

Carleton University Capital Plan 2024



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Executive Summary

The Capital Plan sets out the major capital projects over \$5 million which the university prioritizes. It ensures that the university's built environment can support the academic mission and programming.

It outlines the capital planning process, as well as the Board of Governors' role in that process. It brings together the major capital projects that are underway, as well as identifies projects under consideration.

Details about each capital project are provided, along with the estimated costs and sources of funding. Bringing this information into one document provides a full picture of capital planning at Carleton; how specific projects are reviewed and approved individually.

This plan is updated annually and presented to the Board of Governors. Individual project updates are provided to the Building Program Committee four times a year.



Introduction

Situated on unceded Algonquin territory, Carleton University was founded by the community in 1942 to meet the needs of veterans returning from the Second World War. Over time, the student population outgrew its modest beginnings on First Avenue at what is now Glebe Collegiate, and land was purchased to develop Carleton University on a triangle of land between the Rideau River and the Rideau Canal, a UNESCO World Heritage Site. From its modest beginnings to today, Carleton was and remains an integral part of the Ottawa community.

Its thriving campus accommodates more than 30,000 students, 1,000 faculty and 1,550 staff. Our main campus is complimented by two satellite locations that further connect Carleton to the broader Ottawa community. CU@Kanata is an innovation space in the heart of the national capital's tech hub, while Carleton's Dominion-Chalmers Centre provides an active arts, performance and learning space in the heart of downtown Ottawa.

Our capital planning is guided by a number of strategic plans including Carleton's Strategic Integrated Plan, the Campus Master Plan, the Outdoor Space Master Plan and the Transportation Plan. These are supported by our commitment to sustainability and the goals outlined in the Strive for Sustainability Plan and our Energy Master Plan.

Over the last five years, the Faculty of Engineering was expanded with the addition of its Design Centre, and the Nicol Building, home to the university's Sprott School of Business, were completed.

The newest crown jewel to the campus is a 450-bed student residence that is currently under construction and which will be the anchor to the Bronson Avenue entrance to the university. When the new student residence is completed in 2025, it will bring to 50 the number of buildings on campus. Projects to upgrade the Loeb Building and an expansion of the Terannga Commons Dining Hall and Kitchen to meet future growth of the student residence population, are underway.

We are always planning for the future and to that end, designs and preliminary plans are in the works for two potential state-of-the-art buildings including a Regional Aquatics Centre and Wellness Hub to compliment the Athletics precinct, and a Sustainability Research Centre to further expand the Engineering hub of buildings.

Our Campus Master Plan and other plans identify many exciting opportunities for future capital investments. Our Capital Plan provides the current status of that work.

Developing Capital Projects

The Process

The development of major capital projects (\$5 million or more) is overseen by the Board of Governors and evolves through multiple stages. The process starts with the identification of needs, key stakeholders and an executive sponsor. Once the business case is established by the Project Committee, the project comes to the Board for a series of approvals.

There are three principal approval steps at the Board:

1. **Capital proposal form:** The capital proposal form focuses on the business case and includes a concept design and preliminary (class D) cost estimates. Board approval provides authorization to invest in the development of more detailed designs and estimates.
2. **Project Planning report:** The project planning report focuses on schematic designs and includes more refined cost estimates (class C) and proposed funding sources. Board approval provides authorization to move to working drawings.
3. **Project Implementation report:** The project implementation report includes working drawings, a more refined (class B) cost estimate and funding sources. It includes details on schedules and cashflows. Board approval provides authorization to begin the tender process and start construction.

Once the project is underway, regular project status reports are provided. Upon completion of the tender process, a final (class A) cost estimate is provided. The Board's Building Program Committee and Finance Committee are updated at every meeting regarding the status of all ongoing capital projects. A Project Conclusion Report is filed at the end of every major capital project and includes lessons learned from the project implementation.

Partnerships

Due to our location, Carleton's planning process often requires and benefits from consultation and collaboration with a number of key external stakeholders including, but not limited to:

- City of Ottawa
- National Capital Commission (NCC)
- Rideau Valley Conservation Authority
- OC Transpo

Over the lifespan of the expansion of the Light Rail Transit (LRT), Carleton and the City of Ottawa have been working very closely as the tracks run through the centre of campus. This requires collaboration between the two entities to co-ordinate the impact on our campus for various activities during construction. Another example of the benefit of partnership, is the consultation held with the Rideau Valley Conservation Authority (RVCA) during the development of the current Campus Master Plan. As a result of information provided by the RVCA, the plan better reflects the flood plain information.

