce Barriers for International Mobility and Experiential Learning Opportunities

## Global Skills Opportunity Grant:

- Promotes opportunities for students frequently unable to participate in outbound mobility

**8** students funded for the medium-term internship in Colombia

**2** students funded for the short-term internship in Chile

**16** students funded for the field course in Cuba



# Progress Toward Goal 5: Internationalization at Home

## Our National Capital Advantage

Carleton International engaged in **32** embassy and high commission related events/meetings in 2022

We connected with **22** countries as a result of these events/meetings



# Challenges and Opportunities

## Challenges:

1. Post-pandemic recovery
2. Government capacity
3. Geopolitical instability
4. Ethical engagement

## Opportunities:

1. Rebuilding trust with partners and enhancing global collaborations
2. Utilizing tools to support government efforts to increase capacity
3. Enhanced risk assessment
4. Canadian Bureau for International Education (CBIE) ethics working group

# Roadmap for the Final Two Years of the International Strategic Plan

- Benchmark our international operations
- Build geopolitical risk framework
- Use benchmarking to support regional strategies
- Incorporate community feedback
- Prepare for the next iteration of the ISP





# Questions?



**Carleton**  
University



# **AGENDA ITEM**

**6.4**

# PRESIDENT'S REPORT TO THE BOARD OF GOVERNORS

April 24, 2023



## REPUTATION AND COMMUNITY HIGHLIGHTS



Ravens basketball champs celebrated with the campus community on March 20

### Basketball Ravens Make History with Double Championships

On March 12, the Carleton Ravens became the first women's and men's basketball teams to win [both U SPORTS national championships in the same season](#) since 1985. Carleton is only the third program ever to do, and the first outside B.C. The Ravens women beat Queen's 71 to 59 in Sydney, N.S., while the men beat St. Francis Xavier 109 to 104 in double overtime in Halifax, their fourth straight championship and 17th in the last 20 years.



Alumna Angelique Francis won Blues Album of the Year at the Juno Awards

### Carleton Grad Angelique Francis Wins Juno Award

Angelique Francis, a [Bachelor of Music](#) graduate, won [Blues Album of the Year](#) at the 2023 Juno Awards for her album *Long River*. Francis graduated from Carleton in 2019 and is now a highly sought-after musician. She has been awarded two Canadian Blues Music Awards and nominated for four Canadian Blues Music Awards, among other accolades. She is the second alumna to win a Juno, following Kellylee Evans, who won Vocal Jazz Album of the Year in 2011.



VP Lorraine Dyke gives an award to Rajiv Bhola from Teaching and Learning Services

### Service Excellence Recognized

The annual university-wide Service Excellence Awards recognize remarkable staff and faculty members who exemplify excellence in the service they provide to the university community. This year's hybrid event, held on Feb. 23, saw record-breaking attendance with nearly 400 people gathered in Fenn Lounge and virtually to celebrate the nominees and recipients. Congratulations to all! The list of recipients can be found [here](#) and the Service Excellence video is available [here](#).



Teraanga Commons is the new name of the student hub formerly called Residence Commons

### Nideyinàn and Teraanga Commons Naming Ceremonies

On Feb. 14, Carleton held a naming ceremony to officially unveil the name [Nideyinàn](#) (pronounced *nih-DAY-in-nahn*), an Algonquin word meaning "our heart" that has been bestowed upon the university for the building formerly called the University Centre. The [Teraanga Commons](#) (pronounced *tare-ang-gah*) naming ceremony was held on Feb. 27. The name emerged as a result of consultations with African, Caribbean and Black communities towards giving a new name for the Residence Commons.

# REPUTATION AND COMMUNITY HIGHLIGHTS



The conference will bring together transformational mental health leaders

## Challenge Conference Gains Momentum

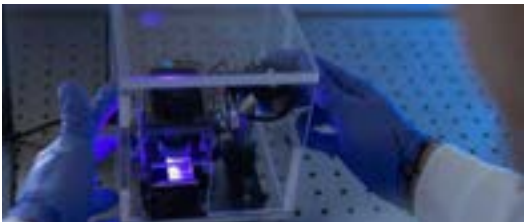
Preparation is in full swing for Carleton's [Challenge Conference](#). The May 10 event will focus on mental health, bringing together business, government, academic and community leaders to explore the causes and impacts of and solutions to the mental health crisis. One of the keynotes will be six-time Olympic medallist Clara Hughes, the founding spokesperson for Bell Let's Talk — part of a [full agenda](#) of speakers and panels. National media partner the *Globe and Mail* is promoting the conference.



