CONSENT AGENDA
to the Open Agenda of the 619th Meeting of the Board of Governors

Thursday, March 12th, 2020
Room 2440R River Building

4.1 ITEM(S) FOR APPROVAL

4.1.1 Approval of minutes of the previous meeting and Business arising from the Minutes

4.1.2 Pension Plan Actuarial Report and Funding

4.2 ITEM(S) FOR INFORMATION

4.2.1 Energy and Sustainability at Carleton

4.2.2 Major Capital Projects Status Report

4.2.3 Value Proposition of Serving on the Board of Governors

4.2.4 Chair of the Board Description

4.2.5 Standing Committee Assignments Process

4.2.6 Committee Minutes

a) Building Program Committee
   - 159th Meeting – November 21, 2019

b) Finance Committee
   - 299th Meeting - November 21, 2019

c) Governance Committee
   - 43rd Meeting - November 25, 2019

4.2.7 Minutes of Senate
   - Approved Minutes from October and November 2019

4.2.8 2020/2021 Board Meeting Schedule

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

Minutes of the 618th Meeting of the Board of Governors

Wednesday, December 4, 2019 at 3:00 p.m.
Room 2440R Richcraft Hall, Carleton University

PRESENT:	Mr. D. Fortin (Chair)	Mr. K. Evans (phone)	Ms. N. Karhu
	Ms. F. Afaq	Mr. G. Farrell	Dr. J. Malloy
	Dr. B.A. Bacon	Mr. K. von Finckenstein	Ms. B. O'Connor
	Mr. A. Alhaimi	Ms. J. Fullerton	Dr. B. Ormeci
	Ms. D. Alves	Ms. K. Furlong	Dr. E. Sloan
	Ms. T. Arnt	Ms. G. Garland	Dr. P. Smith
	Dr. C. Carruthers	Mr. D. Greenberg	Ms. J. Taber
	Ms. B. Creary	Ms. L. Honsberger	Ms. A. Tremblay
	Mr. P. Dion	Mr. O. Javanpour (phone)	Mr. A. Ullett
REGRETS:	Ms. Y. Baltacioğlu	Ms. C. Gold	Mr. N. Nanos
	Mr. J. Durrell	Ms. L. Hayes	
STAFF:	Ms. S. Blanchard	Ms. A. Cunningham	Mr. M. Piché
	Mr. D. Cumming	Ms. A. Goth (R. Secretary)	Dr. R. Goubran
		Mr. S. Levitt	Dr. J. Tomberlin
GUESTS:	Dr. B. Appel-Kuzmarov	Dr. K. Horn-Miller	Ms. C. Taylor
	Dr. L. Dyke	Mx. B. Michaud	Mr. J. Watson

OPEN SESSION

1. CALL TO ORDER AND CHAIR'S REMARKS

The Chair, Mr. Dan Fortin called the meeting to order at 3:00 pm. The Chair recognized the passing of Paul Labbé the mentor, friend and father-in-law of Board Chair Nik Nanos.

2. DECLARATION OF CONFLICT OF INTEREST

The Chair asked for any declarations of conflict of interest from the members. None were declared.

3. APPROVAL OF AGENDA

The proposed agenda was circulated in advance. It was moved by Ms. Honsberger and seconded by Mr. Farrell that the open agenda of the 618th meeting of the Board of Governors be approved, as presented. The motion carried.

4. APPROVAL OF THE CONSENT AGENDA

The following items were circulated in the open consent agenda for approval: minutes of the previous meeting and the Board Travel and Related Expense Policy.

The following items were circulated in the open consent agenda for information: Project Planning Report - Engineering Student Design Centre, Investment Report for the Endowment, Pension Plan Report, Risk Management Policy and Enterprise Risk Management Q & A, minutes from the Building Program, Finance and Governance Committees and Minutes of September Senate.

Ms. Tremblay moved, and it was seconded by Dr. Malloy, that the items in the open consent agenda be approved, as presented. The motion carried.

5. PRESENTATION FROM THE MAYOR OF OTTAWA - JIM WATSON

The Chair introduced his Worship Mayor Jim Watson. Mr. Watson is a Carleton alum and served on the Board of Governors in the 80s, 90s, and the early 2000s.

The Mayor noted Carleton's growth and development as a modern and accessible campus that allows for collaboration and creativity that contributes to the City of Ottawa. The City is recognized as one of the best Canadian cities to live-in, which includes a nationally ranked tech hub, and a favourable environment for student housing and quality of life. The City has been a center of technology and entrepreneurship, and has the largest tech park in Canada, which includes: 1,900 knowledge-based businesses that employ 75,000 people in industries such as communications, defense, aerospace, life sciences, autonomous vehicles and clean-tech. Ottawa currently has a 30 year low in unemployment rates (at 4.2%).

The Mayor noted Ottawa has the highest number of residents with a post-secondary education in Canada, and more engineers, scientists and PhDs per capita than any other city in the country. The Mayor mentioned that retention of talent is a challenge for Ottawa, as the City needs to be a livable, exciting and welcoming for young people and new Canadians.

Working with economic development partners such as Invest Ottawa, the City is pursuing increased foreign investment and ways to grow the economy. This includes supporting local innovators, start-ups with tools and mentoring opportunities such as the Innovation Center at Bayview Yards, an incubation and acceleration hub for technology talent, capabilities and companies. Invest Ottawa has also launched a talent and retention program which is a proactive talent strategy including an international recruitment program. The City is making investments in the new Ottawa Art Gallery and new Central Library. In partnership with Ottawa Tourism, the City is engaged in attracting major tourism events using a strategy of bid more, win more and host more.

Work is underway to make the City more accessible through LRT and bus improvements. Currently, LRT is from Clair to Tunney's Pasture with the O-train running from Bayview to Greenboro. Phase 2 will expand the LRT eastward from Blair to Trim Road, and westward from Tunney's Pasture to Moodie Drive with a line off to Baseline (Algonquin College). Phase 2 will also include an expansion south from Greenboro to the Airport and Riverside South. The Mayor advised that once completed, Ottawa's LRT network will span 64 km of rail and offer service at 42 stations with 77% of all residents living within 5 km of a station. Phase 3 will bring the LRT to Barrhaven, Kanata and Stittsville. The Mayor stated that Carleton will gain a pedestrian bridge across the Rideau River level to Vincent Massey Park.

The Board inquired about transit connectivity with Gatineau's system. The Mayor responded that he is working with the Mayor of Gatineau to increase connectivity through buses and the LRT system. The members also inquired about the development of Phase 2 toward Riverside South instead of Barrhaven. The Mayor responded that it was collaboration on funding between the Provincial government, Federal government and two large home builders that resulted in the extension of the LRT to Riverside South. The City owns the land, and the development of LRT means the City is being proactive in that area.

It was asked if the Mayor had any ideas to strengthen the civic mindedness of undergraduate students through a City of Ottawa programs similar to the Page Program. The Mayor responded that in the past there have been internship opportunities to work with a counsellor's office or the Mayor's Office.

The Board asked about proactive measures or lessons learned from extreme weather incidents such as the recent flooding on the Ottawa River. The Mayor responded that proactive infrastructure updates and mitigation measures are essential to acclimatize the city facilities. This will require partnership with the Provincial and Federal government for funding. At the municipal level, the City needs to do a better job of denying applications to build on floodplains.

6. ITEMS FOR APPROVAL

6.1 Framework for the 2020/2021 Operating Budget

An executive summary and presentation were circulated in advance.

Ms. Alves, Chair of the Finance Committee advised that the Framework for the 2020/2021 Operating Budget is under the Provost's portfolio and is prepared with the support of the Vice-President (Finance and Administration), the Office of Institutional Research and Planning, the Office of the Deputy Provost, Financial Services and the senior leadership team. The framework is being developed during a time of flux with the development of a new Strategic Integrated Plan and a Strategic Mandate Agreement being negotiated. The budget cycle began with the Board of Governors Planning Session in the Fall and key budget assumptions presented to the Finance Committee in November are in the framework.

Many of the budget assumptions are government mandated. The revenue assumptions presented include maintaining steady enrolment (1% growth in new first year students, 2% increase in international students), increasing international student tuition by 3 - 8%, frozen domestic tuition, government grants for undergraduates frozen at 2016-17 levels and graduate student enrolment grants frozen at 2019-20 levels. Expense assumptions include a 1% cap on salaries and benefits for newly negotiated collective agreements, operating expenses to grow by 3%, the introduction of the new federal carbon tax and the Pension Fund provision for adverse deviation (PfAD).

It was moved by Ms. Alves and seconded by Ms. Furlong, on the recommendation of the Finance Committee to approve the Framework for the 2020/2021 Operating Budget, as presented. The motion carried.

7. ITEMS FOR INFORMATION

7.1 Carleton University Indigenous Strategic Initiatives Committee Calls to Action

The President thanked former board member, Peter Dinsdale for his advice and guidance on a process for meaningful engagement in response to the Truth and Reconciliation Commissions Calls to Action. The Carleton University Indigenous Strategic Initiatives Committee (CUISIC) builds on the strength of the 2010 Aboriginal Coordinated Strategy. The President acknowledged the leadership of the Board Chair Nik Nanos who pushed for significant movement on the Indigenous Initiatives on campus to respond to the TRC Calls to Action. The President then introduced Benny Michaud, Kahente Horn-Miller, Theresa Hendricks and Jerry Tomberlin who have been leading the process. It was noted that the Board and Senate both passed motions endorsing the work of CUISIC towards revitalizing Carleton's Indigenous strategy and relationship with Indigenous people on and off campus.

Formed in December 2018, CUISIC consists of thirty-six members from both on-campus and off-campus communities, including Indigenous communities. The co-chairs conducted more than

40 consultations - on and off campus - that included participation of more than 450 people. The 41 draft Carleton-specific Calls to Action are part of a response to the recommendations of the Truth and Reconciliation Commissions, are aspirational and have evolved throughout the consultative and iterative process.

The final CUISIC report will be finalized in early winter. An implementation committee will be formed to consider each recommendation, establish timelines and paths forward. The Calls to Action will provide a roadmap as Carleton revitalizes its Indigenous initiatives and its relationships with Indigenous Peoples on-and off-campus.

A board member asked about indigenous representation selection process for the Board of Governors, and how it is being addressed. The Chair commented that the Governance Committee met in November to discuss the skills, expertise and experience required by the Board. Indigenous representation on the Board was a topic of discussion including the importance of equity, diversity and inclusion on the Board as recognized by the Board's Diversity Statement.

A member inquired how the University will continue to engage with the community long-term. Dr. Horn-Miller responded that a number of the Calls to Actions ensure the continuing engagement with the community, including the creation of the appropriate senior administrative position that would assist with feedback and consultation with the community. Additionally, the Indigenous Education Council will include membership from the three local indigenous communities where progress reporting would occur.

On the recommendation of the Executive Committee, it was moved by Ms. Arnt and seconded by Ms. Alves that the Board receive the Carleton University Indigenous Strategic Initiatives Committee (CUISIC) Calls to Action, understanding that any action under the purview of the board will in due course be brought back to the Board for approval, and that the Board thank the members of the CUISIC for their work on this important initiative. The motion carried unanimously.

7.2 Strategic Integrated Plan Process Update

The President was introduced to provide an update. He reminded the Board that the strategic integrated planning process launched on September 5th with guest speaker Ken Steele. The President noted that Sheldon Levy's presentation and the co-chairs summary at the Board Planning Session was the start of various themes emerging. The importance of a Strategic Plan being a reputation building plan and that the plans aspirations should be greater than the university. For example, it was stressed how Carleton could take on initiatives to help the greater Ottawa community as well. The task force has been working to distill the essence of the consultation to create a strategic and reputational plan for the University.

Dr. Lorraine Dyke then provided a summary of the consultation process and activities including a SIP Speaker Series (8 events, 13 speakers and 600 attendees), open consultations (40 meetings, 1,000 attendees and 200 online submissions), and themed consultations (150 attendees). These consultations have led to four mission pillars and eight emerging potential strategic theme directions being identified. The four mission pillars identified are research, teaching and learning, student experience and organizational excellence. The emerging potential strategic themes identified are leadership in sustainability; access, equity, diversity and inclusion; healthy environments (physical, social, culture, and professional); internationalization; campus-community engagement, real-world/social impact beyond disciplinary boundaries, innovation and indigenous initiatives. It was noted that the themes continue to be redefined. Ideas will be shaped and refocused to be strategic in nature.

The next steps in the process were then outlined and include publishing a summary document, drafting and reviewing the SIP, a consultation on the draft SIP and presentation to and seeking approval of the Board in June 2020.

A member asked if there are specific criteria that will be used to reduce the eight emerging strategic themes down to approximately three strategic themes. Dr. Dyke responded that many of the emerging themes are interrelated and/or impact each other and the task force will be considering all feedback quantitively and qualitatively. The President responded that all of the emerging themes will continue to progress, but it is important that the SIP define what Carleton is willing to stake its reputation on.

The Board provided feedback that Carleton's location in Ottawa should be incorporated into the SIP including: links to technology sector and the federal government. Carleton's origin story should be considered and incorporated into the SIP as Carleton originated from the community and specifically in Ottawa.

It was asked if the academic strengths will be a focus for the SIP. Dr. Dyke responded that the focus of the SIP is to find themes that will cross academic disciplines instead of defining programming strengths. The President commented that the SIP will be told in a story-telling fashion with strong symbols and metaphors with new and vibrant language that Carleton can own. It was noted Carleton's success requires a powerful, engaging and memorable SIP.

7.3 Strategic Mandate Agreement Update

The Strategic Mandate Agreement (SMA) is negotiated between the Ministry of Colleges and Universities and each of Ontario's 45 publicly-assisted colleges and universities. The SMA describes how each institution will build on its current strengths to achieve its vision and help drive system-wide objectives and government priorities. The Ministry has defined ten specific and measurable metrics. The process and outcomes of the SMA and SIP are different but linked.

The SMA3 process timeline was outlined as beginning in September 2019 with the finalization on March 31, 2020. The President commented that it likely that Carleton will want to weight all ten metrics equally.

The ten metrics and narrative provided to the Ministry at the November meeting with Carleton were outlined as:

- Graduate Employment – proportion of graduates employed full-time in a related or partially-related field.
- Institutional Strength/Focus – proportion of enrolment in identified areas of strength.
- Graduation Rate – undergraduate programs.
- Research Funding and Capacity – federal Tri-agency funding secured.
- Community/Local impact – institutional enrolment as a proportion of local population.
- Institution-specific metric on economic impact – from a list of possible economic impact metrics.
- Graduate earnings – earning of university graduates (2 and 5 years after graduation).
- Experiential Learning – number and proportion of undergraduate graduates in courses with experiential learning.
- Innovation – research revenue attracted from Private Sector Sources..
- Skills and Competencies – to be confirmed by the Ministry.

7.4 Report from the Chair

The Chair, Mr. Fortin congratulated Dr. Jonathan Malloy on his appointment as the Honourable Dick and Ruth Bell Chair for the Study of Canadian Parliamentary Democracy. The Chair reminded the Board of the December 10th Holiday Concert at the Carleton Dominion Chalmers Center.

7.5 Report from the President

The President's Report to the Board of Governors December 4, 2019 was circulated in advance. The President expressed his gratitude to the community for their donations on Giving Tuesday which raised $1 million with matching funds provided by the University for a total of $2 million for projects led by members of the Carleton community through FutureFunder.

The President highlighted reputation building including recent recognition of Carleton as ranking within the Top 5 for Canadian Comprehensive Universities in MacLean's and as ranking 3rd in the subcategory of Student Satisfaction. Carleton ranked first among comprehensive and medical universities in research income growth from 2017 to 2018, experiencing a 29.3 per cent increase in funding. At the Excellence Canada Summit on November 5, Carleton became the first post-secondary institution to reach Gold Level certification in Mental Health at Work and received a Bronze Level certification in Excellence, Innovation and Wellness for the Students and Enrolment division.

The President remarked on the success of Fall Convocation on November 9th, with more than 1,300 graduates and nearly 550 graduate students being awarded with degrees as well as an honorary doctorate to Mary Ellen Turpel-Lafond. The President thanked board members who participated.

Carleton's research continues to garner momentum and highlighted that Carleton University, University of Ottawa and National Research Council co-hosted the Royal

Society of Canada's 2019 Celebration of Excellence and Engagement on Nov. 21 to 22, 2019. Four Carleton professors joined the ranks of the Royal Society Fellows.

The President highlighted that Carleton and TVO's Ontario Hubs launched the new TVO Indigenous Hub at Carleton's School of Journalism and Communication on November 29th. The hub and its TVO journalist in residence, Shelby Lisk, will amplify Indigenous voices that are under-represented in today's current affairs stories and analysis.

The Raven's men's soccer team won the OUA Championships at the OUA Final 4. Head coach Kwesi Loney was named the OUA East Division Coach of the Year and U SPORTS Coach of the Year. The Men's and Women's Basketball teams are off to a strong season as well as the Men's Hockey Team.

The Ontario Universities' Fair was a big success. Carleton saw an increase in attendance at its booth and presentation room. More than 130 faculty, staff and students travelled to Toronto to answer questions from prospective students about Carleton. Highschool visits nationally and internationally were held over the Fall. Carleton also hosted 100 guidance counsellors on campus in the Fall to answer questions and featured the new Dean of Business.

7.6 Committee Chair Updates

a) Building Program Committee

Mr. Farrell, Chair of the Building Program Committee provided an update from the committees' meeting on November 21, 2019.

The architects from Diamond Schmitt Architects and KWC provided an update on the conceptual design of the new residence building. The architects presented options for two different room layouts - single and double as well as shared and communal spaces. The location of the building is at the T-intersection of University Dr. and Campus Ave. The tunnel connection for the building and the P18 parking was also discussed.

The Project Planning Report for the Engineering Student Design Centre was received by the committee. The building will provide design studio space required for fourth-year Engineering Capstone projects. The project has an estimated cost of $11 million. The next approval stage of the project is the Project Implementation Report which will be presented to the Finance and Building Program Committee in early 2020. Class D cost estimates have been prepared and the hard-costs of the project is estimated at $7.7 million and with related soft-costs and contingency. It is projected that project will finish on or below budget. Some additional storm and sanitary infrastructure damage in the area intended for construction was found. FMP will be providing additional maintenance financial resources to rectify the issues through the upcoming construction to minimize the overall cost to the university. The project has an ambitious schedule with a completion date of September 2020. To mitigate the risk, it has been recognized and accepted by the Faculty that occupancy is not likely to occur until January 2021.

A Capital Project Status Report was provided to the committee. The total capital projects currently underway total $237.8 million and as of October 28, 2019 the total expenditures incurred and value of work completed totaled $164.5 million. The projects underway include the Health Sciences Building, ARISE Building, Cogeneration facility and the Nicol Building,

The Health Sciences Building animal facility has been occupied since August 2019. Work remains to re-design and replace failed exhaust fans with expected completion by March 2020.

ARISE Building Phase 1 achieved substantial completion in November 2018. A detailed review of the construction phase is underway including more than $3 million in change orders. It is estimated that construction phase will be over budget by $1.54 million. A detailed accounting and close-out report will be provided to the Finance and Building Program Committees in March 2020.

The Cogeneration facility has had the high voltage switchgear installed in the Bronson substation. There are ongoing discussions with the contractor regarding their responsibility to correct the deficiencies that are noted by Hydro Ottawa to energize the equipment. The building is expected to be operational in November, with commissioning expected to proceed as soon as the deficiencies related to the switchgear are resolved.

The Nicol Building's concrete structure is finished and the steel structure is at 70% completion. The contractor provided a revised schedule on August 8th with a forecast of substantial completion by October 30, 2020. However, the contractor is currently reporting that work is approximately two weeks behind the revised schedule. The project is expected to remain on budget and is currently underbudget by $1.8 million.

It was questioned if an engineering building is still being designed to support continued growth. Mr. Piché responded that an Energy Sustainability Research Building will have a strong Engineering program component, and is currently in preliminary development to be ready for funding opportunities as they become available.

b) Finance Committee

Ms. Alves, Chair of the Finance Committee provided an update from the committees' meeting on November 21, 2019.

The finance committee received a report on Investment Fund for the Endowment which is comprised of three subsidiary funds, the General Endowment which is holds most of the donations to the University and two small single manager funds - the Sprott Bursary and the Jarislowsky Chair in Water and Global Health. The market value of the combined endowment at September 30, 2019 was $304.8M. The objective of the Fund is to achieve returns that will allow annual distributions of 4% based on a moving four-year average while preserving the Fund in perpetuity. In fiscal year 2019, the annual distribution of the Endowment fund was $10.7M providing $3M for scholarships and awards, $3.2M in bursaries and $4.5M in support to other academic and student service initiatives. The current asset mix is 28% in Canadian fixed income, 24.1% in Canadian equities, 45.4% in global equities and 2.5% in infrastructure. With the exception of an underweighting in infrastructure (due the timing for capital calls) and overweight within global equities, weightings for all asset classes are within the 10% ranges permitted under policy.

The committee also received the annual Pension Plan Report. The financial position of the Pension Plan is based on the most recent actuarial valuation as at July 1, 2016. The going-concern valuation was a 93% funded ratio as at July 1, 2016. The solvency valuation (hypothetical windup) was 83.1% funded ratio as at July 1, 2016. For the 2019 valuation, preliminary analysis shows that the solvency deficit will have improved from $224M in 2016 to under $150M in 2019. The improvement is due to an increase in the solvency discount rates and the investment returns of 24.4% (cumulative) in the three years since the last valuation. The market value of the Pension Fund at September 30, 2019 was $1.33 billion. The total employer contributions for special payments of $28M reflect a third round of Provincial solvency funding relief. It was noted that contributions to the minimum guarantee fund are expected to increase and there is a new provision for adverse deviations (PfAD) which will fall under the new funding rules (as of May 1, 2018). The funding rules include reduced solvency funding requirements. Solvency valuations are required, but solvency funding is only required when the funded status falls below 85%. The PfAD may be amortized over ten years, and the annual contribution is estimated to be in the $10-20M range. The new regulations also include an increase to the Pension Benefits Guarantee Fund (PBGF) assessment. The PBGF is expected to increase from $1.3M in 2018 to $2.5M in 2019.

An update on the 2019/2020 Operating Budget indicating that both expenses and revenues are on track with student enrolment tracking well with an increase of 1 to 1.5%.

c) Governance Committee

Ms. Creary, Vice-Chair of the Governance Committee provided an update from the committees' meeting on November 25, 2019. The committee reviewed the 2019/20 board self-assessment survey and the Board Travel and Related Expenses Policy. The committee also considered the approach for community-at-large recruitment for 2020/21 and reviewed a number of documents including the value proposition for serving on the board, a description of the role of the chair of the board as well as a guideline for the standing committee member assignment. The committee instructed the secretariat to complete a best practice review on in-camera session at the committee level.

The committee also discussed recruitment consistent with the Board's Diversity statement. The committee decided that individuals with CPA designations, expertise in the technology, innovation and entrepreneurship should be recruited for 2020/21. Board members were asked to encourage others to apply.

8. OPEN-OTHER BUSINESS

No additional business was raised.

9. OPEN-QUESTION PERIOD

No additional questions were raised.

10. END OF OPEN SESSION AND BRIEF NETWORKING BREAK

There being no further business, it was moved by Dr. Sloan, seconded by Dr. Smith to adjourn the Open Session of the Board of Governors at approximately 5:34 pm. The motion carried.

BOARD OF GOVERNORS REPORT

To:	Board of Governors	**Date of Report:** Feb 12 2020	
From:	Pension Committee	**Date of Meeting:** 3/12/2020	
Subject:	Actuarial Valuation and Funding of Carleton University Retirement Plan at July 1, 2019		
Responsible Portfolio:	Pension Committee		

1.0 PURPOSE

☒ For Approval ☐ For Information ☐ For Discussion

2.0 MOTION

That the Board of Governors approve the recommendations of the Pension Committee's to accept the Actuarial Valuation for Funding Purposes of the Carleton University Retirement Plan as at July 1, 2019.

3.0 EXECUTIVE SUMMARY

Legislation requires that an actuarial valuation of the Carleton University Retirement Plan (the "Plan") be undertaken at least every three years, and that the valuation be filed with the Financial Services Regulatory Authority ("FSRA" formerly the Financial Services Commission of Ontario) and the Canada Revenue Agency ("CRA"). Since the last actuarial valuation, new funding rules have been enacted by the Province. An actuarial valuation has been prepared for the period ending July 1, 2019 by Mercer, the Plan's actuary, reflecting the new funding rules. The Pension Committee reviewed and approved this valuation at a meeting on February 7, 2020 and recommends that it be approved by the Finance Committee.

The valuation shows that the financial position of the Plan has improved since the last valuation. The Plan is 93% funded on a going-concern basis at July 1, 2019 with a deficit of $59.3M (compared to 88% funded with a deficit of $80.0M at July 1, 2016). The Plan is 87% funded on a solvency (wind up) basis with a deficit of $121.0M at July 1, 2019 (compared to 74% and a deficit of $224.0M at July 1, 2016).

In regard to future University contributions to the Plan, there will be a modest increase to the current service cost for benefits that are being earned by Plan members. In addition, new provincial funding rules for the amortization of Plan deficits are in effect for this valuation, and they are positive for Carleton as solvency funding will not be required based on the July 1, 2019 valuation. The results are reviewed in more detail below.

The new rules allow the going-concern deficit of $59.3 million to be amortized over ten years. However, the Pension Committee recommends accelerating the funding of the going-concern deficit by making an immediate special payment of $43.7 million. Doing so will save about $27 million of special payments that would otherwise be required if the deficit were amortized over the ten years permitted under provincial regulation. It will bring the Plan to an almost fully funded position within the current plan year and significantly reduce the likelihood of future material special payments.

4.0 INPUT FROM OTHER SOURCES

Valuation Report prepared by Mercer. The report will be signed after Board approval.

5.0 ANALYSIS AND STRATEGIC ALIGNMENT

See attached document

6.0 FINANCIAL IMPLICATIONS

The financial stability of the Retirement Plan is critical to ensuring that the promise to deliver benefits to plan participants can be accomplished at a reasonable cost and risk to the University. Cost and risk refer to contributions, including special payments, and the variability of those payments. The recent decade has shown how challenging the management of pension plans can be, as the size of special payments created enormous pressure on University operating budgets. Carleton wisely built up a reserve for future pension contributions in recognition of the possibility of large future special payments. The prudent management of the Plan, the new provincial funding rules, and the existence of the reserve provide an opportunity at this valuation date to strengthen the financial position of the Plan, thereby reducing special payment requirements and at the same time further strengthening the security of the promised pension benefit. While the risk remains that investment and demographic experience within the Plan may result in special payments at a future valuation date, the financial impact will likely be less than it would have been anticipated in prior years.

Accelerating the funding of the going-concern liability will require payment of $43.7 million from the pension reserve fund, leaving a fund balance of $70.0M.

7.0 RISK, LEGAL AND COMPLIANCE ASSESSMENT

The financial stability of the Plan is of strategic importance to the University, given its size, continued growth, and compliance requirements. Regulatory, legal and compliance risk are mitigated by a clear governance structure and the existence of the Office of Pension Fund Management that oversees regulatory and compliance issues. This structure protects Plan members and assists the Pension Committee, the Finance Committee and the Board of Governors in fulfilling their fiduciary duties. Another type of risk over which the University has less control is market risk; i.e. the failure to achieve satisfactory returns due to capital market conditions, and related impairment of the assets supporting the Plan liabilities. Steps are taken to mitigate these risks through oversight and managing the Fund in accordance with prudent investment policy which includes the careful selection of investment managers and their oversight.

8.0 REPUTATIONAL IMPLICATIONS AND COMMUNICATIONS STRATEGY

Performing due diligence in the governance and operational management of the Plan is critical to avoiding reputational risks. The valuation results and related inputs have been thoroughly analyzed by the Pension Committee with the assistance of the Plan actuary. The recommendation presented to the Finance Committee was fully endorsed by the Pension Committee.

9.0 OVERALL RISK MANAGEMENT ANALYSIS

	LOW	MINOR	MODERATE	SERIOUS	VERY SERIOUS
STRATEGIC	☐	☐	☒	☐	☐
LEGAL	☐	☐	☒	☐	☐
OPERATIONAL	☐	☒	☐	☐	☐
TECHNOLOGICAL	☐	☒	☐	☐	☐
FINANCIAL	☐	☐	☐	☒	☐
REPUTATIONAL	☐	☐	☒	☐	☐

Carleton University

Highlights of the Actuarial Valuation for Funding Purposes

of the Carleton University Retirement Plan

as at July 1, 2019

<u>About the actuarial valuation process</u>

Actuarial valuations are required no less than every three years for registered pension plans. Valuations set out:

1) the financial position of the Plan; that is, the assets (investments), the liabilities for accrued pension benefits, reserves, any funding surplus or deficit, and the reasons for changes in the financial position relative to the previous valuation,

2) the funding requirements (i.e. contributions) for the period from the date of the valuation (July 1, 2019) to the date of the next valuation (in this case no later than July 1, 2022), and

3) the actuarial methods and assumptions (for example, assumptions about investment earnings and rates of salary increases) that serve as a basis for determining both of the above.

Valuations must be prepared both on a going-concern basis and on a solvency basis:

- A ***going-concern valuation*** assumes that the plan continues to operate indefinitely. Reasonable assumptions about the long-term level of investment earnings, salary increases, rates of early retirement, and mortality experience are incorporated into the valuation. If a going-concern valuation reveals a deficit (i.e. accrued benefit obligations exceed the value of invested assets), special contributions are required to amortize the deficit over 10 years.

- A ***solvency valuation*** assumes the plan is wound up at the valuation date. The solvency valuation requires use of a prescribed discount rate for valuing the plan's liabilities. The solvency rate is based on current market interest rates. In periods of low interest rates, liabilities increase. If a plan has a solvency deficiency exceeding a certain threshold, special contributions to the plan are required over five years to eliminate the deficit. Stringent solvency rules and a short amortization period mean solvency payments can be material.

The Actuarial Report must include an Actuarial Opinion, signed by a Fellow of the Canadian Institute of Actuaries certifying that the report is correct, the assumptions are appropriate, and the actuarial methods used in accordance with accepted actuarial practice. The report is filed with FSRA and CRA.