The Planning Context

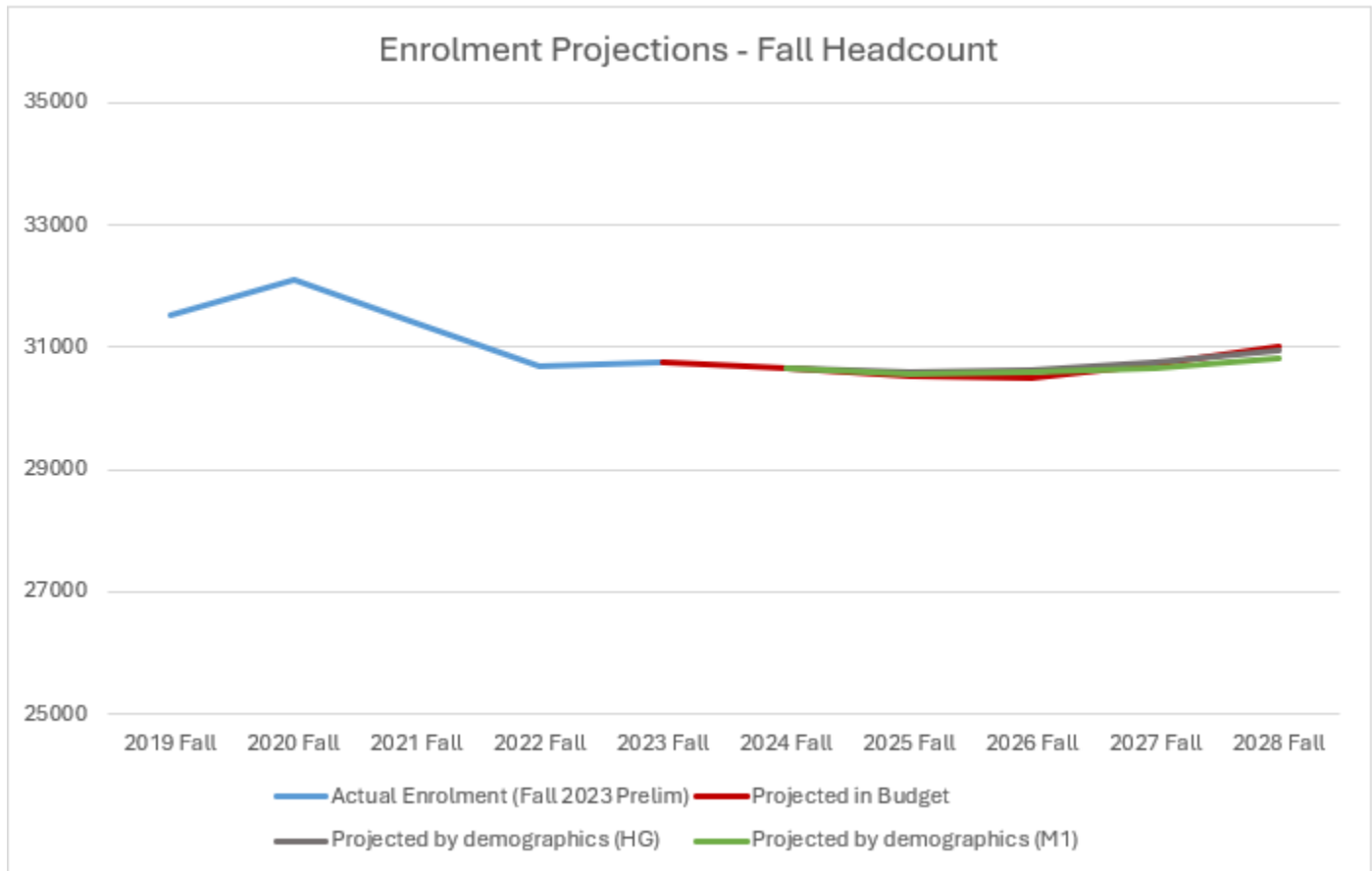
Slow Enrolment Growth

Following many years of steady and modest growth in enrolment of undergraduates, Carleton has seen a decrease in entering cohorts in recent years. This began with the pandemic and is now being driven in large part by challenges in obtaining international student visas. Demographic projections over the planning horizon lead us to expect modest growth in the 18-year-old population. International student enrolment may be disrupted for some time. These decreases have been moderated somewhat by increases in upper-year retention with more students staying until graduation. The flow through of these smaller entering cohorts is why Carleton is projecting enrolment declines until 2027. Several new undergraduate programs to be introduced in 2025 should support growth in coming years.