An online recognition board highlighted Carleton women nominated by their peers

## Marking International Women's Day

More than 100 Carleton faculty, staff and students were recognized by their peers on the [International Women's Day webpage](#). The site featured an active [Recognition Board](#), on which members of the university community nominated and highlighted Carleton women who deserve recognition. Marked annually on March 8, International Women's Day celebrates the achievements and contributions of women leaders across the university, part of Carleton's equity and inclusivity efforts.



Researcher Ravi Prakash is developing tools to detect Alzheimer's and Parkinson's

## Reputation Campaign Continues to Roll

The Challenge campaign — a series of stories, videos and ads showcasing how Carleton faculty, students, alumni and community partners are addressing specific societal problems through their work — has unveiled a new round of content. One piece explores how Carleton researchers are supporting ways to better integrate new Canadians into the country's labour market, while another looks at a non-invasive tool for the early detection of neurodegenerative diseases such as Alzheimer's and Parkinson's.



This year's topic was "Accessing the Academy: A Four Directions Approach"

## Kinàmàgawin Symposium Addresses Timely Topic

The theme of this year's [Kinàmàgawin Symposium](#), held on March 16, was "Accessing the Academy: A Four Directions Approach." The annual gathering addresses timely topics, chosen by students, relevant to Indigenous peoples and serves to empower students, staff and faculty at Carleton to further their own knowledge and become a positive force for change. The name Kinàmàgawin, which means "learning together," is shared by the 2020 [Kinàmàgawin Indigenous initiatives strategy](#).



Award-winning CBC broadcaster Duncan McCue joins Carleton on July 1

## Creating More Indigenous Storytelling

[Duncan McCue](#), an award-winning CBC broadcaster and leading advocate for fostering connections between journalism and Indigenous communities, is joining Carleton's [School of Journalism and Communication](#). McCue will take up a new tenure track position on July 1, as an associate professor, specializing in Indigenous journalism and storytelling. He will also play a key role in working with Carleton colleagues to launch a new journalism skills certificate in Indigenous communities.

# ACADEMICS AND RESEARCH

## Winter Graduation List Approved

In February 2023, Senate approved the graduation of 1,352 students (881 undergraduates and 471 graduates), compared to 1,338 students who graduated in winter 2022. The June 2023 Convocation ceremonies will be held from June 12 to 16 and will follow the new three ceremonies per day format that was successful at Convocation last November.



Convocation ceremonies in June will follow the new three ceremonies per day format

## Canadian Accessibility Network (CAN) is Growing

CAN has reached 86 institutional collaborators and over 150 individual members supporting the work of advancing accessibility across Canada. In addition, CAN now fosters partnerships with accessibility-minded organizations and individuals through [CAN Connect Forums](#). The CAN Connect Forum, Reflections on Accessibility: A Conversation with Yazmine Laroche, was held on March 21, where the former Deputy Minister reflected on her life and career in the public service.



Former Deputy Minister Yazmine Laroche spoke at a recent CAN Connect Forum

## Transforming University Education

In response to recent global events, the Associate Vice-President, Teaching and Learning convened a working group to envision the future of teaching and learning at Carleton. The resulting report, completed in March, proposes a set of directions to guide thinking around student engagement, strong pedagogy, experiential learning and more. These directions build on Carleton's Strategic Integrated Plan and emphasize that the future should be empowering, collaborative, flexible and sustainable.



Associate VP, Teaching and Learning David Hornsby is thinking about the future of pedagogy

## Enhancing Student Learning with Innovative Technology

Work on the Experiential Learning Hub announced at the launch of the Future Learning Lab in February is advancing in anticipation of its September 2023 opening. Once completed, the Hub will join the Future Learning Lab in providing instructors with access to innovative applications, experiences, hardware, tools and support provided in part by the Future Skills XR Grant in partnership with EON Reality.



Carleton leaders and visitors check out the technology at the Future Learning Lab

## Awards for Faculty Members

Prof. Dana Dragunoiu's (English Language and Literature) newest book *Vladimir Nabokov and the Art of Moral Acts* (Northwestern University Press, 2021) has been awarded the [Brian Boyd Prize for Best Second Book on Nabokov](#) by the International Vladimir Nabokov Society. Banu Örmec (Civil and Environmental Engineering) was awarded the R&B Award in Public Outreach and Knowledge Transfer from the [Water Environment Association of Ontario](#).



