

# University of Massachusetts

The 'AA' Issuer Default Rating (IDR) and revenue bond rating reflect the University of Massachusetts' (UMass) role as the Commonwealth of Massachusetts' (AA+/Stable) flagship public research system of higher education, and the state's strong operating and capital support. The ratings further reflect the university's disciplined approach to its cash flow needs and the tolerable increase in debt associated with the current transaction. Available fund levels are relatively modest at just 59% of total expenses and 53% of adjusted debt, but robust treasury controls and excellent fiscal management practices help preserve sufficient financial flexibility.

The 'F1+' rating is consistent with the university's strong long-term credit profile and reflects its ample liquid resources in support of very modest self-liquidity obligations. The Stable Rating Outlook reflects Fitch Ratings' expectation that UMass' financial and operating profile will remain resilient, with steady enrollment across the system and management's commitment to preserving structural operating balance and self-sufficient capital management levels at each campus.

## Security

UMass' revenue bonds are secured by a pledge of its gross unrestricted revenue and other legally available funds. The bonds and CP notes are special obligations of the University of Massachusetts Building Authority (UMBA) payable from payments made by UMass. Under a service contract, UMass is required to remit to the UMBA annually an amount sufficient to pay debt service and other costs associated with operating and maintaining the financed projects during the next year, referred to as the certified amount.

The annual certified amount is payable from a variety of revenue streams, including all legally available revenues of the university and the UMBA, including state appropriations, as well as unrestricted net assets (defined as unrestricted fund accumulated surpluses, as well as quasi-endowment, unexpended plant, and unrestricted renewal and replacement funds).

## Ratings

Long-Term IDR	AA
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## Outlooks

Long-Term IDR	Stable
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## New Issues

\$150,000,000 UMBA Senior Project Revenue Bonds, Series 2024-1	AA
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## Sale Date

Week of May 6, 2024

## Outstanding Debt

Massachusetts Health & Educational Facilities Authority Variable-Rate Demand Revenue Bonds	AA/F1+
Massachusetts Health & Educational Facilities Authority (Worcester City Campus Corp. Issue - UMass Project) Fixed-Rate Revenue Bonds	AA
University of Massachusetts Building Authority Senior Project Revenue Bonds	AA
University of Massachusetts Building Authority Senior Refunding Revenue Bonds	AA
University of Massachusetts Building Authority Senior Project Revenue Bonds (Federally Taxable-BABs-Direct Pay)	AA
University of Massachusetts Building Authority CP Notes	AA

## Applicable Criteria

U.S. Public Finance College and University Rating Criteria (September 2023)

## Related Research

[Fitch Rates University of Massachusetts Ser 2024-1 Revs 'AA'; Outlook Stable \(April 2024\)](#)

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## Key Rating Drivers

### Revenue Defensibility - 'aa'

#### *Resilient Enrollment Base; Strong State Support*

The 'aa' revenue defensibility assessment reflects UMass' steady enrollment trends over time, against unfavorable regional demographic trends. The UMass system exhibits mixed demand characteristics reflective of a statewide public system, with retention averaging just over 82% in fall 2023. Enrollment has remained within a narrow 2% band in recent years, including through the pandemic. The 'aa' assessment also reflects the consistent and solid support provided by the Commonwealth of Massachusetts (equal to about 25% of fiscal 2023 revenues), solid research base at 15% of expenditures and the sustainable operating support provided by UMass' sizable endowment.

### Operating Risk - 'aa'

#### *Resilient Operating Performance; Sizable Capital Plans*

The 'aa' operating risk assessment is driven by very steady operating results, with cash flow expected to remain solid near current levels (13.9% in fiscal 2023) via consistent and attentive budgetary controls. UMass' systemwide operating and efficiency efforts continue to support healthy operating cash flow resilience in support of its robust systemwide capital improvement plan, which will be funded by a combination of external (debt and philanthropic) and internal resources.

### Financial Profile - 'aa'

#### *Solid Financial Profile with Adequate Liquidity*

UMass is expected to maintain liquidity against its debt and expenses at a level consistent with the 'aa' assessment. It had approximately \$2.3 billion in available funds (AF) at fiscal 2023, equal to about 59% of total expenses and 53% of adjusted debt, and improved over prior-year levels. The series 2024-1 transaction will add about \$150 million in additional debt, a modest increase over current levels. Leverage levels are expected to remain fairly consistent with the 'aa' assessment through Fitch's scenario analysis, inclusive of additional capital and debt plans, as well as a Fitch-modeled portfolio market downturn and operating stress.