For many years, graduate enrolment growth was limited due to the funding model that controlled the number of funded graduate spaces. In recent years, there were opportunities to grow beyond those historical caps, as well as opportunities to meet international student demand. The result was a steady growth in graduate students. Although the cap on international student visas does not affect graduate students, the harm done to “brand Canada” is expected to reduce international graduate intake as well.

The projections in the chart below include the assumptions on which we base our budget, as well as projections based on Statistics Canada projections – Medium Growth scenario (M1) and High Growth scenario (HG) for Ontario. Much of this growth is in the Greater Toronto Area (GTA) and will require enhanced effort to tap into markets outside of Ottawa.

Our current projections suggest it will be at least five years before student numbers return to pre-pandemic levels.



Aging Infrastructure

Similar to other Canadian universities, Carleton has an aging building infrastructure. Our current building asset portfolio has an average building age of 40 years. Managing these assets requires carefully allocating the annual Capital Renewal Deferred Maintenance (CRDM) funding and provincially-funded Facilities Renewal Program (FRP) budget to address our campus community's diverse and changing needs while mitigating infrastructure risk.

The Capital Renewal Plan is currently in the final year of a 10-Year CRDM commitment. At the April 2024 Board of Governors meeting, the Board approved an additional three-year commitment to CRDM funding. The CRDM addresses many needs, including improved electrical and plumbing systems, ventilation, building envelopes, interior finishes, site infrastructure (sewer/storm/watermain) and preventative maintenance. By addressing base building and site infrastructure issues first, the university will decrease the risks and costs associated with unexpected failures and unplanned disruptions on campus, and will ensure that base building systems can adequately handle future renovations and research requirements.

Transportation Challenges

There has been significant investment in initiatives to improve traffic flow on campus, as per the Transportation Plan. Enhancements to the Bronson Avenue intersection to campus includes an additional northbound, left-turn lane to facilitate exit from campus, more pedestrian-friendly sidewalks and crosswalks, and improved lighting. Additional enhancements include a roundabout that was added near the P18 garage, as well as a new wider bridge that spans the O-Train tracks.

The Transportation Plan also recommended a third access point to campus, which led to the creation of Stadium Way, providing another exit for vehicle traffic. The campus is serviced by OC Transpo and data collected for the Transportation Plan identified an opportunity to provide improved routing with the expansion of Raven Road to Bronson Avenue. The construction of this extension was a collaboration between Carleton University, the City of Ottawa and OC-Transpo. This bus-only access point, improves southbound bus traffic flow.

Future Vision

Master Planning Documents

The vision for Carleton's campus is outlined in the Campus Master Plan (CMP), a five-year plan that presents a potential vision for the future. It takes into consideration how the campus' special attributes can be enhanced over time. The plan's "big moves" recommend enhancements to our green space, moving toward more pedestrian-friendly streets, pathways and gateways, as well as how to highlight natural features. A stormwater management approach is explored and potential development sites are also identified for consideration.

The CMP is supported by the Outdoor Space Master Plan and the Transportation Plan, which operationalize elements of the CMP. Many other key planning documents also inform our Capital Plan including the Strategic Integrated Plan, the Carleton Academic Plan and several other campus-wide and sector-specific plans.

Governance of the Capital Plan

The Office of the Vice-President (Finance and Administration) and the Associate Vice-President (Facilities Management and Planning) are accountable for reviewing and updating this plan and the priorities identified within it.

An update on the Capital Plan is presented annually to the Board of Governors, in addition to the updates on capital projects provided to the Building Program Committee four times a year.

Projects Underway



New Student Residence

Project Intent

The new student residence building will provide 450+ beds for first-year students, as well as various types of amenity spaces for all students on campus. The building is designed to promote and enhance a student focused residential community experience.

Project Scope

- The design of a residence building housing 450+ students with living and social spaces that support the first-year experience and Carleton University's mission and vision.
- A combination of single- and double- style bedrooms with semi-private or private bathrooms.
- Significant consideration for students with exceptional needs and amenities required.
- A first floor (or main floor) that provides amenity space for students including (but not limited to):
 - Welcoming entry
 - Study space
 - Communal lounge space
 - Social space (such as maker space, games room, etc.)
 - Laundry facilities
 - Fitness space (such as work out room, yoga area, etc.)
 - Common lounge space
 - Staff offices and staff living space

Current Status

Project implementation report approved, under construction.