<u>New Provincial Funding Rules</u>

This valuation is prepared under new Ontario pension funding regulations. The regulations are a welcome change from the previous rules that resulted in extreme special payments for solvency funding regardless of the likelihood of a plan sponsor becoming insolvent. The new regulations focus on strengthening plans on a going-concern basis while at the same time eliminating the need to fund solvency deficits unless they exceed a set threshold. The key features of the new regulations are:

- For the going concern valuation, the establishment of a reserve called the "Provision for Adverse Deviations (PfAD)". This is designed to provide a cushion against negative market experiences that could cause a Plan deficit. In Carleton's case, the PfAD is equal to 10% of the Plan's liabilities. Plans will only be considered fully funded when the PfAD is fully funded.

- For the going concern valuation a ten-year amortization period for going-concern deficits. Previously, the amortization period was 15 years.

- For the solvency valuation, elimination of the need to fund solvency deficits unless the solvency ratio (i.e. the ratio of Plan assets to liabilities) is less than 85%. Solvency valuations will continue to be required but deficits need not be funded to 100% as was the case previously.

Actuarial Assumptions

A valuation involves projecting accrued benefits and the assets that support them over the lifetime of the Plan membership. To do this, it is necessary to make certain assumptions about the future experience of the Plan. Actual experience that differs from the assumptions result in gains or losses that will be incorporated into future valuations. The following key actuarial assumptions are used in the 2019 valuation.

a) Investment return of 6.0% per annum. The 6.0% is a decrease from the previous valuation that used 6.1%.
b) Rate of salary increases of 4.5% per year. Unchanged from the previous valuation.
c) Mortality - 90% of the 2014 Public Sector Canadian Pensioners Mortality Table (CPM2014Publ); unchanged. The mortality table is used to project the number of years over which a retiree's pension will be paid.
d) Retirement age – unchanged; assumes members retire at the later of 65 or one year after the valuation date.
e) Solvency interest rate – the prescribed solvency interest rate is approximately 2.7% at July 1, 2019, slightly higher than the 2.5% rate used at July 1, 2016 but lower than the 3.3% rate used in the July 1, 2013 valuation.

Financial Position - Going-concern valuation

The actuarial balance sheets at July 1, 2016 and July 1, 2019 are as follows:

	July 1, 2016	July 1, 2019	
Assets (investments)	$ 1,104.0 M	$1,340.0 M	
Less: Assets attributable to Money Purchase Accounts*	(476.4)	(542.4)	Note A
Actuarial value of assets	$ 627.6	$ 797.6	
Liabilities (Minimum Guarantee pension benefits)			
Active members	68.5	80.1	
Retired Members	599.3	689.9	
Reserves	1.1	0.7	
Total Liabilities and Reserves	$ 669.0	$ 770.7	

Surplus/(Deficit)	($ 41.4)	$ 26.9	Note B
Actuarial smoothing adjustment	($38.7)	(9.7)	
Provision for Adverse Deviation (PfAD)		(76.5)	
Surplus/(Deficit)	($ 80.1)	($ 59.3)	Note C
Funded ratio	88%	93%	

Notes:

A. The new funding rules require a PfAD for plans that provide defined benefit pensions. A PfAD is not required for defined contribution (also called money purchase) obligations. The Carleton Plan is an integrated hybrid plan that has features of both a defined benefit plan and a defined contribution plan. The regulator, FSRA, permits the Carleton Plan to calculate the PfAD on a basis that excludes the money purchase liabilities. An equal amount of assets is also excluded. FSRA requires the valuation to reflect the exclusion of the money purchase assets and liabilities. Note that the "bottom line", the surplus or deficit position of the Plan is the same whether this method is used or one that includes money purchase assets and liabilities.

B. The deficit position in 2016 and surplus in 2019 on a going concern basis prior to application of the new PfAD. The change is primarily the result of higher-than-expected investment returns in the last three years (4.1% in 2019, 7.6% in 2018, and 12.7% in 2017).

C. This is the deficit after inclusion of the PfAD of $76.5 M for the 2019 valuation.

Financial Position – Solvency (Hypothetical Windup) Valuation

	July 1, 2016	July 1, 2019
Assets (investments)	$1,103.4 M	$1,339.3 M
Less: Assets attributable to Money Purchase Accounts*	(476.4)	(542.4)
Actuarial value of assets	$ 627.0	$ 796.9
Liabilities (pension benefits)		
Active members	70.1	52.2
Deferred members	0.6	0.8
Retired members	780.0	864.9
Reserves	$ 0.0	$ 0.0
Total Liabilities	$ 850.7	$ 917.9
Surplus/(Deficit)	($ 223.7)	($ 121.0)
Funded ratio	73.7%	86.8%

The Plan has a solvency deficit as at July 1, 2019. This result was expected because the prescribed solvency discount rate is 2.7% (the rate was 2.5% in 2016). Under the new funding rules, however, the solvency deficit, at over 85%, does not have to be funded with special payments. If at a future valuation date, the ratio goes below 85%, special payments would have to be made to bring the funded ratio to 85%.

Funding Requirements

Annual funding consists of two types of payments – those for current service and special payments required to amortize any deficit (also call past service cost).

Current Service Cost

The current service cost is the cost of providing one year of pension benefit. It is forward looking and based on the Plan's assumptions about investment returns, earnings growth, and mortality experience.

For the current service cost, the University is required to contribute to members' Money Purchase accounts an amount equal to 4.62% of members' earnings up to the Year's Maximum Pensionable Earnings (YMPE) as defined by the Canada Pension Plan plus 6.25% of members' earnings above the YMPE. In addition, the University contributes an amount, as actuarially determined, to the Minimum Guarantee Fund. This amount, 3.5% of pensionable earning per the July 1, 2019 valuation, is a slight increase from 3.28% in 2016).

Special payments

Special payments must be made to fund going concern and (if applicable) solvency deficits. Such deficits arise when plan experience is different from that which is assumed (for example, investment earnings higher or lower than the 6.0% assumption). Most recently, special payments of $13.5 million annually have been made to the Plan

Summary of University and Employee contributions as determined by the July 1, 2019 actuarial valuation

Contribution requirements for the three-year period commencing July 1, 2019 is as follows:

	2019/20	2020/21	2021/22
Employer Money Purchase	$12.4 M	$13.0 M	$13.6M
Employer Minimum Guarantee (MG), current service	8.2	8.5	8.9
Special payments (to MG) employer (note 1)	73.0	0.0	0.0
Special payments to MG Fund, employees	(4.5)	(4.7)	0.0
Total employer contributions	**$89.1**	**$16.8**	**$22.5**
Employee money purchase contributions	$11.8	$12.4	$12.9
Employees' special MG contributions (note 2)	4.5	4.7	0.0
Total employee contributions	**$16.3**	**$17.1**	**$12.9**

Note 1: Special payments consist of:

Contributions between July 1, 2019 and March 31, 2020, based on 2016 valuation	$ 6.8M
Employees' special contributions to the minimum guarantee fund	4.5
Lump-sum contribution from pension reserve to ensure solvency ratio exceeds 85%	18.0
Accelerated contribution towards going-concern deficit, based on 2019 valuation,	43.7
From pension reserve	$73.0

Note 2: Represents employee special contributions to the Minimum Guarantee fund of approximately 2% of pensionable earnings for a ten year period ending June 30, 2021.

By accelerating contributions in 2019, total payments over the next 11 years towards the amortization of the Plan deficit will be approximately $77.7 million. For comparison, if the deficit were funded under the new provincial rules, i.e a ten-year amortization period with prescribed interest at 6% per year, the total payments would be $104.9 million.

HEALTH WEALTH CAREER

CARLETON UNIVERSITY RETIREMENT PLAN

REPORT ON THE ACTUARIAL VALUATION FOR FUNDING PURPOSES AS AT JULY 1, 2019

March 2020

Financial Services Regulatory Authority of Ontario Registration Number: 526616

Canada Revenue Agency Registration Number: 526616

Note to reader regarding actuarial valuations:

This valuation report may not be relied upon for any purpose other than those explicitly noted in the Introduction, nor may it be relied upon by any party other than the parties noted in the Introduction. Mercer is not responsible for the consequences of any other use. A valuation report is a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict a pension plan's future financial condition or its ability to pay benefits in the future. If maintained indefinitely, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the amount of plan expenses, and the amount earned on any assets invested to pay the benefits. These amounts and other variables are uncertain and unknowable at the valuation date. The content of the report may not be modified, incorporated into or used in other material, sold or otherwise provided, in whole or in part, to any other person or entity, without Mercer's permission. All parts of this report, including any documents incorporated by reference, are integral to understanding and explaining its contents; no part may be taken out of context, used, or relied upon without reference to the report as a whole.

To prepare the results in this report, actuarial assumptions are used to model a single scenario from a range of possibilities for each valuation basis. The results based on that single scenario are included in this report. However, the future is uncertain and the Plan's actual experience will differ from those assumptions; these differences may be significant or material. Different assumptions or scenarios within the range of possibilities may also be reasonable, and results based on those assumptions would be different. Furthermore, actuarial assumptions may be changed from one valuation to the next because of changes in regulatory and professional requirements, developments in case law, plan experience, changes in expectations about the future, and other factors.

The valuation results shown in this report also illustrate the sensitivity to one of the key actuarial assumptions, the discount rate and the sensitivity to three adverse scenarios. We note that the results presented herein rely on many assumptions, all of which are subject to uncertainty, with a broad range of possible outcomes, and the results are sensitive to all the assumptions used in the valuation.

Should the Plan be wound up, the going concern funded status and solvency financial position, if different from the wind-up financial position, become irrelevant. The hypothetical wind-up financial position estimates the financial position of the Plan assuming it is wound up on the valuation date. Emerging experience will affect the wind-up financial position of the Plan assuming it is wound up in the future. In fact, even if the Plan were wound up on the valuation date, the financial position would continue to fluctuate until the benefits are fully settled.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security, and/or benefit-related issues should not be made solely on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic, and societal factors, including financial scenarios that assume future sustained investment losses.

Funding calculations reflect our understanding of the requirements of Pension Benefits Act of Ontario , the Income Tax Act, and related regulations that are effective as of the valuation date. Mercer is not a law firm, and the analysis presented in this report is not intended to be a legal opinion. You should consider securing the advice of legal counsel with respect to any legal matters related to this report.

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SUMMARY OF RESULTS

	01.07.2019	01.07.2016
Going Concern Financial Status		
Actuarial value of assets [1]	$789,967,000	$597,664,000
Going concern funding liabilities [1]	$772,733,000	$677,765,000
Provision for adverse deviations in respect of the going concern liabilities	$76,511,000	N/A
Funding excess (shortfall)	($59,277,000)	($80,101,000)
Hypothetical Wind-up/Solvency Financial Position		
Wind-up/solvency assets [1]	$796,947,000	$627,013,000
Wind-up/solvency liability [1]	$917,945,000	$850,749,000
Wind-up/solvency excess (shortfall)	($120,998,000)	($223,736,000)
Funding Requirements in the Year Following the Valuation [2]		
Minimum Guarantee Benefit (MGB) current service cost	$7,436,000	$6,534,000
Provision for adverse deviations in respect of current service cost	$744,000	N/A
University Current Service Cost	$8,180,000	$6,534,000
Special Payments	$9,676,000	$9,658,000
Members Contribution to Minimum Guarantee	($4,494,000)	($3,865,000)
Subtotal minimum required contribution	$13,362,000	$12,327,000
Total Money Purchase Contributions	$24,260,000	$20,812,000
Members Money Purchase Contributions	($11,841,000)	($10,157,000)
University Money Purchase Contributions	$12,419,000	$10,655,000
Estimated minimum employer contribution	$25,781,000	$22,982,000
Estimated maximum eligible employer contribution	$141,597,000	$240,925,000
Next required valuation date	01.07.2022	01.07.2019

[1] Excluding Money Purchase Component (MPC) balances.

[2] Provided for reference purposes only. Contributions must be remitted to the Plan in accordance with the Minimum Funding Requirements and Maximum Eligible Contributions sections of this report.

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INTRODUCTION

TO THE BOARD OF GOVERNORS OF CARLETON UNIVERSITY (THE "UNIVERSITY")

At your request, we have conducted an actuarial valuation of the Carleton University Retirement Plan (the "Plan"), sponsored by Carleton University (the "University"), as at the valuation date, July 1, 2019. We are pleased to present the results of the valuation.

PURPOSE

The purpose of this valuation is to determine:

- The funded status of the Plan as at July 1, 2019 on going concern, hypothetical wind-up, and solvency bases;
- The minimum required funding contributions from July 1, 2019, in accordance with the *Pension Benefits Act of Ontario* (the "Act"); and
- The maximum permissible funding contributions from July 1, 2019, in accordance with the *Income Tax Act.*

The information contained in this report was prepared for internal use of the University, and for filing with the Financial Services Regulatory Authority of Ontario ("FSRA") and with the Canada Revenue Agency, in connection with our actuarial valuation of the Plan. This report will be filed with the Financial Services Regulatory Authority of Ontario and with the Canada Revenue Agency. This report is not intended or suitable for any other purpose.

In accordance with pension benefits legislation, the next actuarial valuation of the Plan will be required as at a date not later than July 1, 2022, or as at the date of an earlier amendment to the Plan.

TERMS OF ENGAGEMENT

In accordance with our terms of engagement with the University, our actuarial valuation of the Plan is based on the following material terms:

- It has been prepared in accordance with applicable pension legislation and actuarial standards of practice in Canada.
- As instructed by the University, we have not reflected a margin for adverse deviations in the going concern valuation in excess of the provision for adverse deviations prescribed by the Act.

- We have reflected the University's decisions for determining the solvency funding requirements, summarized as follows:
  - The same plan wind-up scenario was hypothesized for both hypothetical wind-up and solvency valuations
  - Although permissible, no benefits were excluded from the solvency liabilities
  - The solvency financial position was determined on a market value basis.

  See the Valuation Results - Solvency section of the report for more information.

EVENTS SINCE THE LAST VALUATION AT JULY 1, 2016

Pension Plan

There have been no special events since the last valuation date.

This valuation reflects the provisions of the Plan as at July 1, 2019. The Plan has not been amended since the date of the previous valuation, and we are not aware of any pending definitive or virtually definitive amendments coming into effect during the period covered by this report. The Plan provisions are summarized in Appendix F.

Assumptions

We have used the same going concern valuation assumptions and methods as were used for the previous valuation, except for the following:

	CURRENT VALUATION	PREVIOUS VALUATION
Discount rate:	6.00%	6.10%
Provision for Adverse Deviations	10.00%	N/A

A summary of the going concern methods and assumptions is provided in Appendix C.

The hypothetical wind-up and solvency assumptions have been updated to reflect market conditions at the valuation date. A summary of the hypothetical wind-up and solvency methods and assumptions is provided in Appendix D.

Regulatory Environment and Actuarial Standards

There have been a number of changes to the Act and regulations that impact the funding of the Plan.

On December 14, 2017, Bill 177, Stronger, Fairer Ontario Act, 2017 received Royal Assent. Bill 177 contained amendments to the Act to enable the new funding framework as previously announced by the Government of Ontario in May 2017. The new funding framework changed minimum funding requirements from both a going concern and solvency perspective. The regulations to the Act supporting the new funding rules were published on April 20, 2018 with effect from May 1, 2018. Valuation reports with effect on or after December 31, 2017 that are filed on or after May 1, 2018 reflect the new rules. The amended regulations also allow for a transition from the funding rules that applied immediately before May 1, 2018 to the new funding rules over a three-year phase-in period starting in the first year following the valuation date of this report.

The funding relief measures that were introduced for pension plans in the broader public sector have also been amended. In general, the new funding framework applies for valuation dates on and after December 31, 2017 to broader public sector pension plans that received solvency funding relief. However, for these plans, the additional restrictions on funding of benefit improvements and contribution holidays contained in the solvency funding relief rules that apply for a prescribed period have been retained. The University had elected to apply the broader public sector solvency funding relief measures in previous valuations of the Plan.

Effective March 1, 2019, the Canadian Institute of Actuaries (“CIA”) made changes to tis Standards that required additional disclosure items to be included in the valuation reports prepared on or after that date. In particular, the financial impact on the going concern results under plausible adverse scenarios is to be included in the report. These additional disclosure items are shown in Appendix G of the report.

On January 24, 2020, the Canadian Institute of Actuaries (“CIA”) published revisions to its Standards of Practice which introduce changes to the calculation of commuted values (“CV Standards”).

The changes to the CIA CV Standards will be effective August 1, 2020. They would affect the assumptions used to value the solvency and wind-up liabilities for benefits assumed to be settled through a lump sum transfer. The financial impact of those changes has not been reflected in this actuarial valuation and will be considered in a future actuarial valuation.

SUBSEQUENT EVENTS

Following the valuation date, in addition to the minimum required contributions made by the University as per the previous valuation, the University made accelerated special payments contributions of $18,000,000 at the end of October 2019 and of $43,729,000 at the end of March 2020.

After checking with representatives of the University, to the best of our knowledge there have been no other events subsequent to the valuation date that, in our opinion, would have a material impact on the results of the valuation. Our valuation reflects the financial position of the Plan as of the valuation date and does not take into account any experience after the valuation date.

IMPACT OF CASE LAW

This report has been prepared on the assumption that all claims on the Plan after the valuation date will be in respect of benefits payable to members of the Plan determined in accordance with the Plan terms and that all Plan assets are available to provide for these benefits. It is possible that court and regulatory decisions and changes in legislation could give rise to additional entitlements to benefits under the Plan and cause the results in this report to change. By way of example, we bring your attention to the following decisions:

- The Ontario Court of Appeal's 2003 decision in *Aegon Canada Inc. and Transamerica Life Canada versus ING Canada Inc.* restricted the use of original plan surplus where two or more pension plans were merged.

- The Supreme Court of Canada's 2004 decision in *Monsanto Canada Inc. versus Superintendent of Financial Services* upheld the requirement, with retroactive effect, to distribute surplus on partial plan wind-up under the *Pension Benefits Act (Ontario).*

We are not in a position to assess the impact that such decisions or changes could have on the assumption that all plan assets on the valuation date are available to provide for benefits determined in accordance with the Plan terms. If such a claim arises subsequent to the date of this report, the consequences will be dealt with in a subsequent report. We are making no representation as to likelihood of such a claim.

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VALUATION RESULTS – GOING CONCERN

FINANCIAL STATUS

A going concern valuation compares the relationship between the value of Plan assets and the present value of expected future benefit cash flows in respect of accrued service, assuming the Plan will be maintained indefinitely.

The results of the current valuation, compared with those from the previous valuation, are summarized as follows:

	01.07.2019	01.07.2016
Assets		
Market value of assets	$1,322,006,000	$1,103,994,000
Contribution in-transit	$18,000,000	$0
LESS: Money Purchase Component (MPC) balances	($542,409,000)	($476,381,000)
Total market value of assets net of MPC	$797,597,000	$627,613,000
Asset smoothing adjustment	($7,630,000)	($29,949,000)
Total actuarial value of assets	$789,967,000	$597,664,000
Going concern funding target		
Minimum Guarantee liabilities		
- Active members	$80,071,000	$68,547,000
- Deferred pensioners	$0	$0
- Pensioners and survivors	$689,852,000	$599,319,000
- Non-reduction reserve	$762,000	$1,142,000
Total going-concern liabilities	$770,685,000	$669,008,000
Liability smoothing adjustment	$2,048,000	$8,757,000
Total smoothed liabilities	$772,733,000	$677,765,000
Provision for adverse deviations in respect of going concern liabilities as prescribed by the Act	$76,511,000	N/A
Total	$849,244,000	$677,765,000
Funding excess (shortfall)[3]	($59,277,000)	($80,101,000)

[3] Funding excess (shortfall) may or may not be equal to the going concern excess (unfunded liability) as described in the Act. Details of the going concern excess (unfunded liability) are provided in Appendix A.

The going concern liabilities at July 1, 2019 do not include an additional margin for adverse deviations beyond the provision for adverse deviations prescribed by the Act.

RECONCILIATION OF FINANCIAL STATUS

Funding excess (shortfall) as at previous valuation		($80,101,000)
Interest on funding excess (shortfall) at 6.10% per year		($15,571,000)
Employer's special payments, with interest[4]		$57,875,000
Expected funding excess (shortfall)		($37,797,000)
Experience gains (losses):		
• Investment return	$42,800,000	
• Gain on Minimum Guarantee due to fund return more than expected on Money Purchase Balances	$10,150,000	
• Increases in pensionable earnings, YMPE and maximum pension	$5,112,000	
• Indexation	($33,920,000)	
• Mortality	($3,725,000)	
• Retirement	$5,826,000	
• Termination	($1,869,000)	
Total experience gains (losses)		$24,374,000
Smoothing adjustment as at 01.07.2019		$36,552,000
Impact of changes in assumptions		($5,735,000)
Change in provision for adverse deviations in respect of the going concern liabilities		($76,511,000)
Net impact of other elements of gains and losses		($160,000)
Funding excess (shortfall) as at current valuation		($59,277,000)

[4] Including contribution in-transit

CURRENT SERVICE COST

The current service cost is an estimate of the present value of the additional expected future minimum guarantee benefits cash flows in respect of pensionable service that will accrue after the valuation date, assuming the Plan will be maintained indefinitely. A provision for adverse deviations in respect of the current service cost is determined in accordance with the Act.

The current service cost and the provision for adverse deviations in respect of the current service cost, during the year following the valuation date, compared with the corresponding values determined in the previous valuation, is as follows:

MINIMUM GUARANTEE BENEFITS	2019/2020	2016/2017
Total estimated employer's current service cost	$7,436,000	$6,534,000
Estimated members' pensionable earnings	$231,182,000	$199,086,000
Employer's current service cost expressed as a percentage of members' pensionable earning	3.22%	3.28%
Provision for adverse deviations in respect of the current service cost (based on the percentage defined in Appendix A)		
• As a dollar amount per year	$744,000	N/A
• As a percentage of members' pensionable earnings	0.32%	N/A
Employer's current service cost and provision for adverse deviations in respect of current service cost		
• As a dollar amount per year	$8,180,000	$6,534,000
• As a percentage of members' pensionable earnings	3.54%	3.28%

The key factors that have caused a change in the employer's current service cost excluding the provision for adverse deviations and excluding the expense allowance since the previous valuation are summarized in the following table:

Employer's current service cost as at previous valuation	3.28%
Demographic changes	(0.25%)
Changes in assumptions	0.19%
Employer's current service cost as at current valuation	3.22%

DISCOUNT RATE SENSITIVITY

The following table summarizes the effect on the Minimum Guarantee going concern liabilities and current service cost shown in this report of using a discount rate that is 1% lower than that used in the valuation.

The effect of a change in the discount rate on the provision for adverse deviations is not reflected.

SCENARIO	VALUATION BASIS	REDUCE DISCOUNT RATE BY 1%
Going concern funding liabilities	$772,733,000	$854,554,000
Current service cost	$7,436,000	$10,886,000

MONEY PURCHASE CONTRIBUTIONS

Based on the estimated regular employee contributions, the annual University Money Purchase contributions for the 2019 / 2020 plan year, in comparison with the corresponding amount determined in the previous valuation as at July 1, 2016, are estimated to be:

ESTIMATED MONEY PURCHASE ANNUAL CONTRIBUTION		
	2019/2020	2016/2017
Estimated members' Money Purchase contributions	$11,841,000	$10,157,000
Estimated University Money Purchase contributions	$12,419,000	$10,655,000
Total Money Purchase contributions	$24,260,000	$20,812,000
Estimated payroll for the period	$231,182,000	$199,086,000
Members' Money Purchase contributions as a percentage of payroll	5.12%	5.10%
University Money Purchase contributions as a percentage of payroll	5.37%	5.35%

4 VALUATION RESULTS – HYPOTHETICAL WIND-UP

FINANCIAL POSITION

When conducting a hypothetical wind-up valuation, we determine the relationship between the respective values of the Plan's assets and its liabilities assuming the Plan is wound up and settled on the valuation date, assuming benefits are settled in accordance with the Act and under circumstances consistent with the hypothesized scenario on the valuation date. More details on such scenario are provided in Appendix D.

The hypothetical wind-up financial position as of the valuation date, compared with that at the previous valuation, is as follows:

	01.07.2019	01.07.2016
Assets		
Market value of assets	$ 1,322,006,000	$1,103,994,000
Contribution in-transit	$18,000,000	$0
LESS: Money Purchase Accounts (MPC)	($542,409,000)	($476,381,000)
Total market value of assets net of MPC	$797,597,000	$627,613,000
Termination expense provision	($650,000)	($600,000)
Total wind-up assets	$796,947,000	$627,013,000
Minimum Guarantee liabilities for:		
- Active members	$52,243,000	$70,139,000
- Deferred pensioners	$841,000	$592,000
- Pensioners and survivors	$864,861,000	$780,018,000
Total wind-up liabilities	$917,945,000	$850,749,000
Wind-up excess (shortfall)	($120,998,000)	($223,736,000)

WIND-UP INCREMENTAL COST

The wind-up incremental cost for the Minimum Guarantee benefits is an estimate of the present value of the projected change in the hypothetical wind-up liabilities from the valuation date until the next scheduled valuation date, adjusted for the benefit payments expected to be made in that period.

The hypothetical wind-up incremental cost determined in this valuation, compared with the corresponding value determined in the previous valuation, is as follows:

	01.07.2019	01.07.2016
Number of years covered by report	3 years	3 years
Total hypothetical wind-up liabilities at the valuation date (A)	$917,945,000	$850,749,000
Present value at the valuation date of projected hypothetical wind-up liability at the next required valuation (including expected new entrants) plus expected benefit payments until the next required valuation (B)	$944,761,000	$879,993,000
Hypothetical wind-up incremental cost (B – A)	$26,816,000	$29,244,000

The incremental cost is not an appropriate measure of the contributions that would be required to maintain the financial position of the Plan on a hypothetical wind-up basis unchanged from the valuation date to the next required valuation date, even if actual experience is exactly in accordance with the going concern valuation assumptions. This is because it does not reflect the fact that the expected return on plan assets (based on the going concern assumptions) is greater than the discount rate used to determine the hypothetical wind-up liabilities.

DISCOUNT RATE SENSITIVITY

The following table summarizes the effect on the hypothetical wind-up liabilities shown in this report of using a discount rate that is 1% lower than that used in the valuation:

SCENARIO	VALUATION BASIS	REDUCE DISCOUNT RATE BY 1%
Total hypothetical wind-up liability	$917,945,000	$1,028,625,000

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VALUATION RESULTS – SOLVENCY

OVERVIEW

The Act also requires the financial position of the Plan to be determined on a solvency basis. The financial position on a solvency basis is determined in a similar manner to the Hypothetical Wind-up Basis, except for the following:

EXCEPTIONS	REFLECTED IN VALUATION BASED ON THE TERMS OF ENGAGEMENT
The circumstance under which the Plan is assumed to be wound up could differ for the solvency and hypothetical wind-up valuations.	The same circumstances were assumed for the solvency valuation as were assumed for the hypothetical wind-up valuation.
Certain benefits can be excluded from the solvency financial position. These include: (a) any escalated adjustment (e.g. indexing), (b) certain plant closure benefits, (c) certain permanent layoff benefits, (d) special allowances other than funded special allowances, (e) consent benefits other than funded consent benefits, (f) prospective benefit increases, (g) potential early retirement window benefit values, and (h) pension benefits and ancillary benefits payable under a qualifying annuity contract.	No benefits were excluded from the solvency liabilities shown in this valuation.
The financial position on the solvency basis needs to be adjusted for any Prior Year Credit Balance.	Not applicable.
The solvency financial position can be determined by smoothing assets and the solvency discount rate over a period of up to 5 years.	Smoothing was not used.
The benefit rate increases coming into effect after the valuation date can be reflected in the solvency valuation.	Not applicable.

FINANCIAL POSITION

The financial position on a solvency basis is the same as the financial position on the Hypothetical Wind-up basis shown in the previous section. The transfer ratio 86.9% is compared to 83.2% at the previous valuation.

6
MINIMUM FUNDING REQUIREMENTS

The Act prescribes the minimum contributions that Carleton University must make to the Plan. The minimum contributions in respect of a defined benefit component of a pension plan are comprised of going concern current service cost, the provision for adverse deviations in respect of the current service cost and special payments to fund any funding shortfall or solvency shortfall that exceeds the level as set out under the Act. The minimum contribution requirements are net of any applicable member contribution.

On the basis of the assumptions and methods described in this report, the rule for determining the minimum required employer monthly contributions, as well as an estimate of the employee and employer contributions, from the valuation date until the next required valuation are as follows:

	MINIMUM REQUIRED EMPLOYER'S CONTRIBUTION		
Period Beginning	**7.1.2019**	**7.1.2020**	**7.1.2021**
Minimum Guarantee Benefit (MGB) Current Service Cost			
Current Service Cost (3.22%*)	$7,436,000	$7,771,000	$8,120,000
PfAD on non-indexed current service cost (0.32%*)	$744,000	$777,000	$812,000
Total MGB Current Service Cost	$8,180,000	$8,548,000	$8,932,000
PLUS: Special Payments	$9,676,000	$6,996,000	$6,996,000
LESS: Members Contribution to MGB (1.94%*)	($4,494,000)	($4,697,000)	$0
Subtotal minimum required contribution	**$13,362,000**	**$10,847,000**	**$15,928,000**
Monthly amount	*$1,113,500*	*$903,917*	*$1,327,333*
Total Money Purchase Contributions	$24,260,000	$25,352,000	$26,492,000
LESS: Members Money Purchase Contributions (5.12%*)	($11,841,000)	($12,374,000)	($12,931,000)
University Money Purchase Contributions (5.37%*)	**$12,419,000**	**$12,978,000**	**$13,561,000**
Total University Contribution	**$25,781,000**	**$23,825,000**	**$29,489,000**
Monthly amount	*$2,148,417*	*$1,985,417*	*$2,457,417*

** Expressed as a percentage of members' pensionable earnings*

Prior to the filing of this report, the University contributed into the pension fund a total of $50,479,000 of special payments for the period from July 1, 2019 to March 31, 2020. These contributions to date in plan year 2019/2020 are to be applied towards minimum required special payments contributions until the next required valuation date. As such, no minimum special payments contributions are required to be made for the period from April 2020 to June 2023 (one year following the next required valuation date). On this basis, an estimate of the employee and employer contributions from the valuation date until the next required valuation are as follows.