### Asymmetric Additional Risk Considerations

No asymmetric additional risk considerations apply to UMass' ratings.

## Rating Sensitivities

### Factors that Could, Individually or Collectively, Lead to Negative Rating Action/Downgrade

- Failure to maintain steady leverage levels against expected increases in debt and sizable capital improvement plans may pressure the rating, should AF-to-total-adjusted debt fall persistently below 30%.
- A sustained decline in operating performance resulting in adjusted cash flow levels consistently below 12% could pressure the rating.
- Material erosion in internal liquid resources and/or significant downward movement in the university's long-term rating, while unlikely, would influence the short-term rating.

### Factors that Could, Individually or Collectively, Lead to Positive Rating Action/Upgrade

- Continued favorable trend of revenue growth and prudent expense management, translating to stronger cash flow and balance sheet strengthening, would prompt upward rating consideration, particularly as available AF levels approach 80% of adjusted debt.

## Credit Profile

UMass is the commonwealth's only public research university system. UMass was established in 1863 and encompasses five separate campuses: Amherst (the flagship campus), Boston, Dartmouth, Lowell and Worcester. The five campuses are geographically dispersed throughout the commonwealth and possess distinct and complementary missions. In fall 2023, the system enrolled 64,855 FTE students, of whom 77% were undergraduates.

The UMBA, the university's debt issuance arm (reported as a blended component unit of the university), is a public instrumentality of the Commonwealth of Massachusetts; it is empowered to construct dormitory, auxiliary, academic and other facilities for the university's campuses.

## Revenue Defensibility

Enrollment continues to be relatively steady, with some variations by campus. Demand characteristics also vary by campus, with retention ranging from 64% to 91%, and the six-year graduation rate ranging from 49% to 83%. With the addition of the former Brandman University - now UMass Global - in fiscal 2022, the system has added both geographic and programmatic diversity to its offerings. Across the system, about 80% of undergraduate and roughly 47% of graduate enrollments originate from within the state, with the remainder a combination of out-of-state and international students. UMass Global provides some geographic diversity, serving students across 49 states.

Solid commonwealth support continues, with expectations of some flattening support going forward, following several years of increases. Total commonwealth appropriations (including for fringe benefits) were about \$1 billion in fiscal 2023, and the budgeted base appropriation for fiscal 2024 is up slightly over the prior year. The commonwealth's 'AA+' / Stable rating reflects its considerable economic resources, adroit management of economic and revenue cyclicalities, and strong budget controls.

UMass' pooled endowment equaled about \$1.3 billion through audited 2023, up year over year and providing about \$44 million in fiscal 2023 operating support, equal to a 3.5% effective spending distribution for the year.

## Operating Risk

Operating performance has been very steady over time systemwide, benefitting from UMass' ongoing efforts around strategic efficiencies and enterprise risk work. Against budget, fiscal 2024 operating performance is trending favorably, supported by both solid enrollment and strong budgetary controls.

UMass generates modest, but consistent, annual and campaign fundraising results in support of its strategic and capital needs, including from campus-by-campus efforts. UMass also benefits from fairly stable state capital appropriation support (equal to about \$30 million in fiscal 2023).

UMass' robust \$2.1 billion five-year capital plan through 2028 will be funded from a combination of additional debt (about \$780 million), fundraising, state support and internal resources. UMass has about \$300 million in remaining debt issuance planned in support of these needs in the next few years. Key projects supported by the current transaction include an engineering lab, computer science lab, student success center renovations, and a public health and health sciences hub on the Amherst campus.

## Financial Profile

UMass' financial profile is also assessed at 'aa'. Its debt burden remains manageable, incorporating the series 2024-1 transaction and expected future debt. Current debt service coverage (as Fitch calculates) was over 2.0x in fiscal 2023, and debt service is slightly front-loaded, with over half of the principal amortizing within 15 years. Some additional debt is likely and can be absorbed at the current rating, as principal amortization will provide some additional capacity over the next few years. In addition, Fitch expects any future debt issuance will be accompanied by growth or maintenance of resources sufficient to cover debt service.