Project Budget

\$106 million

Estimated Completion Date

May 2025 - Occupancy



Teraanga Commons Dining Hall and Kitchen Expansion

Project Intent

As a direct result of an increase in meal plan holders created by the new Student Residence, an expansion to both the kitchen and dining hall seating capacity is required.

Project Scope

- Increase seating capacity to address the projected increase of students within the next five years.
- Upgrade delivery of food service stations to increase efficiencies and provide smooth provision of food services during peak times.
- Provide an aesthetically pleasing environment for visitors while enhancing offerings of more innovative and fresh meals from a variety of cultures.

Current Status

Project implementation report approved, under construction.

Project budget

\$8.5 million

Estimated Completion Date

Construction completion August 2024. Final completion fall 2024.



Decommissioning and Demolition of P9

Project Intent

Decommissioning and Demolition of P9 Parking Garage as the building has reached its end of life.

Project Scope

- Decommission and repurpose viable assets including but not limited LED lighting, EV charging stations, Code Blue security button currently located within P9.
- Relocation of a new ITS fibre pathway.
- Demolish all levels of the existing structure, as well as footings and tunnel sections located under structure.
- Grade and sod area following demolition.

Current Status

Project implementation report approved, under demolition.

Project Budget

\$8 million

Completion Date

Fall 2024



Loeb Envelope Remediation and Replacement

Project Intent

The goal of the project is to improve the overall “health” of the building while increasing our commitment to sustainability, reducing our carbon footprint, realizing direct cost savings in offsetting energy consumption and minimizing the required maintenance over a 25-year span.

Project Scope

The project is for the replacement and remediation of the exterior walls and the replacement of the roof skylights, and all of the exits and the entrances of the Loeb Building. The refurbishment of the third-floor lobby was added to the scope of work and will create a focal point and gathering space for students, staff and faculty. This is being funded by the Faculty of Public and Global Affairs.

Current Status

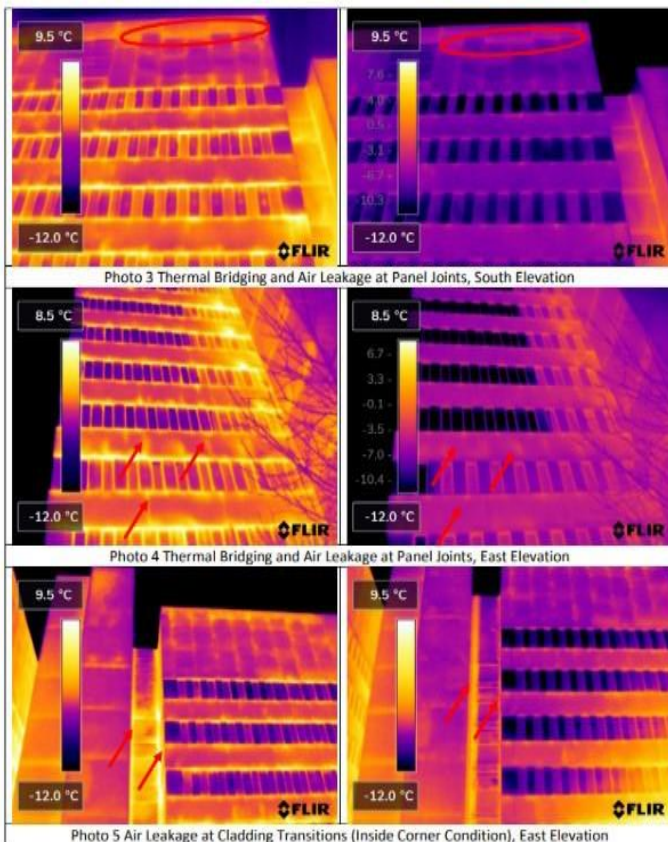
The project implementation report to be presented to the Board of Governors in October 2024.