	ESTIMATED EMPLOYER'S CONTRIBUTION		
Period Beginning	**7.1.2019**	**7.1.2020**	**7.1.2021**
Minimum Guarantee Benefit (MGB) Current Service Cost			
Current Service Cost (3.22%*)	$7,436,000	$7,771,000	$8,120,000
PfAD on non-indexed current service cost (0.32%*)	$744,000	$777,000	$812,000
Total MGB Current Service Cost	$8,180,000	$8,548,000	$8,932,000
PLUS: Special Payments	$72,973,000**	$0	$0
LESS: Members Contribution to MGB (1.94%*)	($4,494,000)	($4,697,000)	$0
Subtotal minimum required contribution	**$76,659,000**	**$3,851,000**	**$8,932,000**
Total Money Purchase Contributions	$24,260,000	$25,352,000	$26,492,000
LESS: Members Money Purchase Contributions (5.12%*)	($11,841,000)	($12,374,000)	($12,931,000)
University Money Purchase Contributions (5.37%*)	**$12,419,000**	**$12,978,000**	**$13,561,000**
Total University Contribution	**$89,078,000**	**$16,829,000**	**$22,493,000**

** Expressed as a percentage of members' pensionable earnings*

*** Including contribution in-transit*

The estimated contribution amounts for current service cost and the provision for adverse deviations in respect of the current service cost shown above are based on projected members' pensionable earnings. Therefore, the actual employer's current service cost and provision for adverse deviations may be different from the above estimates and, as such, the contribution requirements should be monitored closely to ensure contributions are made in accordance with the Act.

Appendix A includes details on:

- the development of the minimum special payments; and
- the determination of the provision for adverse deviations.

OTHER CONSIDERATIONS

Differences Between Valuation Bases

There is no provision in the minimum funding requirements to fund the difference between the hypothetical wind-up and reduced solvency shortfalls, if any.

In addition, although minimum funding requirements do include a requirement to fund the going concern current service cost and a provision for adverse deviations in respect of the current service cost, there is no requirement to fund the expected growth in the hypothetical wind-up or solvency liability after the valuation date, which could be greater.

Timing of Contributions

Funding contributions are due on a monthly basis. Contributions for current service cost and the provision for adverse deviations must be made within 30 days following the month to which they apply. Special payment contributions must be made in the month to which they apply.

Retroactive Contributions

The University must contribute the excess, if any, of the minimum contribution recommended in this report over contributions actually made in respect of the period following the valuation date. This contribution, along with an allowance for interest, is due no later than 60 days following the date this report is filed.

Payment of Benefits

The Act imposes certain restrictions on the payment of lump sums from the Plan when the transfer ratio revealed in an actuarial valuation is less than one. If the transfer ratio shown in this report is less than one, the plan administrator should ensure that the monthly special payments are sufficient to meet the requirements of the Act to allow for the full payment of benefits, and otherwise should take the prescribed actions.

Additional restrictions are imposed when:

- The transfer ratio revealed in the most recently filed actuarial valuation is less than one and the administrator knows or ‘ought to know’ that the transfer ratio of the Plan has declined by 10% or more since the date the last valuation was filed.

- The transfer ratio revealed in the most recently filed actuarial valuation is greater than or equal to one and the administrator knows or ‘ought to know’ that the transfer ratio of the Plan has declined to less than 0.9 since the date the last valuation was filed.

As such, the administrator should monitor the transfer ratio of the Plan and, if necessary, take the prescribed actions.

7
MAXIMUM ELIGIBLE CONTRIBUTIONS

The *Income Tax Act* (the "ITA") limits the amount of employer contributions that can be remitted to the defined benefit component of a registered pension plan.

For purposes of this section on maximum eligible contributions only, any reference to the current service cost includes the provision for adverse deviations in respect of the current service cost.

In accordance with Section 147.2 of the ITA and *Income Tax Regulation* 8516, for a plan that is underfunded on either a going concern or on a hypothetical wind-up basis, the maximum permitted contributions are equal to the employer's current service cost, including the explicit expense allowance if applicable, plus the greater of the going concern funding shortfall and hypothetical wind-up shortfall.

For a plan that is fully funded on both going concern and hypothetical wind-up bases, the employer can remit a contribution equal to the employer's current service cost, including the explicit expense allowance if applicable, as long as the surplus in the plan does not exceed a prescribed threshold. Specifically, in accordance with Section 147.2 of the ITA, for a plan that is fully funded on both going concern and hypothetical wind-up bases, the plan may not retain its registered status if the employer makes a contribution while the going concern funding excess exceeds 25% of the going concern funding target.

Notwithstanding the above, any contributions that are required to be made in accordance with pension benefits legislation are eligible contributions in accordance with Section 147.2 of the ITA and can be remitted.

SCHEDULE OF MAXIMUM CONTRIBUTIONS

Carleton University is permitted to fully fund the greater of the going concern and hypothetical wind-up shortfalls ($120,998,000), as well as make current service cost contributions The portion of this contribution representing the payment of the hypothetical wind-up shortfall can be increased with interest at 2.66% per year from the valuation date to the date the payment is made, and must be reduced by the amount of any deficit funding made from the valuation date to the date the payment is made.

Assuming the Carleton University contributes the greater of the going concern and the hypothetical wind-up shortfall of $120,998,000 as of the valuation date, the rule for determining the estimated maximum eligible annual contributions, as well as an estimate of the maximum eligible contributions until the next valuation, are as follows:

	EMPLOYER'S CONTRIBUTION RULE			ESTIMATED MONTHLY EMPLOYER'S CONTRIBUTIONS	
Year beginning	Money Purchase service cost [5]	Minimum [3] guarantee benefits service cost including provision for adverse deviations	Deficit Funding	Money Purchase service cost	Minimum guarantee benefits service cost including provision for adverse deviations
July 1, 2019	5.37%	3.54%	n/a	$1,035,000	$682,000
July 1, 2020	5.37%	3.54%	n/a	$1,082,000	$712,000
July 1, 2021	5.37%	3.54%	n/a	$1,130,000	$744,000

The employer's current service cost in the above table was estimated based on projected members' pensionable earnings. The actual employer's current service cost will be different from these estimates and, as such, the contribution requirements should be monitored closely to ensure compliance with the ITA.

[5] Expressed as a percentage of members' pensionable earnings.

8
ACTUARIAL OPINION

In our opinion, for the purposes of the valuations,

- The membership data on which the valuation is based are sufficient and reliable.
- The methods employed in the valuation are appropriate.
- The methods employed in the valuation are appropriate.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada. It has also been prepared in accordance with the funding and solvency standards set by the Pension Benefits Act of Ontario.

Bill Watson
Fellow of the Society of Actuaries
Fellow of the Canadian Institute of Actuaries

Armand Abehsera
Fellow of the Society of Actuaries
Fellow of the Canadian Institute of Actuaries

Date

Date

APPENDIX A
PRESCRIBED DISCLOSURE

DEFINITIONS

The Act defines a number of terms as follows:

DEFINED TERM	DESCRIPTION		RESULT
Going concern assets	Total smoothed value of assets (note: excludes present value of going concern special payments)		$789,967,000
	Total smoothed value of assets plus the sum of the following:		$799,344,000
	(a) the present value of special payments in respect of any past service unfunded liability identified in a previously filed report	$0	
	(b) the present value of special payments in respect of any plan amendment that increases going concern liabilities	$0	
	(c) present value of special payments in respect of going concern unfunded liabilities identified in a previously filed report that are scheduled for payment within one year of the date of this report	$9,377,000	
Going concern excess / (unfunded liability)	Smoothed value of assets minus the sum of going concern liabilities and provision for adverse deviations (note: excludes present value of going concern special payments)		($59,277,000)
	The Going Concern Assets minus the sum of the following:		($49,900,000)
	a. the going concern liabilities		
	(i) liabilities excluding the value of escalated adjustments	$772,733,000	
	(ii) liabilities in respect of escalated adjustments	$0	
	b. the provision for adverse deviations in respect of the going concern liabilities excluding the value of escalated adjustments	$76,511,000	
	c. Prior Year Credit Balance	$0	

DEFINED TERM	DESCRIPTION	RESULT
Going concern funded ratio	The ratio of: (a) Total smoothed value of assets (excluding letters of credit) less the Prior Year Credit Balance; to (b) going concern liabilities	1.02 excluding PfAD 0.93 including PfAD
Transfer Ratio	The ratio of: (a) Solvency Assets minus the lesser of the Prior Year Credit Balance and the minimum required employer contributions including the provision for adverse deviations until the next required valuation; to (b) the sum of the Solvency Liabilities and liabilities for benefits, other than benefits payable under qualifying annuity contracts that were excluded in calculating the Solvency Liabilities.	0.868
Solvency Ratio	The ratio of: (a) Solvency Assets related to defined benefits and ancillary benefits plus the total amount of any letters of credit minus the Prior Year Credit Balance (b) the sum of the Solvency Liabilities related to defined benefits and ancillary benefits	0.868
Prior Year Credit Balance	Accumulated sum of contributions made to the pension plan in excess of the minimum required contributions (note: only applies if the Company chooses to treat the excess contributions as a Prior Year Credit Balance).	$0
Solvency Assets	Market value of assets including accrued or receivable income and excluding the value of any qualifying annuity contracts.	$797,597,000
Solvency Asset Adjustment	The sum of:	
	(a) the difference between smoothed value of assets and the market value of assets	$0
	(b) the present value of going concern special payments required to liquidate any past service unfunded liability	$0
	(c) the present value of going concern special payments identified in July 1 2016 valuation and scheduled for 2019/2020	$9,540,000
	(d) the present value of going concern special payments (identified in this report) that are scheduled for payment within 6 years following the valuation date	$31,898,000
	(e) the present value of any previously scheduled solvency special payments (excluding those identified in this report)	$0
	(f) the total value of all letters of credit in respect of the special payments due before the valuation date, subject to the limit of 15% of solvency liabilities	$0
		$41,438,000

DEFINED TERM	DESCRIPTION		RESULT
Solvency Liabilities	Liabilities determined as if the plan had been wound up on the valuation date, including liabilities for plant closure benefits or permanent layoff benefits that would be immediately payable if the employer's business were discontinued on the valuation date of the report, but, if elected by the plan sponsor, excluding liabilities for,		$917,945,000
	(a)	any escalated adjustment,	
	(b)	excluded plant closure benefits,	
	(c)	excluded permanent layoff benefits,	
	(d)	special allowances other than funded special allowances,	
	(e)	consent benefits other than funded consent benefits,	
	(f)	prospective benefit increases,	
	(g)	potential early retirement window benefit values, and	
	(h)	pension benefits and ancillary benefits payable under a qualifying annuity contract.	
Solvency Liability Adjustment	The amount by which Solvency Liabilities are adjusted as a result of using a solvency valuation interest rate that is the average of market interest rates calculated over the period of time used in the determination of the smoothed value of assets.		$0
Solvency Deficiency	The amount, if any, by which the sum of:		
	(a)	the Solvency Liabilities	$917,945,000
	(b)	the Solvency Liability Adjustment	$0
	(c)	the Prior Year Credit Balance	$0
			$917,945,000
	Exceeds the sum of		
	(d)	the Solvency Assets net of estimated termination expenses[6]	$796,947,000
	(e)	the Solvency Asset Adjustment	$41,438,000
			$838,385,000
			$79,560,000
	Solvency deficiency excluding Solvency Asset Adjustment		$120,998,000

[6] In accordance with accepted actuarial practice, for purposes of determining the financial position, the market value of plan assets was reduced by a provision for estimated termination expenses payable from the Plan's assets that may reasonably be expected to be incurred in terminating the Plan and to be charged to the Plan.

DEFINED TERM	DESCRIPTION	RESULT
Reduced Solvency Deficiency / (Solvency Excess)	The sum of:	
	(a) **85% of the Solvency Liabilities**	$780,253,250
	(b) 85% of the Solvency Liability Adjustment	$0
	(c) the Prior Year Credit Balance	$0
		$780,253,250
	minus the sum of:	
	(d) the Solvency Assets net of estimated termination expenses[8]	$796,947,000
	(e) the Solvency Asset Adjustment	$41,438,000
		$838,385,000
		($58,131,750)

PROVISION FOR ADVERSE DEVIATIONS

The provision for adverse deviations has been established in accordance with regulations taking into account the following parameters:

DEFINED AMOUNT		RESULTS
Fixed Income Component (L)	The sum of the Plan's target allocation of assets (excluding those allocated to annuity contracts and meeting the minimum rating requirement) as described in the regulations according to the investment policy applicable at the valuation date:	20.0%
Alternative Investment Component (M)	The sum of the Plan's target allocation of assets (excluding those allocated to annuity contracts and meeting the minimum rating requirement) as described in the regulations according to the investment policy applicable at the valuation date:	20.0%
Investment Component (N)	Plan's target asset allocation for mutual, pooled or segregated funds	0.0%
Investment Component Fixed Income % (P)	Portion of Investment Component (N) that is allocated to investment categories accounted for in Fixed Income Component (L)	0.0%
Investment Component Alternative Investment % (Q)	Portion of Investment Component (N) that is allocated to investment categories accounted for in Alternative Income Component (M)	0.0%
Annuity Contract Allocation (R)	Annuity contracts that have been purchased from an insurance company and excluded from the Fixed Income Component (L) and Alternative Investment Component (M)	0.0%

Combined Target Asset Allocation for Fixed Income Assets (J)			
Sum of			
• Fixed Income Component (L)	20.0%		
• 0.5 x Alternative Investment Component (0.5 x M)	10.0%		
• Investment Component x Investment Component Fixed Income % (N x P)	0.00%		
• 0.5 x Investment Component x Investment Component Alternative Investment % (0.5 x N x Q)	0.00%		
		30.0%	
Divided by			
• 100% - Annuity Contract Allocation (100% - R)		0.00%	
Combined Target Asset Allocation for Fixed Income Assets			**30.0%**

Combined Target Asset Allocation for Non-Fixed Income Assets (K)	
100% – Combined **Target** Asset Allocation for Fixed Income Assets (100% - J)	**70.0%**

Duration of going concern liabilities at valuation date	
= (F - G) / (G x 0.01) where,	8.60
G = going concern liabilities excluding liabilities in respect of escalated adjustments and liabilities in respect of benefits for which an annuity contract has been purchased at valuation date established using the discount rate determined for this valuation	$765,106,000
F = going concern liabilities excluding liabilities in respect of escalated adjustments and liabilities in respect of benefits for which an annuity contract has been purchased established using the discount rate minus 1%	$830,088,000

Benchmark Discount Rate (E)	
Base rate	0.50%
Effective yield from CANSIM Series V39056 (H)	1.68%
1.5% x Combined **Target** Asset Allocation for Fixed Income Assets (1.5% x J)	0.45%
5.0% x Combined **Target** Asset Allocation for Non-Fixed Income Assets (5.0% x K)	3.50%
Benchmark Discount Rate	6.13%

Provision for Adverse Deviations			
(A)	5.0% for a closed plan and 4.0% for a Plan that is not a closed plan		4.00%
(B)	Provision based on Combined Target Asset Allocation for Non-Fixed Income Assets		6.00%
(C)	Greater of zero and the		
	• Duration of going concern liabilities at valuation date	8.6	
	Multiplied by:		
	– Going concern valuation gross discount rate net of active investment management fees (D), less	5.83%	
	– Benchmark Discount Rate (E)	6.13%	0.00%
Provision for Adverse Deviations (A + B + C)			**10.00%**

TIMING OF NEXT REQUIRED VALUATION

In accordance with the Act the next valuation of the Plan would be required at an effective date within one year of the current valuation date if:

- The ratio of solvency assets to solvency liabilities is less than 85%.
- The employer elected to exclude plant closure or permanent lay-off benefits under Section 5(18) of the regulations, and has not rescinded that election.

Otherwise, the next valuation of the Plan would be required at an effective date no later than three years after the current valuation date.

Accordingly, the next valuation of the Plan will be required as of July 1, 2022.

SPECIAL PAYMENTS

The present values as at July 1, 2019 of the monthly special payments determined in the previous valuation are as follows:

Present Value of Monthly Special Payments Determined as at 01.07.2016

TYPE OF DEFICIT	START DATE	SPECIAL PAYMENT	END DATE	PRESENT VALUE OF REMAINING PAYMENTS AS AT 01.07.2019	
				GOING CONCERN BASIS[7]	SOLVENCY BASIS[8]
Going concern	July 1, 2006	$4,280	June 30, 2021	$97,000	$100,000
Going concern	July 1, 2011	$407,253	June 30, 2026	$28,024,000	$22,874,000
Going concern	July 1, 2014	$389,181	June 30, 2029	$35,308,000	$21,859,000
Going concern	July 1, 2017	$5,655	June 30, 2032	$617,000	$318,000
Total		$806,369		$64,046,000	$45,151,000

The valuation revealed a going concern unfunded liability of $49,900,000, as outlined in the Definitions section of this appendix. In accordance with the Regulation, the going concern unfunded liability must be amortized over a period not exceeding 10 years, beginning 12 months after July 1, 2019. In addition, the special payment set out for 2019/2020 as identified in the prior valuation report to fund any going concern unfunded liability or plan amendments, must continue to be made in 2019/2020.

[7] Calculation only considers going concern special payments and is based on a going concern discount rate.

[8] Calculation considers both solvency and going concern special payments (six years only) and is based on the average solvency discount rate.

As such, special payments must be made as follows:

TYPE OF PAYMENT	START DATE	END DATE	MONTHLY SPECIAL PAYMENT	PRESENT VALUE	
				GOING CONCERN BASIS[9]	SOLVENCY BASIS[10]
Going concern	July 1, 2006	June 30, 2020	$4,280	$50,000	$51,000
Going concern	July 1, 2011	June 30, 2020	$407,253	$4,736,000	$4,818,000
Going concern	July 1, 2014	June 30, 2020	$389,181	$4,525,000	$4,604,000
Going concern	July 1, 2017	June 30, 2020	$5,655	$66,000	$67,000
			$806,369	$9,377,000	
New going concern	July 1, 2020	June 30, 2030	$583,017	$49,900,000	$31,898,000
Total				$59,277,000	$41,438,000

Since the solvency excess of $58,131,750, as outlined in the Definitions section of this appendix, is greater than or equal to the present value of the special payments set out in the prior valuation report to fund any reduced solvency deficiency, consolidated prior solvency deficiencies, or solvency deficiency including those where Options 3, 5 or 7 as described in the Regulations were elected, the solvency special payments revealed in the previous valuation are no longer required.

PENSION BENEFITS GUARANTEE FUND (PBGF) ASSESSMENT

A PBGF assessment is required to be paid under Section 37 of the Act. The PBGF assessment base is derived as follows:

Solvency assets	$797,597,000	(a)
PBGF liabilities	$917,945,000	(b)
Solvency liabilities	$917,945,000	(c)
Ontario asset ratio	100%	(d) = (b) ÷ (c)
Ontario portion of the fund	$797,597,000	(e) = (a) x (d)
PBGF assessment base	$120,348,000	(f) = max(0, (b) – (e))
Amount of additional liability for plant closure and/or permanent layoff benefits which is not funded and subject to the 2% (3% for years after 2018) assessment pursuant to s.37(4)	$0	(g)

[9] Calculation only considers going concern special payments and is based on a going concern discount rate.

[10] Calculation considers both solvency (all remaining scheduled payments) and going concern special payments (six years only) and is based on the average solvency discount rate.

APPENDIX B

PLAN ASSETS

The pension fund is held in trust by CIBC Mellon. In preparing this report, we have relied upon fund statements prepared by CIBC Mellon without further audit as well as on the audited financial statements. Customarily, this information would not be verified by a plan's actuary. We have reviewed the information for internal consistency and we have no reason to doubt its substantial accuracy.

RECONCILIATION OF MARKET VALUE OF PLAN ASSETS

The pension fund transactions since the last valuation are summarized in the following table:

	2016 – 2017	2017 – 2018	2018 – 2019
July 1 (Year Start)	$1,103,994,000	$1,219,203,000	$1,291,203,000
PLUS			
Members' contributions			
• Money Purchase Account	$11,345,000	$12,678,000	$14,682,000
• Minimum Guarantee Benefits	$3,826,000	$3,957,000	$4,426,000
University's contributions			
• Money Purchase Account	$10,813,000	$10,927,000	$12,552,000
• Minimum Guarantee Benefits (Service Cost)	$6,547,000	$6,739,000	$7,499,000
• Minimum Guarantee Benefits (Special Payments)	$5,832,000	$9,553,000	$9,079,000
Investment income and capital gains (losses), net of expenses	$137,740,000	$91,774,000	$52,504,000
	$176,103,000	$135,628,000	$100,742,000
LESS			
Pensions paid	$56,726,000	$61,188,000	$64,882,000
Lump-sums paid	$4,168,000	$2,440,000	$5,057,000
	$60,894,000	$63,628,000	$69,939,000
June 30 (Year End)	$1,219,203,000	$1,291,203,000	$1,322,006,000
Rate of return net of expenses[11]	12.7%	7.7%	4.1%

[11] Assuming mid-period cash flows.

The market value of assets shown in the above table is adjusted to reflect in-transit amounts as follows:

	CURRENT VALUATION	PREVIOUS VALUATION
Market value of invested assets	$1,322,006,000	$1,103,994,000
In-transit contributions	$18,000,000	$0
Market value of assets adjusted for in-transit amounts	$1,340,006,000	$1,103,994,000

We have tested the pensions paid, the lump-sums paid, and the contributions for consistency with the membership data for the Plan members who have received benefits or made contributions. The results of these tests were satisfactory.

INVESTMENT POLICY

The plan administrator has adopted a statement of investment policy and procedures. This policy is intended to provide guidelines for the manager(s) as to the level of risk that is consistent with the Plan's investment objectives. A significant component of this investment policy is the asset mix.

The plan administrator is solely responsible for selecting the Plan's investment policies, asset allocations, and individual investments.

The constraints on the asset mix and the actual asset mix at the valuation date are provided for information purposes:

	INVESTMENT POLICY			ACTUAL ASSET MIX AS AT JULY 1, 2019
	Minimum	Target	Maximum	
Fixed Income	10%	20%	30%	22%
High Yield Debt	2%	5%	8%	5%
Canadian Equities	15%	25%	35%	31%
Non-Canadian Equities and Small Cap	17%	30%	42%	27%
Emerging Market Equities	2%	5%	8%	5%
Global Infrastructure	5%	15%	20%	8%
Cash and Cash Equivalents	0%	0%	5%	2%
		100%		100%

Because of the mismatch between the Plan's assets (which are invested in accordance with the above investment policy) and the Plan's liabilities (which tend to behave like long bonds) the Plan's financial position will fluctuate over time. These fluctuations could be significant and could cause the Plan to become underfunded or overfunded even if the University contributes to the Plan based on the funding requirements presented in this report.

FUND RATE

The rates of interest credited to the Money Purchase Component fund balances at each fiscal year end since the last valuation at July 1, 2016 are shown below

YEAR-ENDING JUNE 30	2017	2018	2019
Fund Rate	12.67%	7.67%	4.17%

PENSION INCREASE RATE

The annual pension increase is provided each July 1 and is determined as the excess of the four-year arithmetic average Fund Rate over 6%.

Effective for retirements on and after July 1, 2001, the first three annual July 1 pension increases after retirement will be determined as follows:

- The first increase will be 25% of the excess of the Fund Rate for the plan year then ended over 6%;
- The second increase will be equal to 50% of the excess of the two-year arithmetic average of Fund Rates for the two plan years then ended over 6%; and
- The third increase will be equal to 75% of the excess of the three-year arithmetic average of Fund Rates for the three plan years then ended over 6%.

Pensions accrued prior to July 1, 2003 are guaranteed not to be reduced once in payment. In the event that the annual pension adjustment described above would result in a decrease in pension, a supplementary pension will be paid equal to the amount of the reduction that would otherwise have occurred. Pension increases in subsequent years will be based on the pension that would have been paid excluding the supplementary pension amount. Pensions accrued on or after July 1, 2003 may be increased or decreased based on the difference between the four-year arithmetic average Fund Rate and 6%.

The pension increases since the last valuation were as follows:

Pension Increases for Retirements Prior to July 1, 2015						
Year Ending June 30	Fund Rate	4-Year Average	Excess Over 6%	Excess Over 6% Including "Catch-Up"	Pre-July 1, 2003 Pension Increase	Post-June 30, 2003 Pension Increase
2003	1.00%					
2004	16.38%	3.13%	-2.87%	-5.44%		
2005	10.54%	6.73%	0.73%	-4.72%		
2006	7.88%	8.95%	2.95%	-1.77%	0.00%	2.95%
2007	17.76%	13.14%	7.14%	5.37%	5.37%	7.14%
2008	-4.39%	7.95%	1.95%	1.95%	1.95%	1.95%
2009	-11.44%	2.45%	-3.55%	-3.55%	0.00%	-3.55%
2010	8.95%	2.72%	-3.28%	-6.83%	0.00%	-3.28%
2011	16.01%	2.28%	-3.72%	-10.55%	0.00%	-3.72%
2012	-1.28%	3.06%	-2.94%	-13.49%	0.00%	-2.94%
2013	15.45%	9.78%	3.78%	-9.70%	0.00%	3.78%
2014	20.64%	12.70%	6.70%	-3.00%	0.00%	6.70%
2015	8.77%	10.89%	4.89%	1.89%	1.89%	4.89%
2016	2.42%	11.82%	5.82%	5.82%	5.82%	5.82%
2017	12.67%	11.13%	5.13%	5.13%	5.13%	5.13%
2018	7.67%	7.88%	1.88%	1.88%	1.88%	1.88%
2019	4.17%	6.73%	0.73%	0.73%	0.73%	0.73%

Pension Increases for Retirements from August 1, 2015 to July 1, 2016							
Year Ending June 30	Fund Rate	Applicable Average	Excess Over 6%	Percent Applied	Excess Over 6% Including "Catch-Up"	Pre-July 1, 2003 Pension Increase	Post-June 30, 2003 Pension Increase
2017	12.67%	12.67%	6.67%	25%	1.67%	1.67%	1.67%
2018	7.67%	10.17%	4.17%	50%	2.08%	2.08%	2.08%
2019	4.17%	8.17%	2.17%	75%	1.63%	1.63%	1.63%

Pension Increases for Retirements from August 1, 2016 to July 1, 2017							
Year Ending June 30	Fund Rate	Applicable Average	Excess Over 6%	Percent Applied	Excess Over 6% Including “Catch-Up”	Pre-July 1, 2003 Pension Increase	Post-June 30, 2003 Pension Increase
2018	7.67%	7.67%	1.67%	25%	0.42%	0.42%	0.42%
2019	4.17%	5.92%	-0.08%	50%	-0.04%	0.00%	-0.04%

Pension Increases for Retirements from August 1, 2017 to July 1, 2018							
Year Ending June 30	Fund Rate	Applicable Average	Excess Over 6%	Percent Applied	Excess Over 6% Including “Catch-Up”	Pre-July 1, 2003 Pension Increase	Post-June 30, 2003 Pension Increase
2019	4.17%	4.17%	-1.84%	25%	-0.46%	0.00%	-0.46%

APPENDIX C

METHODS AND ASSUMPTIONS – GOING CONCERN

VALUATION OF ASSETS

For this valuation, we have used an adjusted market-value method to determine the smoothed value of assets. Under this method the market value of assets of each of the preceding four year-ends is projected forward, using annual cash flows, at an assumed annual rate equal to the going-concern discount rate assumption applicable at each of the year-end dates. The smoothed value of assets is the average of these amounts and the current year-end market value. The asset values produced by this method are related to the market value of the assets, with the advantage that, over time, the market-related asset values will tend to be more stable than market values.

The resulting smoothed asset value is determined as follows:

ACTUARIAL VALUE OF ASSETS						
Market value as at	1-Jul-15	$1,070,891,000*				
Net cash flow	2015/2016	$7,488,000				
Projected interest	6.30%	$67,702,005				
Projected market value as at	1-Jul-16	$1,146,081,005	$1,103,994,000*			
Net cash flow	2016/2017	($22,531,000)	($22,531,000)			
Projected interest	6.10%	$69,223,746	$66,656,439			
Projected market value as at	1-Jul-17	$1,192,773,751	$1,148,119,439	$1,219,203,000*		
Net cash flow	2017/2018	($19,774,000)	($19,774,000)	($19,774,000)		
Projected interest	6.10%	$72,156,092	$69,432,179	$73,768,276		
Projected market value as at	1-Jul-18	$1,245,155,843	$1,197,777,617	$1,273,197,276	$1,291,203,000*	
Net cash flow	2018/2019	($21,701,000)	($21,701,000)	($21,701,000)	($21,701,000)	
Projected interest	6.10%	$75,292,626	$72,402,554	$77,003,153	$78,101,503	
Projected market value at	1-Jul-19	$1,298,747,469	$1,248,479,171	$1,328,499,429	$1,347,603,503	$1,322,006,000

* Actual market value of assets.

The smoothed value of the assets, determined as of July 1, 2019 under this method, is $1,309,067,000 (average of projected market values at July 1, 2019), where $537,100,000 is for Money Purchase Account balances and $771,967,000 is for Minimum Guarantee Fund.

The smoothed value of assets, excluding Money Purchase Account balances and adjusted for in-transit contributions, determined as at July 1, 2019, is $789,967,000 ($771,967,000 plus $18,000,000).

GOING CONCERN FUNDING TARGET

Over time, the real cost to the employer of a pension plan is the excess of benefits and expenses over member contributions and investment earnings. The actuarial cost method allocates this cost to annual time periods.

For purposes of the going concern valuation, we have continued to use the projected unit credit actuarial cost method. Under this method, we determine the present value of benefit cash flows expected to be paid in respect of service accrued prior to the valuation date, based on projected final average earnings. This is referred to as the funding target. In relation to the hybrid design of the plan, the process is described as follows:

1. We project the money purchase pension each active Member will receive at retirement based on the current market value of the Money Purchase Component Account plus future expected contributions and investment earnings;

2. We project the Minimum Guarantee target pension each active Member will receive at retirement based on projected earnings and total Credited Service at retirement;

3. The actuarial present value of the excess, if any, of the projected Minimum Guarantee pension over the projected money purchase pension for each active Member is calculated;

4. The portion of the excess actuarial present value of minimum guarantee benefits relating to Members' Credited Service prior to the valuation date is determined (prorating the actuarial present value of the excess by Credited Service to the valuation date over total projected Credited Service at retirement) and combined with the Reserves and Members' Money Purchase Component Accounts. This amount represents the total funding target.