Overall, UMass maintains adequate balance-sheet resources through Fitch's scenario, with steady AF against expenses and adjusted debt. The pension obligation is the largest component of adjusted debt, reflecting UMass' reported \$445 million in reported net pension liability adjusted using a 6% discount rate (down from the 7% disclosed discount rate) to a total \$614 million net liability. The state provides support for a portion of UMass' fringe benefit costs, which equaled \$307 million, net of the university's contribution of its portion in fiscal 2023.

Total adjusted debt of \$4.3 billion at FYE 2023 (as Fitch calculates) included about \$3.7 billion in bonds and another \$614 million in Fitch-adjusted net pension liability. Fitch adjusts the reported \$445 million against a 6% discount rate assumption, versus the reported 7% discount rate. The 'F1+' rating reflects UMass' ample liquid reserves (with over \$500 million in cash and money market funds at June 30 2023) against just \$20 million in variable-rate demand bonds supported by self-liquidity.

## ESG Considerations

The highest level of ESG credit relevance is a score of '3', unless otherwise disclosed in this section. A score of '3' means ESG issues are credit-neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity. Fitch's ESG Relevance Scores are not inputs in the rating process; they are an observation on the relevance and materiality of ESG factors in the rating decision. For more information on Fitch's ESG Relevance Scores, visit <https://www.fitchratings.com/topics/esg/products#esg-relevance-scores>.

**Demand Summary**

(Fall Semester of Fiscal Years Ended June 30)	2020	2021	2022	2023	2024
<b>Headcount</b>					
Total Undergraduate Enrollment	57,364	56,945	55,218	54,520	53,902
Total Graduate Enrollment	17,701	18,486	19,336	19,439	19,691
Total Headcount Enrollment	75,065	75,431	74,554	73,959	73,593
Total Undergraduate / Total Headcount Enrollment (%)	76.4	75.5	74.1	73.7	73.2
<b>Full-Time Equivalent (FTE)</b>					
Total FTE Undergraduate Enrollment	53,095	52,633	50,721	50,145	49,903
Total FTE Graduate Enrollment	12,908	13,437	14,066	14,434	14,952
Total FTE Enrollment	66,003	66,070	64,787	64,579	64,855
Five-Year FTE Enrollment CAGR (%)	1.2	0.8	0.3	0.0	(0.1)
<b>Admissions</b>					
Freshman Applications	78,615	77,299	80,611	86,188	93,571
Freshman Admissions	52,895	53,787	58,619	63,484	66,098
Acceptance Rate (%)	67.3	69.6	72.7	73.7	70.6
Freshman Matriculants	11,530	10,577	10,226	11,222	11,123
Matriculation Rate (%)	21.8	19.7	17.4	17.7	16.8
Transfer Applications	10,302	9,823	9,846	9,067	9,352
Transfer Admissions	7,229	6,886	6,816	7,041	7,234
Acceptance Rate (%)	70.2	70.1	69.2	77.7	77.4
Transfer Matriculants	4,199	3,917	3,777	3,424	3,441
Matriculation Rate (%)	58.1	56.9	55.4	48.6	47.6
<b>Student Demand Data</b>					
In-State Undergraduate Student (%)	83.2	82.5	82.3	81.0	80.0
Out-of-State Undergraduate Student (%)	16.8	17.5	17.7	19.0	20.0
Average Freshmen SAT	1,182	1,184	1,231	1,238	1,241
Freshmen to Sophomore Year Retention Rate (%)	83.4	82.9	83.6	82.4	82.4
Six-Year Graduation Rate (%)	70.7	70.9	70.9	71.4	70.0
<b>Annual Undergraduate Cost of Attendance \$</b>					
Tuition	15,791	15,791	15,791	16,186	16,591
Mandatory Fees	598	648	648	766	766
Room & Board	13,004	13,329	14,217	14,766	15,437
<b>Total</b>	<b>29,393</b>	<b>29,768</b>	<b>30,656</b>	<b>31,718</b>	<b>32,794</b>