Estimated Project Cost

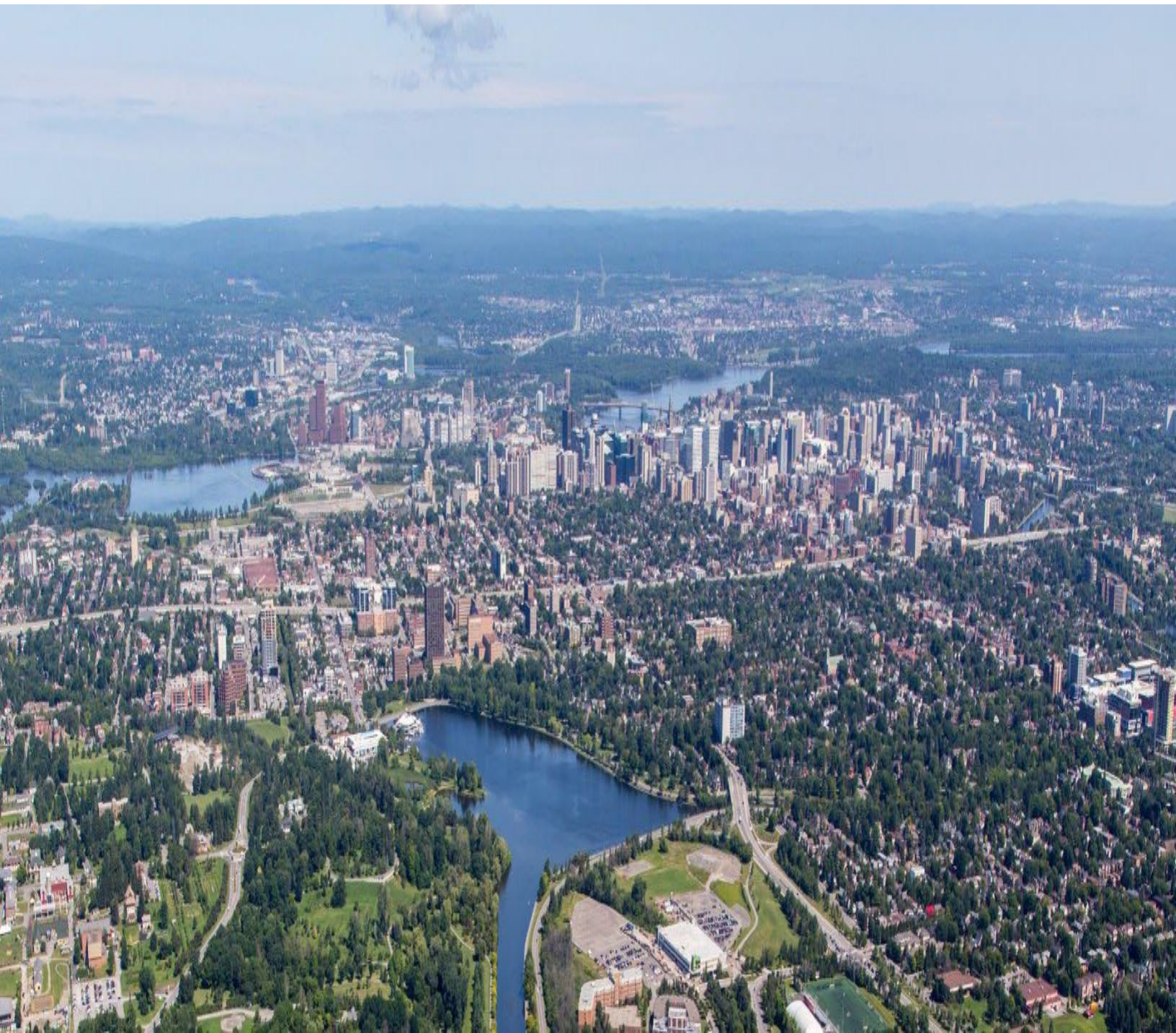
\$40.6 million

Estimated Completion Date

End of 2027/2028



Projects Under Consideration



Regional Aquatics and Wellness Hub

Project Intent

Expansion of fitness, wellness and aquatics, plus academic space that will enhance the student experience, culture and pursuit of well-being on campus.

- Phase 1 – Fitness and Aquatics Facility
- Phase 2 – Academic Programing

The building offers a new progressive service model which brings together health, wellness and research entities while creating a gateway to the Carleton campus along Bronson Avenue, as well as connecting the university to the broader city of Ottawa. It will be a learning facility that reflects diverse needs, interests and identities with the campus community.

Project Scope

Phase 1: Expanded fitness centre and new aquatic centre (two pools), including a possible option for a diving tower.

Phase 2: Wellness Hub, including research, academic space, and leased space. The Wellness Hub building would include an agora and large open spaces with lots of windows and natural light.