5. In calculating the present value of the minimum guarantee benefits, we have adjusted Members' Money Purchase Component Accounts at valuation date with the ratio of the smoothed value of the assets to the market value of asset.

The funding excess or funding shortfall, as the case may be, is the difference between the market or smoothed value of assets and the funding target. A funding excess on a market value basis indicates that the current market value of assets and expected investment earnings are expected to be sufficient to meet the cash flows in respect of benefits accrued to the valuation date as well as expected expenses – assuming the plan is maintained indefinitely. A funding shortfall on a market value basis indicates the opposite – that the current market value of the assets is not expected to be sufficient to meet the plan's cash flow requirements in respect of accrued benefits, absent additional contributions.

As required under the Act, a funding shortfall and the provision for adverse deviations must be amortized over no more than 10 years through special payments beginning one year after the valuation date. A funding excess may, from an actuarial standpoint, be applied immediately to reduce required employer current service contributions unless precluded by the terms of the plan or by legislation.

The actuarial cost method used for the purposes of this valuation produces a reasonable matching of contributions with accruing benefits. Because benefits are recognized as they accrue, the actuarial cost method provides an effective funding target for a plan that is maintained indefinitely.

Current Service Cost

The current service cost is the present value of projected benefits to be paid under the plan with respect to service expected to accrue during the period until the next valuation.

The employer's current service cost has been expressed as a percentage of the members' pensionable earnings to provide an automatic adjustment in the event of fluctuations in membership and/or pensionable earnings.

Under the projected unit credit actuarial cost method, the current service cost for an individual member will increase each year as the member approaches retirement. However, the current service cost of the entire group, expressed as a percentage of the members' pensionable earnings, can be expected to remain stable as long as the average age distribution of the group remains constant.

ACTUARIAL ASSUMPTIONS – GOING CONCERN BASIS

The present value of future benefit payment cash flows is based on economic and demographic assumptions. At each valuation we determine whether, in our opinion, the actuarial assumptions are still appropriate for the purposes of the valuation, and we revise them, if necessary. Emerging experience will result in gains or losses that will be revealed and considered in future actuarial valuations.

The table below shows the various assumptions used in the current valuation in comparison with those used in the previous valuation.

ASSUMPTION	CURRENT VALUATION	PREVIOUS VALUATION
Discount rate:	6.00%	6.10%
ITA limit / YMPE increases:	3.00% per year	3.00% per year
Pensionable earnings increases:	4.50% for Active members 3.00% for Disabled members	4.50% for Active members 3.00% for Disabled members
Post-retirement pension increases:	See tables below	See tables below
Interest credited on Money Purchase balances:	6.00%	6.10%
Retirement rates:	Later of the attainment of age 65 and the minimum of one year of additional service from the valuation date	Later of the attainment of age 65 and the minimum of one year of additional service from the valuation date
Termination rates:	Age-related table	Age-related table

ASSUMPTION	CURRENT VALUATION	PREVIOUS VALUATION
Mortality rates:	90% of the rates of the 2014 Public Sector Canadian Pensioners Mortality Table (CPM2014Publ)	90% of the rates of the 2014 Public Sector Canadian Pensioners Mortality Table (CPM2014Publ)
Mortality improvements:	Fully generational using CPM Improvement Scale B (CPM-B)	Fully generational using CPM Improvement Scale B (CPM-B)
Disability rates:	None	None
Non-Reduction Reserves	1.5% for pre-July 1, 2003 liabilities for active and deferred members	1.5% for pre-July 1, 2003 liabilities for active and deferred members

The assumptions are best-estimates and do not include a margin for adverse deviations.

AGE- RELATED TABLES

Medium withdrawal rates without graduation, to age 39, as obtained by the Committee on Portable Pensions have been adopted for the valuation. Sample rates from the age related tables are summarized in the following table:

AGE	TERMINATION
20	36.0%
25	20.0%
30	11.2%
35	6.3%
36	5.6%
37	5.0%
38	4.4%
39	3.9%
40+	0.00%

Pensionable Earnings

The benefits ultimately paid will depend on each member’s final average earnings. To calculate the pension benefits payable upon retirement, death, or termination of employment, we have taken rate of pay on July 1, 2019 and assumed that such pensionable earnings will increase at the assumed rate.

The active salary increase rate is based on the following:

- an assumed inflation rate of 2.0% per year,
- an assumed productivity component of 1.0% per year, and
- an assumed merit and promotional increases component of 1.5% per year.

Indexation of Pension Payment

The annual pension increases are determined as the excess of the four-year arithmetic average investment returns over 6%. Pensions accrued prior to July 1, 2003 are guaranteed not to be reduced once in payment. However, any shortfall in the four-year average return from the 6% must be recovered by future excess returns over 6% before another increase is granted. Pensions accrued on or after July 1, 2003 may be increased or decreased based on the difference between the four-year arithmetic average investment returns and 6%. For this valuation, we have assumed the following future annual pension increases for existing retirees:

Pension Increases for Retirements Prior to August 1, 2015						
Year Ending June 30	Fund Rate	4-Year Average	Excess Over 6%	Excess Over 6% Including "Catch-Up"	Pre-July 1, 2003 Pension Increase	Post-June 30, 2003 Pension Increase
2003	1.00%					
2004	16.38%	3.13%	-2.87%	-5.44%		
2005	10.54%	6.73%	0.73%	-4.72%		
2006	7.88%	8.95%	2.95%	-1.77%	0.00%	2.95%
2007	17.76%	13.14%	7.14%	5.37%	5.37%	7.14%
2008	-4.39%	7.95%	1.95%	1.95%	1.95%	1.95%
2009	-11.44%	2.45%	-3.55%	-3.55%	0.00%	-3.55%
2010	8.95%	2.72%	-3.28%	-6.83%	0.00%	-3.28%
2011	16.01%	2.28%	-3.72%	-10.55%	0.00%	-3.72%
2012	-1.28%	3.06%	-2.94%	-13.49%	0.00%	-2.94%
2013	15.45%	9.78%	3.78%	-9.70%	0.00%	3.78%
2014	20.64%	12.70%	6.70%	-3.00%	0.00%	6.70%
2015	8.77%	10.89%	4.89%	1.89%	1.89%	4.89%
2016	2.42%	11.82%	5.82%	5.82%	5.82%	5.82%
2017	12.67%	11.13%	5.13%	5.13%	5.13%	5.13%
2018	7.67%	7.88%	1.88%	1.88%	1.88%	1.88%
2019	4.17%	6.73%	0.73%	0.73%	0.73%	0.73%
2020	6.00%*	7.63%	1.63%	1.63%	1.63%	1.63%
2021	6.00%*	5.96%	-0.04%	-0.04%	0.00%	-0.04%
2022	6.00%*	5.54%	-0.46%	-0.50%	0.00%	-0.46%
2023 and beyond	6.00%*	6.00%	0.00%	-0.50%	0.00%	0.00%

* *Assumed investment return on the Fund.*

Pension Increases for Retirements from August 1, 2015 to July 1, 2016						
Year Ending June 30	Fund Rate	4-year average	Excess Over 6%	Excess Over 6% Including "Catch-Up"	Pre-July 1, 2003 Pension Increase	Post-June 30, 2003 Pension Increase
2017	12.67%					
2018	7.67%					
2019	4.17%					
2020	6.00%*	7.63%	1.63%	1.63%	1.63%	1.63%
2021	6.00%*	5.96%	-0.04%	-0.04%	0.00%	-0.04%
2022	6.00%*	5.54%	-0.46%	-0.50%	0.00%	-0.46%
2023 and beyond	6.00%*	6.00%	0.00%	-0.50%	0.00%	0.00%

* *Assumed investment return on the Fund.*

Pension Increases for Retirements from August 1, 2016 to July 1, 2017						
Year Ending June 30	Fund Rate	Applicable Average	Excess Over 6%	Excess Over 6% Including "Catch-Up"	Pre-July 1, 2003 Pension Increase	Post-June 30, 2003 Pension Increase
2018	7.67%					
2019	4.17%					
2020	6.00%*	5.95% (3-yr)	-0.05%	-0.08%	0.00%	-0.04%
2021	6.00%*	5.96% (4-yr)	-0.04%	-0.12%	0.00%	-0.04%
2022	6.00%*	5.54% (4-yr)	-0.46%	-0.58%	0.00%	-0.46%
2023 and beyond	6.00%*	6.00% (4-yr)	0.00%	-0.58%	0.00%	0.00%

* *Assumed investment return on the Fund.*

Pension Increases for Retirements from August 1, 2017 to July 1, 2018						
Year Ending June 30	Fund Rate	Applicable Average	Excess Over 6%	Excess Over 6% Including "Catch-Up"	Pre-July 1, 2003 Pension Increase	Post-June 30, 2003 Pension Increase
2019	4.17%					
2020	6.00%*	5.08% (2-yr)	-0.92%	-0.92%	0.00%	-0.46%
2021	6.00%*	5.39% (3-yr)	-0.61%	-1.38%	0.00%	-0.46%
2022	6.00%*	5.54% (4-yr)	-0.46%	-1.84%	0.00%	-0.46%

Pension Increases for Retirements from August 1, 2017 to July 1, 2018						
Year Ending June 30	**Fund Rate**	**Applicable Average**	**Excess Over 6%**	**Excess Over 6% Including "Catch-Up"**	**Pre-July 1, 2003 Pension Increase**	**Post-June 30, 2003 Pension Increase**
2023 and beyond	6.00%*	6.00% (4-yr)	0.00%	-1.84%	0.00%	0.00%

* *Assumed investment return on the Fund.*

Pension Increases for Retirements from August 1, 2018 to July 1, 2019						
Year Ending June 30	**Fund Rate**	**Applicable Average**	**Excess Over 6%**	**Excess Over 6% Including "Catch-Up"**	**Pre-July 1, 2003 Pension Increase**	**Post-June 30, 2003 Pension Increase**
2020 and beyond	6.00%*	6.00%	0.00%	0.00%	0.00%	0.00%

* *Assumed investment return on the Fund.*

All future expected pension increases are included in the liabilities.

In the previous valuation, the assumed future pension increases reflected the fund returns up to July 1, 2016. Details of the rates assumed can be found in the Actuarial Valuation Report as at July 1, 2016.

NON-REDUCTION RESERVE

In order to provide for the guarantee that pensions earned before July 1, 2003 will not be reduced once they are in payment, a Non-Reduction Reserve has been maintained as a special reserve in the Minimum Guarantee Fund, to be drawn upon in years when the four-year average fund rate falls below 6.0%. At this valuation (and in the previous valuation), a reserve of 1.5% of the actuarial liabilities for the pre-July 1, 2003 pension benefits of the active and deferred members has been held to provide for the non-reduction of pensions after retirement.

The post-1991 Non-Reduction Reserve for money purchase benefits was contributed by the University to Members' Accounts up to June 30, 2003, and is shown in the Money Purchase balances for active, disabled and deferred members.

There is no Non-Reduction Reserve in respect of post June 30, 2003 balances and liabilities, as a result of the plan changes effective July 1, 2003

RATIONALE FOR ASSUMPTIONS

A rationale for each of the assumptions used in the current valuation is provided below.

DISCOUNT RATE

We have discounted the expected benefit payment cash flows using the expected investment return on the market value of the fund. Other bases for discounting the expected benefit payment cash flows may be appropriate, particularly for purposes other than those specifically identified in this valuation report.

The discount rate is comprised of the following:

- An **assumed investment return** based on estimated return for each major asset class that are consistent with market conditions on the valuation date modified to include a provision for increases in market interest rates to a level higher than current historically low levels, on the expected time horizon over which benefits are expected to be paid, and on the target asset mix specified in the Plan's investment policy. Consistent with market observable and available data, the assumed investment return is a gross return for all asset classes except for alternative investments for which it is net of any investment management expense.
- An **assumed passive investment management expense provision** which represents the hypothetical fees for passive investment management of assets based on estimated fees charged by index managers for balanced mandates. The assumed passive investment management expense provision excludes any fees for alternative investments since the assumed investment returns for those types of investments are already net of investment expenses.
- An **active investment management expense provision** of 30 bps for assets other than alternative investments. We have assumed that these fees would be offset by an equivalent **additional return resulting from active management**.
- An **implicit non-investment management expense provision** determined as the average rate of non-investment expenses paid from the fund over the last 6 years. These would include all fees payable from the fund (administration, custodial, audit, consulting, etc.) except those payable to investment managers, to the extent that these fees are not covered in an explicit provision for expenses added to the current service cost

The discount rate was developed as follows:

Assumed investment return	6.13%
Additional returns for active investment management	0.30%
Active investment management expense provision	(0.30%)
Assumed passive investment management expense provision	(0.03%)
Implicit non-investment management expense provision	(0.10%)
Net discount rate	6.00%

EXPENSES

The assumed Discount Rate reflects an implicit provision for expenses.

INFLATION

The inflation assumption is based on the mid-point of the Bank of Canada's inflation target range of between 1% and 3%.

INCOME TAX ACT PENSION LIMIT AND YEAR'S MAXIMUM PENSIONABLE EARNINGS

The assumption is based on historical real economic growth and the underlying inflation assumption.

PENSIONABLE EARNINGS

The assumption is based on general wage growth assumptions increased by our best estimate of future merit and promotional increases over general wage growth considering current economic and financial market conditions.

POST-RETIREMENT PENSION INCREASES

The assumption is based on the Plan formula. The tables used for the valuation are summarized above.

RETIREMENT RATES

Because early retirement pensions are now reduced based on actuarial equivalent factors for any member who has attained age 55 or who is within 10 years of normal retirement date as at July 1, 2012, the retirement age of plan members has no impact on the cost of the plan. We have assumed that members will retire on the later of the attainment of age 65 and the completion of one additional year of service from the valuation date. The Minimum Guarantee pensions payable at retirement have been reduced in accordance with the Plan's early retirement provisions.

TERMINATION RATES

Due to the size of the Plan, there is no meaningful termination experience. The assumption is based on an industry table that is consistent with our experience with similar plans and employee groups. Recent experience has been consistent with the assumptions.

MORTALITY RATES

The assumption for the mortality rates is based on the Canadian Pensioners' Mortality (CPM) study published by the Canadian Institute of Actuaries in February 2014.

The mortality rates selected reflect plan-specific experience over the years 2002 to 2011. However, due to the size of the Plan, this mortality experience is not fully credible. The CPM mortality rates from the public sector have been adjusted after considering the plan-specific experience and characteristics, such as the type of employment, the industry experience, the pension and employment income for the plan members, and data in the CPM study.

There is broad consensus among actuaries and other longevity experts that mortality improvement will continue in the future, but the degree of future mortality improvement is uncertain. Two mortality improvement scales were recently published by the Canadian Institute of Actuaries (CIA) and may apply to Canadian pension valuations:

- The Canadian Pensioners Mortality (CPM) study published in February 2014 included CPM Improvement Scale B (CPM-B).
- A report released by the Task Force on Mortality Improvement on September 20, 2017 includes an analysis of the rate of mortality improvement for the Canadian population and provides for mortality improvement scale MI-2017 to be considered for the purpose of reflecting future mortality improvement in Canadian actuarial work, while acknowledging that it might be appropriate to use alternative mortality improvement assumptions to reflect the nature of the work.

The CIA Committee on Pension Plan Financial Reporting published a revised version of the Educational Note on the Selection of Mortality Assumptions for Pension Plan Valuations on December 21, 2017. The Educational Note indicates that given the recent publication of the CPM-B and MI-2017 improvement scales and the similar data sets used in their development, it may be appropriate to use either scale in the absence of credible information to the contrary, such as the publication of a successor scale by the CIA.

For the present valuation, we have continued to use the CPM-B scale, which is a reasonable outlook for future mortality improvement.

Based on the assumption used, the life expectancy of a member age 65 at the valuation date is 23.8 years for males and 25.6 years for females.

INTEREST CREDITED ON MONEY PURCHASE BALANCES

The assumption is based on Plan terms and the underlying investment return assumption.

RESERVES

The 1.5% reserve for the non-reduction guarantee was established a number of years ago based on then current economic expectations about future pension fund returns.

DISABILITY RATES

Use of a different assumption would not have a material impact on the valuation.

APPENDIX D

METHODS AND ASSUMPTIONS – HYPOTHETICAL WIND-UP AND SOLVENCY

HYPOTHETICAL WIND-UP BASIS

The Canadian Institute of Actuaries requires actuaries to report the financial position of a pension plan on the assumption that the plan is wound up on the effective date of the valuation, with benefits determined on the assumption that the pension plan has neither a surplus nor a deficit.

To determine the actuarial liability on the hypothetical wind-up basis, we have valued those benefits that would have been paid had the Plan been wound up on the valuation date, with all members fully vested in their accrued benefits.

The present value of accrued benefits on wind-up for active and disabled members and deferred pensioners with respect to the Money Purchase Component is equal to the market value of the Money Purchase Accounts as at July 1, 2019. The present value of accrued benefits on wind-up for active and disabled members and deferred pensioners with respect to the Minimum Guarantee Component is equal to the excess, if any, of the actuarial present value of the accrued minimum guarantee pension (based on earnings and service at July 1, 2019 for active members) over the Money Purchase Account balance. The present value of accrued benefits on wind-up for pensioners and survivors is equal to the actuarial present value of the pension currently in pay. The value of future pension increases under the Plan, consistent with the solvency assumptions used, is also included in the value of benefits assumed to be paid on wind-up.

The Standards of Practice of the Canadian Institute of Actuaries require that the scenario upon which the hypothetical wind-up valuation is based be postulated. However, there are no benefits under the Plan contingent upon the circumstances of the plan wind-up or contingent upon other factors. Therefore, it was not necessary to postulate a scenario upon which the hypothetical wind-up valuation is made. No benefits payable on plan wind-up were excluded from our calculations. The plan wind-up is assumed to occur in circumstances that maximize the actuarial liability.

Upon plan wind-up, members are given options for the method of settling their benefit entitlements. The options vary by eligibility and by province of employment, but in general, involve either a lump sum transfer or an immediate or deferred pension.

The value of benefits assumed to be settled through a lump sum transfer is based on the assumptions described in Section 3500 – *Pension Commuted Values* of the Canadian Institute of Actuaries' Standards of Practice applicable for July 1, 2019.

Benefits provided as an immediate or deferred pension are assumed to be settled through the purchase of annuities based on an estimate of the cost of purchasing annuities.

We have estimated the cost of settlement through purchase of annuities in accordance with the *Canadian Institute of Actuaries Educational Note: Assumptions for Hypothetical Wind-up and Solvency Valuations with Effective Dates Between December 31, 2018 and December 30, 2019 (the "Educational Note")*

We have assumed that the settlement of such liabilities would be priced on the same basis as the non-indexed annuities that are available in the market adjusted to reflect future pension increases under the Plan consistent with the hypothetical wind-up and solvency interest rates used.

It may not be possible to settle the liabilities at a reasonable cost through the purchase of annuities due to the limited size of the annuity market and the current lack of a competitive market for indexed annuities in Canada.

We note, therefore, that the above basis is theoretical and does not necessarily represent the cost at which indexed annuities can be purchased in today's market. Due to the lack of a competitive market, it is quite likely that if an insurance company were to take these obligations, that they would demand a higher price.

The Educational Note provides guidance on estimating the cost of annuity purchases assuming a typical group of annuitants. That is, no adjustments for sub- or super-standard mortality are considered. However, it is expected that insurers will consider plan experience and certain plan-specific characteristics when determining the mortality basis for a particular group. The Educational Note states that the actuary would be expected to make an adjustment to the regular annuity purchase assumptions where there is demonstrated substandard or super-standard mortality or where an insurer might be expected to assume so. In such cases, the actuary would be expected to make an adjustment to the mortality assumption in a manner consistent with the underlying annuity purchase basis. Given the uncertainty surrounding the actual mortality basis that would be typical of a group annuity purchase, it is reasonable to assume that there is a range of bases that can be expected not to be materially different from the actual mortality basis. Therefore, an adjustment to the regular annuity purchase assumptions would be warranted when the plan's assumed basis falls outside that range.

In this context, we have determined that an adjustment to the mortality rates used in the regular annuity purchase assumptions is required.

We have not included a margin for adverse deviations in the solvency and hypothetical wind-up valuations.

The assumptions are as follows:

Form of Benefit Settlement Elected by Member	
Lump sum:	70% of active members under age 55, and 50% of active members over age 55, elect to receive their benefit entitlement in a lump sum
Annuity purchase:	All remaining members are assumed to elect to receive their benefit entitlement in the form of a deferred or immediate pension. These benefits are assumed to be settled through the purchase of deferred or immediate annuities from a life insurance company.
Basis for Benefits Assumed to be Settled through a Lump Sum	
Mortality rates:	100% of the rates of the 2014 Canadian Pensioners Mortality Table (CPM2014) with fully generational improvements using CPM Scale B
Interest rate:	2.30% per year for 10 years, 2.80% per year thereafter
Basis for Benefits Assumed to be Settled through the Purchase of an Annuity	
Mortality rates:	90% of the rates of the 2014 Canadian Pensioners Mortality Table (CPM2014) with fully generational improvements using CPM Scale B
Adjustment to mortality rates:	No adjustment
Interest rate:	2.66% per year based on a duration of 8.60 years determined for the liabilities assumed to be settled through the purchase of an annuity.
Retirement Age	
Maximum value:	Members are assumed to retire at the age that maximizes the value of their entitlement from the Plan, based on the eligibility requirements that have been met at the valuation date
Grow-in:	The benefit entitlement and assumed retirement age of members whose age plus service equals at least 55 at the valuation date reflect their entitlement to grow into early retirement subsidies
Other Assumptions	
Special payments:	Discounted at the average interest rate of 2.66% per year
Final average earnings:	Calculated using the final pensionable earnings and the assumed rate of increase in earnings
Family composition:	Same as for going concern valuation
Maximum pension limit:	$3,025.56
Termination expenses:	$650,000

To determine the hypothetical wind-up position of the Plan, a provision has been made for estimated termination expenses payable from the Plan's assets in respect of actuarial and administration expenses that may reasonably be expected to be incurred in terminating the Plan and to be charged to the Plan.

Because the settlement of all benefits on wind-up is assumed to occur on the valuation date and is assumed to be uncontested, the provision for termination expenses does not include custodial, investment management, auditing, consulting, and legal expenses that would be incurred between the wind-up date and the settlement date or due to the terms of a wind-up being contested.

Expenses associated with the distribution of any surplus assets that might arise on an actual wind-up are also not included in the estimated termination expense provisions.

In determining the provision for termination expenses payable from the Plan's assets, we have assumed that the plan sponsor would be solvent on the wind-up date. We have also assumed, without analysis, that the Plan's terms as well as applicable legislation and court decisions would permit the relevant expenses to be paid from the Plan.

Although the termination expense assumption is a best estimate, actual fees incurred on an actual plan wind-up may differ materially from the estimates disclosed in this report.

INCREMENTAL COST

In order to determine the incremental cost, we estimate the hypothetical wind-up liabilities at the next valuation date. We have assumed that the cost of settling benefits by way of a lump sum or purchasing annuities remains consistent with the assumptions described above. Since the projected hypothetical wind-up liabilities will depend on the membership in the Plan at the next valuation date, we must make assumptions about how the Plan membership will evolve over the period until the next valuation.

We have assumed that the Plan membership will evolve in a manner consistent with the going concern assumptions as follows:

- Members terminate, retire, and die consistent with the termination, retirement, and mortality rates used for the going concern valuation.

- Pensionable earnings, the Income Tax Act pension limit, and the Year's Maximum Pensionable Earnings increase in accordance with the related going concern assumptions.

- Active members accrue pensionable service in accordance with the terms of the Plan.

- For each active member whose membership is assumed to terminate, we have assumed a new active member joins the Plan.

- Cost of living adjustments are consistent with the inflation assumption used for the hypothetical wind-up and solvency valuation.

SOLVENCY BASIS

In determining the financial position of the Plan on the solvency basis, we have used the same assumptions and methodology as were used for determining the financial position of the Plan on the hypothetical wind-up basis.

The solvency position is determined in accordance with the requirements of the Act.

APPENDIX E

MEMBERSHIP DATA

ANALYSIS OF MEMBERSHIP DATA

The actuarial valuation is based on membership data as at July 1, 2019, provided by Carleton University.

We have applied tests for internal consistency, as well as for consistency with the data used for the previous valuation. These tests were applied to membership reconciliation, basic information (date of birth, date of hire, date of membership, gender, etc.), pensionable earnings, credited service, contributions accumulated with interest, and pensions to retirees and other members entitled to a deferred pension. Contributions, lump sum payments, and pensions to retirees were compared with corresponding amounts reported in financial statements. The results of these tests were satisfactory.

If the data supplied are not sufficient and reliable for its intended purpose, the results of our calculation may differ significantly from the results that would be obtained with such data. Although Mercer has reviewed the suitability of the data for its intended use in accordance with accepted actuarial practice in Canada, Mercer has not verified or audited any of the data or information provided.

The membership movement for all categories of membership since the previous actuarial valuation is as follows:

	ACTIVES	DEFERRED PENSIONERS	PENSIONERS AND SURVIVORS	TOTAL
Total at 01.07.2016	**2,010**	**532**	**1,309**	**3,851**
New entrants	478	-	-	478
Terminations:				
• Transfers/lump sums	(41)	(49)	-	(90)
• Deferred pensions	(85)	85	-	-
Deaths and benefit expired	(11)	(1)	(102)	(114)
Retirements	(168)	(33)	201	-
Beneficiaries	-	-	32	32
Data Correction	(2)	(8)	-	(10)
Total at 01.07.2019	**2,181**	**526**	**1,440**	**4,147**

Plan membership data are summarized below. For comparison, we have also summarized corresponding data from the previous valuation.

	01.07.2019	01.07.2016
Active Members		
Number	2,181	2,010
Total pensionable earnings	$231,181,830	$199,086,103
Average pensionable earnings	$105,998	$99,048
Average years of pensionable service	12.2 years	12.6 years
Average age	48.1 years	48.5 years
Total MPC + LIT account balances	$492,494,724	$430,691,009
Average MPC + LIT account balances	$225,811	$214,274
Total AVC account balances	$7,573,277	$4,163,249
Deferred Pensioners		
Number	526	532
Average age	51.9 years	50.9 years
Total MPC + LIT account balances	$40,381,992	$39,949,524
Average MPC + LIT account balances	$76,772	$75,093
Total AVC account balances	$1,959,025	$1,577,698
Number of members with MG pensions	514	519
Total annual Minimum Guarantee pension *	$2,329,911	$2,236,151
Average annual Minimum Guarantee pension *	$4,533	$4,309
Pensioners and Survivors		
Number	1,440	1,309
Average age	74.9 years	74.0 years
Total annual lifetime pension	$67,558,096	$56,820,323
Average annual lifetime pension	$46,915	$43,407
Number of members with a bridge pension	64	119
Average age of members with a bridge pension	63.0 years	62.5 years
Total annual bridge pension **	$352,684	$619,328
Average annual bridge pension **	$5,511	$5,204

* To be tested against Money Purchase Pension at the time of pension commencement. Money Purchase Pension will be paid if greater.

** Includes bridge pension paid by University.

The distribution of the active members by age and pensionable service as at the valuation date is summarized as follows:

Distribution of Total Active Members
By Age Group and Pensionable Service as at July 1, 2019

	YEARS OF PENSIONABLE SERVICE								
AGE	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35+	TOTAL
<30	101	6							**107**
	$62,974	$77,906							**$63,811**
30-35	154	42	5						**201**
	$73,633	$73,461	$70,066						**$73,508**
35-40	130	86	45	2					**263**
	$91,848	$89,595	$83,173	*					**$89,564**
40-45	99	85	87	32	1				**304**
	$102,142	$106,984	$110,638	$98,246	*				**$105,425**
45-50	64	51	110	78	16	3			**322**
	$101,179	$108,673	$122,195	$120,831	$83,262	$67,564			**$113,102**
50-55	41	36	67	85	40	20	3		**292**
	$100,816	$112,985	$112,196	$130,206	$108,205	$78,069	$69,807		**$112,618**
55-60	32	36	69	77	38	83	18	2	**355**
	$110,823	$101,689	$109,588	$134,277	$134,325	$101,654	$86,623	*	**$113,577**
60-65	15	13	28	45	18	45	51	4	**219**
	$109,021	$128,734	$120,480	$128,768	$131,604	$117,702	$123,166	$89,187	**$122,285**
>65	6	4	13	22	6	23	27	17	**118**
	$115,217	$141,752	$99,640	$155,693	$136,531	$157,119	$159,458	$167,848	**$148,903**
Total	**642**	**359**	**424**	**341**	**119**	**174**	**99**	**23**	**2181**
	$87,592	**$99,896**	**$110,631**	**$127,163**	**$117,873**	**$109,837**	**$124,803**	**$144,398**	**$105,998**

Row 1 - number of members
Row 2 - average July 1, 2019 pensionable earnings
* Information on one or two members is not disclosed for confidentiality reasons.