Source: Fitch Ratings, Fitch Solutions, University of Massachusetts

**Financial Ratios**

(Audited Fiscal Years Ended June 30)	2019	2020	2021	2022	2023
<b>Revenue Diversity (% Operating Revenues)</b>					
Tuition	26.0	26.5	26.9	25.6	25.6
Student Fees (Tuition & Auxiliary Revenues)	38.8	37.4	31.6	36.7	37.2
Total Grants & Contracts	19.9	20.3	24.5	24.1	20.9
State Appropriations	22.7	23.4	24.4	22.4	24.8
Gifts & Contributions	1.3	1.2	1.2	1.7	1.1
Total Investment Return	2.2	1.8	2.6	0.9	1.1
<b>Expense Ratios (% Operating Expenses)</b>					
Instruction	26.7	27.1	26.8	25.0	25.3
Research	14.4	13.7	15.8	14.8	14.9
Operation & Maintenance of Plant	7.3	6.8	6.4	6.5	6.6
Depreciation	8.1	8.1	9.1	8.9	8.8
Interest	3.4	3.1	3.1	3.2	3.3
<b>Financial Aid Ratios</b>					
Tuition Discounting (%)	26.9	27.2	27.1	26.9	28.2
Net Tuition & Fees (\$)	894,904	917,876	930,613	1,007,124	1,042,664
Change in Net Tuition & Fees (%)	2.3	2.6	1.4	8.2	3.5
Net Tuition Revenue / FTE (\$)	13,702	13,907	14,085	15,545	16,146
Change in Net Tuition Revenue / FTE (%)	1.1	1.5	1.3	10.4	3.9
Five-Year Net Tuition Revenue per FTE Enrollment CAGR (%)	2.6	2.5	1.5	3.2	3.6
<b>Operating Performance Ratios (%)</b>					
Adjusted Operating Margin	0.8	(2.5)	(0.9)	5.4	3.4
Cash Flow Margin - Adjusted	14.4	13.0	14.0	14.9	13.9
Capital Expenditures as % of Depreciation	138.1	118.2	107.4	114.4	129.0
Average Age of Plant (Years)	12.0	12.3	12.5	12.3	12.4
<b>Balance Sheet Ratios (%)</b>					
Available Funds / Total Operating Expense	49.9	50.7	61.9	56.5	58.7
Available Funds / Total Long Term Debt (New)	56.1	56.3	62.4	53.8	62.1
Available Funds / Adjusted Debt	44.6	43.7	49.7	48.6	53.3
Available Funds / MADS (x)	7.3	7.7	9.2	9.0	8.9
<b>Debt Ratios</b>					
Current Debt Service Coverage (x)	2.0	2.0	4.1	1.6	2.0
Current Debt Burden (%)	7.0	6.3	3.4	8.8	6.9
Pro Forma MADS Coverage (x)	2.1	1.9	2.1	2.4	2.2
Pro Forma MADS Burden (%)	6.8	6.7	6.8	6.0	6.4
Variable-Rate Bonds as % of Total Bonds	15.0	13.3	0.7	0.6	0.6
Hedged Variable-Rate Bonds as % of Total Bonds	14.3	12.6	0.0	0.0	0.0

<sup>a</sup>Unaudited. MADS – Maximum annual debt service. Note: Fitch may have reclassified certain financial statement items for analytical purposes.  
Source: Fitch Ratings, Fitch Solutions, University of Massachusetts

