

2023-24 Capital Budget

A. The Nature of University Capital Expenditures

The Capital Budget for 2023-24 should be seen in the context of both recent trends in capital spending and the University's proposed Long-Range Space Plan as outlined in Table 13 of the Operating Budget. Table 14 sets out expenditures in the Capital Budget since 2019-20 in nine categories.

Category 1 shows all new construction, while categories 2 to 7 show renovations to existing space. Category 1 expenditures are usually funded from general University funds, the major exceptions being projects funded all or in part from external research grants, private funds, government, student contributions, and Housing construction – the latter being funded from the Housing budget. Categories 2 to 5 are funded primarily from general University funds and government, while category 6 is funded from Housing operations, and category 7 is funded by the particular Ancillary Unit undertaking the work. Categories 8 and 9 involve carrying costs and loan repayments, other expenditures such as purchases of land and buildings, and transfers from the Capital Budget for other purposes. Planned capital expenditures for 2023-24 total \$147.2 million.

Categories 2 to 5 involve **Maintenance, Modernization, and Infrastructure (MMI)** and are eligible to receive funds from the annual MMI transfer from the Operating Budget to the Capital Budget, which is budgeted to remain at \$15.5 million in 2023-24 (\$15.5 million in 2022-23). These expenditures are directed at the modification of existing space and the renewal and expansion of the utilities and infrastructure of the University.

In planning future expenditures on MMI, it is useful to review the Current Replacement Value (CRV) of our capital assets on campus. At February 24, 2023, our buildings and infrastructure have a CRV of approximately \$3,571 million, as shown in Figure D:

Figure D
CURRENT REPLACEMENT VALUE (BUILDINGS AND INFRASTRUCTURE)

		CRV (\$M)	Square Metres	Major Buildings
1	Major Non-Residential Buildings	2,262	566,821	74
2	Utilities and Infrastructure	152		
3	Subtotal, Eligible for MMI	2,414	566,821	74
4	Housing	885	266,299	14
5	Other Ancillary Buildings	272	71,676	11
6	Total	3,571	904,796	99

At February 24, 2023, the University had approximately 567,000 gross square metres spread amongst 74 major non-residential buildings. The non-residential buildings, including utilities and infrastructure, are the physical assets generally eligible for MMI expenditures. The University also has 266,000 square metres of Housing space in eleven major undergraduate residences, three major apartment buildings, and numerous smaller buildings for graduate students in Platt's Lane Estates. Other than Housing, there are many buildings which are operated largely or entirely as ancillaries: Western Student Recreation Centre, Thompson Recreation and Athletic Centre, Western Alumni Stadium, Boundary Layer Wind Tunnel, Western Day Care, the Ivey Spencer Leadership Centre, and facilities at the Research Parks.

With this background in mind, we briefly set out the nine categories of University capital expenditures.

- 1. New Construction.** This category includes projects which create new buildings, including housing, additions to existing buildings, and other new facilities such as parking structures or lots, power plants and athletic fields. It does not include projects which improve the space within existing buildings or projects which upgrade other existing facilities.
- 2. Major Building Renovations.** This category involves major maintenance and renovation expenditures on non-residential building projects, with projects generally spanning more than one year. Given that 59% of the 567,000 square metres in major buildings were built before 1980, renovations to major buildings will continue to be a part of our capital planning.
- 3. Utilities and Infrastructure Projects.** This category involves projects with values greater than \$10,000 directed at the upgrading and new installation of utilities and other infrastructure, including boilers and chillers, electrical, water, and sewer distribution systems, and sustainability and energy conservation initiatives such as deep energy retrofits. Construction of a new Chiller Plant or major Power Plant expansion would be included in category 1. As we look to increase our sustainability and energy conservation initiatives, improvements to existing infrastructure will be needed in our pursuit of net-zero carbon emissions from campus operations by 2050, or sooner.
- 4. Modernization of Instructional and Research Facilities.** This category includes the renewal and modernization of classrooms, laboratories, libraries, and other space used for instruction and research, as well as upgrades to information technology. These expenditures are critical to maintaining Western's reputation as a leader in the quality of teaching and research. These projects are sometimes funded by the units themselves with operating or research funds.
- 5. General Maintenance and Modernization Projects.** This category consists of a wide variety of maintenance and modernization projects which are not included in categories 2 to 4. Most of the projects are under \$100,000, involving such work as roof replacement, interior and exterior painting, road, bridge, and sidewalk repair, and general maintenance of structures and systems. Open Space Strategy projects, such as the work underway on UC Hill, may also be included in this category. A provision for unforeseen projects forms part of the allotment in this category.