Distribution of Total Active Members with Minimum Guarantee Liabilities By Age Group and Pensionable Service as at July 1, 2019

	YEARS OF PENSIONABLE SERVICE								
AGE	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35+	TOTAL
<30	101	6							**107**
	$62,974	$77,906							**$63,811**
	$9,011	$45,977							**$11,084**
	$1,019	$6,908							**$1,349**
30-35	154	42	5						**201**
	$73,633	$73,461	$70,066						**$73,508**
	$15,446	$55,454	$84,741						**$25,529**
	$3,453	$11,104	$15,433						**$5,349**
35-40	130	85	45	2					**262**
	$91,848	$89,863	$83,173	*					**$89,651**
	$27,476	$70,604	$123,621	*					**$59,129**
	$9,500	$19,698	$24,905	*					**$15,574**
40-45	99	85	87	31	1				**303**
	$102,142	$106,984	$110,638	$99,828	*				**$105,611**
	$32,363	$92,744	$166,490	$216,481	*				**$107,296**
	$12,626	$32,636	$44,300	$39,010	*				**$30,076**
45-50	64	51	109	78	13	1			**316**
	$101,179	$108,673	$122,616	$120,831	$89,265	*			**$114,035**
	$41,187	$92,308	$196,474	$268,213	$276,240	*			**$169,416**
	$11,420	$34,688	$58,600	$64,438	$35,369	*			**$45,537**
50-55	41	36	67	83	28	6			**261**
	$100,816	$112,985	$112,196	$131,824	$124,507	$114,076			**$118,123**
	$27,016	$115,551	$197,780	$318,049	$392,322	$506,748			**$225,833**
	$12,749	$42,473	$57,419	$82,101	$69,318	$30,987			**$56,858**
55-60	32	36	69	75	31	27	1		**271**
	$110,823	$101,689	$109,588	$136,320	$147,590	$163,984	*		**$126,117**
	$44,060	$106,662	$192,322	$336,806	$491,134	$724,903	*		**$293,460**
	$20,084	$39,305	$55,064	$89,253	$113,417	$106,465	*		**$70,357**
60-65	15	13	28	43	13	21	20		**153**
	$109,021	$128,734	$120,480	$131,623	$155,389	$167,304	$170,902		**$139,174**
	$27,047	$116,103	$225,758	$363,965	$517,676	$762,193	$1,012,556		**$437,083**
	$14,393	$50,239	$66,984	$91,753	$133,148	$135,625	$59,963		**$81,492**
>65	6	4	12	21	5	18	6	1	**73**
	$115,217	$141,752	$86,973	$159,928	$126,264	$162,612	$172,381	*	**$142,989**
	$33,241	$137,653	$146,557	$455,286	$448,527	$799,665	$971,761	*	**$491,714**
	$17,302	$36,640	$39,649	$89,648	$87,609	$85,368	$51,612	*	**$67,029**
Total	**642**	**358**	**422**	**333**	**91**	**73**	**27**	**1**	**1947**
	$87,592	**$99,989**	**$110,378**	**$128,739**	**$131,291**	**$159,167**	**$171,648**	*	**$107,789**
	$24,647	**$87,309**	**$181,252**	**$314,886**	**$428,591**	**$729,827**	**$1,001,160**	*	**$179,299**
	$8,311	**$29,243**	**$50,799**	**$76,944**	**$89,135**	**$102,214**	**$60,522**	*	**$41,125**

Row 1 – number of members
Row 2 – average July 1, 2019 pensionable earnings
Row 3 – average Money Purchase Component Account balance as at July 1, 2019
Row 4 – average Money Guarantee Liability at July 1, 2019 on unsmoothed basis
*Information on one or two members is not disclosed for confidentiality reason

The distribution of the inactive members by age as at the valuation date is summarized as follows:

	DEFERRED PENSIONERS *			PENSIONERS AND SURVIVORS	
AGE	NUMBER	AVERAGE MINIMUM GUARANTEE PENSION		NUMBER	AVERAGE LIFETIME PENSION
25 – 29	4	$982			
30 – 34	20	$2,281			
35 – 39	54	$3,503			
40 – 44	66	$3,752			
45 – 49	93	$5,209			
50 – 54	73	$4,688		1	**
55 – 59	98	$5,739		32	$32,535
60 – 64	67	$5,966		106	$30,244
65 – 69	26	$1,896		278	$36,285
70 – 74	5	$726		358	$45,972
75 – 79	5	$297		297	$60,099
80 – 84	2	**		199	$57,223
85 – 89	1	**		99	$52,214
90 – 94				56	$33,738
95 – 99				13	$27,925
100+				1	**
Total	**514**	**$4,533**		**1,440**	**$46,915**

* Only includes members who have a Minimum Guarantee Pension.
** Information on one or two members is not disclosed for confidentiality reasons.

APPENDIX F

SUMMARY OF PLAN PROVISIONS

Mercer has used and relied on the plan documents, including amendments and interpretations of plan provisions, supplied by Carleton University. If any plan provisions supplied are not accurate and complete, the results of any calculation may differ significantly from the results that would be obtained with accurate and complete information. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and the results of estimates under each of the different interpretations could vary.

This valuation is based on the plan provisions in effect on July 1, 2019. Since the previous valuation, the Plan has not been amended.

The following is a summary of the main provisions of the Plan in effect on July 1, 2019. This summary is not intended as a complete description of the Plan.

Background	The Plan became effective July 1, 1958. The Plan is a hybrid pension plan with a defined contribution money purchase component and a defined benefit minimum guarantee component.
Eligibility for Membership	Each full time employee of the University is eligible to join the Plan on the first day of any month coincident with or follow his date of hire and must join no later than the first day of July on or next following the attainment of age 30. Part-time employees are also eligible to join the plan provided they: • earned at least 35% of the YMPE; or • worked at least 700 hours per year or more in each of the preceding two consecutive calendar years.

Contributions	Money Purchase Contributions • Effective January 1, 2001 required contributions of 4.37% of earnings up to the YMPE plus 6% of earnings above the YMPE are deducted from each Member's earnings and credited to his or her Money Purchase Component Account. Matching contributions are made by the University and credited to the Member's account. In addition, the University is required to contribute an additional 0.25% of earnings, effective July 1, 2003. • Amounts transferred from a prior employer's pension plan under the Portability provision or a reciprocal transfer agreement are credited to a Members' Money Purchase Component – Locked-In Transfer Account. Additional Voluntary Contributions • Members are permitted to make additional voluntary contributions to the Plan. Such contributions, when added to the Required Contributions, may not exceed the maximum contribution limits under the Income Tax Act. The Additional Voluntary Contributions are credited to the Members' Additional Voluntary Contributions Account. Minimum Guarantee Contributions • No employee contributions are required prior to July 1, 2011. • Effective July 1, 2011, members are required to contribute 1.7% of pensionable earnings up to the year's Maximum pensionable earnings (YMPE) and 2.4% above the YMPE, capped at 2% of pensionable earnings to the Minimum Guarantee fund until the earlier of 10 years or until such time as special payments to the Plan cease. • The University will make those contributions to the Minimum Guarantee Fund as are required by the legislation.
Retirement Dates	Normal Retirement Date • The normal retirement date for all Members who joined the Plan after July 1, 1957 is the July 1st nearest to the member's 65th birthday. Early Retirement Date • Early retirement is permitted at any time after attainment of age 55 or 10 years prior to the normal retirement date. Postponed Retirement • A Member may postpone his or her retirement beyond his or her normal retirement date on a year-to year basis up to age 71. If the normal retirement date precedes the 65th birthday, a Member may postpone retirement to the July 1st following the Members' 65th birthday. A Member has the option, on his or her normal retirement date, of either continuing to contribute or to cease contributions.

Normal Retirement Pension	At retirement, a Member is entitled to a Money Purchase Pension plus the excess, if any of the Minimum Guarantee Pension over the Money Purchase Pension, as described below: **Money Purchase Pension** The pension provided by the Member's Money Purchase Component Account (which equals the total of the Member's Money Purchase contributions and the University's Money Purchase contributions), together with investment earnings **Minimum Guarantee Pension *** Determined as the sum of A and B, multiplied by C, less D described as follows: A) 1.29% of the average of the Member's highest five consecutive years' earnings up to the Member's final average YMPE **PLUS** B) 2.0% of the average of the Member's highest five consecutive years' earnings above the Member's final average YMPE **MULTIPLIED BY** C) the Member's years of Credited Service **LESS** D) the Member's Canadian Government Annuity entitlement, if any. * The Minimum Guarantee Pension calculation described above came into effect on January 1, 2001. For retirements prior to that date, the Minimum Guarantee Pension wad determined as: 2.0% of the average of the Member's highest five consecutive years' earnings multiplied by years of credited service **MINUS** 1/35 of the Canadian Pension Plan benefit multiplied by years of Credited Service (maximum of 35 years) **MINUS** The Member's Canadian Government Annuity entitlement, if any.
Pensionable Earnings	Member's total compensation received from the University while such Member was a Member of the Plan, and shall include stipends for Deans and Departmental Chairmen and any mid-year or retroactive increases as may be agreed upon, but shall be exclusive of taxable benefits, bonuses, overtime, special payments, summer school, extramural and similar payments, as well as lump sum payments, on termination of employment, made in respect of unused annual vacation leave.

Early Retirement Pension	If a member retires early, the member will be entitled to a pension that is calculated the same way as for a normal retirement, based on his or her Money Purchase Component Account, age, service and earnings to the early retirement date. The Minimum Guarantee Pension, however, will be reduced by ¼% for each month before the normal retirement date. In additions, a Member who, as at July 1, 2003 has attained age 55 with 10 or more years of continuous service, is entitled to a bridge benefit equal to $5,176.32 per annum, pro-rated for those with less than 20 years of service at retirement. The bridge benefit is payable from early retirement to age 65, but ceasing on the death of the member if prior to age 65. No bridge benefit is payable to Members who had not attained age 55 with 10 or more years of continuous service as at July 1, 2003. For a Member who terminates his or her employment with the University prior to his or her retirement, and who leaves his or her Money Purchase contributions on deposit with the University, and who elects to commence pension payments prior to normal retirement, the Minimum Guarantee pension will be actuarially reduced (i.e., the ¼% per month reduction will not apply), and no bridge benefit will be payable. Effective July 1, 2012, a Member who, as at July 1, 2012 has not attained age 55 or is not within 10 years of normal retirement date, the Minimum Guarantee Pension will be reduced to be actuarial equivalent to the pension at the normal retirement date.
Postponed Retirement Pension	The postponed retirement benefits of a Member who elected to continue to contribute will be determined in the same manner as for normal retirement but will be based on his or her age, service and earnings to actual retirement for the Minimum Guarantee Pension, and for the Money Purchase Pension, on the actual account balance at his or her postponed retirement date. If the Member elects to cease to contribute at normal retirement date, then the Minimum Guarantee Pension will be determined at that time. On the date of his or her actual retirement, the pension so determined will be actuarially adjusted to compensate for the shorter potential payout period. The Money Purchase Pension will be determined based on the actual account balance at his or her postponed retirement date.
Benefits from Additional Voluntary Contributions	In addition to his or her basic retirement benefits, the balance of the Member's Additional Voluntary Contributions Account (if any) may be applied to provide an additional pension amount. If an additional pension is elected, a charge of 1.5% of the balance in respect of contributions to July 1, 2003 is applied to cover the cost of the guarantee of non-reduction in pensions. After July 1, 2003, the non-reduction guarantee no longer applies.

Maximum Pension	The Minimum Guarantee Pension is subject the maximum pension limitations set out in the Income tax Act. The total annual pension payable from the Plan upon retirement, death or termination of employment cannot exceed the lesser of: • 2% of the average of the best three consecutive years of total compensation paid to the member by the University, multiplied by total credited service; and • $3,025.56 for 2019 or such other maximum permitted under the Income Tax Act, multiplied by the member's total credited service, with scheduled increases in line with the Average Industrial wage. The maximum pension is determined at the date of separation.
Annual Pension Increase	Each July 1 after the Member's pension (both lifetime and bridge benefits) will be adjusted by a percentage equal to the excess of the four-year arithmetic average investment return earned by the Fund (the Fund Rate) over 6%. Effective for retirements on and after July 1, 2001, the first three annual July 1, pension increases after retirement will be determined as follows: • the first increase will be equal to 25% of the excess of the Fund Rate for the plan year then ended over 6%; and • the second increase will be equal to 50% of the excess of the two-year arithmetic average of Fund Rates for the two plan years then ended over 6%; and • the third increase will be equal to 75% of the excess of the three year arithmetic average of Fund Rates for the three plan years then ended over 6%. Non-Reduction Guarantee Pensions in respect of service prior to July 1, 2003 may not be reduced once in payment. In the event that the annual pension adjustment described above would result in a decrease in pension, a supplementary pension will be paid equal to the amount of the reduction that would otherwise have occurred. Pension increases in subsequent years will be based on the pension that would have been paid excluding the supplementary pension amount. The annual adjustment applied to pensions earned on or after July 1, 2003 may be positive or negative. The above pension adjustments do not apply should the member elect the Level pension Option.

Portability at Retirement	At retirement, in lieu of all other benefits from the Plan, a member may elect to transfer the sum of the amounts itemized below to a Locked-In Retirement Account (LIRA), to the registered pension fund of a subsequent employer, or to a life insurance company to purchase an annuity: 1. His or her Money Purchase Component Account; plus 2. The excess of the Commuted Value of the Member's Minimum Guarantee Pension over the Money Purchase Component Account; plus 3. The Commuted Value of any bridge benefit payable; plus 4. The balance of his or her Additional Voluntary Contributions Account.
Termination Benefits	A member who terminates his or her employment with the University prior to his or her retirement may elect either: 1. To receive a lump sum refund equal t0 the total of his or her own Money Purchase contributions with credited interest to the date of termination; or 2. To leave his or her Money Purchase account on deposit and receive the pension which can be provide by the value of the Money Purchase Component Account at any time after reaching age 55. The Member will also receive any additional amount as may be required to bring the total pension to the Minimum Guarantee Pension determined at the date of termination; or 3. To have his or her Money Purchase Component Account plus the excess, if any, of the Commuted Value of the Minimum Guarantee Pension over the Money Purchase Component Account, transferred to the registered pension fund of a subsequent employer, or to a Locked-In Retirement Account (LIRA) provided that such employer or the trustees of the LIRA enters into an agreement with the University guaranteeing that such amount will be retained for the provision of pension benefits at retirement; or 4. To have the Money Purchase Component Account plus the excess, if any, of the Commuted Value of the Minimum Guarantee Pension over the Money Purchase Component Account, transferred to a life insurance company for the purchase of a life annuity commencing after age 55, on a unisex basis. If a Member terminates employment after reaching age 45 and completing 10 years of continuous service with the University for contributions made prior to January 1, 1987, and two years of membership in the plan for contributions made after December 31, 1986, the cash refund in 1. above is not permitted. A Member is also entitled to the balance of his or her Additional Voluntary Contributions Account which may be refunded in cash or left under the Plan to provide additional pension.

Death Benefits	Pre-retirement: • If a member dies before the normal retirement date and before any pension payments have begun, the member's spouse, or beneficiary if there is no spouse, will receive a lump sum settlement equal to the sum of the balance of the Member's Additional Voluntary Contributions Account, the Member's Money Purchase Component Account and the excess, if any, of the Commuted Value of the accrued Minimum Guarantee Pension over the Money Purchase Component Account. Post retirement: • If the Member does not have a spouse at the date of pension commencement, the normal form of pension under the Plan provides for the payment of benefits for life, but guaranteed for five years in any event. If the Member has a spouse at the date of pension commencement, the pension will be paid as a joint and survivor pension, with 60% continuing to the spouse in the event of the Member's death. The initial pension amount will be the actuarial equivalent of a life pension guaranteed for five years. • If another form of pension is selected at retirement, the benefits payable after death will depend on that option.
Disability Benefits	While in receipt of benefits under the University's long term disability plan, a Member will not be required to contribute to the Plan. Required contributions and matching University contributions will be allocated from the Minimum Guarantee Fund to the Member's Money Purchase Account. The disabled Member's earnings during the disability period are assumed to be at the rate in effect immediately prior to disablement, with a cost of living increment of up to 3% per annum.
Supplementary Provisions	The Plan has supplementary provisions covering benefits for employees on sabbatical leave, educational leave, maternity leave and reduced-time appointments according to collective agreements and subject to limitations under the Income Tax Act.

HISTORY OF THE PLAN

A brief history of the Plan is given below.

Effective April 1, 1948, the University established the Carleton University Employee Retirement Annuity Plan which was basically a money purchase plan. Both the Members' and the University's contributions were applied to purchase Canadian Government Annuities until the maximum annuity of $1,200 per Member was reached. Once this limit was reached, any further contributions were invested in a Trust Fund.

Effective July 1, 1958, the Retirement Plan was established. Each Member was allowed to elect the proportion of his or her and the University's contributions on his or her behalf to be invested in equities, fixed income securities, and Canadian Government Annuities. On retirement, the equity fund held to the Member's credit was to be used to purchase a variable annuity, whenever possible, and the fixed income fund was used to purchase a fixed annuity.

The Plan was further amended effective January 1, 1966. A provision was introduced to permit Members over age 45, whose projected pensions at retirement were less than 60% of their current salary, to make additional contributions to the Plan which would be partially matched by the University.

The amendment and restatement of the Plan as at July 1, 1973 applied retroactively to April 1, 1948. In the restatement of the Plan, the money-purchase design was retained, but in addition, a provision was introduced which guaranteed each Member a minimum level of retirement benefit related to his or her final average earnings and service to retirement. The accumulated money purchase funds of the Members were used to provide variable annuities, which are adjusted annually relative to the experience of the Trust Fund.

The Members were no longer permitted to direct the proportion of their contributions to be invested in fixed income or equity securities and the University no longer contributed in respect of Members' additional contributions.

Under the revised Plan, a Money Purchase Component Account and an Additional Voluntary Contributions Account were established for each Member. The market value as at June 30, 1973 of the units that had been purchased by each Member's required contributions was credited to his or her Money Purchase Component Account. The market value of the units as at June 30, 1973 held to each Member's credit and purchased from Additional Contributions was credited to his or her Additional Voluntary Contribution Account.

Effective July 1, 1981 the minimum pension level was improved. Pension adjustments after retirement were to be provided on either the money purchase or minimum guarantee pensions based upon the investment earnings of the Trust Fund. Pensions for those retired between July 1, 1973 and June 30, 1981 were adjusted to reflect these improvements.

Effective July 1, 1983 unisex factors were adopted for the Plan and a Portability provision was introduced.

Effective July 1, 1988, the salary averaging method was changed from final average six to final average five years.

Effective July 1, 1992, the early retirement reductions applicable to minimum guaranteed pensions were changed from an actuarial equivalent to ¼% per month prior to normal retirement age. In addition, a bridge benefit of $3,142 per annum was introduced, payable from early retirement age to age 65, pro-rated for those with less than 35 years of service at retirement.

Several changes to the contribution and benefit levels were implemented effective July 1, 1993:

- The bridge benefit increased to $4,547 per annum for retirements on or after July 1, 1993, with further scheduled increase at July 1, 1994 and July 1, 1995, to $4,630 and $4,653 at those respective dates;
- The normal form of pension was changed from a life annuity with no guarantee period to a life annuity guaranteed for 5 years;
- The Members' contribution requirement was reduced to 1.3% of earnings less 1.8% of Canada Pension Plan contributory earnings (but in no event would the required amount become negative), effective until June 30, 1994. At the same time, the University's Money Purchase contribution requirements were reduced to 3.7% of earnings less 1.8% of CPP contributory earnings over the same period. In order for Members' accounts to be credited with the same level of total contributions, were the noted adjustments not in effect during the period, additional allocations of 7% of earnings were made to Members' Money Purchase Accounts from the Minimum Guarantee Fund;
- Finally, an additional 1% of earnings was credited by the University to each Member's Money Purchase Component Account from the Minimum Guarantee Fund, from July 1, 1993 to June 30, 1994.

Effective January 1, 1996, further benefit improvements and contribution reductions were implemented, such that:

- The bridge benefit payable would be pro-rated for those with less than 20 years of service at retirement, and the amount of bridge benefit would increase to $4,737 from July 1, 1996
- For the period April 1, 1994 to March 31, 1997, the Members' contribution requirement was changed to 3.5% of earnings less 1.8% of CPP contributory earnings. Once again the University's Money Purchase contribution requirements were reduced, to 5.9% of earnings less 1.8% of CPP contributory earnings over the same period. In order for Members' accounts to be credited with the same level of total contributions, were the noted adjustments not in effect during the period, additional allocations of

2.6% of earnings were made to Members' Money Purchase Accounts from the Minimum Guarantee Fund;

- The additional contribution allocations were extended, as follows: an additional 1% of earnings from July 1, 1994 to June 30, 1995, an additional 2% of earnings from July 1, 1995 to June 30, 1996, all allocated from the Minimum Guarantee Fund.

Effective from July 1, 1996, the plan was amended as follows:

- Effective July 1, 1996 the change in Member's contribution requirements to 3.5% of earnings less 1.8% of CPP contributory earnings was extended to cover the period from April 1, 1997 to September 30, 1999. The University's Money Purchase contribution requirements were reduced to 4.81% of earnings less 1.8% of CPP contributory earnings, retroactively to July 1, 1996 and extending to September 30, 1999. In addition, the University allocated 3.69% of earnings to Members' Money Purchase Accounts from the Minimum Guarantee Fund;

- An additional 1% of earnings was credited by the University to each Member's Money Purchase Account from the Minimum Guarantee Fund, from July 1, 1996 to June 30, 1997. From July 1, 1997 to June 30, 1998, another 1% allocation was made, subject to the investments of the Trust Fund earning an average annualized rate of return of 6.5% over the period July 1, 1996 to December 31, 1997.

Effective July 1, 1999, the plan was amended as follows:

- The amount of the bridge benefit was increased to $4,929.84 per annum.

- Effective for the period from October 1, 1999 until September 30, 2000, the Members' contribution requirement was changed to 5.0% of earnings less 1.8% of CPP contributory earnings. The University's Money Purchase contribution requirement was adjusted to 6.07% of earnings less 1.8% of CPP contributory earnings over the same period. In order for Members' accounts to be credited with the same level of total contributions, were the noted adjustments not in effect during the period, additional allocations of 0.93% of earnings were made to Members' Money Purchase Accounts from the Minimum Guarantee Fund.

Effective July 1, 2000, the amount of bridge benefit was increased to $5,039.04 per annum.

Effective from January 1, 2001, the contribution and benefit formulas were changed as follows:

- The Members' contribution requirement as well as the University's Money Purchase matching contribution requirement were changed to 4.37% of earnings up to the YMPE plus 6% of earnings above the YMPE;

- The Minimum Guarantee pension benefits were changed to 1.29% of final average earnings up to the final average YMPE plus 2.0% of final average earnings above the final average YMPE multiplied by years of credited service.

Effective from July 1, 2001, the plan was amended as follows:

- The amount of bridge benefit was increased to $5,176.32 per annum;

- The calculation of post-retirement pension increases for Members retiring on and after July 1, 2001 was changed so that for the first three annual pension increases following retirement, the annual increases take into account investment returns on the Fund only in the post-retirement years.

Effective from July 1, 2003, the plan was amended as follows:

- Bridge benefits have been removed from the Plan for members who had not attained age 55 (or who were not within 10 years of their normal retirement date) with 10 years of service as at July 1, 2003.

- For service and contributions on and after July 1, 2003, the non-reduction guarantee for pensions in payment no longer applies.

- Effective July 1, 2003, the Money Purchase contribution formula was changed to remove non-reduction contributions and to add 0.25% of pensionable earnings to the University contributions.

Effective from July 1, 2011, the plan was amended as follows:

- Introduce members’ contributions of 1.7% of pensionable earnings up to the year’s Maximum pensionable earnings (YMPE) and 2.4% above the YMPE, capped at 2% of pensionable earnings to the Minimum Guarantee fund until the earlier of 10 years or until such time as special payments to the Plan cease;

Effective from July 1, 2012, the plan was amended as follows:

- Change the early retirement reduction factors used in calculating Minimum Guarantee pensions to be equal to the actuarial equivalent factors currently being used to calculate Money Purchase pensions.

APPENDIX G

PLAUSIBLE ADVERSE SCENARIOS

In this Appendix, the financial impact on the Plan's going concern results (i.e., going concern financial position at the valuation date and current service cost from the valuation date to the next valuation date) of plausible adverse scenarios that would pose threats to the Plan's future financial condition is illustrated for the following risks:

- Interest rate risk, the potential that interest rates will be lower than expected;
- Deterioration of asset values; and
- Longevity risk, the potential that pension plan members will live longer than expected.

The following table summarizes the going concern results, where we assumed for:

- Interest rate risk, an immediate parallel decrease in market interest rates of 100 basis points
- Deterioration of asset values, an immediate decrease of 10% in the market value of non-fixed income assets; and
- Longevity risk, that life expectancy from the valuation date at age 65 for a male and a female would increase by 1.46 years and 1.33 years, respectively.

SCENARIO (IN $000s)	GOING CONCERN VALUATION RESULTS AS 07.01.2019	PLAUSIBLE ADVERSE SCENARIO RESULTS AS AT 07.01.2019		
		INTEREST RATE RISK	DETERIO-RATION OF ASSET VALUES	LONGEVITY RISK
Market value of assets	$797,597	$813,189	$739,127	$797,597
Going Concern Financial Status				
Actuarial value of assets	$789,967	$793,309	$778,068	$789,967
Going concern funding target	$772,733	$791,051	$755,253	$803,175
Provision for Adverse Deviation	$76,511	$78,324	$74,780	$79,525
Funding excess (shortfall)	($59,277)	($76,066)	($51,964)	($92,733)

SCENARIO (IN $000s)	GOING CONCERN VALUATION RESULTS AS 07.01.2019	PLAUSIBLE ADVERSE SCENARIO RESULTS AS AT 07.01.2019		
		INTEREST RATE RISK	DETERIO-RATION OF ASSET VALUES	LONGEVITY RISK
Estimated Employer's Minimum Guarantee Benefits Current Service Cost including Provision for Adverse Deviation				
July 1, 2019	$8,180	$8,990	$8,384	$9,589
July 1, 2020	$8,548	$9,395	$8,761	$10,020
July 1, 2021	$8,932	$9,818	$9,156	$10,471

The balance of this Appendix provides details of the plausible adverse scenarios selected and the determination of the impact on the going concern results.

INTEREST RATE RISK

The purpose of this scenario is to illustrate the sensitivity of the Plan's going concern results to the potential that interest rates will be lower than expected. For this purpose, we have assumed an immediate parallel decrease in market interest rates underlying fixed income investments, where fixed income investments include the following categories as shown in the investment policy summarized in Appendix B.

Using a methodology consistent with the one used to determine the going concern discount rate, we have determined that a parallel decrease in market interest rates of 100 basis points would have a non-trivial probability (between 1 in 10 and 1 in 20) of occurring within the year following the valuation date. For purpose of this scenario, we have assumed that such a decrease in market interest rates would occur immediately on the valuation date and would have the following impact on the value of assets and going concern assumptions:

DEFINED TERM	DESCRIPTION
Market value of assets	The decrease in market interest rates has been assumed to affect only the market value of the fixed income investments. The decrease is assumed to have occurred immediately on the valuation date.
Smoothed value of assets	For purposes of determining the smoothed value of assets, 20% of the change in the market value of asset has been recognized in the smoothed value of assets.
Discount rate assumption	It was assumed that the decrease in market interest rates affects only the expected return on assets for the fixed income portion of assets. The discount rate assumption was therefore decreased from 6.00% to 5.75%.

DEFINED TERM	DESCRIPTION
Other assumptions	Except as mentioned above, all assumptions used were the same as those used for this valuation.
Provision for Adverse Deviations	The above changes would not affect the calculation of the Provision for Adverse Deviations

DETERIORATION OF ASSET VALUES

The purpose of this scenario is to illustrate the sensitivity of the Plan's going concern results to a deterioration of asset values. For this purpose, we assumed an immediate reduction in the market value of the Plan's non-fixed income assets, where non-fixed income investments include the following categories as shown in the investment policy summarized in Appendix B.

Using a methodology consistent with the one used to determine the going concern discount rate, we have determined that a decrease of 10% in the market value of value of non-fixed income assets would have a non-trivial probability (between 1 in 10 and 1 in 20) of occurring within the year following the valuation date. For purpose of this scenario, we have assumed that such a decrease would occur immediately on the valuation date and would have the following impact on the value of assets and going concern assumptions:

Market value of assets	The decrease in the market value of the non-fixed income portion of assets is assumed to have occurred immediately on the valuation date.
Smoothed value of assets	For purposes of determining the smoothed value of assets, 20% of the change in the market value of assets has been recognized in the smoothed value of assets.
Going concern assumptions	This scenario is assumed to have no impact on the assumptions used for this valuation.

LONGEVITY RISK

The purpose of this scenario is to illustrate the sensitivity of the Plan's going concern results to the potential that pension plan members will live longer than expected. For this purpose, we have determined that a plausible adverse scenario would be to assume that future mortality improvements[12] will be in line with the average improvements experienced by the Canadian population over the most recent 15-year period available, with uniform improvement rates for all future years but varying by age[13] and gender.

[12] i.e. starting one year after the valuation in this context

[13] improvement rates below age 45 are set to those at age 45

The table below summarizes the improvement rates under the plausible adverse scenario compared to those currently assumed under the CPM-B scale and is based on Canadian population experience from the Human Mortality Database (HMD) from 2002 to 2016.

	MALES				FEMALES			
	CPM-B			Adverse Scenario	CPM-B			Adverse Scenario
Age	2020	2025	2030+		2020	2025	2030+	
20	1.59%	1.20%	0.80%	1.68%	0.98%	0.89%	0.80%	1.47%
30	1.88%	1.34%	0.80%	1.68%	0.98%	0.89%	0.80%	1.47%
40	1.80%	1.30%	0.80%	1.68%	1.17%	0.98%	0.80%	1.47%
50	1.17%	0.98%	0.80%	1.76%	0.98%	0.89%	0.80%	1.34%
55	1.47%	1.13%	0.80%	1.67%	1.11%	0.96%	0.80%	1.14%
60	1.77%	1.28%	0.80%	1.75%	1.24%	1.02%	0.80%	1.34%
65	2.06%	1.43%	0.80%	2.11%	1.36%	1.08%	0.80%	1.65%
70	2.06%	1.43%	0.80%	2.48%	1.36%	1.08%	0.80%	1.77%
75	2.01%	1.41%	0.80%	2.66%	1.36%	1.08%	0.80%	1.93%
80	1.96%	1.38%	0.80%	2.63%	1.36%	1.08%	0.80%	2.03%
85	1.38%	1.03%	0.68%	2.32%	1.31%	0.99%	0.68%	1.98%
90	0.75%	0.62%	0.48%	1.68%	0.75%	0.62%	0.48%	1.60%
95	0.16%	0.25%	0.34%	1.04%	0.16%	0.25%	0.34%	1.12%
100	0.14%	0.22%	0.30%	0.64%	0.14%	0.22%	0.30%	0.80%
105	0.14%	0.22%	0.30%	0.38%	0.14%	0.22%	0.30%	0.55%

APPENDIX H

EMPLOYER CERTIFICATION

With respect to the Report on the Actuarial Valuation for Funding Purposes as at July 1, 2019 of the Carleton University Retirement Plan, I hereby certify that, to the best of my knowledge and belief:

- The valuation reflects the terms of the Pension Committee's engagement with the actuary described in Section 2 of this report, particularly the requirement to not reflect a margin for adverse deviations in the going concern valuation and the University's decisions in regards to determining the going concern and solvency funding requirements.