**Financial Summary**

(\$000, Audited Fiscal Years Ended June 30)	2019	2020	2021	2022	2023
<b>Balance Sheet - Assets</b>					
Cash & Cash Equivalents	317,892	386,045	306,859	194,550	209,916
Investments	1,359,570	1,369,460	1,803,050	1,850,981	2,010,680
<b>Total Cash &amp; Investments</b>	<b>1,677,462</b>	<b>1,755,505</b>	<b>2,109,909</b>	<b>2,045,531</b>	<b>2,220,596</b>
Property, Plant & Equipment, Gross	8,468,937	8,754,330	8,907,819	9,188,405	9,887,522
Less: Accumulated Depreciation	3,304,737	3,547,761	3,751,483	4,049,968	4,272,221
<b>Property, Plant &amp; Equipment, Net</b>	<b>5,164,200</b>	<b>5,206,569</b>	<b>5,243,969</b>	<b>5,549,054</b>	<b>5,615,301</b>
<b>Balance Sheet - Liabilities &amp; Net Assets</b>					
Fixed-Rate Bonds Payable	2,313,245	2,591,064	2,964,032	3,506,586	3,367,946
Unhedged Variable-Rate Bonds Payable	20,000	20,000	20,000	20,000	20,000
Hedged Variable-Rate Bonds Payable	389,095	376,375	0	0	0
<b>Total Bonds Payable</b>	<b>2,722,340</b>	<b>2,987,439</b>	<b>2,984,032</b>	<b>3,526,586</b>	<b>3,387,946</b>
Capitalized Leases	1,836	2,189	2,193	0	0
Commercial Paper	132,810	1,486	31,000	20,000	37,250
Other Lease Obligations	-	-	200,805	220,413	194,624
All Other Obligations	185,392	205,064	242,450	140,787	100,624
<b>Total Other Obligations</b>	<b>565,637</b>	<b>434,541</b>	<b>476,448</b>	<b>381,200</b>	<b>332,498</b>
<b>Total Long-Term Debt</b>	<b>3,042,378</b>	<b>3,196,178</b>	<b>3,460,480</b>	<b>3,907,786</b>	<b>3,720,444</b>
Operating Lease Expense	34,600	34,900	-	-	-
Operating Lease - Adjusted Liability (5x multiple)	173,000	174,500	-	-	-
Fitch Adjusted Net Pension Liability (NPL, UAAL)	607,027	748,557	883,787	422,712	613,842
<b>Debt Equivalents</b>	<b>780,027</b>	<b>923,057</b>	<b>883,787</b>	<b>422,712</b>	<b>613,842</b>
<b>Adjusted Debt</b>	<b>3,822,405</b>	<b>4,119,235</b>	<b>4,344,267</b>	<b>4,330,498</b>	<b>4,334,286</b>
Unrestricted Net Assets	-106,130	-189,621	62,540	181,297	419,219
Invested in Capital	2,343,872	2,376,333	2,269,411	2,281,471	2,341,776
Restricted Net Assets - Non-Expendable (Fitch-Adjusted)	28,617	22,252	22,378	22,515	17,648
Restricted Net Assets - Expendable (Fitch-Adjusted)	206,023	223,803	232,833	262,669	265,329
<b>Total Net Assets</b>	<b>2,472,382</b>	<b>2,432,767</b>	<b>2,587,162</b>	<b>2,747,952</b>	<b>3,043,972</b>
<b>Balance Sheet - Resources &amp; Liquidity</b>					
Available Funds (AF)	1,648,845	1,733,253	2,087,531	2,023,016	2,202,948
Foundation AF	57,507	66,146	73,036	79,633	107,240
<b>Total AF (University &amp; Foundation)</b>	<b>1,706,352</b>	<b>1,799,399</b>	<b>2,160,567</b>	<b>2,102,649</b>	<b>2,310,188</b>
<b>Statement of Cash Flows</b>					
Depreciation	276,638	288,667	318,828	330,715	344,872
Net Cash Generated/(Used) in Operating Activities	-508,876	-626,986	-586,043	-677,368	-660,348
Additions of PP&E/Capital Assets	382,048	341,247	322,341	378,227	444,906
Payments on Bonds Payable	103,170	549,788	722,552	210,816	123,523
Cash Paid for Interest	137,517	132,468	156,636	135,125	155,939
<b>Pension Plans</b>					
Total Pension Liability (TPL, AAL)	1,275,534	1,562,097	1,718,761	1,230,245	1,536,525
Fiduciary Net Position (FNP, AVA)	866,215	1,035,358	1,073,882	953,932	1,091,701
Fitch Adjusted Total Pension Liability (TPL, AAL)	1,473,242	1,783,914	1,957,668	1,376,644	1,705,543
Fitch Adjusted Net Pension Liability (NPL, UAAL)	607,027	748,557	883,787	422,712	613,842
Fitch Adjusted Ratio of Assets to Liabilities (FNP/TPL, AVA/AAL) (%)	58.8	58.0	54.9	69.3	64.0
Add: Pension Expense	52,200	93,200	100,900	5,300	28,100
Less: Pension Contributions	35,843	40,617	31,495	45,010	37,980
<b>Total Pension Service Cost</b>	<b>26,490</b>	<b>32,308</b>	<b>36,226</b>	<b>25,646</b>	<b>31,403</b>