- 6. Housing Renovations.** This category includes all maintenance and modernization expenditures on University residences and apartment buildings. Construction of a new residence or apartment building would be included in category 1. Maintenance and modernization expenditures, projected to be \$10.1 million in 2023-24, are funded from Housing revenues. Housing has always set aside adequate maintenance funds and does not have the significant deferred maintenance on its buildings which may be observed in many other University buildings.
- 7. Ancillary Projects.** This category includes capital expenditures on Ancillaries other than Housing, including Hospitality Services, the Book Store, Parking Services, student fee-funded units, self-funded support units, and self-funded research units. These units pay a charge to the University for the space they occupy.
- 8. Carrying Costs and Debt Repayments.** This category consists of principal repayments and interest on debt for capital projects.
- 9. Other Capital Expenditures.** This category includes asset acquisitions and other miscellaneous expenditures. It has been an established principle in Western's Campus Master Plan that the University pursue, as appropriate, the purchase of lands contiguous to University property as lands become available. Western will continue to seek to protect the Regional Facilities zoning around the main campus and to buy land near our campus when it comes up for sale. The University will also look to acquire strategic physical assets, such as the acquisition of 450 Talbot Street in the core of downtown London, in fall 2021.

The last twelve lines of Table 14 are labeled A to M. Line A shows total sources of funding for the Capital Budget, including debt; line B, sources of funds less expenditures; line C, the capital reserve at year-end; and line D, capital debt outstanding at year-end. Details on these items are shown in Tables 16 and 18. Annual changes in the capital reserve (line C) are driven by the differences between funding and expenditure (line B). Thus for 2021-22, line B shows a net source of \$30.4 million, the difference between funding of \$136.6 million and expenditures of \$106.3 million. The accumulated capital reserve in line C increases by this same amount of \$30.4 million.

Line E shows the replacement value of non-residential buildings and utilities and infrastructure, the assets eligible for MMI spending, while line F shows the ratio of the annual MMI expenditure to the replacement value. For example, in 2021-22, MMI expenditures were \$51.8 million, while the estimated replacement value of non-residential buildings, utilities, and infrastructure was \$2,162 million. The ratio of the two is 2.4%, as shown in line F.

Line G of Table 14 shows the annual transfer from the Operating Budget to the Capital Budget for Maintenance, Modernization, and Infrastructure (the MMI transfer). The annual transfer has been maintained at \$15.5 million since 2017-18, a funding commitment that has established Western as a leader among Canadian universities in maintaining its facilities and dealing with deferred maintenance.

Line H of Table 14 shows the ratio of the annual MMI transfer to total MMI expenditures; for example, in 2021-22, the transfer was \$15.5 million, and expenditures were \$51.8 million, so the ratio is 29.9%. This ratio will fluctuate with the level of MMI expenditure each year. Other sources of funding for MMI expenditures can include the annual capital facilities renewal grant from the Province (projected at \$6.7 million for 2022-23 and 2023-24), special Provincial grants, additional one-time allocations from the University's Operating Budget, one-time allocations from the Province, fundraising, and borrowing.