English Prof. Dana Dragunoiu won an award for her book about Vladimir Nabokov

# ACADEMICS AND RESEARCH



Sprott and TLS are now offering Carleton's first fully online MBA

## Master of Business Administration Online Course

Teaching and Learning Services and the Sprott School of Business continue to partner to deliver Carleton's first fully online Master of Business Administration. After the course development cycle, more than 37 online courses will have been developed and designed. To date, over 400 students have enrolled, surpassing initial enrollment predictions.



The MFin combines finance and data analysis and includes an internship

## Sprott Launches Master of Finance

The Sprott Master of Finance (MFin) is a powerful combination of finance and data analysis specifically designed to equip students with the knowledge and skills demanded by leading companies around the world. The MFin can be completed in 12 to 16 months, including a final term internship to build professional experience. MFin graduates will have the foundation needed to pursue a CFA® designation. The first cohort will begin this fall.

## New Master of Digital Transformation and Entrepreneurship

Carleton's Technology Innovation Management program at Sprott has introduced a new degree to its slate of offerings. The MDTE is designed for experienced professionals who wish to gain the digital technology management competencies to help them transform the way their organizations operate. The program focuses on inclusive digital solutions, cross-border business opportunities, leadership development and research experience.



Virtual Ventures won an Actua Experience Award for its STEM programming

## Partnerships with Purpose

- The Faculty of Engineering and Design's not-for-profit youth outreach organization, Virtual Ventures, was presented with the prestigious [Actua Experience Award – Go Where Kids Are](#) for its community-focused STEM programming.
- More than 60 students attended Sprott Switch, a full-day event focused on mental health in academics and the workplace, which was hosted by the Sprott Student Business Society.
- Representatives from Sprott, including Dean Dana Brown, embarked on two international trips to explore partnership opportunities in Ghana and Colombia. Focusing on international recruitment, academic initiatives and capacity building, the team met with representatives from universities, high schools, scholarship organizations, embassy/high commission, as well as Carleton alumni.



Student Onome Oyiborhoro participated in the Carleton Model Parliament

## Special Events

- The winners of the [Three Minute Thesis Competition](#) are Master of Human-Computer Interaction student Georgia Loewen (first place), Master of Science in Biology student Panashe Kupakuwana (second place and winner of the People's Choice Award) and Master of Arts in Communication student Jennie Siushansian (third place).
- *Toronto Star* owner Jordan Bitove delivered the [Kesterton Lecture](#) in the School of Journalism and Communication.
- The Department of Political Science sponsored the Carleton Model Parliament, a student-led initiative held in the Canadian Senate.
- The Faculty of Science hosted its 2023 virtual Discovery Lecture, [Unprecedented: Reporting on a New Era of Pandemics](#), a presentation by Apoorva Mandavilli, science and global health reporter at the *New York Times*.
- The Faculty of Engineering and Design held its annual Breakthrough Breakfast. More than 200 industry and government representatives in Ottawa attended to support graduate-level women researchers at Carleton.



The student-led model parliament was held in the Canadian Senate Chamber

# ACADEMICS AND RESEARCH

## Celebrating Carleton's 2023 Achievement Award Recipients

Carleton researchers and instructors are passionate about their work and are dedicated to moving forward together on the important, complex issues of our time. We are incredibly proud of the accomplishments of this year's [award recipients](#):

### Research Achievement Award

Adrian Chan (Systems and Computer Engineering)  
Kristin Connor (Health Sciences)  
Steven Cooke (Institute of Environmental and Interdisciplinary Science; Biology)  
Linda Duxbury (Sprott School of Business)  
Jennifer Evans (History)  
Kelly Fritsch (Sociology and Anthropology)  
Liam O'Brien (Civil and Environmental Engineering)  
Carlos Rossa (Systems and Computer Engineering)  
Stephan Schott (School of Public Policy and Administration)  
Erin Tolley (Political Science)

### Teaching Achievement Award

Manjeet Birk (Feminist Institute of Social Transformation)  
François Brouard (Sprott School of Business)  
Jason Jaskolka (Systems and Computer Engineering)  
Brenda Morris (Social Work)  
Elena Zabolotnii (Civil and Environmental Engineering)

### Professional Achievement Award

Joël Rivard (Research Support Services, MacOdrum Library)  
Ahmed Hassan (Civil and Environmental Engineering)

### Contract Instructor Teaching Award

Ryan Conrad (Feminist Institute of Social Transformation)  
Said Yaqub Ibrahim (Political Science)  
Tiffany MacLellan (Law and Legal Studies)  
Kate Pardoel (Psychology)  
Ahmad Teymour (Sprott School of Business)

## Faculty Graduate Mentoring Award

On March 21, six faculty members were presented with a [Faculty Graduate Mentoring Award](#). These awards recognize faculty who render exceptional service to graduate students as supervisors and research mentors:

Mojtaba Ahmadi (Mechanical and Aerospace Engineering)  
Edana Cassol (Health Sciences)  
Adelle Forth (Psychology)  
Jason Jaskolka (Systems and Computer Engineering)  
Luciara Nardon (International Business, Centre for Research on Inclusion at Work)  
Alex Wilner (Norman Paterson School of International Affairs)



Health Sciences researcher Kristin Connor won a Research Achievement Award



Civil and Environmental Engineering's Liam O'Brien won a Research Achievement Award



Manjeet Birk (Feminist Institute of Social Transformation) won a Teaching Achievement Award



Six faculty members were presented with Faculty Graduate Mentoring Awards on March 21

# ADVANCEMENT



Chief Advancement Office Jennifer Conley at the Campus Community Campaign launch



Professors Shuchi Karim, Melanie Adrian and visiting activist-at-risk Rehana Hashmi



The Emergency Essentials Assistance Program has received support from FutureFunder



Ericsson Fellow Xinrui Zhang's research will make machine learning more safe and secure

## Revenue (May 1, 2022 to March 29, 2023)

Philanthropic	\$8,022,939
Gifts in Kind	\$5,380,294
Sponsorships	\$1,558,510
Research & Partnerships	\$22,944,073
<b>Total</b>	<b>\$37,905,816</b>

As Carleton approaches the end of the 2022-2023 academic term and fiscal year, Advancement remains in a strong position to meet its annual philanthropic and partnership goals. With a focus on rebuilding in-person engagement with internal and external partners, as well as a creative and collaborative in-office culture, the department is building momentum for the coming transformational campaign.

## In-person and Digital Engagement

Advancement has actively championed the value of rebuilding in-person engagement (alongside strategic digital engagement) to support and enrich meaningful community and philanthropic partnerships. The department has hosted alumni, parents and key supporters of Ravens athletics at recent games and team events; the opportunity to connect with student-athletes builds confidence in Carleton's coaches and varsity programs and helps reaffirm donor support. Meanwhile, the recent launch of the Campus Community Campaign brought together long-standing faculty and staff champions in a celebration of philanthropy. The in-person event gave participants a chance to learn about and directly donate to key priorities such as Scholars at Risk. In the coming months, Advancement will launch a new initiative to better leverage existing cross-campus activity in support of fundraising and engagement.

## Partnerships with Purpose

In collaboration with the Vice-President (Research and International), Advancement continues to build the Holistic Integrated Partnerships program to establish and deepen mutually beneficial corporate and industry partnerships. With the support of the business community, Carleton has created new opportunities for women to enter and succeed in engineering and information technology programs. Philanthropically, individuals are joining Carleton and the Carleton University Students' Association to support students experiencing food insecurity; gifts to the Emergency Essentials Assistance Program help provide students with hampers of food and personal items during a time of unprecedented demand.

## Campaign Preparation

Advancement continues to prepare for Carleton's next transformational fundraising campaign by enhancing operational processes, infrastructure and strategies. Staff have developed an in-house training program to familiarize and systemize a new purpose-based communication and outreach framework. Advancement Services is prioritizing records and data review, as well as software and systems upgrades, to improve Carleton's ability to reach its alumni and prospective partners.



# STUDENT LIFE

During the February winter break, students worked with three community organizations through the [Community Partnership Project](#). Students supported community organizations, including Bruce House, Young Diplomats of Canada and the Ottawa Rotary Home, with the research, planning and execution of community-identified projects. Over the four months prior, the students completed various self-paced modules and in-person workshops on community-engaged learning, the United Nations' Sustainable Development Goals and project management.

Following the [Umoja Black Community Engagement Program's celebration of Black History Month](#), in March Umoja partnered with the Institute of African Studies for an evening of poetry celebrating Black Canadian experiences.

The **virtual Spring Career Fair** on March 22 attracted 280 employers from 70 organizations seeking to recruit Carleton graduates, students and alumni. 1,186 students and alumni attended and engaged in 3,774 chats throughout the fair.

As of March 27, **Co-operative Education** has supported 3,385 work terms in the 2022-2023 academic year. During this period, 28 employers from 14 organizations have participated in panels and events for co-op students.

The Student Experience Office has been collaborating with leaders of various student groups, including the Muslim Students' Association and Carleton University Students' Association, to discuss the increased need for **prayer space on campus**. In the past year, there have been several additional prayer spaces added, including securing space in Athletics for Friday prayer, the addition of a multifaith prayer space in the Nicol Building and two satellite prayer spaces in Patterson Hall and Leeds House.