Note: Fitch may have reclassified certain financial statement items for analytical purposes.  
Source: Fitch Ratings, Fitch Solutions, University of Massachusetts

Financial Summary

(\$000, Audited Fiscal Years Ended June 30)	2019	2020	2021	2022	2023
<b>Operating Revenues</b>					
Gross Tuition & Fees	1,223,749	1,260,907	1,275,741	1,377,026	1,452,423
Less: Student Aid	328,845	343,031	345,128	369,902	409,759
<b>Net Tuition &amp; Fees</b>	<b>894,904</b>	<b>917,876</b>	<b>930,613</b>	<b>1,007,124</b>	<b>1,042,664</b>
Sales & Services of Auxiliary Enterprises	441,795	378,314	163,812	434,129	475,591
Federal Grants & Contracts	91,458	122,375	179,545	227,216	106,788
Other Grants & Contracts	593,086	581,850	667,149	719,479	746,350
State Appropriations	780,221	810,518	845,481	880,003	1,011,360
Gifts & Contributions	43,705	41,996	41,262	67,948	43,881
Dividend & Interest Income	48,943	32,762	58,383	0	0
Other Material (10%) Operating Revenue	137,607	116,204	125,939	130,771	121,654
All Other Operating Revenues	385,962	431,786	415,781	429,790	485,718
<b>Total Operating Revenue</b>	<b>3,417,681</b>	<b>3,433,681</b>	<b>3,427,965</b>	<b>3,896,460</b>	<b>4,034,006</b>
Unrealized / Realized Gains Portion of Endowment Payout	27,741	28,113	31,965	34,944	43,774
<b>Adjusted Total Operating Revenue</b>	<b>3,445,422</b>	<b>3,461,794</b>	<b>3,459,930</b>	<b>3,931,404</b>	<b>4,077,780</b>
<b>Operating Expenses</b>					
Instruction	912,415	960,548	934,708	930,362	996,803
Academic Support	186,502	200,928	199,456	194,153	222,169
Institutional Support	274,326	303,100	311,629	315,810	343,980
Student Services	160,751	157,842	141,107	211,088	240,039
Public Service	313,072	340,496	351,060	325,069	342,732
Research	490,887	485,759	550,593	551,367	586,292
Auxiliary Enterprises	340,346	336,497	213,499	320,535	352,627
Student Aid	49,511	65,469	85,500	121,334	62,237
Operation & Maintenance of Plant	248,581	241,880	221,750	242,749	259,873
Depreciation	276,638	288,667	318,828	330,715	344,872
Interest Expense	116,217	109,186	109,144	117,244	129,132
All Other Operating Expenses	48,282	56,256	53,485	58,582	56,605
<b>Total Operating Expense</b>	<b>3,417,528</b>	<b>3,546,628</b>	<b>3,490,759</b>	<b>3,719,008</b>	<b>3,937,361</b>
<b>Change in Net Assets from Operations</b>	<b>153</b>	<b>-112,947</b>	<b>-62,794</b>	<b>177,452</b>	<b>96,645</b>
<b>Adjusted Change in Net Assets from Operations</b>	<b>27,894</b>	<b>-84,834</b>	<b>-30,829</b>	<b>212,396</b>	<b>140,419</b>
<b>Non-Operating Revenues/(Expenses)</b>					
Realized & Unrealized Gain/(Loss) on Investments	31,549	-6,331	125,537	-24,164	68,155
Capital Appropriations	25,500	51,525	62,592	87,062	29,690
Capital Grants & Gifts	13,165	7,516	8,528	8,846	11,526
Other Non-Operating Revenues/(Expenses)	-14,610	-7,491	-10,519	-123,350	46,230
<b>Total Non-Operating Revenue (Expense)</b>	<b>55,604</b>	<b>45,219</b>	<b>186,138</b>	<b>-51,606</b>	<b>155,601</b>
<b>Change in Net Assets</b>	<b>83,498</b>	<b>-39,615</b>	<b>155,309</b>	<b>160,790</b>	<b>296,020</b>
<b>Adjusted Change in Net Assets from Operations</b>	<b>27,894</b>	<b>-84,834</b>	<b>-30,829</b>	<b>212,396</b>	<b>140,419</b>
Add: Interest Expense	116,217	109,186	109,144	117,244	129,132
Add: Pension Expense	52,200	93,200	100,900	5,300	28,100
Add: Depreciation Expense	276,638	288,667	318,828	330,715	344,872
Less: Pension Contributions	35,843	40,617	31,495	45,010	37,980
Add: Non-Cash OPEB Expenses	48,963	75,860	23,961	-56,391	-45,361
<b>Cash Flow</b>	<b>486,069</b>	<b>441,462</b>	<b>490,509</b>	<b>564,254</b>	<b>559,182</b>
<b>Adjusted Change in Net Assets from Operations</b>	<b>27,894</b>	<b>-84,834</b>	<b>-30,829</b>	<b>212,396</b>	<b>140,419</b>
Add: Interest Expense	116,217	109,186	109,144	117,244	129,132