Line J contains an estimate of maintenance spending, defined narrowly as spending required to bring aging facilities up to their condition when originally built. Whenever Western undertakes a major maintenance project, there is also modernization of the facility, and whenever we carry out a major modernization project, there is generally some maintenance expenditure; it is thus difficult to separate the two. Line J is calculated on the assumption that 2/3 of the expenditures in categories 2, 3, and 5 involve maintenance (the remaining 1/3 is modernization), while 1/3 of the expenditures in category 4 involve maintenance (the remaining 2/3 is modernization). While the ratio of maintenance to modernization would vary by project and by year, Facilities Management considers them a reasonable average for the four categories over a number of years.

The value of line J in 2021-22 is \$31.6 million, or 1.5% (line K) of the replacement value in that year. A standard target in industry for this ratio is 2.0%; if large buildings last an average of 50 years, then average maintenance spending should be 2.0% of replacement value. When the actual ratio is consistently lower than 2.0%, as has been the case at Western and most Canadian universities over the last three decades, the level of deferred maintenance will grow. As Western continues to renovate aging buildings, there will be years that deferred maintenance will decline.

Table 15 outlines major capital projects, which are assigned to one of the nine categories. Where possible, the year and month of the start and end of the project(s) are shown.

The projects listed in Table 15 reflect the Long-Range Space Plan outlined in Table 13 of the Operating Budget portion of this document. These projects include new construction that will create new student and research spaces, major building renovations as well as utilities and infrastructure projects – reflecting the need to maintain and modernize Western's aging physical plant. With new building construction on campus continuing, Western is utilizing scarce developable land in the core campus. The Campus Master Plan, approved in June 2015, highlights the constraints in the amount of buildable land on our campus and the fact that new buildings are being constructed on parking lots – thus increasing the pressure on available parking and the need to create alternative spaces, such as a parking structure combined with the planned Multi-Sport Fieldhouse. We continue planning for the construction of additional parking structures at the periphery of campus – including siting, a funding plan, and the required parking fee rates to finance these structures. Campus sustainability, energy conservation, and infrastructure projects are also included on Table 15 and will play a prominent role in Western's pursuit of net-zero carbon emissions from campus operations by 2050, or sooner. Often, these projects are comprised of multiple projects completed over a number of years.

B. Sources of Funding and Capital Expenditures in 2023-24

Table 16 displays sources of funding for budgeted capital expenditures with estimates of comparative data for 2022-23, divided into six major categories: federal, provincial and municipal government grants; funds transferred from Western's Operating Budget; one-time funds from Internally Restricted Net Assets; fundraising; borrowing; and other sources.

The University must carefully balance its available resources for use in capital expenditures. For example, projects financed by debt require an ultimate funding source, and one time funding, such as allocations from the Major Strategic Opportunities Fund or Undistributed Investment Returns must be used strategically and are not a recurring source of funds.

Table 17 shows expenditures in categories 1 and 2 for 2022-23 (estimates as of March 17, 2023) and 2023-24 (current proposals).

In alignment with the priorities in our Strategic Plan, Western has embarked on an ambitious capital program in support of "growth and impact". We are closely watching market conditions for construction and have been adjusting our capital plan and related timing of projects accordingly.

Table 14
CAPITAL BUDGET SUMMARY, 2019-20 TO 2023-24
(\$000)

Category	Purpose	Actual 2019-20	Actual 2020-21	Actual 2021-22	Projected 2022-23	Budget 2023-24
	New Construction					
1	New Construction (Table 17, line 14)	6,233	13,284	31,367	43,549	55,795
	Maintenance, Modernization, and Infrastructure (MMI)					
2	Major Building Renovations (Table 17, line 25)	8,624	22,063	27,539	15,874	7,549
3	Utilities and Infrastructure Projects	4,115	4,679	7,513	8,880	29,675
4	Modernization of Instructional and Research Facilities	8,944	5,303	8,925	13,217	10,377
5	General Maintenance and Modernization Projects	7,078	5,764	7,871	13,630	30,236
	Sub-Total MMI	28,761	37,809	51,848	51,601	77,837
	Other					
6	Housing Renovations	6,747	6,914	6,682	6,840	10,095
7	Ancillary Projects	1,482	1,874	2,859	2,325	2,653
8	Carrying Costs and Debt Repayments	1,095	1,026	963	942	823
9	Other Capital Expenditures	2,733	5,196	12,543	3,893	0
	Sub-Total Other	12,057	15,010	23,047	14,000	13,571
10	Total Expenditures	47,051	66,103	106,262	109,150	147,203