Current Status

Carleton has entered into preliminary discussions with the City of Ottawa about a potential partnership for the new aquatics centre.

Estimated Project Cost

\$220 million

Estimated Completion Date

To be determined



Paterson Hall Building Retrofit and Renewal

Project Intent

Replacing the entire building envelope and retrofitting all infrastructural systems.

Project Scope

- Wholesale removal and replacement of mechanical and electrical systems and building envelope, including cladding and roofing.
- Assessing the feasibility of a consolidated central cooling plant within Paterson Hall and intrusive investigation.
- Investigative, intrusive pre-design and concept designs.
- Decreasing the cost of ownership on maintenance and operation.
- Maximizing energy cost savings and reducing GHG emissions.

Current Status

Facilities Management and Planning (FMP) is updating the roof and the building control system through 2024-2025 with Facilities Renewal Program funding. The major building retrofit and renewal has been put on hold.

Estimated Project Cost

\$40 million

Estimated Completion Date

TBD



Sustainability Research Centre (SRC)

Project Intent

Generate new income streams, resolve the Faculty of Engineering and Design's space needs, and attract new talents, donors and partnerships.

Project Scope

The Sustainability Research Centre is a 215,000sq. ft., six-storey building. Five signature showcase spaces on the main level will highlight program activity, and contain:

- Research labs
- Gathering and collaboration spaces
- Offices
- Meeting rooms
- Computer labs
- Grad carrels

Sustainable Design Strategies were utilized to limit embodied carbon and reduce energy consumption.

Current Status

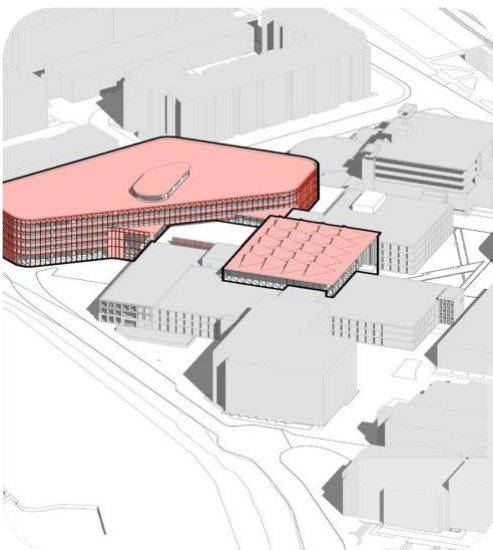
The schematic design report has been received, and the project is currently on hold.