- A copy of the official plan documents and of all amendments made up to July 1, 2019 was provided to the actuary and is reflected appropriately in the summary of plan provisions contained herein.

- The determination of the fixed income component for purposes of establishing the provision for adverse deviations reflects the Plan's asset mix.

- The asset information summarized in Appendix B is reflective of the Plan's assets.

- The University made in-transit contributions of $18,000,000 at the end of October 2019 and accelerated special payments contributions of $43,729,000 at the end of March 2020.

- The membership data provided to the actuary included a complete and accurate description of every person who is entitled to benefits under the terms of the Plan for service up to July 1, 2019.

- All events subsequent to July 1, 2019 that may have an impact on the Plan have been communicated to the actuary.

____________________ Date

____________________ Signed

____________________ Name

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Carleton UNIVERSITY
Canada's Capital University

BOARD OF GOVERNORS REPORT

To:	Building Program Committee	**Date of Report:** 2/11/20	
From:	Vice-President (Finance and Administration)	**Date of Meeting:** 3/2/2020	
Subject:	Energy and Sustainability		
Responsible Portfolio:	Finance and Administration		

1.0 PURPOSE

☐ For Approval ☒ For Information ☐ For Discussion

2.0 MOTION

None

3.0 EXECUTIVE SUMMARY

This Energy and Sustainability update provides an overview of Carleton's goals of becoming a net zero carbon campus by 2050, along with an update on the University's new Sustainability Plan 2020-2025.

4.0 INPUT FROM OTHER SOURCES

This report was prepared by the Facilities Management and Planning (FMP) - Energy & Sustainability Group. The Sustainability Plan has had input from the greater Carleton community. FMP is soliciting additional feedback from the Deans of all of the Faculties as well as members from the Senior Management Group for Research and Teaching and Learning.

5.0 ANALYSIS AND STRATEGIC ALIGNMENT

FMP is currently developing a plan to achieve carbon neutrality of Carleton's Scope 1 and Scope 2 greenhouse gas (GHG) emissions by 2050. The plan should be fully developed by May 2020, and will consist of various long-term projects to achieve this goal. Since 2005 Carleton has already reduced its GHG emission intensity by 35%. Although the plan is still under development it will likely consist of projects such as converting our Central Heating Plant from steam to hot water, implementing deep energy retrofits and including renewable energy sources into the campus.

The Sustainability Plan 2020-2025 is also under development and for the first time teaching, learning, and research groups are involved in the development of the plan.

6.0 FINANCIAL IMPLICATIONS

At this time there is no financial implications identified.

7.0 RISK, LEGAL AND COMPLIANCE ASSESSMENT

None identified as this time.

8.0 REPUTATIONAL IMPLICATIONS AND COMMUNICATIONS STRATEGY

As the Long-Term Energy Plan is currently in development phase there were no reputational impacts identified at this time. As the plan is developed, FMP will review the associated risks, legal and compliance issues and reputational implications and communications strategy with DUC and other stakeholders.

9.0 OVERALL RISK MANAGEMENT ANALYSIS

	LOW	MINOR	MODERATE	SERIOUS	VERY SERIOUS
STRATEGIC	☒	☐	☐	☐	☐
LEGAL	☒	☐	☐	☐	☐
OPERATIONAL	☒	☐	☐	☐	☐
TECHNOLOGICAL	☒	☐	☐	☐	☐
FINANCIAL	☒	☐	☐	☐	☐
REPUTATIONAL	☒	☐	☐	☐	☐

Sustainability, Energy and Net Zero Targets

Sustainability
CARLETON UNIVERSITY

Carleton
UNIVERSITY

Overview

- Sustainability Highlights
- Long Term Energy Plan - Net Carbon Zero
- Sustainability Plan
- Broader Strategies & Plans
- Questions & Discussion

Sustainability
CARLETON UNIVERSITY

Sustainability Highlights

- Carleton ranked 2nd in Canada (UI Green Metric)
- Zero waste certified food courts (UC and Resident Commons)
- 61% of our community travel to campus by Transit. Highest in NCR of all higher education institutions.
- 10% of our community travel to campus by Active Transportation (Cycle or Walk).
- 24% of food purchases through Dining Services designated ‘local, humane or ecological.’
- 35% reduction in carbon emissions intensity (since 2005).

New plan to build upon success to date and to push for continued progress towards zero waste, increased energy reduction, engagement, and increased sustainability literacy among students.

Sustainability CARLETON UNIVERSITY

Carleton UNIVERSITY

Timeline

- Sunset of 2018-2021 Energy Master Plan to Longer Term goals with a more holistic view.
- In 2018, the IPCC released a report for the need to limit global warming to 1.5 deg.C.
- February 2019 - Carleton sets GHG emission targets.
- April 1, 2019 - Carbon Tax set - $ 20/ tonne.
- April 2019 – City of Ottawa declares climate emergency.
- September 2019 – Federal Government announces zero carbon emissions by 2050.
- May 2020 – Carleton Long Term Energy Plan to be completed.

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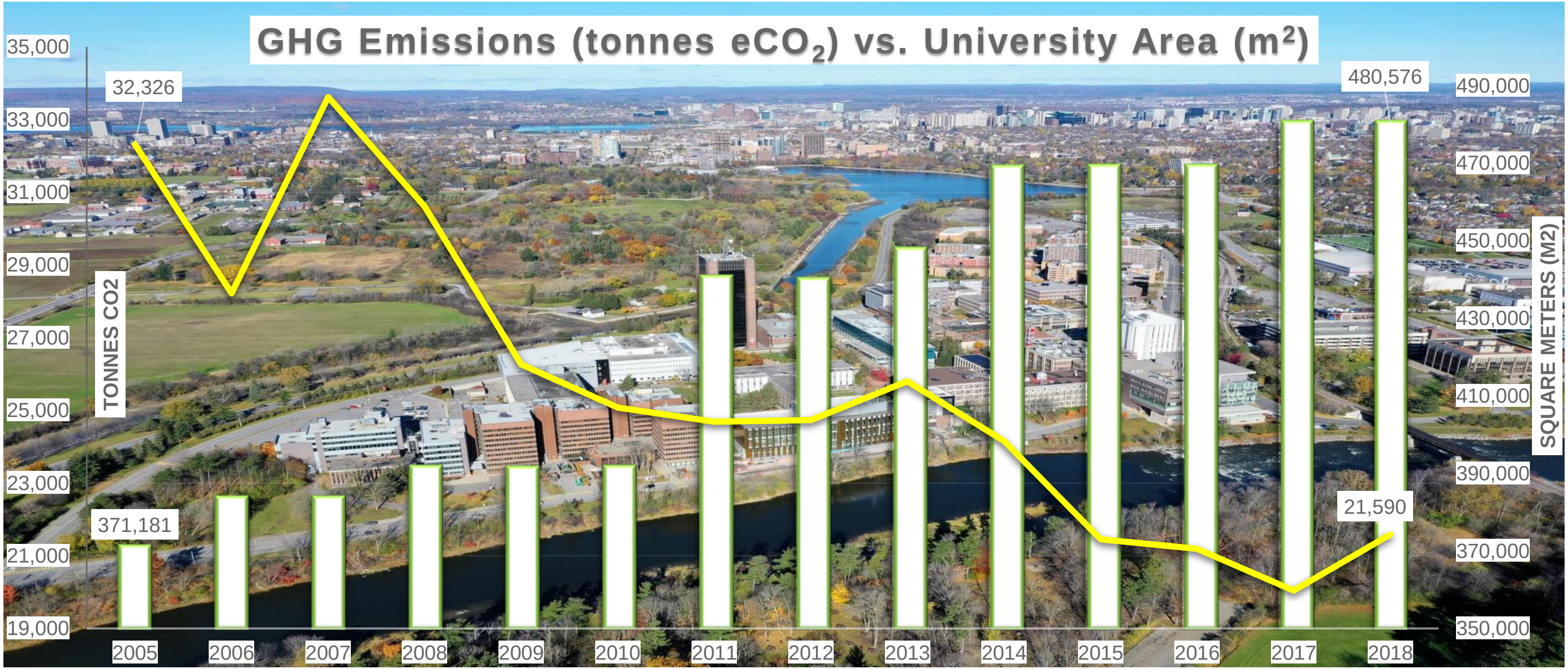
Historic Greenhouse Gas Emissions



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Net Zero Targets & Carbon Neutrality

- Long Term Energy Plan Goals
- Develop a plan to reduce our carbon footprint by 50% by 2030 and by 100% by 2050
- Develop a plan to expand our current district energy infrastructure to support the doubling of our campus space by 2050
- Reduce Utility Operational Costs
- Increase Reliability and Safety
    - Operation of a 4.6 MW co-generation heat and power plant by summer 2020
- Plan to be completed by May 2020.

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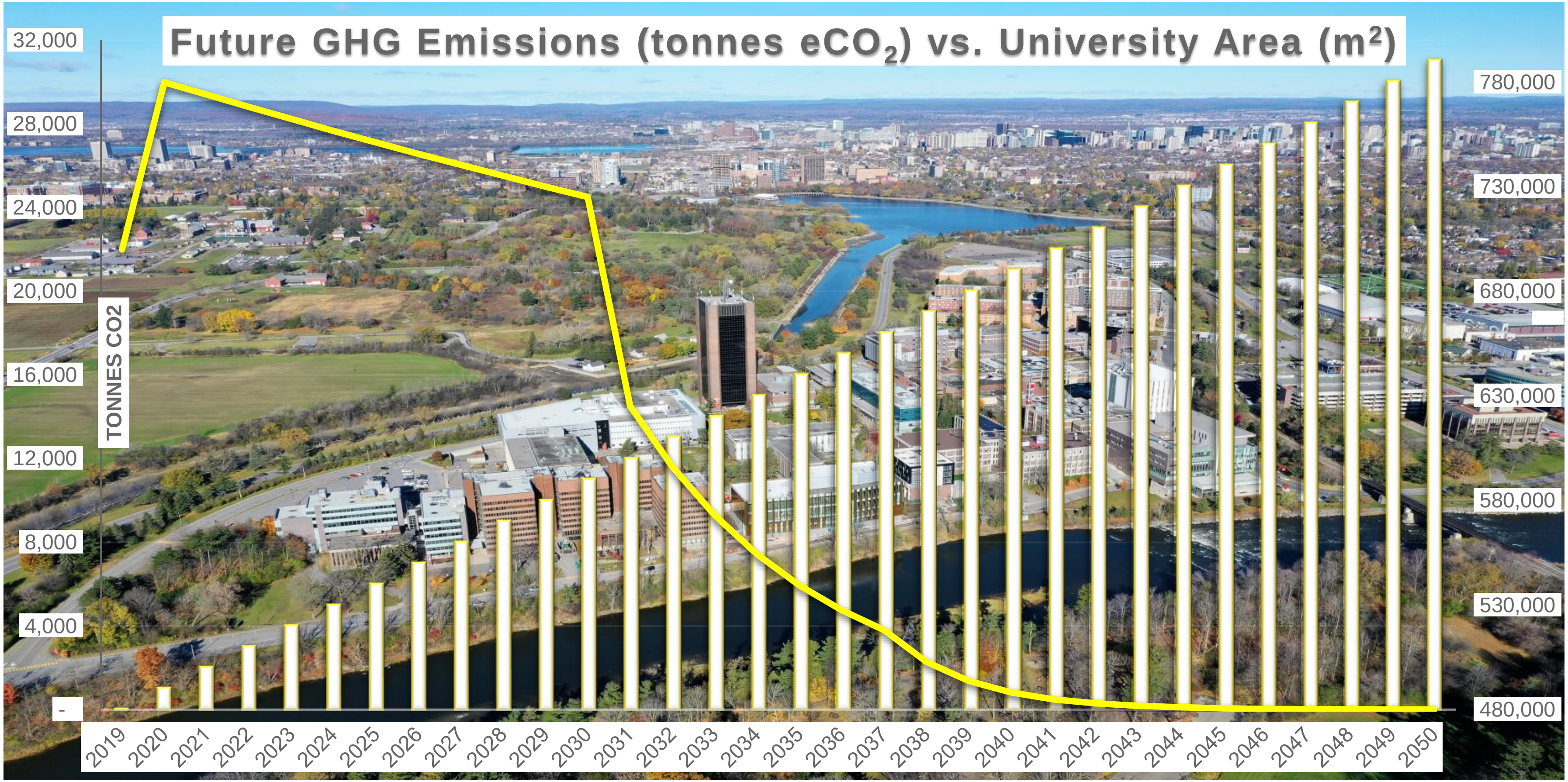
Emissions



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Net Zero Targets & Carbon Neutrality

- Convert Central Heating Plant from steam to hot water
- Existing Buildings – DEEP Energy Retrofits
- New Buildings – Enhanced Building Envelope
- Renewable Energy Sources

Sustainability
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Central Heating Plant

- Existing Steam Central Heating Plant.
- Steam distributed at 150psi and 400F
- Convert to a hot water plant that distributes hot water to the buildings at 90C.
- ~ 40% carbon reduction

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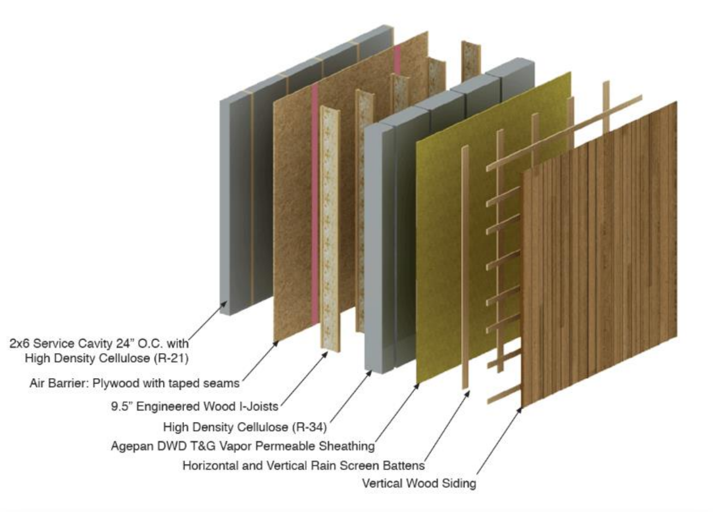
Existing Buildings & New Buildings

- Build an enhanced building envelope
- Upgrades to mechanical and HVAC systems, lighting, building automation systems upgrades
- Capture waste heat and use renewable energy sources where possible
- ~ 30% GHG reduction



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Renewable Energy

- Incorporate renewable energy as a source for the campus, both photovoltaic and solar thermal
- 1kW PV = 1,200 kWh/year
- Explore small hydro turbines and other technologies
- ~ 15% GHG reduction

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Wider Strategies and Plans

Embedding sustainability and climate change action

Sustainability Plan 2020-2025

- \- Overarching sustainability strategy, including teaching, research and operations.

Transportation Master Plan

- \- Linkage to sustainable transportation, decreased single occupancy, active transportation.

Outdoor Space Master Plan

- Highlighting use and access to green space and community interaction with ecology on campus.

Campus Master Plan

Sustainability
CARLETON UNIVERSITY

Full spectrum of our impact

- Embedding continuous environmental and sustainable improvement into our operations and finding new and innovative ways to demonstrate sustainability leadership in our research, teaching, and learning.
- Key strength amongst all Faculties with links into social sciences and energy use, community impact of Climate Change, Experimental Technologies, Research towards Indigenous and Northern Canada and beyond.
- Develop our Capital Advantage, with links into NRC, NRCAN, Efficiency Canada and drive reputation.

Sustainability
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Work towards being the most Sustainable University in Canada across our Teaching, Research and Operations.

Sustainability
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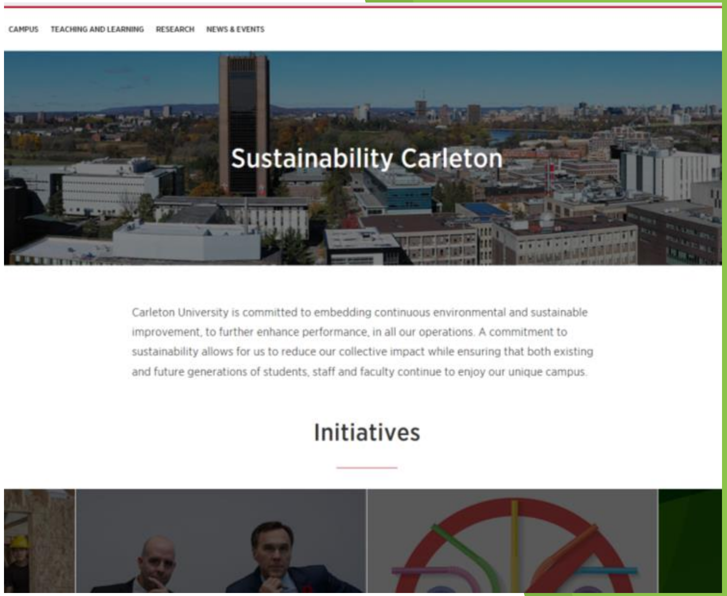

Sustainability CARLETON UNIVERSITY

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Canada's Capital University

BOARD OF GOVERNORS REPORT

To:	Joint Meeting of Finance & Building Program Committee	**Date of Report:** 021/11/2020
From:	Vice-President (Finance and Administration)	**Date of Meeting:** 3/2/2020
Subject:	Major Capital Projects Status Report	
Responsible Portfolio:	Finance and Administration	

1.0 PURPOSE

☐ For Approval ☒ For Information ☐ For Discussion

2.0 MOTION

None

3.0 EXECUTIVE SUMMARY

Capital projects totalling $238.1 million are currently underway. As of Dec 31, 2020, total expenditures incurred and value of work completed totaled $172.1 million, with forecast spending of $73.7 million. The Health Science Building and ARISE projects are substantially completed with the close-out report available in April. The Nicol Business Building is well underway and under budget. The Engineering Design Centre (Mackenzie Building Addition) is in design development. We are projecting that ARISE Phase 1 project will exceed the allowable budget threshold of 15% or $500,000 (whichever is less). The report also provides a budget update on the overall spent for capital renewal projects.

4.0 INPUT FROM OTHER SOURCES

The capital project expenditures report was prepared by Facilities Management and Planning, and was developed from information provided by the respective project managers.

5.0 ANALYSIS AND STRATEGIC ALIGNMENT

The following provides an update of the major capital projects underway:

- **Health Sciences Building (HSB) —** The $52M building and interior fit-up of floors one, two, three and five are complete, with occupancy in place since December 2017. The Vivarium (7th floor) has been occupied since August 2019. Occupancy for the fit up of floors 4 & 6 was obtained in early September 2019.

- **Advanced Research and Innovation in Smart Environments (ARISE) Building** – Substantial completion was achieved in November 2018, with work ongoing on outstanding deficiencies and warranty items. A detailed review of the construction phase of the project is underway, including the more than $3M change orders issued to address site conditions and omissions (e.g. chilled water connection). The construction phase of ARISE is estimated to be over budget by $1.244M. A detailed accounting will be provided to the Finance Committee as part of the closeout report, expected in April 2020. Occupancy Permit has been granted by the City of Ottawa with Office of Vice-President (Research and International) staff moved in January 2020. The General Contractor is currently working through minor construction deficiencies. Total costs for phase 2 of the project is projected to be under the $8.5M budget by approximately $360K.

- **Cogeneration Facility** – Construction of this $20.7 million project is expected to be operational in March 2020. The high voltage switchgear was delivered in June 2019, and pre-commissioning activities have been completed. Commissioning will proceed once the switchgear is energized. The project is forecast to be within budget.

- **Nicol Building (Sprott Business School)** – The building structure is complete. Precast elements are 75% installed, and curtain wall installation is in progress. Mechanical, electrical and interior systems work is underway on levels 1 to 4. The building is now connected to permanent power. The contractor provided a schedule update in December with a forecast for substantial completion by October 30, 2020. The Business School, and Scheduling Services, are working towards a January 1, 2021 move-in date. Furniture procurement is in process.

- **Engineering Design Centre (Mackenzie Building Addition)** – The Joint Venture Diamond Schmitt Architects from Toronto and KWC Architects Inc. from Ottawa were selected to develop the EDC design and construction documents, and Ellis Don was selected as the construction manager. A cost consultant was also engaged to support the project team with cost estimates, value engineering, and cost control. A request for site plan control (SPC) application and a foundation permit (part of the building permit) has been submitted to the city for approval. Mechanical, Electrical, Interiors and Landscape applications for permits are expected to be submitted in early March 2020. Numerous studies and surveys have been required and were completed in summer 2019 (Geotechnical, Topographical, Environmental Site Assessment phase I, Noise study, CCTV survey).

6.0 FINANCIAL IMPLICATIONS

With the exception of the ARISE project, we do not expect any issue that will have a material impact on being able to complete the other capital projects on or under budget.

7.0 RISK, LEGAL AND COMPLIANCE ASSESSMENT

Due to the nature and size of contracts related to capital projects, there is always a potential for disputes with contractors and associated delays in construction. In addition, there is potential for financial risk due to price changes in materials, labour disruption and other unforeseen circumstances such as adverse weather. These risks are monitored closely throught the life of projects and appropriate mitigation measures are put in place including implementing owner controlled insurance programs on projects.

8.0 REPUTATIONAL IMPLICATIONS AND COMMUNICATIONS STRATEGY

Delays in completing capital projects could have a reputational impact with internal clients and additional financial costs to the University. Ongoing communications with key stakeholders is part of project management oversight.

9.0 OVERALL RISK MANAGEMENT ANALYSIS

	LOW	MINOR	MODERATE	SERIOUS	VERY SERIOUS
STRATEGIC	☐	☐	☒	☐	☐
LEGAL	☐	☒	☐	☐	☐
OPERATIONAL	☐	☐	☒	☐	☐
TECHNOLOGICAL	☐	☒	☐	☐	☐
FINANCIAL	☐	☒	☐	☐	☐
REPUTATIONAL	☐	☐	☒	☐	☐

Carleton University
Major Capital Projects
Reporting at January 2020

Project	Budget	Expenditures at Dec 31, 2019	Work Completed to Jan 2020	Contingency (incl. in Budget)	Contingency Spent (%)	Anticipated Expenditures to Come	(Over) Under Budget
Capital Renewal 2017/18	14,000,000	12,270,057	12,383,857	1,400,000	72%	1,607,895	122,048
Capital Renewal 2018/19	14,000,000	10,897,882	12,141,923	1,400,000	31%	2,880,336	221,782
Capital Renewal 2019/20	14,000,000	1,939,216	1,987,422	1,400,000	0%	12,060,784	0
ARISE	29,768,000	28,812,826	29,597,758	3,300,000	147%	2,199,174	-1,244,000
Cogeneration Facility	20,700,000	18,311,001	18,585,232	2,500,000	99%	2,371,488	17,511
Health Science Building	52,000,000	51,132,504	51,367,776	4,608,000	95%	867,496	0
Nicol Building	65,100,000	26,277,713	31,500,000	2,334,000	36%	37,322,287	1,500,000
Health Science Fit Up 4&6	9,000,000	7,553,645	7,343,799	1,475,479	89%	1,458,355	-12,000
ARISE Fit Up	8,500,000	5,965,453	6,822,550	707,000	82%	2,174,547	360,000
EDC (ME Addition)	11,000,000	210,940	355,551	1,100,000	0%	10,789,060	0
TOTAL	**238,068,000**	**163,371,237**	**172,085,868**			**73,731,422**	**965,341**

Office of the
Board of Governors
CARLETON UNIVERSITY

Join Carleton University's Board of Governors

If you're interested in serving an important role in the governance and future of Carleton University, consider a seat on the Board of Governors.

Carleton delivers a transformative and positive academic and personal experience to over 30,000 students. A university with a cause – we believe higher education is a force for good.

Use your expertise and experiences to give back to a community full of exceptional students, staff, academics, researchers and alumni – all working to serve the greater good of Ottawa and the world.

Serving on Carleton's Board is a rewarding experience

- Contribute to the leadership of Carleton with a high quality Board of top professionals and a dynamic executive team
- Opportunity to give through Carleton in a way that is meaningful to you
- Reconnect with Carleton University while guiding its future
- Discover fresh perspectives and shape future talent through mentorship partnerships
- Serve along side our student governors and contribute to the next generation of Carleton graduates
- Expand your professional network
- Further your governance knowledge through continuing education such as conferences, orientation, planning sessions and online resources
- Attend exclusive events such as convocation, sporting events, guest lectures and holiday receptions
- Free parking!

About Carleton's Board of Governors

At Carleton University, 32 volunteer Board members are actively engaged in working to help fulfill the university's vision, mission, and values. The Board is composed of six contingencies: academic staff, administrative staff, students, Carleton Senators, alumni association and community-at-large representatives. The Board plays an important role in advancing Carleton's goals and makes important decisions about the university's future.

To find out more please visit: *carleton.ca/boardofgovernors/elections-nominations*

Carleton University Board of Governors

General Description of Role and Responsibilities of the Chair of the Board

Purpose: The following outlines the general responsibilities and expectations of the Chair of the Board. The responsibilities summarized are in addition to the general duties and fiduciary obligations the Chair holds as a member of the Board of Governors.

General Description of Role

The Chair of the Board has a leadership role on the Board of Governors and ensures effective governance, communication and engagement. The Chair should have a good working relationship with the University's President and an ability to be a sounding board for the President on a variety of issues. The Chair represents the Board at official functions, internally and externally. The Chair understands that their profile and public participation contribute to the university's reputation and awareness efforts which can lead to new potential partners and donors for the university.

General Responsibilities

The responsibilities of the Chair typically include the following:

- To preside and provide leadership at meetings of the Board of Governors including:
    - Calling/chairing meetings of the Board of Governors;
    - Preserving order and decorum at all meetings including recognition of speakers, deciding on points of order, etc.;
    - Encouraging openness, participation and motivation of members;
    - Advancing the Board's annual and longer-term objectives.
- Be the official spokesperson for the Board and is the only individual entitled to speak on behalf of the Board unless otherwise determined by Ordinary Resolution of the Board;
- Ex-offico member of all Board standing committees and Chair of the Executive Committee;
- Provide Board leadership including oversight of orientation of new members, Board assessment, team building and community engagement;
- Board Member management including recruitment, mentorship and advisement;
- Oversees issues raised with respect to conflict of interest, and the Code of Conduct for Board members, and is vigilant in protecting against such potential conflicts and board misconduct;
- Assures integrity in the Board's governance processes including initiating best practices reviews and/or governance reviews
- Ex-officio Chair of the Presidential Advisory Committee which makes recommendations to the Board on the appointment or re-appointment of the President
- Facilitates the annual assessment of the President's goals, objectives and performance and approves compensation and benefits for the President annually in alignment with the President's employment contract
- As signing authority, reviews and approves the President's travel and related expenses and monthly leave;

- Approves all Board members travel and related expenses;
- Ensures that the distinctive role and nature of universities and bi-cameral governance is respected including the role of the Board, Senate and the University Administration;
- Serves as signing officer of the Board on matters related to contracts and other legal obligations including sponsorships over $1M, gifts over $1M undertaken by the Board as required by university policy;
- Assisting to recruit and attract new Board members;
- Assisting the university with making connections and contacts in the broader community and fundraising;
- Being an effective advocate for the Board to ensure proper governance;
- Attends convocation (held twice per year).
- Writes anniversary recognition cards for Carleton staff and faculty
- Participate and lead Board of Governors meetings and the Executive Committee as well as convocation ceremonies and other ceremonial events.

Time Commitment

- On average, 15 - 30 hours per month for the following:
    - Attending Board and committee meetings;
    - Liaising with the President, University Secretary, and other Board members
        - Usually monthly or bi-monthly meetings with President
        - Weekly calls with University Secretary
    - Attending events on behalf of the Board internally (e.g. convocation one-day in November and five-days in June) and externally;
    - Reading materials and preparing for meetings.
- Special events including annual Board of Governors orientation session planning session and joint receptions; and
- Prepare for and attend additional meetings that may be called from time-to-time as required.

* Subject to roles and priorities that the Chair would like to take on

Board of Governors
Standing Committee Assignments

Overview:

The Board of Governors has six standing committees to help exercise its oversight:

- Advancement and University Relations
- Audit and Risk
- Building Program
- Executive
- Finance
- Governance

The purpose of this document is to outline the process normally followed for governor assignment to the standing committees of the Board of Governors.

Assessment of Individual Strengths, Expertise and Preferences

Upon a governor's appointment to the Board of Governors, they are asked to complete a self-assessment checklist which is used to identify areas of strength or expertise. Additionally, governors complete a self-assessment annually which includes a section on committee preferences for the following year. The results of which are shared with the Governance and Executive committees annually.

Review of Committee Terms of Reference

The terms of reference for each standing committee undergoes a mandatory review by the Governance Committee no less than every two years. The Governance Committee recommends changes to the Board, as necessary.

The University Secretary reviews the terms of reference for mandatory composition requirements to ensure appropriate representation, expertise, ability and experience requirements are fulfilled.

Determination of Chair and Vice-Chairs for Standing Committees.

The Board Chair informally discusses with governors their willingness to serve as Committee Chairs or Vice-Chairs and brings forward a slate of Chair and Vice-Chair nominations to the Governance Committee for consideration. At the first meeting in June, upon the recommendation of the Governance Committee, the Board appoints the standing committees Chairs and Vice-Chairs.

The Chair and Vice-Chair of any of the standing committees of the Board may be elected to such positions for not more than two consecutive one year terms. In special circumstances, as may be determined by the Board, the Board may extend the final term of the Chair and Vice-Chair of any of the standing committees of the Board for a further period of not more than one year.