Line		Actual 2019-20	Actual 2020-21	Actual 2021-22	Projected 2022-23	Budget 2023-24
	Sources of Funding, Reserves, and Debt					
A	Total Sources of Funding, Including Debt (Table 16)	33,720	164,258	136,617	97,007	67,988
B	Sources of Funding less Expenditures	-13,331	98,155	30,355	-12,143	-79,215
C	Capital Reserve, Year End (Table 18)	55,557	153,712	184,067	171,924	92,709
D	Capital Debt Outstanding, Year End (Table 18)	353,923	345,936	328,661	320,561	312,191
E	Replacement Value of Non-Residential Buildings, Utilities & Infrastructure, \$M	2,264	2,062	2,162	2,414	2,515
F	MMI Expenditures/Replacement Value	1.3%	1.8%	2.4%	2.1%	3.1%
G	Annual MMI transfer from Operating to Capital Budget	15,500	15,500	15,500	15,500	15,500
H	MMI transfer/MMI Expenditures	53.9%	41.0%	29.9%	30.0%	19.9%
J	Estimate of Maintenance Expenditure	16,193	23,438	31,590	29,995	48,432
K	Maintenance Expenditure/Replacement Value	0.7%	1.1%	1.5%	1.2%	1.9%
L	Number of Major Buildings	97	97	98	99	100
M	Total Gross Square Meters (000's)	890	894	903	905	915

Category 8 does not include carrying costs and loan repayments for Residences and Apartments, Research Park and the Ivey Business School Foundation.

Line B is equal to Line A Total Sources of Funding less Total Expenses.

The change in line C from one year to the next is equal to Line B.

Line J consists of 2/3 of Category 2, 3 and 5 and 1/3 of Category 4.

Table 15
MAJOR CAPITAL PROJECTS

		Category	Start	End
1	<i>Projects Underway, Soon-to-Start, or in Advanced Planning</i>			
2	Weldon Library Modernization	2	Sept 19	Jan 23
3	Ronald D. Schmeichel Building for Entrepreneurship and Innovation	1	Jun 19	Oct 23
4	University Gathering Hub -- Common/Gathering Spaces	1	tbd	tbd
5	New Engineering Building	1	tbd	tbd
6	Social Sciences Centre Realignment/Expansion	1&2	tbd	tbd
7	The Bioconvergence Centre -- Interdisciplinary Research & Experiential Learning Facility	1	tbd	tbd
8	Building Addition to consolidate Faculty of Education Clinics	1	tbd	tbd
9	Undergraduate Residence -- University Drive Location	1	tbd	tbd
10	Graduate and Upper-Year Housing -- Platt's Lane East	1	tbd	tbd
11	Replacement of University Drive Bridge	1	tbd	tbd
12	University-wide Campus Sustainability/Energy Conservation/Infrastructure Projects (multiple stages -- ongoing)	1,3&5	Ongoing	
13	Pedestrian-friendly Campus Initiatives -- <i>Open Space Strategy</i>	1&5	Ongoing	
14	<i>Projects in Various Planning Stages</i>			
15	Additional Space for Health Sciences -- to support Enrolment Expansion	1	tbd	tbd
16	Ivey Spencer Leadership Centre Renewal	2	tbd	tbd
17	New Space for the McIntosh Gallery	1&2	tbd	tbd
18	Pathogen Research Centre Facility	1	tbd	tbd
19	Addition to the Ivey Building	1	tbd	tbd
20	Western's New Downtown Facility -- 450 Talbot Street	2	tbd	tbd
21	Multi-Sport Field House -- with Parking Garage	1	tbd	tbd
22	<i>Projects for Future Consideration (requires funding plan)</i>			
23	Modernization of Medical School Facilities	2	tbd	tbd
24	Renewal: University Community Centre, Law Building, Spencer Engineering Building, Elborn College, Dental Facilities	2	tbd	tbd
25	Renewal/Replacement of Chemistry Laboratory Facilities	2	tbd	tbd
26	Expansion of the Support Services Building	1	tbd	tbd
27	Space Realignment in the Natural Sciences Centre	2	tbd	tbd
28	Renewal and/or Realignment of Library Facilities -- Future Phases	2	tbd	tbd
29	New Research Initiatives/Partnerships at the Research Parks	1	tbd	tbd
30	Multi-Level Parking Structures	1	tbd	tbd
31	Residence Projects	1&6	tbd	tbd
32	Asset Acquisitions	9	tbd	tbd