**Financial Summary**

(\$000, Audited Fiscal Years Ended June 30)	2019	2020	2021	2022	2023
Add: Pension Expense	52,200	93,200	100,900	5,300	28,100
Add: Depreciation Expense	276,638	288,667	318,828	330,715	344,872
Total Pension Service Cost	26,490	32,308	36,226	25,646	31,403
Add: Non-Cash OPEB Expenses	48,963	75,860	23,961	-56,391	-45,361
<b>Cash Flow-Adjusted</b>	<b>495,422</b>	<b>449,771</b>	<b>485,778</b>	<b>583,618</b>	<b>565,759</b>
Current Debt Service	240,687	218,309	118,485	345,941	279,462
Pro Forma Maximum Annual Debt Service (MADS)	234,344	233,075	234,490	234,490	259,669
MADS Fiscal Year	2031	2024	2024	2024	2031

Note: Fitch may have reclassified certain financial statement items for analytical purposes.  
Source: Fitch Ratings, Fitch Solutions, University of Massachusetts



**Key Definitions**

Term	Definition	Significance
Issuer Default Rating (IDR)	An expression of overall enterprise risk and relative vulnerability to default.	Provides an opinion on the relative ability of an entity to meet financial commitments, expressed as an ordinal measure of credit risk.
Base Case	The expected forward-looking case in the current macroeconomic environment.	Provides the analytical starting point in the forward-looking analysis, and also informs the stress case.
Stress Case	Forward-looking performance under a common set of assumptions.	Illustrates how cycles affect individual institutions differently, and informs the level of rating stability and credit resiliency.
Adjusted Debt	Total long term debt + unfunded pension liability + an operating lease expense multiple or reported lease liability.	Provides an inclusive evaluation of total long-term liabilities.
Available Funds	Cash + investments - permanently restricted net assets (including those of closely related foundations and endowments)	Provides an absolute measure of total balance sheet resources. Excludes bond proceeds.
Adjusted Operating Margin (%)	(Total adjusted operating revenue - total operating expense) / total adjusted operating revenue	Provides an operating performance measure inclusive of the endowment income available in operations.
Cash Flow	Adjusted change in unrestricted net assets from operations + depreciation + amortization + interest expense + pension expense - pension contribution + non-cash OPEB expense + other non-cash expenses	Indicates the level of operating efficiency, using the level of an institution's operating surplus (or deficit) available to cover all of its annual outlays.
Cash Flow - Adjusted	Adjusted change in unrestricted net assets from operations + depreciation + amortization + interest expense + pension expense + non-cash OPEB expense + other non-cash expenses - proportionate pension service cost	Indicates the absolute level of resources available to service debt obligations after the payment of cash-based operating expenses. Adjusted for nonrecurring / extraordinary items.
Debt Service Coverage	Cash flow / current debt service	Indicates the net income available to meet annual debt service requirements.
Average Age of Plant	Accumulated depreciation / depreciation expense	Provides an indication of the condition of the physical operating plant, and the level of needed reinvestment.
Capital Expenditures as % of Depreciation	Net acquisitions of property plant and equipment / depreciation expense	Indicates the level of investment in physical plant over time, which informs the need for future investment.

Source: Fitch Ratings, Fitch Solutions, University of Massachusetts

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