Preparation of Draft Slate by the University Secretary

The University Secretary prepares a draft slate of governor committee assignments which takes into consideration each governor's strengths, expertise and preferences. In addition, it includes the requirements of the standing committee's terms of reference as well as the Chair and Vice-Chair assignments for review by the President and the Board Chair.

Review by the President and Board Chair

The University Secretary will review the committee assignments with the President and Board Chair and make any necessary changes.

Review by the Committee Chair

The University Secretary will send each standing committee Chair their proposed committee composition for review and make any necessary changes.

Approval by the Executive Committee

The slate of governor committee assignments will be presented, reviewed and formally approved by the Executive Committee. After approval, it is provided to the Board of Governors for information.

The Executive Committee has specifically been delegated the Board's power in respect to the appointment of Board members to any of the standing or *ad hoc* committees of the Board of Governors.

All members of the Committee shall serve one year terms which may be renewed.

Committee Assignment Communication

Following the formal approval of the committee assignments, each governor will receive a letter from the University Secretary with their committee assignment as well as the committee terms of reference and work plan. Governors typically serve on one or two committees per Board year.

Carleton UNIVERSITY
Canada's Capital University

Minutes of the 159th Meeting of the Building Program Committee
Thursday, November 21, 2019 at 11:00 am.
Richcraft Hall 2440R

MINUTES

Present:	Mr. G. Farrell (Chair) Mr. J. Durrell Dr. B.A. Bacon Ms. J. Fullerton (Phone)	Mr. D. Greenberg Ms. A. Tremblay Mr. A. Ullett
Regrets:	Mr. D. Fortin Dr. B. Örmeci	Mr. N. Nanos
Staff:	Ms. S. Blanchard Ms. J. Chandler Ms. A. Goth (Recording Secretary)	Mr. S. Levitt Mr. G. Nower Mr. M. Piché
Guests:	Mr. D. Dow, Diamond Schmitt Mr. N. Tai, Diamond Schmitt Mr. R. Zaig, KWC	

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1. CALL TO ORDER AND CHAIRMAN'S REMARKS

The chair called the meeting to order at 11:02 am. Members were welcomed to the first Building Program Committee meeting of the year.

2. DECLARATION OF CONFLICT OF INTEREST

The Chair asked if anyone on the committee felt the need to declare a conflict of interest regarding any of the items on the agenda. There were none declared.

3. APPROVAL OF THE AGENDA

It was moved by Ms. Tremblay and seconded by Mr. Ullett that the agenda of the 159th Building Program meeting be approved, as presented. The motion carried.

4. APPROVAL OF THE MINUTES AND BUSINESS ARISING

It was moved by Ms. Tremblay and seconded by Ms. Fullerton to approve that the minutes for the 158th Building Program Committee meeting, as presented. The motion carried.

The business arising from the minutes included an addition to the work plan to include an update on the system model audit on building conditions which will be discussed with the energy master plan at the March meeting of the committee. The minutes also included one action item on the maintenance costs inclusion in the capital renewal projects prior to its completion date. It was noted that a condition audit will be completed once the building is complete.

5. ITEMS FOR INFORMATION

5.1 Student Residence Design Update

David Dow, Nigel Tai from Diamond Schmitt Architects and Ran Zaig from KWC provided a presentation on the new residence building which was considered in September. Currently, this building has a projected occupancy of August 2022 and would provide an additional 450 beds in residence.

The President noted that the leadership team have been involved in the planning process. This project is pivotal for the future makeup of campus, as it provides Carleton an opportunity to better service students, their residence needs and add an improved view of campus from entry at Bronson Avenue. The location of this project provides an opportunity for Carleton to redefine its entrance from Bronson Avenue. The residence will be placed along Campus Ave. and will act as a pivotal juncture for both vehicles and pedestrians on campus.

Before the planning stages of this building took place, the architects consulted with the Carleton community both in person and online (600+ responses) in an attempt to understand student preferences for residences.

As a result of the student feedback, the architects decided to connect a single and double room through a shared bathroom as building blocks for the building. With this design, three students would share a bathroom for optimal flexibility. Optimizing privacy, the floorplan ensures that the toilet and showers are individually enclosed and can lock from the inside. Therefore, the sink, toilet, and shower can be used at the same time with complete privacy.

Another unique feature to this particular floorplan is the ability for those students in double rooms to make the space their own. In this residence, each student residing in a double room will be divided by a partition and have access to a window.

During the consultations, students expressed a desire for more communal spaces in their residence buildings. Therefore the design includes common spaces on each floor, social lounges, communal kitchens, a fitness center, basketball court, games room and an outdoor courtyard. In order to make this building a hub for more of the Carleton residence community, this plan allows students in other residences to access the communal spaces.

Committee members asked the architects questions regarding the feedback they received from students as it pertains to the single versus double room preferences. It was evident that a lot of student would prefer a single room, however, this preference has to be balanced with affordability, privacy and social community.

Also, committee members questioned how students can ensure security of their belongings with the washroom configuration. The architects outlined that the toilets and showers are privately enclosed to ensure optimal privacy but they would look into ensuring the bedroom doors lock when the students are using the washrooms as a way to prevent theft.

From a sustainability standpoint, Carleton has an ambitious plan to use "passive house" design. This involves heavily insulating the building "skin" to reduce the transfer of warm and cold air consequently reducing the amount of energy consumption.

The construction for this project will include connecting the building to the tunnel system. Additionally, there are plans in place to connect the parking garage (P18) to the tunnels during construction of this building as a separate project from the residence building.

Next steps are to complete the design costing and a project planning report which will be brought to March 2020 meeting of the Building Program Committee.

5.2 Project Planning Report – Engineering Student Design Centre

An executive summary and report were circulated in advance. This project was approved by the Board of Governors, in March 2019. The project has an estimated cost of $11 million.

The building will provide students with design studio space required for fourth-year Engineering Capstone projects. The firm Diamond and Schmitt have been retained to develop the project and is currently in the design development stage.

The primary risk at this stage of the project is related to unforeseen site conditions. The risk has been mitigated by a rigorous geotechnical investigation along with geotechnical analysis and a construction insurance program. In addition, Carleton has completed a Phase One Environmental Site Assessment, facility energy modeling and a condition evaluation on the storm and sanitary. Some additional infrastructure in the area intended for construction was found. FMP will be providing additional maintenance financial resources to rectify the issues through the upcoming construction to minimize the overall cost to the university.

The project has an ambitious schedule with a completion date of September 2020. To mitigate the risk, it has been recognized and accepted by the Faculty that occupancy is more likely to occur in January 2021.

The committee requested that updates on projects come forward to the committee with the building look and design as a refresher for members.

5.3 Community Culture and Recreation Grant Application

President Bacon outlined that the existing Carleton pool was built in 1974. It is at end of life according to two engineers' reports. Deferred maintenance on the pool is estimated to be $25M. Additionally, gym and recreation space is limited for the current student enrolment. The proposed project would include a new pool, improved athletics facilities and link to academic programming. The total project cost is estimated by architecture firm Perkins and Will to be $65M, which includes construction costs of $50M and soft costs of $15M.

With the support of the Executive Committee, on November 12, 2019 Carleton applied for a $50M grant under the Investing in Canada Infrastructure Program: Community Culture and Recreation to build a new Olympic-sized pool and expanded fitness facilities. The project supports Carleton's strategic goals of wellness for both students and staff, community engagement, accessibility and revenue diversification. The project also supports the City of Ottawa and assists with creating partnerships within the community.

Letters of support for the project have been received from Mayor Jim Watson, Minister Catherine McKenna and other various community members. The province will review applications and select those for nomination to the federal government for review and approval with applicants notified of the federal funding decision in spring/summer 2020. Projects must be substantially completed by March 31, 2027.

The Executive Committee confirmed that if the grant is successful, the University's share of $13.3M under the Grant application will be provided by the Recreation and Athletics ancillary reserve budget. Additional funding will be pursued from community partners.

5.4 Update on Transportation and Parking Strategy

Gary Nower, Assistant Vice-President (Facilities Management and Planning) provided a verbal report on the Transportation and Parking Strategy.

Stadium Way is now open, and has alleviated some of the traffic concerns. Additionally, the double left on Bronson has been preliminarily approved. The goal is to have this open by Spring 2020.

Additionally, Carleton is working with OC Transpo to provide bus access on Ravens Road. When the O-Train is shutdown, there will be double the number of busses on campus, and it is pivotal that Carleton takes measures to deal with the increased amount of traffic.

Meetings with the National Capital Commission with respect to a north-west exit on Colonel By Drive are underway, including leasing the NCC parking space during the O-Train shutdown and accelerating the relocation of the Colonel By intersection to the north-west side of the campus. These measures will help alleviate some of the traffic concerns due to the O-Train shutdown.

Committee members questioned if there were any deviations from the transportation study that Carleton had received from Parsons. Mr. Nower stated the University is following the report and are currently looking to implement at least one roundabouts on campus.

The University is also looking at adding a cross-walk control system on University Drive to help regulate pedestrians and assist with traffic flow. Traffic flow continues to be monitored closely.

The committee was advised that Carleton is working with BrooksMcIlroy to develop an open space master plan.

The committee asked if the university or OC Transpo determine the bus schedule on campus. It was clarified that Carleton provides its class schedule to OC Transpo and the schedule is determined by OC Transpo to serve the highest peak times on campus with both groups continually collaborating and communicating about public transportation on campus.

6. ITEM(S) FOR DISCUSSION

6.1 <u>Capital Project Status Report – Nicol Building, Health Sciences, ARISE, Co-Generation & Deferred Maintenance</u>

An executive summary and report were circulated in advance. Gary Nower, Assistant Vice-President (Facilities Management and Planning) provided a verbal report.

The Nicol Building's concrete structure is finished and the steel structure is at 70% completion. The contractor provided a revised schedule on August 8th with a forecast of substantial completion by October 30, 2020. However, the contractor is currently reporting that work is approximately two weeks behind the revised schedule. Mr. Nower stated that the delays are in part caused by the increased project size. Originally, the contractors budgeted for a smaller project, and did not adjust their schedule to accommodate subsequent changes to the building design. The University is working with the contractor towards a recovery schedule to avoid further delays. The project is expected to remain on budget.

The Health Sciences Building animal facility has been occupied since August 2019. Work remains to re-design and replace failed exhaust fans with expected completion by March 2020. Fit up of floors 4 & 6 (phase 2) is expected to have full occupancy in December 2019. It is expected both phase 1 and phase 2 of the project will remain on budget.

ARISE Building Phase 1 achieved substantial completion in November 2018. A detailed review of the construction phase is underway including more than $3M in change orders. It is estimated that construction phase will be over budget by $1.54 million. A detailed accounting and close-out report will be provided to the Finance and Building Program Committees in March 2020. The issues experienced with project management during this project have resulted in organizational changes and internal process improvements.

The Cogeneration facility has had the high voltage switchgear installed in the Bronson substation. There is ongoing discussions with the contractor regarding their responsibility to correct deficiencies noted by Hydro Ottawa needed to energize the equipment. The building is expected to be operational in November, with commissioning expected to proceed as soon as the deficiencies related to the switchgear are resolved.

Committee members asked if there would be tunnel access to the O-Train once the LRT is back-up and running. As part of phase 2 of the project, the station will be improved to include a tunnel connection.

Additionally, committee members inquired how capital projects would add to Carleton's commitment to sustainability. The university is aiming to create a university-wide energy and sustainability plan as opposed to the current method of looking at sustainability through a building-by-building approach. It was also mentioned that all buildings go through a "Green Globes" certification process and steps are being taken to make the new residence building a "passive house." Carleton is also unique, as it has a plethora of research related to sustainability, and the only Sustainable and Renewable Engineering program in Canada. Finally, as part of the University's initiative to become carbon neutral by 2050, efforts will be made to retrofit existing buildings to make them more sustainable. The committee was also made aware of the sustainability hub on Carleton's website.

7. OTHER BUSINESS

7.1 Capital Budget Management

The committee inquired how capital budgets are managed at the university. Mr. Nower stated that each project is assigned a project manager that monitors the budget and change orders closely.

8. IN-CAMERA SESSION

An in-camera session was held.

9. ADJOURNMENT

There being no further business it was moved by Mr. Durrell and seconded by Mr. Greenberg to adjourn the meeting at approximately 12:54 p.m.

Carleton UNIVERSITY

Canada's Capital University

Minutes of the Finance Committee
Thursday, November 21st, 2019 at 1:00 p.m.
Room 2440R, Richcraft Hall

Present:	Ms. D. Alves (Chair)	Ms. C. Gold (phone)
	Mr. A. Alhaimi	Ms. L. Honsberger
	Dr. B.A. Bacon	Ms. N. Karhu
	Mr. K. von Finckenstein	Dr. J. Malloy (late)
	Mr. D. Fortin	
Staff:	Ms. S. Blanchard	Mr. S. Levitt
	Ms. J. Chandler	Ms. A. Marcotte
	Dr. L. Dyke	Mr. M. Piché
	Ms. A. Goth (Recording Secretary)	Ms. B. Springer
	Dr. R. Goubran	Mr. T. Sullivan
	Mr. T. Lackey	
Regrets:	Mr. N. Nanos (phone)	

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1. CALL TO ORDER AND CHAIR'S REMARKS

The meeting was called to order at 1:04 p.m.

2. DECLARATION OF CONFLICT OF INTEREST

The Chair asked if anyone on the Committee felt the need to declare a conflict of interest regarding any of the items on the agenda. No conflicts were declared.

3. APPROVAL OF AGENDA

It was moved by Ms. Honsberger and seconded by Mr. von Finckenstein that the agenda of the 299th Finance Committee be approved, as presented. The motion carried.

4. APPROVAL OF THE MINUTES

4.1 Minutes of Previous Meeting

It was moved by Ms. Karhu and seconded by Mr. von Finckenstein that the minutes of the 298th meeting of the Finance Committee minutes be approved, as presented. The motion carried.

4.2 Business Arising

There was no business arising from the minutes.

5. ITEM(S) FOR APPROVAL

5.1 Framework for the 2020/2021 Operating Budget

An executive summary and presentation were circulated in advance.

Dr. Jerry Tomberlin, Provost and Vice-President (Academic) and Chief Budget Officer was introduced to provide a presentation on the framework for the 2020/2021 Operating Budget.

The Provost outlined the revenue assumptions in the 2020/2021 budget including:

- Controlled enrolment growth (1% increase in first year intake and 2% increase in international students);
- The university will not receive any additional funding outside of the base undergraduate enrolment at the 2016/2017 level and the base graduate enrolment at the 2019/2020 level;
- No increase in domestic student tuition fees and a 3-8% increase in international student tuition; and
- Government funding base grant will remain effectively frozen with a partially performance-based funding through the Strategic Mandate Agreement 3.

The Provost outlined the expense assumptions in the 2020/2021 budget including:

- Salaries and benefits on newly negotiated collective agreements will under Bill 124 a salary cap of 1% per year over a three-year period;
- Non-salary central operating expense increase of 3%;
- Introduction of a new federal carbon tax which will total approximately $1.3M. It was noted that a sustainability and energy plan is under development; and
- Payment of Pension Solvency Liability (Provision for Adverse Deviations) which is estimated between a $120M to $130M.

The committee discussed the SMA3 process and management indicated their commitment to working with the Ministry for an agreement based on ten metrics. Initial discussions have been positive and the narrative will be shared with the Board of Governors in December.

The committee discussed the approach to international student recruitment. The Vice-President (Students and Enrolment) indicated that a strategic approach is taken for each degree program in conjunction with the Deans. The university uses a diversification approach due to the volatility of the geopolitical situations which are constantly changing.

The Provost also outlined the preliminary planning themes for 2020/2021 which included academic, student experience, research and organizational excellence highlighting the importance of student success and wellness, experiential learning, increased support for researchers and investment in the universities reputation including defining the strategic integrated plan through a narrative approach.

The proposed budget is balanced and conservative in its assumptions.

It was moved by Ms. Honsberger and seconded by Ms. Karhu to recommend the approval of Carleton's planning framework for fiscal year 2020/2021 to the Board of Governors, as presented. The motion carried.

6. ITEM(S) FOR INFORMATION

6.1 Investment Report for the Endowment

An executive summary was circulated in advance.

Ms. Betsy Springer, Director of Pension Fund Management was introduced to provide an overview of the University's Endowment Fund and its investment returns including asset mix and outside investment counsel.

The Investment Committee oversees the management of the Endowment and reports on the performance of endowed funds and makes recommendations to the Finance Committee on changes to the Statement of Investment Policies and Procedures. The Investment Committee is composed of the Vice-President (Finance and Administration), Assistant Vice-President (Finance), Director Pension Fund Management, a member of the Board of Governors, a Dean and two or more community-at-large additional members.

The Endowment Fund is comprised of three subsidiary funds, the General Endowment which is holds most of the donations to the University and two small single manager funds - the Sprott Bursary and the Jarislowsky Chair in Water and Global Health.

The objective of the Fund is to achieve returns that will allow annual distributions of 4% based on a moving four-year average while preserving the Fund in perpetuity.

The market value of the combined endowment at September 30, 2019 was $304.8M. In fiscal year 2019, the annual distribution of the Endowment fund was $10.7M providing $3M for scholarships and awards, $3.2M in bursaries and $4.5M in support to other academic and student service initiatives.

The General Endowment totaled $285.4M at September 30, 2019 with the current asset mix of 28% in Canadian fixed income, 24.1% in Canadian equities, 45.4% in global equities and 2.5%

in infrastructure. With the exception of an underweighting in infrastructure (due the timing for capital calls) and overweight within global equities, weightings for all asset classes are within the 10% ranges permitted under policy.

The Sprott Bursary assets are invested solely by Sprott Asset Management and the distributions from the Fund support bursaries establish by donations from Eric Sprott. At September 30, 2019 the Sprott Bursary totaled $14.9M.

The Jarislowsky Chair in Water and Global Health is a single-purpose endowment invested in a balanced portfolio of Canadian and non-Canadian stocks and Canadian fixed income managed by Jarislowsky Fraser Limited. At September 30, 2019 it totaled $4.5M.

6.2 Pension Plan Report

An executive summary was circulated in advance.

Ms. Betsy Springer, Director of Pension Fund Management was introduced to provide an overview of the Carleton University Retirement Plan including financial position, funding requirement, regulatory environment, investment and performance of the Plan.

The financial position of the plan is based on the most recent actuarial valuation as at July 1, 2016. The going-concern valuation was a 93% funded ratio as at July 1, 2016. The solvency valuation (hypothetical windup) was 83.1% funded ratio as at July 1, 2016. For the 2019 valuation, preliminary analysis shows that the solvency deficit will have improved from $224M in 2016 to under $150M in 2019. The improvement is due to an increase in the solvency discount rates and the investment returns of 24.4% (cumulative) in the three years since the last valuation. The market value of the Pension Fund at September 30, 2019 was $1.33 billion.

The total employer contributions for special payments of $28M reflect a third round of Provincial solvency funding relief. It was noted that contributions to the minimum guarantee fund are expected to increase and there is a new provision for adverse deviations (PfAD) which will under the new funding rules (as of May 1, 2018). The funding rules include reduced solvency funding requirements. Solvency valuations are required but solvency funding is only required when the funded status falls below 85%. The PfAD may be amortized over ten years, and the annual contribution is estimated to be in the $10-20M range. The new regulations also include an increase to the Pension Benefits Guarantee Fund (PBGF) assessment. The PBGF is expected to increase from $1.3M in 2018 to $2.5M in 2019.

6.3 Community Culture and Recreation Grant Applications

President Bacon outlined that the existing Carleton pool was built in 1974 and is now at end of life according to two engineers' reports. Deferred maintenance on the pool would cost approximately $25M. Additionally, gym and recreation space is limited for the current student enrolment. The proposed project would include a new pool, improved athletics facilities and link to academic programming. The total project cost is estimated by architecture firm Perkins and Will to be $65M, which includes construction costs of $50M and soft costs of $15M.

With the support of the Executive Committee, on November 12, 2019 Carleton applied for a $50M grant under the Investing in Canada Infrastructure Program: Community Culture and Recreation to build a new Olympic-sized pool and expanded fitness facilities. The project supports Carleton's strategic goals of wellness for both students and staff, community engagement, accessibility and revenue diversification. The project also supports the City of Ottawa and assists with creating great partnerships with the community.

Letters of support for the project have been received from Mayor Jim Watson, Minister Catherine McKenna and other various community members. The province will review applications and select those for nomination to the federal government for review and approval with applicants notified of the federal funding decision in spring/summer 2020. Projects must be substantially completed by March 31, 2027.

The Executive Committee confirmed that if the grant is successful, the University's share of $13.3M required as part of the Grant application will be provided by the Recreation and Athletics ancillary reserve budget. Additional funding will be pursued from community partners.

6.4 Budget Update on Major Capital Projects

Capital projects totalling $237.8 million are currently underway. As of October 28, 2019, total expenditures incurred and value of work completed totaled $164.5 million, with remaining forecasted spending of $83.1 million. The Health Science Building is essentially complete with the fit-up of floors 4 and 6 close to completion. The Advanced Research and Innovation in Smart Environments (ARISE) is also close to occupancy but the budget for Phase 1 is expected to come-in at $1.5M over budget. The Nicol Business Building is experiencing delays of up to 14 weeks but remains under budget. The Mackenzie Building Addition is in design development. A budget update of overall spending on the Deferred Maintenance and Capital Renewal Budget was given.

The committee was advised that Project Conclusion Reports for the ARISE and Health Sciences Building for the March meeting which will provide feedback on all procedures and final costs of each project.

6.5 Update on the 2019/2020 Operating Budget

The Vice-President (Finance and Administration) provided a verbal update on the 2019/2020 Operating Budget indicating that both expenses and revenues are on track with student enrolment tracking well with an increase of 1 to 1.5%.

7. OTHER BUSINESS

No additional business was raised.

8. IN-CAMERA SESSION

An in-camera session was held.

9. ADJOURNMENT

It was moved by Mr. Alhaimi and seconded by Dr. Malloy to adjourn the meeting at approximately 2:28 p.m.

Carleton UNIVERSITY
Canada's Capital University

Minutes of the 43rd Meeting of the Governance Committee
Monday, November 25, 2019 at 1:00p.m.
Room 2440R Richcraft Hall

Present:	Mr. N. Nanos (Chair)	Mr. D. Fortin
	Ms. T. Arnt	Ms. L. Hayes (Phone)
	Dr. B.A. Bacon	Dr. B. Örmeci
	Ms. B. Creary (Vice-Chair)	Dr. P. Smith
	Mr. K. Evans (Phone)	Mr. A. Ullett
Staff:	Ms. J. Chandler (Recording Secretary)	Mr. S. Levitt
	Ms. A. Goth	
Regrets:	Dr. C. Carruthers	

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1. CALL TO ORDER AND CHAIR'S REMARKS

The Chair called the meeting to order at 1:00 pm and welcome committee members and staff to 43rd meeting of the Governance Committee.

2. DECLARATION OF CONFLICT OF INTEREST

The Chair asked if anyone on the committee felt the need to declare a conflict of interest regarding any of the items on the agenda. None were declared.

3. APPROVAL OF AGENDA

The Chair of the committee, Mr. Nanos, suggested that an item be added to the agenda on the topic of best practices for committee in-camera sessions. It was moved by Dr. Smith and seconded by Mr. Fortin to approve the agenda of the 43rd meeting of the Governance Committee, as amended. The motion carried.

4. ITEM(S) FOR APPROVAL

4.1 Minutes of Previous Meeting

The minutes of the 42nd meeting of the Governance Committee were circulated in advance. It was moved by Ms. Creary and seconded by Ms. Hayes that the Governance Committee approve the minutes of the 42nd meeting, as presented. The motion carried.

5. ITEM(S) FOR APPROVAL

5.1 Review of 2019/2020 Board Self-Assessment Survey

A questionnaire was circulated in advance. This survey reflects the committee restructuring and questions were removed to streamline the questionnaire.

Committee members commented that there should be no mentions of the Nominating Committee, as this portfolio was absorbed into the Governance Committee. Additionally, there were a few instances within the survey that referenced the "Audit Committee" as opposed to its proper name of the "Audit and Risk Committee."

On page three, it was recommended that the word "goals" be replaced with "plan" so the sentence reads: "The University's strategic plan is clear, sufficient, and serve as a useful guide to the Board in the deliberations and policy making decisions."

Additionally, in a few instances throughout the questionnaire, the boards "fiduciary duty" is mentioned in reference to the members oversite and duties. It was recommended that the "fiduciary" be removed in this instance.

In each committee's section, there is a question that asks if the meetings are "issue driven and not report based." Some committee members mentioned that there are in fact some meetings that revolve around reports, so this question should be reworded to incorporate the "right balance of issues and reports."

Also, in each committee section of the survey there was a question that asks if the committee members have the right balance of expertise and experience. It was recommended to remove the word "balance."

Finally, it was noted the questionnaire should not have any references to "subcommittees" and for question 16, it should be made clear that members can select more than one option.

It was moved by Ms. Arnt and seconded by Mr. Ullett that the Board Assessment Survey for 2019/20 be approved, as amended. The motion carried.

5.2 Review of Board Travel and Related Expenses Policy

A policy was circulated in advance. Ms. Goth, University Secretary, spoke to this item.

This policy was due for renewal and was updated to align with the University's Travel and Related Expenses Policy, and the Broader Public Service Expense Directive. Committee members questioned why the paragraph for "Scope" was removed from the new policy. Ms. Goth stated that the "Scope" is outlined in the initial points of the policy, so the paragraph was removed due to redundancy. However, the heading "Scope" was kept as it is a component of all university policies.

It was moved by Ms. Ormeci and seconded by Ms. Creary to approve the Board Travel and Related Expenses Policy, as presented. The motion carried.

6. ITEM(S) FOR DISCUSSION

6.1 Skills gap analysis and approach for community-at-large recruitment

A skills matrix of 2019/20 Members and 2018/19 web information was circulated in advance. The focus of this agenda item was for the committee to determine what skillsets the board should recruit for the upcoming year, as well as the avenues that ought to be used for recruitment. Next year, there will be at least three community-at-large vacancies on the board.

First, it was mentioned that one of the areas that should be focused on is the need for an Indigenous skillset, more particularly a knowledge of Indigenous issues. President Bacon stated that it would be beneficial to have a person with Indigenous expertise. Additionally, any recruitment needs to consider human rights legal requirements. It was noted by the committee that ideally to recruit an Indigenous member who has skillsets that are needed at the Board, whether it be financial, technical, legal etc.

The committee noted the need for members who are Chartered Professional Accountants. It was decided that individuals with CPAs, expertise in the technology, innovation and entrepreneurship should be recruited for 2020/21. For recruitment, Ms. Goth stated that she will cross-reference the list already on file of previous Board applicants for these skillsets and backgrounds. A note on the Board's website will be posted and a message circulated to faculty and staff, the alumni association executive and any members of the Board in case they know of an individual who would be interested with appropriate skillsets. It was also suggested that looking into specific networking channels to reach individuals with more niche skillsets.

6.2 Value Proposition of Serving on the Board of Governors

A draft statement was circulated in advance. Ms. Goth, University Secretary, spoke to this item. In a previous meeting of the Governance Committee, Ms. Goth was asked to create a one-pager that outlines the value of serving on the Carleton board.

In reviewing the document, it was suggested that "Force of Good" be replaced with "Force for Good" in the first paragraph. Additionally, within this same paragraph, the first sentence should read "actively engaged" as opposed to "involved." Also, it was recommended that the phrase "running for a seat" be removed and replaced with "serving." Another member suggested that the language "giving through" Carleton may be better than "giving back to Carleton" as this might fit better with people who did not attend this university in the past. Finally, it was recommended that the first paragraph contain more of a "sales pitch" for an introductory statement.

6.3 Chair of the Board Description/Brief

A draft description was circulated in advance. Ms. Goth, University Secretary, spoke to this item. This document was benchmarked against a variety of universities across Canada.

In reviewing the document, it was suggested that the bullet point reading "oversees issues raised with respect to conflict of interest and the Code of Conduct for Board members, and is vigilant in protecting against such potential conflict" be reworded to include the oversight of any board misconduct. Additionally, it was clarified that the point referring to the Chair's role as the official spokesperson of the board is taken from the Bylaws. Finally, it was noted that the Chair "should" have a positive relationship with the University's President, not "must".

6.4 Standing Committee Assignments

Draft descriptions were circulated in advance. Ms. Goth, University Secretary, wrote this document to outline the process of assigning members to Committee members prior to their approval at the Executive Committee. It was noted that these steps were not numbered, as the order of steps can vary from year to year as appropriate.

7. OTHER BUSINESS

It was suggested that Ms. Goth, University Secretary, prepare a document outlining the best practices of committee in-camera sessions. This will be reviewed by the Governance Committee, and eventually be recommended to the Executive Committee.

8. IN-CAMERA SESSION

An in-camera session was held.

9. ADJOURNMENT

There being no further business, it was moved by Mr. Ullett and seconded by Mr. Fortin to adjourn the 43rd meeting of the Governance Committee.

Carleton University acknowledges and respects the Algonquin people, traditional custodian of the land on which the Carleton University campus is situated.

Carleton University Senate
Meeting of October 18, 2019 at 2:00 pm
Senate Room, Robertson Hall

MINUTES – OPEN SESSION

Present: S. Ajila, B.A. Bacon (Chair), O. Baysal, S. Blanchard, T. Boswell, D. Brown, J. Bruno, N. Cappuccino, A. Chandler, M. Close, T. Daniels, J. Deaville, D. Deugo, T. Di Leo Browne, K. Evans, R. Goubran, P. Gunupudi, H. Gupta, M. Haines, B. Hallgrimsson, K. Hellemans, C. Joslin, L. Kostiuk, J. Kovalio, Z. Kryworuchka, B. A. Kuzmarov (Clerk), C. Macdonald, D. Nussbaum, J. Paulson, A. Plourde, P. Rankin, M. Rooney, S. Shires, A. Shotwell, D. Siddiqi, S. Sivathayalan, E. Sloan, P. Smith, J. Tomberlin, A. Tremblay, C. Trudel, C. Viju, K. von Finckenstein, J. Voordouw, P. Wilson, J. Wolfart,

Regrets: M. Barbeau, A. Bowker, S. Boyle, J. Cheetham, C. Dion, P Dion, D. Dragunoiu, P. Farrell, D. Gillberg, S. Moran, H. Nemiroff, B. Popplewell, W. Shi, C. Warner, Winnie Ye

Absent: A. Ahmad, L. Akagbosu, A. Courchene, C. Cruickshank, O. Hobbs, F. Hosseinian, B. Hughes, W. Jones, E. Kwan, P. Lagasse, J. Liu, R. McKay, S. Parathundyil, M. Piché, S. Srinivasan, J. Stoner, P. Wolff

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Open Session:

1. Welcome (Chair)

The Chair welcomed Senators to the open session of the meeting. He noted that the normal set up of long rectangular rows of tables had been replaced for this meeting with eight round tables in order to facilitate discussions during the full SIP consultation.