Table 16
CAPITAL BUDGET: SOURCES OF FUNDING
(\$000)

		Projected 2022-23	Budget 2023-24
1	Government Grants		
2	MCU Annual Capital Grant (Facilities Renewal Program)	6,719	6,719
3	Minister of Environment (Decarbonization Incentive Program)	0	1,226
4	MCU Capital Grant (Training Equipment and Renewal Fund)	525	175
5	Department of Natural Resources Canada (Zero Emission Vehicle Infrastructure Program)	0	120
6	Sub-Total	7,244	8,240
7	Operating Budget		
8	Operating Budget MMI Transfer - Base	15,500	15,500
9	Operating Budget MMI Transfer - Base (Ancillaries)	600	600
10	Operating Budget - FRSF Transfer	3,000	3,000
11	Operating Budget - CRC Transfer	888	872
12	Operating Budget - New Engineering Building	2,623	5,663
13	Operating Budget - The Bioconvergence Centre	20,000	0
14	Operating Budget - Weldon Library Modernization	15,000	0
15	Operating Budget - Social Sciences Centre Realignment/Expansion	5,000	0
16	Sub-Total	62,611	25,635
17	Major Strategic Opportunities Funding (MSOF) and Undistributed Investment Returns	3,970	378
18	Fundraising		
19	Ronald D. Schmeichel Building for Entrepreneurship and Innovation	0	1,727
20	Wampum Learning Lodge	300	0
21	Sub-Total	300	1,727
22	Borrowing		
23	Expansion of Residence Capacity	0	6,430
24	Sub-Total	0	6,430
25	Other		
26	Student Contribution - Western Student Recreation Centre	1,492	1,537
27	Energy Conservation Incentives (Rebates)	11	420
28	Sports & Recreation Services - Student Contribution for Artificial Turf Playing Fields	182	186
29	Unit Contributions	12,042	10,687
30	Projects Funded by Housing	6,840	10,095
31	Projects Funded by Ancillaries	2,315	2,653
32	Sub-Total	22,882	25,578
33	Total Sources of Funding (In-Year)	97,007	67,988

Table 17
CAPITAL EXPENDITURES FOR NEW CONSTRUCTION AND MAJOR BUILDING RENOVATIONS
2022-23 and 2023-24
(\$000)