Estimated Project Cost

To be determined

Estimated Completion Date

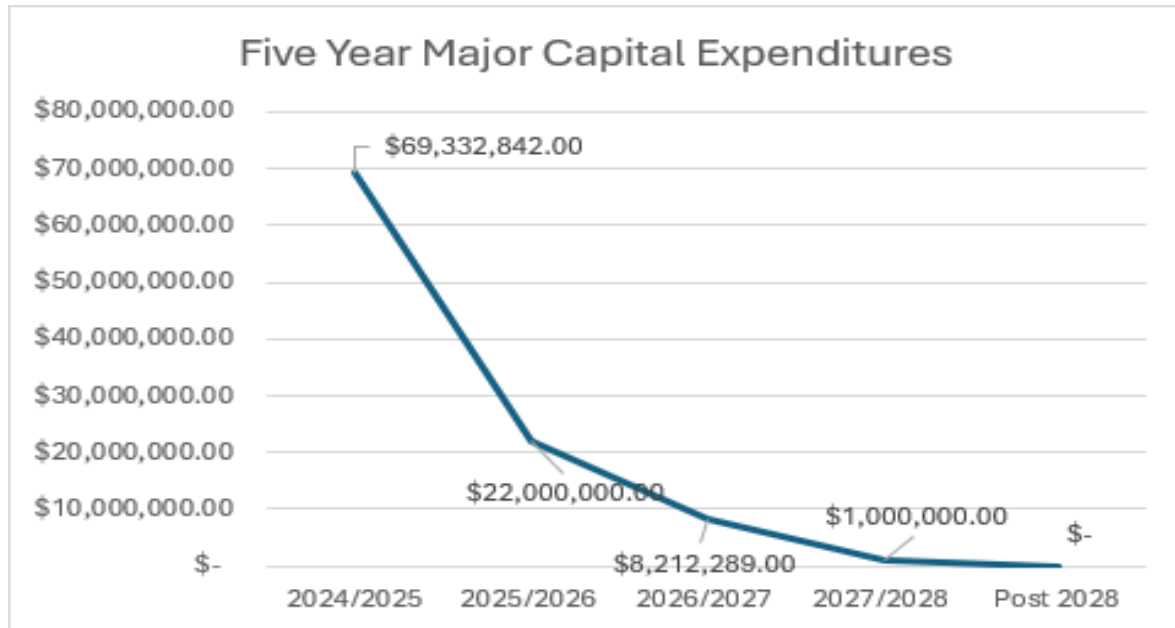
To be determined



Capital Budget Projections

Capital Budget and Expenditure Forecast

The capital budget for major projects currently underway is \$163,100,00. This expenditure forecast is based upon the stages that the projects are currently at in their project life cycle and are adjusted and monitored on a monthly basis.



*Note: The five-year major capital expenditures does not include Paterson Hall and reflects only projects that are underway.

In 2021, Carleton issued a \$220-million debenture to fund capital investments. Current projects are expected to deploy \$120 million of that capital with the remaining \$43.1 million in project costs to come from various ancillary budgets. The remaining \$100 million in debenture funds will be reserved for future capital projects, including the renewal of Paterson Hall, (estimated at \$40 million).

Major Capital Projected Five-Year Budget

CARLETON UNIVERSITY				
MAJOR CAPITAL INVESTMENT PROGRAM				
Aug-24				

		BUDGET	FUNDING SOURCE BREAKDOWN	
PROJECT		ESTIMATED BUDGET	Debt Fund	Other funding sources
Projects Underway				
New Student Residence		106,000,000	80,000,000	26,000,000
Loeb Building Envelope Remediation and Replacement		40,600,000	40,000,000	600,000
P9 Decommissioning and Demolition of P9 Parking Garage		8,000,000		8,000,000
Teraanga Commons Dining Hall and Kitchen Expansion		8,500,000		8,500,000
Subtotal Projects Underway		163,100,000	120,000,000	43,100,000
Projects Under Consideration				
Paterson Hall Renewal and Retrofit		40,000,000	40,000,000	TBD
Sustainability Research Centre		225,000,000	TBD	TBD
Regional Aquatics Facility/Fitness Centre		220,000,000	TBD	TBD
Subtotal Projects Under Consideration		485,000,000	40,000,000	TBD

Capital Renewal and Deferred Maintenance

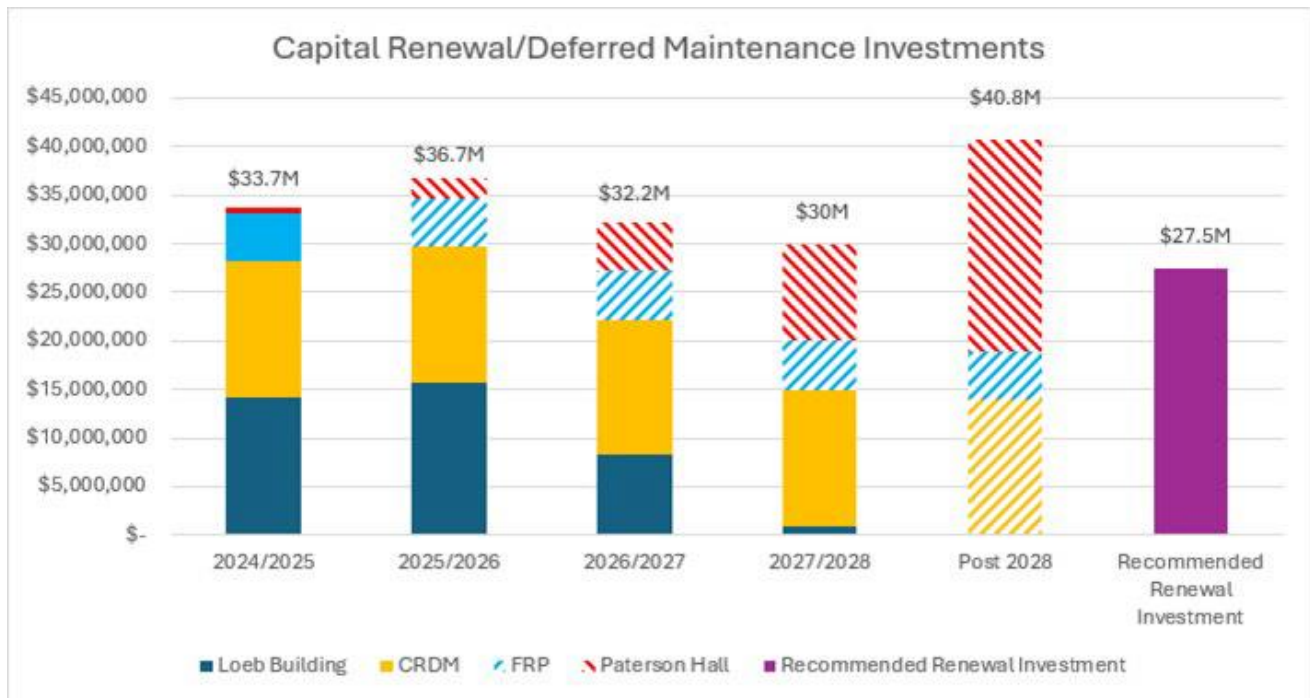
Carleton routinely audits a minimum of 25 per cent of its assets annually, including facilities and infrastructure, to gather data on the condition of buildings, the associated systems, and infrastructure to plan for capital renewal and identify deferred maintenance requirements. This information allows the university to develop Capital Renewal and Deferred Maintenance (CRDM) plans to address risks and provide overall stewardship of the assets.