2. **Approval of Agenda**

It was **MOVED** (J. Paulson, K. Evans) that Senate approve the agenda of the Open Session of the Senate meeting of October 18, 2019, as presented.

The motion **PASSED**.

3. **Minutes: September 20, 2019 (open session)**

It was **MOVED** (M. Haines, S. Blanchard) that Senate approve the minutes of the Open Session on September 20, 2019, as presented.

The motion **PASSED UNANIMOUSLY**.

4. **Matters Arising**

There were none.

5. **Chair's Remarks**

The Chair provided Senators with the following highlights from the past month:

- Ontario Universities Fair – 21 universities were represented and 150,000 people attended this major event. Approximately 100 Carleton faculty, staff and student volunteers provided a welcoming and responsive presence. The Chair thanked all who contributed.
- October 5 – Launch of the Dr. Marc Andrew Hewson Memorial Scholarship, to be awarded annually to an outstanding undergraduate student in the Department of English. This award was established by the Hewson family in memory of Professor Hewson who passed away in December 2018.
- October 7 – Diplomats from more than 80 countries, including almost 60 ambassadors and high commissioners, were on campus for the FPA Election Primer for Diplomats. Speakers included Carleton alumnus David Coletto from Abacus Data, and Chris Waddell from the School of Journalism and Communication.
- October 10 – Psychology Mental Health Day – 500 people registered for a full day of talks, events and workshops. The Chair thanked all who participated in this important initiative.
- October 5 – 13: The Department of Biology presented its 20th anniversary Butterfly Show. As a bonus, visitors also were able to witness the rare once-

in-a lifetime giant bloom of a Queen Victoria agave plant in the greenhouse.

- Carleton was proud to partner with CBC this month on the "My Vote Our Future" campaign to encourage students to vote in the upcoming federal election.
- The 2020 Maclean's University Rankings presented good news for Carleton University. Carleton placed in the Top 5 of the Comprehensive University category, along with Guelph, Waterloo, Simon Fraser and the University of Victoria. Carleton also placed 3rd out of 15 universities in student satisfaction, and 4th for research citations. Carleton was ranked 9th on reputation, which indicates room for improvement in communicating our importance and amplifying our message.
- The CUISIC Task Force is wrapping up its work and will proceed with a public posting of its draft recommendations, to solicit further comments. These recommendations will be presented to Senate at the next meeting in November.
- The Strategic Integrated Planning process is proceeding on schedule. A number of public talks and events have been scheduled, and a public consultation with Senate is on the agenda for the meeting today. The Strategic Mandate Agreement (SMA) process has begun in parallel with the SIP. A preliminary meeting with the Ministry is scheduled for early November, and an update will be provided to Senators later in today's meeting.
- Fall Convocation is November 9, 2019. The Chair invited everyone to attend and participate, and reminded faculty members that the deadline to register for the academic procession is October 23.

6. Question Period

No questions were submitted in advance.

7. Senate Administration: (Clerk)

a. Senate & Senate Committee membership ratifications

One faculty nomination for Senate and several student nominations for positions on committees were presented to Senate for ratification. The Clerk noted that moving forward, Senate and Senate committee membership ratifications will be presented through the Senate Academic Governance Committee, according to the changes implemented through the Senate Committee Review in 2018-19.

It was **MOVED** (B. Appel Kuzmarov, M. Close) that Senate ratify the new Senate and Senate committee appointments, as presented.
The motion **PASSED**.

b. Convocation Dates for 2021 – 2025

Dates for Spring and Fall Convocations from 2021 to 2025 were presented to Senate for approval.

It was **MOVED** (B. Appel Kuzmarov, J. Bruno) that Senate approve the proposed convocation dates, as presented.
The motion **PASSED**.

8. Reports:

a. Senate Academic Governance Committee - SAGC (Clerk)

The Clerk updated Senate on the work of Senate Academic Governance Committee, which has met twice this term to review student nominations to Senate committees. The SAGC work plan for this year will include completing the work of the Senate Committee Review, reviewing and updating Senate policies, and making updates to the Academic Governance of the University (AGU), plus any other governance items brought to the committee through Senate.

b. Senate Quality Assurance and Planning Committee - SQAPC (D. Deugo)

The Chair of the committee, Dwight Deugo, presented an update on SQAPC membership and activities. The first meeting of this new committee was held on October 17. Committee members reviewed a variety of Quality Assurance documents including final assessment reports, action plans, midway reports and alignment efforts. The Chair praised the members for their level of engagement and noted that the committee will continue to meet twice per month moving forward.

9. Strategic Integrated Plan Consultation

Senators participated in a SIP Consultation session, presented by the Task Force co-chairs, and facilitated by the Office of Quality Initiatives. The consultation was structured around a series of questions and themes that Senators discussed at their tables. A full hour was devoted to this process and input was captured by the co-chairs and facilitators.

10. SMA Update

President Benoit-Antoine Bacon and Deputy Provost Lorraine Dyke provided an update on the SMA3 (Strategic Mandate Agreement) process. The presentation included an updated detailed timeline, a list of the 10 metrics defined by the Ministry, and a several slides devoted to lists of Carleton University Initiatives relevant to individual metrics.

Discussions focussed on the limitations of the metrics in defining and representing all of Carleton's strengths, in particular around community engagement and impact. One Senator suggested that the institutional profile might clarify that the core business of Carleton is the advancement of knowledge, rather than the advancement of business or economic outcomes. A suggestion was made to add a slide to better define our commitment to research and social impact towards the beginning of the presentation.

11. Reports for Information:

a. Senate Executive Committee Minutes (September 9, 2019)

There were no comments or questions and there was no discussion of this item.

12. Other Business

There was no other business.

13. Adjournment

The meeting was adjourned at 4:00 pm.

Carleton University acknowledges and respects the Algonquin people, traditional custodian of the land on which the Carleton University campus is situated.

Carleton University Senate
Meeting of November 29, 2019 at 2:00 pm
Senate Room, Robertson Hall

MINUTES – OPEN SESSION

Present: S. Ajila, B.A. Bacon (Chair), M. Barbeau, S. Blanchard, A. Bowker, D. Brown, N. Cappuccino, A. Chandler, M. Close, J. Deaville, D. Deugo, T. Di Leo Browne, D. Dragunoiu, D. Gillberg, R. Goubran, H. Gupta, K. Hellemans, O. Hobbs, F. Hosseinian, B. Hughes, E. Bilodeau (proxy for W. Jones), C. Joslin, L. Kostiuk, J. Kovalio, Z. Kryworuchka, E. Kwan, C. Macdonald, R. McKay, H. Nemiroff (Acting Clerk), D. Nussbaum, J. Paulson, A. Plourde, P. Rankin, M. Rooney, W. Shi, A. Shotwell, D. Siddiqi, S. Sivathayalan, E. Sloan, P. Smith, J. Tomberlin, A. Tremblay, C. Trudel, K. von Finckenstein, J. Voordouw, C. Warner, P. Wilson, J. Wolfart, P. Wolff, W. Ye

Regrets: L. Akagbosu, O. Baysal, T. Boswell, S. Boyle, A. Courchene, T. Daniels, C. Dion, K. Evans, P. Farrell, P. Gunupudi, M. Haines, B. A. Kuzmarov (Clerk), J. Liu, S. Moran, M. Piché, C. Viju, B. Wright

Absent: A. Ahmad, J. Bruno, J. Cheetham, C. Cruickshank, P. Dion, B. Hallgrimsson, P. Lagasse, S. Parathundyil, B. Popplewell, S. Shires, S. Srinivasan, J. Stoner

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Open Session:

1. Welcome (Chair) & Approval of Acting Clerk

The Chair welcomed Senators to the meeting at 2:00 pm. He noted the absence of Betina Appel Kuzmarov (Clerk), and that Howard Nemiroff had been asked to take on the role of Acting Clerk for this meeting only.

It was **MOVED** (C. Macdonald, Z. Kryworuchka) that Senate approve the appointment of Howard Nemiroff as Acting Clerk for the Senate meeting of November 29, 2019. The motion **PASSED**.

2. Approval of Agenda (open)

It was **MOVED** (M. Close, D. Deugo) that Senate approve the agenda for the meeting of Senate on November 29, 2019, as presented.
The motion **PASSED**.

3. Minutes: October 18, 2019 (open session)

It was **MOVED** (J. Wolfart, A. Tremblay) that Senate approve the minutes of the open session of the Senate meeting of October 18, 2019, as presented.
The motion **PASSED**.

4. Matters Arising:

There were none.

5. Chair's Remarks

The Chair highlighted the following newsworthy events from the past month:

- Fall Convocation on November 9th: Over 1,300 students graduated and an honorary degree was awarded to Mary Ellen Turpel-Lafond. The Chair congratulated the graduates and thanked all Senators who took part in the event.
- At the *Excellence Canada Summit* in Toronto on November 5, Carleton became the first post-secondary institution in Canada to receive Gold Level Certification in Mental Health at Work. The Chair noted the significance of this national recognition, and Carleton's commitment to continue the work of improving mental health for our community.
- Carleton has established 3-year Chairs in Teaching Innovation, to be awarded to educators in recognition of their teaching excellence and innovation. The Chair congratulated the inaugural winners of this distinction: Professors Melanie Adrian (Law & Legal Studies) and Mira Sucharov (Political Science).
- Research Info-Source Rankings: Carleton University is showing a year over year increase of 29% in research funding – the largest such increase of any comprehensive or medical university in this country. The Chair extended congratulations to all researchers at Carleton for achieving this distinction.
- On November 21, Carleton co-hosted the annual meeting and Celebration of Excellence and Engagement of the Royal Society of Canada, in partnership with the University of Ottawa and the National Research Council. 650 delegates from across the country attended. Four Carleton scholars became fellows of the Royal Society this year: Norman Hillmer (History), Tim Cook

(History), Robert Letcher (Biology), and Rianne Mahon (Public Policy & Administration). Carleton Chancellor Professor Lenore Fahrig, who recently was awarded the Romanowski Medal for Environmental Research, also spoke at the event.

- Carleton University partnered with TVO to launch the new TVO Indigenous Hub at Carleton's School of Journalism and Communication. Journalist in Residence Shelby Lisk will feature Indigenous perspectives and voices from across Ontario and will be a valuable resource for Carleton journalism students and the Carleton community.
- Carleton faculty and staff are invited to the annual Holiday Luncheon on December 5th in the Fieldhouse. Over 1,500 people are expected to attend.

6. Question Period

Two questions were submitted in advance by Senator Justin Paulson.

Question #1: *A colleague in FASS received an odd phone call recently from the new Manager of Student Conduct and Harm Reduction regarding a student's grade, and asked that I enquire at Senate as to what role this person is playing in relation to university academics generally and professors specifically. Part of this staff member's job description includes that the manager is supposed to "persuade" — does this include persuading professors and instructors? Is the job to advocate for students by calling profs? Suggesting accommodations should be considered or grades be changed outside of the usual structures of the PMC and the Dean's office? If this office is to play an intervening role in university academics, has this been cleared by Senate?*

The Vice-President, Students & Enrolment and University Registrar, Suzanne Blanchard, responded to this question. She noted the recent restructuring of the Student Affairs portfolio which resulted in the appointment of a new Associate Vice-President of Students Affairs, and the separation of this unit into Student Life (Orientation) and Student Support (for mental health, student conduct, harm reduction and other issues). Currently, three case managers under Student Support meet with students who may need extra help in personal and academic matters. Case managers may reach out to faculty members to inform them of the student's situation, but their role is to share information in an effort to support students, not to persuade faculty on academic matters. Case managers may persuade or encourage students to take positive steps to remedy their situation, but there is no role for Student Affairs in academic accommodations per se.

Question #2: *We need to have a clear discussion about FGPA's actual or perceived policies regarding time-to-completion, extensions, leaves of absence, and the policies concerning exemptions from those norms. My perception, shared by a number of FASS colleagues whom I represent, is that the actual Senate-approved policies are vague, yet for the last few years have imposed strictly and with a Draconian one-size-fits-all approach. a) Which FGPA policies regarding times-to-completion and extension are Senate policies, and which are internal to FGPA? b) The university claims to care about mental health, yet still imposes a three-term limit for LOAs for health leave. Why? (This makes no sense to me.) c) Timelines for completion that force FASS students to complete under time schedules designed for science labs place unreasonable pressure on our students and simply encourage a lack of rigour, minimal fieldwork, and fast/shoddy scholarship. Will FGPA work with Senate to revise our approach?*

The Dean of the Faculty of Graduate & Postdoctoral Affairs, Patrice Smith, responded to this question. She noted that the regulation is based on the norm for our sector and that so far FGPA has not perceived a need to amend it. Senator Shotwell asked why the limit for Leaves of Absence (LOAs) is three terms. She noted that many students need to work full time while studying, take longer to complete their degrees, and may need additional LOAs. The Dean responded that LOAs have been approved for students beyond the 3 terms, depending on the circumstances. The FGPA is implementing a more individualized and holistic approach that will monitor the student's progress and engage faculty members as well, to ensure all are on the same page. A Senator suggested that this matter might be brought to the Senate Review Committee, but this is not possible as the Senate Review Committee is without a Chair and cannot meet. It was agreed to bring the question to SCCASP for further consideration and to continue the discussion off-line, possibly bringing the issue back to Senate in the future.

7. Administration (Clerk)

a. Senate membership ratification

The Senate Office received a nomination for Julia Sinclair-Palm to fill the faculty vacancy for FASS on Senate.

It was **MOVED** (P. Rankin, A. Bowker) that Senate ratify the new Senate appointment, as presented.

The motion **PASSED.**

The Acting Clerk noted that there remain some vacancies for Senators on Senate committees, and that the Secretariat Office will be distributing a *Call for Nominations* within the next few days.

8. Reports:

a. Senate Committee on Curriculum, Admissions and Studies Policy (SCCASP)

Items for Approval (3):

1) Co-op B. Eng. Admission and Continuation Regulation Revision. Removal of CCDP2100 course from the coop requirement.

It was **MOVED** (H. Nemiroff, S. Blanchard) that Senate approve the revisions to regulation TBD 1585 R-UG-COOP-BENG for the 2020-21 Undergraduate calendar as presented.
The motion **PASSED.**

2) Regulation 5.5 – Change of Grade (New regulation specifying a time limit within which faculty can submit a change of grade request.)

It was **MOVED** (H. Nemiroff, D. Siddiqi) that Senate approve the revisions to Reg. 5.5 for the 2020-21 Undergraduate calendar as presented.

Discussion:
The new regulation specifies that change of grade requests must be completed within 6 months of the last day of the exam period. Some Senators felt this time limit was too restrictive and advocated for a longer period. The Chair of SCCASP and the University Registrar noted that according to their research the majority of these requests can be completed within the 6 month window but an extension would be possible in consultation with the Associate Dean of the Faculty. It was also noted that an appeals process can be initiated if the extension is not granted by the Associate Dean in the case, for example, of a student's mental health crisis.

The motion **PASSED**, with 3 Senators opposed and 5 abstaining.

3) <u>Reg. 10.4 (TBD 1800: R-GR-General Regulations) – Change of Grade</u> (same change as #2, but for graduate calendar)

It was **MOVED** (H. Nemiroff, D. Siddiqi) that Senate approve the revisions to Reg. 10.4 for the 2020-21 Graduate calendar as presented.
The motion **PASSED**, with 1 Senator opposed and 11 abstaining.

<u>Items for Discussion</u>: <u>Amnesty Motion</u>: Carleton University Senate Policy on the Academic Implications of Labour Disputes (Nov 29, 2019)

The *Carleton University Senate Policy on the Academic Implications of Labour Disputes* was developed in response to a motion brought to Senate by Senator Alexis Shotwell in May of 2018. The original motion as passed by Senate is copied below:

Whereas a labour disruption, legal strike, or lock-out at Carleton University may significantly affect students' ability to attend class, access resources, receive academic guidance, and complete academic assignments in a timely manner; Whereas during a labour disruption, legal strike, or a lock-out it remains the obligation of Senate as the final academic authority on campus to ensure the maintenance of high academic standards and quality for all programs across the university: Senate asks SCCASP to develop a formal policy governing the process of providing accommodation for students unable to participate in academic activities in the case of a labour disruption, legal strike, or lock-out while maintaining academic standards under these circumstances.

Senators received in their meeting package a third draft of the policy, based on the most recent feedback from Senate in September 2019. A notice of motion on the policy will be brought to Senate for vote in January 2020.

The Chair of SCCASP noted the following responses from SCCASP to the most recent comments from Senate on the policy:

- Section 1.3 – Senators had questioned the requirement that the policy come into effect only for labour disruptions lasting longer than 10 days. SCCASP added section 1.3.1 which explained that in cases of such brief disruptions faculty are in the best position to determine what accommodations are appropriate.
- Section 2.2.1 – There had been a request from some Senators to change the phrase "may be entitled" to "will be entitled." SCCASP rejected this suggestion, since there may be occasions where accommodations cannot be made.
- Sections 2 & 3 – Senators had expressed concern around determining what accommodations are reasonable:
    - Section 2.3.1 – States that the Provost is authorized to provide this information.
    - Section 3.1.1.1 - Communication and Dissemination of Information will occur via the *Provost's Advisory Committee on the Continuity of Academic Operations* (Academic Continuity Committee)
- There was a question regarding how programs in collaboration with other institutions would respond to labour disruptions (e.g. the BIT program, which is a collaborative program with Algonquin College). SCCASP recommends that the Amnesty Policy only apply to Carleton University and its students. Other institutions will have their own policies.

Discussion:
Senators asked for clarification on the role of the *Provost's Advisory Committee on the Continuity of Academic Operations.* There was concern that Senate might be relinquishing its authority unnecessarily to this committee, since Senate still would have the ability to conduct electronic meetings and/or short notice meetings to deal with academic issues during a labour disruption. The Provost replied that this committee deals with day-to-day issues that are not relevant to Senate; anything in the purview of Senate would be brought to Senate. The advisory committee is mentioned in this policy because of its role in disseminating communications.

Other Senators felt that the language in 2.2.1: "students . . . may be entitled to appropriate accommodations" should be changed to "students… will be entitled to appropriate accommodations." The Chair of SCCASP agreed to bring this suggestion back to the committee for consideration. The Chair of Senate asked that the original motion be circulated prior to the next Senate meeting in January, when Senate will vote on the policy.

Items for Information:

The following items were presented to Senate for information. There was no discussion.

1) Concentration Definition (Glossary)

2) Draft Multi-Year Academic Schedule 2020 – 2027

3) Draft Schedule for Summer 2021-2027

4) 2020-21 Fall-Win-Sum Academic Schedule

8-Reports, cont'd

b. Senate Quality Assurance and Planning Committee (SQAPC)

SQAPC Chair, Dwight Deugo noted that Carleton's new Institutional Quality Assurance Process (IQAP) was ratified and approved by the Ontario Universities Council on Quality Assurance on November 22nd. He thanked all involved in the creation of the new IQAP, particularly Lorraine Dyke for her leadership on this process.

Omnibus Motion:

It was **MOVED** (D. Deugo, P. Wolff) that Senate approve the Final Assessment Reports and Executive Summaries arising from the Cyclical Reviews for the programs presented.
The motion **PASSED**.

Individual Motions:

MOTION: that Senate approve the Final Assessment Report and Executive Summary arising from the Cyclical Review of the undergraduate and graduate programs in African Studies.

MOTION: that Senate approve the Final Assessment Report and Executive Summary arising from the Cyclical Review of the undergraduate and graduate programs in Applied Linguistics and Discourse Studies.

MOTION: that Senate approve the Final Assessment Report and Executive Summary arising from the Cyclical Review of the undergraduate and graduate programs in Cognitive Science.

MOTION: that Senate approve the Final Assessment Report and Executive Summary arising from the Cyclical Review of the undergraduate and graduate programs in Neuroscience and Mental Health.

9. Carleton University Indigenous Strategic Initiatives Committee (CUISIC) Calls to Action

The Chair introduced CUISIC Co-Chairs Kahente Horn-Miller, Benny Michaud, and Jerry Tomberlin, and administrator Theresa Hendricks. The Chair acknowledged the guest presence at Senate of Dr. John M. H. Kelly, Co-Director of CIRCLE.

Kahente Horn-Miller began by reviewing the process leading up to the development of the 41 Calls to Action. The initiative began in December 2018 with the establishment of a 32-member committee composed of faculty, staff, students, and community members. The committee developed themes and questions for a series of consultations that were scheduled from March to September 2019. Over 600 people were consulted through this process, including members of the Carleton community, members of Kitigan Zibi, Akwesasne, and Pikwakanagan communities, and service organizations in the Ottawa region. The 41 Calls to Action have been posted online; feedback was received and incorporated into the final version posted at Senate today.

Co-Chair Jerry Tomberlin highlighted a few changes made since the Calls were circulated to Senators in the meeting package:

- The first two Calls under *Indigenous Institutional Support* were combined into one longer item for clarity.
- A Call for financial support was added under Calls for *Student Support*.
- The last two Calls were moved from *Research & Innovation* to *Culture, System & Structure.*

Discussion:
D. Siddiqi thanked the committee for their work on this initiative. The Chair thanked the members of the committee and all from Carleton who participated in this endeavor.

It was clarified that these Calls would be presented as well to the Board of Governors, and that any items under the purview of the Board would be brought back to the Board as well. The Provost noted in response to a question that an implementation plan will be developed in January 2020, and that Senate will be updated on a regular basis.

> It was **MOVED** (D. Siddiqi, J. Wolfart) that Senate receive the CUISIC Calls to Action, understanding that any action under the purview of Senate will in due course be brought back to Senate for approval, and that Senate thank the members of the Carleton University Indigenous Strategic Initiatives Committee for their work on this important initiative.
> The motion **PASSED UNANIMOUSLY**.

10. Strategic Integrated Plan Update

Co-Chair Patrice Smith provided a review on the activities of the SIP Task Force:

- Launch on September 6, 2019,
- Speaker Series: 8 Events, 13 speakers, more than 600 people participated
- 40 Consultations: more than 1,000 people participated
- Themed Consultations: 150 people consulted

Based on the consultations, the committee identified 4 Mission Pillars:

- Research
- Teaching & Learning
- Student Experience
- Organizational Excellence

Emerging preliminary strategic directions include:

- Leadership in Sustainability
- Access, Equity, Diversity, Inclusion
- Healthy Environments
- Internationalization
- Campus-Community engagement
- Real-World / Social Impact Beyond Disciplinary Boundaries
- Innovation

- Indigenous Initiatives

The following next steps were identified:

- Summary Document for community – prepared in December & January
- SIP Process Update to Senate – January & February
- SIP Draft Available for Review – March & April
- Approval of Draft – May

The Chair of Senate noted the strong consultation process and thanked Patrice Smith and the other co-chairs for their work on this file.

A Senator asked how Carleton's reputation can be addressed in this plan. The Chair noted that a Strategic Plan is by definition a reputation plan, but that a separate communications plan and reputational strategy will be developed for the SIP rollout.

Several Senators noted that strategic terms like innovation, sustainability, or even leadership have become overused and tired. Almost all universities make these same claims in their strategic plans; Carleton's SIP needs terms with more weight and relevance to Carleton. It was noted as well that many great stories were told around the table during the consultation process, and that these stories could potentially be a source of more meaningful language, imagery and symbolism for Carleton's SIP narratives.

The Chair thanked Senators for their comments and encouraged all to continue to contribute to the online discussion via the feedback page on the SIP website.

11. Strategic Mandate Agreement (SMA) Update

President Benoit Antoine Bacon and Provost Jerry Tomberlin provided an update on the SMA3 process. President Bacon noted that Carleton representatives met with the Ministry of Training, Colleges and Universities in early November, and presented Carleton's responses to the 10 metrics that had been specified by the government. The presentation was well received, but the Ministry felt that Carleton's response to the *Institutional Strength* metric was too broad. The Ministry specified that programs in this metric must apply to 30-50% of the student population, and must have measurable standards of strength and success.

The Provost suggested *Interdisciplinarity* as Carleton's institutional strength, since it is consistent with Carleton's research stories, and has also emerged as a major theme in the Strategic Integrated Plan process. The Ministry responded positively to this suggestion. The Provost and Vice-Provost have developed a preliminary list of interdisciplinary programs that includes representation from all Faculties, matches the distribution of students across the university, and represents programs with higher than average high school entering averages (for undergraduate programs) and higher than average graduation rates. It was suggested that cross-appointed faculty and cross-listed courses also could strengthen the narrative around this metric. Deans are currently reviewing the list and discussions will continue in the New Year.

12. Coordinated Accessibility Strategy Presentation

Boris Vukovic and Adrian Chan, Co-Chairs of the Coordinated Accessibility Strategy Steering Committee, presented an overview of the Coordinated Accessibility Strategy and a summary of the activities of the steering committee and working group over the past year.

The Coordinated Accessibility Strategy originated from a Call to Action, from the previous SIP, to develop a university-wide strategy around accessibility. The phases of the project were outlined for Senators along a project timeline:

- Listening Phase: November to December 2018. Information was collected from the community; due to the large volume of feedback this phase was extended by several months, ending in March 2019.
- Tactical Phase: November 2018 to February 2019. Feedback was analyzed to develop recommendations.
- Drafting Phase: April to November, 2019. A draft of the strategy was developed.
- Fine-Tuning Phase: November 2019. Final feedback received was used to fine-tune the strategy.
- Finalization Phase: December 2019. Release date will be early in 2020.

Co-Chair Adrian Chan described the phases of the consultation process, outlined the purpose, vision and guiding values of the initiative, and noted seven areas of focus as identified through the consultation phase. Each area of focus includes a set of objectives and recommendations or actionable items. Senators were encouraged to review the draft strategy and to provide feedback via the Coordinated Accessibility Strategy website portal.

Senators asked for information on how this strategy will be implemented. Coordination and knowledge will be held centrally, but responsibility for implementing recommendations will lie with the individual units across the campus.

The Chair thanked the Co-Chairs and committee members for their work on this initiative.

13. Reports for Information:

- **Senate Executive Committee Minutes:** October 18, 2019
  There was no discussion.

14. Other Business

Senators were reminded of the Carleton Annual Round Dance planned for the evening, from 6:00 – 9:00 pm in the Residence Commons. All Senators were invited.

The Chair also acknowledged and welcomed visitors from Yukon University, formerly Yukon College, who have been visiting Carleton and other universities to investigate models of academic governance.

15. Adjournment

The meeting was adjourned at 4:00 pm.

BOARD OF GOVERNORS
2020/2021 MEETING SCHEDULE

Carleton UNIVERSITY
Canada's Capital University

Month	Day	Activity	Time	Room
AUGUST	31	Executive	3 PM – 5 PM	RB 2440R
SEPTEMBER	10	Board Orientation	8 AM – 4 PM	RH 2nd fl
	15	Building	11 AM – 1 PM	RB 2440R
	15	Finance	1 PM – 3 PM	RB 2440R
	15	Audit & Risk	3 PM – 5 PM	RB 2440R
	21	Advancement &UR	11 AM – 1 PM	RB 2440R
	21	Governance	1 PM – 3 PM	RB 2440R
	21	Executive	3 PM – 5 PM	RB 2440R
	25	Senate	2 PM – 4 PM	RO608
	29	BOARD	3 PM – 6 PM	RB 2440R
OCTOBER	17	Board Planning Session	8 AM – 3 PM	DCC
	30	Senate	2 PM – 4 PM	R0608
NOVEMBER	17	Building	11 AM – 1 PM	RB 2440R
	17	Finance	1 PM – 3 PM	RB 2440R
	17	Audit & Risk	3 PM – 5 PM	RB 2440R
	23	Governance	1 PM – 3 PM	RB 2440R
	23	Executive	3 PM – 5 PM	RB 2440R
	27	Senate	2 PM – 4 PM	RO608
DECEMBER	1	BOARD	3 PM – 6 PM	RB 2440R
	11	Senate	2 PM – 4 PM	RO608
JANUARY	25	Executive	3 PM – 5 PM	RB 2440R
	29	Senate	2 PM – 4 PM	RO608
FEBRUARY	26	Senate	2 PM – 4 PM	RO608
	25	Building	11 AM – 1 PM	RB 2440R
	25	Finance	1 PM – 3 PM	RB 2440R
	25	Audit & Risk	3 PM – 5 PM	RB 2440R
MARCH	1	Governance	1 PM – 3 PM	RB 2440R
	1	Executive	3 PM – 5 PM	RB 2440R
	11	BOARD	3 PM – 6 PM	RB 2440R
	26	Senate	2 PM - 4 PM	RO608
APRIL	13	Building	11 AM – 1 PM	RB 2440R
	13	Finance	1 PM – 3 PM	RB 2440R
	13	Audit & Risk	3 PM – 5 PM	RB 2440R
	21	Advancement & UR	1 PM – 3 PM	RB 2440R
	21	Executive	3 PM – 5 PM	RB 2440R
	29	BOARD	3 PM – 6 PM	RB 2440R
	30	Senate	2 PM – 4 PM	RO608
MAY	25	Governance	1 PM – 3 PM	RB 2440R
	25	Executive	3 PM – 5 PM	RB 2440R
	28	Senate	2 PM – 4 PM	RO608
JUNE	1	BOARD	3 PM – 6 PM	RB 2440R
	1	Board Dinner	6 PM – 8 PM	RH 2nd fl
	18	Senate	10 AM – 12 PM	RO608

Room 2440R = Mezzanine level, Richcraft Hall | RH 2nd fl = Rooms 2220-2224-2228 + Atrium, Richcraft Hall
DCC = Dominion Chalmers Centre | RO608 = Room 608 Senate Room, Robertson Hall