		Projected 2022-23	Budget 2023-24
1	<i>Category 1: New Construction</i>		
2	Ronald D. Schmeichel Building for Entrepreneurship and Innovation	25,441	24,005
3	University Gathering Hub - Common/Gathering Spaces	500	12,508
4	Biomedical Research Facility - Phase 1 of Medical School Project	15,687	3,922
5	New Engineering Building	500	3,675
6	Undergraduate Residence - University Drive Location	0	3,250
7	Graduate and Upper-Year Housing - Platt's Lane East	0	3,180
8	Building Addition to Consolidate Faculty of Education Clinics	88	2,155
9	The Bioconvergence Centre - Interdisciplinary Research & Experiential Learning Facility	100	2,000
10	Addition to the Ivey Building	0	800
11	Multi-Sport Field House -- with Parking Garage	500	200
12	Additional Space for Health Sciences - to support Enrolment Expansion	0	100
13	Sports Facilities: Western Alumni Stadium Renewal	733	0
14	<i>Total, Category 1</i>	<i>43,549</i>	<i>55,795</i>
15	<i>Category 2: Major Building Renovations</i>		
16	Weldon Library Modernization	5,873	4,000
17	Biotron Growth Chambers Renewal	100	1,500
18	Social Sciences Centre Realignment/Expansion	88	1,067
19	Fanshawe Boathouse/Rowing Centre Renewal	170	504
20	Western's New Downtown Facility - 450 Talbot Street	567	378
21	Wampum Learning Lodge	2,804	100
22	Modernization of Thames Hall	2,797	0
23	Dental Clinics Modernization	2,000	0
24	Thompson Recreation and Athletic Centre - New Ice Rink Floor	1,475	0
25	<i>Total, Category 2</i>	<i>15,874</i>	<i>7,549</i>

Table 18
CAPITAL RESERVES AND DEBT AT FISCAL YEAR END
(\$000)

		Actual 2019-20	Actual 2020-21	Actual 2021-22	Projected 2022-23	Budget 2023-24
1	A. Capital Reserves					
2	General Capital Fund	40,437	39,633	47,218	45,952	22,655
3	Designated Capital Fund	15,120	114,079	136,849	125,972	70,054
4	Total Capital Reserves	55,557	153,712	184,067	171,924	92,709

		Actual 2019-20	Actual 2020-21	Actual 2021-22	Projected 2022-23	Budget 2023-24
5	B. Capital Debt					
6	New Construction, Major Renovations & Other	0	0	0	0	0
7	Housing	73,879	59,779	50,561	41,061	37,691
8	Research Park	25,235	24,294	12,300	11,700	11,000
9	Unused and Invested Debenture Proceeds	254,809	261,863	265,800	267,800	263,500
10	Total Capital Debt	353,923	345,936	328,661	320,561	312,191

Line 2 includes the required \$6 million general capital reserve fund.

Line 3 includes fund balances for large capital projects.

Long-Term Financial Trends

The Operating and Capital Budgets set out in Tables 2 and 14 of this document describe proposed spending of some \$1.04 billion for the single year of 2023-24. That spending will take place, however, in a long-term context which must be understood when evaluating the Operating and Capital Budgets. The Administration and Board have identified three elements of that long-term context which should be reviewed in the annual Budget of the University: capital reserves and debt, employee future benefits, and deferred maintenance.

A. Capital Reserves and Debt

Table 18 displays Capital Reserves and Debt for fiscal years ending April 30. Capital Reserves are divided into two categories:

- the General Capital Fund, which includes funds not yet designated for specific purposes and funds designated for future projects.
- the Designated Capital Fund, which has been assigned to specific capital projects.

Capital Debt is divided into the following categories:

- **New Construction, Major Renovations, Infrastructure, and Other** – represents debt on projects that are largely new construction, additions to existing buildings, other new facilities, non-residential projects that involve major maintenance, and renovations to existing space. It also includes debt on purchases of property.
- **Housing** – debt required for new construction, maintenance, and modernization projects for University residences and apartment buildings.
- **Research Park** – debt incurred by the Research Park, which is self-funding.
- **Unused and Invested Debenture Proceeds** – unused proceeds from Western’s debenture issuances that have been committed and invested until specific capital projects require the funding.

Capital Debt is viewed as part of the capitalization structure of the University and a resource that can help the University advance its Long-Range Space and Campus Master Plans. While the use of debt as a financing strategy is important in our planning, this source of financing requires an ultimate funding source. Careful consideration of the optimal capitalization levels is also required, balancing the ongoing debt burden and service costs with the University’s long-term financial sustainability.