International Student Services Office (ISSO) **Immigration Advisors** assisted with 384 cases for international students and others in the Carleton community in February. Over the same period, online immigration information events took place, including a post-graduation work permits session, a permanent resident pathways session and two question and answer sessions. The ISSO also hosted seven additional workshops for international students aimed at assisting them with their settlement needs.

The first assessment under the **new Academic Continuation Evaluation framework** was completed in January based on fall 2022 results and students were notified of their decisions in late January. This new framework introduces a term-by-term assessment that provides more leniency to first-year students and a term grade point average assessment that allows in-program students more time to get back on track by rewarding incremental academic progress.

Carleton was one of two post-secondary institutions in Ontario to receive funding from the Waterstone Foundation to hire a **counsellor with a speciality in eating disorders** and disordered eating. In March, Christa Burnette joined the Wellness Services team, bringing a wealth of experience, knowledge and training in the treatment and recovery from an eating disorder, which will benefit students and the Carleton community.

The Carleton **Therapy Dogs Program** welcomed four new dogs, increasing the number of dogs providing support to 10. In February and March, 31 therapy dog visits took place.

The Health Promotion team held a **sexual health event** in February to educate students on the stigma around sexually transmitted infection testing and Carleton services. It also produced a sexual health services map for the Ottawa region, with an emphasis on services that provide care for the 2SLGBTQ+ student population.



Members of the Student Experience Office's Community Partnership Project



The International Student Services Office works toward positive international experiences



Carleton therapy dog Milo; the 10-pet program has welcomed four new dogs recently



In February and March, 31 therapy dog visits took place, including some with Kya

# ENROLMENT AND RECRUITMENT UPDATE

## UNDERGRADUATE ENROLMENT UPDATE

### First year 101 (Ontario high school) applications

	2022	2023	% Change
Carleton Total Applications	19,923	20,613	3.5
Carleton Applicants	14,493	14,807	2.2
System Total Applications	518,202	532,681	2.8
System Applicants	92,229	92,042	-0.2

### First year, new, applicants (Carleton data) by region as of March 24 – 101 applicants

	2022	2023	% Change
All	14,493	14,807	2.2
Ottawa	4,918	5,140	4.5
Other Ontario	9,140	9,222	0.9
Other	435	445	2.3

## UNDERGRADUATE RECRUITMENT UPDATE

This year marked a first for Carleton – a comprehensive, year-long, multi-channel marketing campaign. Built on the student recruitment cycle, the campaign featured creative and messaging tailored to where the student was in the decision-making process and underscored what makes Carleton unique. The use of digital channels provided increased opportunities to reach prospective students in targeted regions (primarily Ottawa and the GTA).

March Open House ran on March 11, with an additional weeklong series of campus tours running daily from March 12 to 19, a virtual showcase on March 15 and a student services fair on March 18. A total of 2,016 guests and 927 students registered in 2023, an increase compared to the 1,798 guests and 719 students who were registered in March 2019, before the pandemic.

In-person high schools visits have resumed, with virtual high school visits remaining an option. The Undergraduate Recruitment Office booked close to 150 high school follow-up visits to speak with applicants about next steps and accepting their offer to Carleton.

New this year, the Undergraduate Recruitment Office ran a series of applicant evenings in Durham, Halton, Kingston, London, Niagara, North Bay, North York, Ottawa, Peel, Richmond Hill, Scarborough, Sudbury and Waterloo.

Close to 50 prospective students and 100 guests joined the special Arts and Social Sciences event at the Carleton Dominion-Chalmers Centre on Feb. 11. Attendees could participate in panels and interactive booths to discover all that arts and social sciences at Carleton have to offer.

The tele-counselling “Congratulations” campaign has started with a new video email element. In collaboration with academic departments, faculty members are calling or creating video email messages for prospective students holding an offer of admission to share information and the opportunity to answer prospective students’ questions. Student tele-counsellors are also continuing to call applicants and students with offers of admission for the [CU is Calling! campaign](#). The “Apply Now” email campaign is also in full swing with messages going to 18,757 prospective students.

[Six new episodes for Season Three of The Talking Raven podcast](#) have been released, including episodes that highlight diversity, inclusion and equity, student employability and faculty spotlights.

In February and March, the International Admissions and Recruitment team undertook 100 in-person and virtual school visits, events, agent activities and student appointments in 12 countries and with global reach online. The International Admissions webpages saw a traffic increase of 19.1 per cent over February 2022, with 36,501 visitors.