These audits are carried out by an independent third-party utilized by all Ontario universities and are reviewed and validated by internal Carleton staff. The data is held centrally in SLAM (Streamlined Asset Management), Carleton's Integrated Asset Management System, and is shared with the Council of Ontario Universities (COU) and the Ontario Ministry of Infrastructure (MOI).

The Facility Condition Index (FCI) is a measure used to help us understand the overall asset condition. The Facility Condition Index (FCI) is calculated as the total cost of required building repairs and renewal divided by the current replacement value cost of the building (CRV). Each building's FCI score reflects the current condition of the building and is ranked as good, fair, poor, or critical. Generally, an FCI of 0-10% is good, 10-25% is good to fair, 25-60% is fair to poor, more than 60% is critical.

We have identified the recent FCI and recommended deferred maintenance in four asset categories: Academic/Administration, Ancillary, Residences, and Infrastructure. The three-year FCI for each category and the associated capital renewal/deferred maintenance cost estimates for Carleton, based on the information from SLAM in August 2024 are as follows:

Category	FCI	Recommended Three-year Deferred Maintenance
Academic/Administration	7.8%	\$124,406,860
Ancillary	8.9%	\$51,597,393
Infrastructure	14.5%	\$43,673,313
Residence	8.4%	\$32,935,985



**Stripes indicate funding that is not yet confirmed.*

Based on the information captured in SLAM CAP the recommended capital renewal and deferred maintenance investment over the next three years totals \$252,613,551 and the next five years totals \$671,597,493. The generally accepted investment strategy for annual renewal is 2% of Current Replacement Value which would be \$54,567,647 annually. Following a detailed review of Carleton's facilities data in 2023, the independent facilities consulting firm, Gordian, recommended that Carleton aim to invest \$27.5 million per year into facilities renewal.

Carleton University is actively addressing deferred maintenance with major capital projects like the Loeb Building Envelope Remediation and Replacement project. In addition, the university is making substantial investments in essential infrastructure renewal programs, including sewer and watermain replacements, high voltage work, tunnel infrastructure improvements, perimeter security enhancements, and mechanical upgrades. These efforts are guided by a commitment to sustainability and accessibility, ensuring that improvements meet modern standards and contribute to a more inclusive and environmentally responsible campus, and respond to risks created, as a result of climate change.

Each year, Carleton invests approximately \$19 million in Capital Renewal and Deferred Maintenance projects based on a list of priorities presented to the Building Program Committee and the Board of Governors. Carleton receives approximately \$5 million annually from the provincial government's Facilities Renewal Program (FRP) for specific CRDM projects included on this list.

The other projects are funded through a \$14 million annual investment from the university's operating budget. The original investment was for 10 years, however at the April 2024 Board of Governors meeting, a motion was approved to continue the

allocation of \$14 million for CRDM work for an additional three fiscal years after the 2024-2025 fiscal.

Bibliography

Key University Documents

Campus Master Plan
 Carleton Academic Plan
 Energy Master Plan
 Outdoor Space Master Plan
 Strategic Integrated Plan (SIP)
 Strive for Sustainability
 Transportation Plan

Acknowledgements

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