The University has Capital Debt, acquired through debenture issuances of \$190 million and \$100 million in 2007 and 2017, respectively, and by entering into a \$100 million fifteen-year facility in 2013 to finance a 1,000-bed residence and other capital projects. The University’s debentures necessitate an annual credit rating review. Standard & Poor’s completed its annual review in February 2023 and the credit rating of AA Stable remains unchanged.

The Board of Governors has approved a Capital Debt Policy that outlines the principles used in guiding the University's overall capitalization and debt management strategy. Western is in compliance with both of its compliance ratios set out in the policy (net assets-to-debt and debt burden). The University also utilizes monitoring ratios as part of its management strategy. Figure E shows selected Capital Debt monitoring ratios for the years ending April 30.

Figure E
CAPITAL DEBT MONITORING RATIOS

	FTE Enrolment	Debt (\$M)	Debt per FTE (\$)	Revenues Available for Repayment (\$M)*	Debt / Revenues Available for Repayment (%) *
2019	33,356	362.2	10,859	1,089.2	33.3%
2020	33,737	353.9	10,490	1,022.5	34.6%
2021	35,258	345.9	9,810	1,152.7	30.0%
2022	36,904	328.7	8,907	1,110.8	29.6%
2023p	38,061	320.6	8,423	1,113.0	28.8%

*Updated in 2023 to reflect revenues available for repayment (previously total revenues)

The projected debt is based on Board-approved projects with allowance for other projects, which may be presented to the Board during the period under consideration.

B. Employee Future Benefits

Subject to eligibility rules set within various collective agreements, the University provides medical, dental, and life insurance benefits to eligible employees after their employment with Western has ended.

The obligation for these employee future benefits is projected by actuarial valuation every three years. In the years between valuations, an extrapolation of the actuarial valuation is used to determine the projected benefit obligations. At April 30, 2022, the University's accrued benefit liability relating to the employee future benefit plans was \$478.6 million (2020 - \$465.3 million). The annual expense for non-pension employee future benefits in 2022 was \$27.6 million (2021 - \$30.1 million).

A recent review of major research universities identified only four institutions with significant post-employment benefit obligations greater than \$100 million, ranging from \$229 million to \$688 million and an unweighted average of \$416 million. Western ranked second in total liability for employee future benefits.

Figure F outlines the University employee future benefits, the obligation and expense for years ending April 30.

Figure F
EMPLOYEE FUTURE BENEFITS (EFB) AS A % OF TOTAL EXPENSES

	EFB Obligation (\$M)	EFB Expense (\$M)	Total University Expenses (\$M)	EFB Expense as % of Total
2018	495.3	21.8	1,122	1.9%
2019	546.5	23.4	1,170	2.0%
2020	561.8	21.9	1,182	1.9%
2021	565.3	30.1	1,137	2.6%
2022	478.6	27.6	1,212	2.3%

C. Deferred Maintenance

Deferred Maintenance is defined as work on the maintenance of physical facilities that has been deferred on a planned or unplanned basis to a future budget cycle or postponed until funds become available. To avoid increasing the size of the deferred maintenance backlog, it is necessary to carry out replacement of facility components on an annual basis.

The estimates of deferred maintenance are different from estimates of debt or employee future benefits in the previous sections. There are actual contracts in place for the first two categories that allow us to make reasonable estimates. For deferred maintenance, this is not the case; therefore, we have to find other ways to quantify this liability. The University uses a capital-asset management system common to the sector to assess, track, and report on the condition of facilities. The system requires that each major component of a building – roof sections, classrooms, heating, ventilation, air-conditioning systems and so on – be inspected, either entirely or on a sample basis. Data on the findings of these inspections are entered into a central database. The system uses industry-standard cost and lifecycle data to forecast the timing and costs of capital renewal projects. In 2019, at the request of the Ministry of Colleges and Universities, cost-forecasting methodologies were updated in the Ontario university sector to produce a more harmonized approach for facility assessment across provincially owned and broader public sector assets. Overall, this sector wide harmonization has led to an increase in estimates of deferred maintenance, primarily due to the inclusion of soft costs, which added approximately 30% to deferred maintenance estimates. Other factors have included automatic renewal requirements to maintain assets and changes to maintenance life cycles.

The University, in coordination with all other Ontario universities, is undertaking a campus wide review of its facilities data, to further improve upon our estimates. This data review is being conducted by a common vendor across the sector and is expected to be complete by 2024-25. As the data review continues, the estimates of deferred maintenance may fluctuate from year to year.

As at February 24, 2023, the Facilities Management Division estimates that deferred maintenance at Western is \$292 million for non-residential buildings and \$78 million for residences. Approximately 53% of the deferred maintenance for non-residential buildings relates to mechanical and electrical requirements. Other major components include maintenance driven by code requirements and maintenance for roofs and windows.

A common measure for determining the overall condition of facilities is the ratio of deferred maintenance over Current Replacement Value (DM/CRV) of the facilities. The calculation as at February 24, 2023, is outlined in Figure G as follows:

Figure G
DEFERRED MAINTENANCE TO CURRENT REPLACEMENT VALUE

		Non-Residential Buildings	Combined Residences
1	Current Replacement Value (CRV)	\$2,414 million	\$885 million
2	Deferred Maintenance (DM)	\$292 million	\$78 million
3	DM/CRV	12.1%	8.8%

The average age of buildings for universities in the Province of Ontario was 53 years as of March 2023. Western's average age is 40.6 years and 56% of our buildings were built before 1980. Western's residences are funded through rents which cover maintenance; the University has never had a problem with deferred maintenance on residences. A ratio of 12.1% (Deferred Maintenance/Current Replacement Value) for non-residential buildings indicates a significant need for maintenance funding.

If the average component of a large building lasts 50 years, then on average, maintenance spending should be 2.0% of replacement value. This level of spending is a standard target in the industry. When the actual ratio is consistently less than 2.0%, as has been the case at most Canadian universities, the volume of deferred maintenance will grow. Failure to adequately address deferred maintenance results in substandard facilities and could result in the failure of critical systems. Based on the Current Replacement Value of our facilities at \$2,414 million, spending on major maintenance for campus buildings at 2.0% should be in the range of \$48 million annually.

As explained at the start of the Capital Budget, the annual maintenance transfer is used for Maintenance, Modernization, and Infrastructure (MMI). The Administration is sometimes asked by faculty and staff if the MMI transfer is too large. As lines G and E in Table 14 show, the ratio of the MMI transfer to the Current Replacement Value of our non-residential buildings, utilities, and infrastructure has been below 1% in recent years (Figure H).

Figure H
MMI TRANSFER TO CRV RATIO 2019-20 to 2023-24

		Actual 2019-20	Actual 2020-21	Actual 2021-22	Projected 2022-23	Budget 2023-24
1	MMI (\$M)	15.5	15.5	15.5	15.5	15.5
2	CRV (\$M)	2,264	2,062	2,162	2,414	2,515
3	Ratio	0.68%	0.75%	0.72%	0.64%	0.62%

Thus, the MMI transfer from the Operating to the Capital Budget is less than half of the 2.0% required to keep deferred maintenance from growing. Continuation of this MMI transfer is essential to maintaining a safe and reliable campus infrastructure, which supports modern research and teaching, and sustains faculty, staff, and student morale.

Line J of Table 14 presents an estimate of maintenance spending from all sources, with maintenance defined as spending required to bring aging facilities up to their condition when originally built. The last time the ratio was about 2.0% was 2010-11, however, current projections estimate the ratio for 2023-24 will near the 2.0% target. Additional funding, from provincial and federal sources, continues to be required to catch up and maintain the 2.0% target over the long-term. Achieving the 2.0% target over time is required to sustain the condition of Western's facilities.