University of Minnesota, MN

New Issue – Moody’s assigns Aa1 to University of Minnesota’s Series 2017 General Obligation Bonds; outlook stable

Summary Rating Rationale
Moody’s Investors Service has assigned a Aa1 rating to the University of Minnesota’s (MN) planned $118 million General Obligation Bonds, Series 2017A (maturing 2042), $293 million General Obligation Refunding Bonds, Series 2017B (maturing 2037) and $13 million of General Obligation Taxable Refunding Bonds, Series 2017C (maturing 2029). We maintain Aa1 ratings on $787 million of General Obligation bonds and P-1 ratings on $239 million of outstanding commercial paper. The rating outlook is stable.

The Aa1 rating reflects University of Minnesota’s (UM) excellent strategic positioning reflected in strong student and research market positions and ample balance sheet reserves. UM receives good support from the State of Minnesota (Aa1 stable), including payment of debt service on $252 million of Special Purpose Revenue Bonds (Aa2 stable). Offsetting challenges are relatively thin operations compared to peers and expected substantial new debt issuance. The P-1 rating for the commercial paper programs reflects UM’s able treasury management and sufficient self-liquidity to support maturing commercial paper.

Exhibit 1
Ample balance sheet reserves cover pro forma university debt by a still strong 2.4 times

2016 Sensitivity includes Series 2017 bonds, Series F CP and principal repayment since June 30, 2016 and $252 million of state-paid Special Purpose Revenue Bonds
Source: Moody’s Investors Service
Credit Strengths
» Excellent strategic position as Minnesota’s flagship research and land grant university and Big Ten conference member
» Large research enterprise with total awards of $788 million for fiscal 2016
» Ample balance sheet reserves with unrestricted monthly liquidity of $1.56 billion or 180 days supporting self-liquidity program and other needs
» Strong fundraising, with $252 million of fiscal 2016 gift revenues
» Conservative debt amortization, with $223 million of principal repayment through fiscal 2020, offsetting much of future debt plans

Credit Challenges
» Modest operating performance compared to Aa1 peers, with an 8% operating cash flow margin in fiscals 2015 and 2016
» Ongoing capital plans with up to $221 million of planned new debt through FY 2020
» Challenging environment to grow research funding, important with the recent addition of four research buildings

Rating Outlook
The stable rating outlook reflects continued favorable student demand and research trends, growing tuition revenue, stable to improving operating cash flow and debt service coverage despite additional debt plans.

Factors that Could Lead to an Upgrade
» Substantial growth in balance sheet reserves
» Sustained, notable improvement in operating performance

Factors that Could Lead to a Downgrade
» Weaker operations and cash flow generation
» Additional net new debt without improved operating performance

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.
Exhibit 2
UNIVERSITY OF MINNESOTA, MN

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Total FTE Enrollment</td>
<td>61,793</td>
<td>61,481</td>
<td>60,950</td>
<td>60,620</td>
<td>61,121</td>
<td>61,121</td>
<td>28,405</td>
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<tr>
<td>Operating Revenue ($000)</td>
<td>3,043,091</td>
<td>3,126,362</td>
<td>3,223,417</td>
<td>3,286,315</td>
<td>3,394,128</td>
<td>3,394,128</td>
<td>1,104,854</td>
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<tr>
<td>Annual Change in Operating Revenue (%)</td>
<td>1.6</td>
<td>2.7</td>
<td>3.1</td>
<td>2.0</td>
<td>3.3</td>
<td>3.3</td>
<td>4.4</td>
</tr>
<tr>
<td>Total Cash &amp; Investments ($000)</td>
<td>3,831,435</td>
<td>4,202,609</td>
<td>4,624,713</td>
<td>4,900,605</td>
<td>4,936,644</td>
<td>4,936,644</td>
<td>1,201,140</td>
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<tr>
<td>Total Debt ($000)</td>
<td>1,215,548</td>
<td>1,278,745</td>
<td>1,261,057</td>
<td>1,389,443</td>
<td>1,440,148</td>
<td>1,484,171</td>
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<tr>
<td>Spendable Cash &amp; Investments to Total Debt (x)</td>
<td>2.3</td>
<td>2.3</td>
<td>2.7</td>
<td>2.6</td>
<td>2.5</td>
<td>2.4</td>
<td>1.3</td>
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<tr>
<td>Spendable Cash &amp; Investments to Operating Expenses (x)</td>
<td>0.9</td>
<td>1.0</td>
<td>1.0</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>0.7</td>
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<tr>
<td>Monthly Days Cash on Hand (x)</td>
<td>175</td>
<td>180</td>
<td>176</td>
<td>178</td>
<td>180</td>
<td>180</td>
<td>162</td>
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<tr>
<td>Operating Cash Flow Margin (%)</td>
<td>11.5</td>
<td>10.4</td>
<td>7.1</td>
<td>7.8</td>
<td>7.8</td>
<td>7.8</td>
<td>12.0</td>
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<tr>
<td>Total Debt to Cash Flow (x)</td>
<td>3.5</td>
<td>3.9</td>
<td>5.5</td>
<td>5.4</td>
<td>5.4</td>
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<td>4.4</td>
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<tr>
<td>Annual Debt Service Coverage (x)</td>
<td>3.5</td>
<td>3.0</td>
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<td>2.2</td>
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</table>

2016 Sensitivity includes Series 2017 bonds, Series F CP and principal repayment since June 30, 2016 and $252 million of state-paid Special Purpose Revenue Bonds
Total FTE Enrollment is fall enrollment of indicated year
Source: Moody’s Investors Service

Recent Developments
Recent developments are incorporated in Detailed Rating Considerations.

Detailed Rating Considerations

Market Profile: Strong student demand and major research role
The University of Minnesota will maintain its excellent strategic positioning reflected in strong student demand for the state’s flagship and land grant institution and Big 10 conference member. Fall 2016 enrollment was over 61,000 FTEs, with 34% non-resident and international students. Included with the non-resident population is 20% of non-resident non-reciprocity (NRNR) students for fall 2016 freshmen at the Twin Cities campus. This provides the university tuition flexibility as NRNR pay higher tuition than resident undergraduate students. The university intends to modestly expand its enrollment in the STEM (science, technology, engineering and mathematics) academic areas.

UM is one of the nation’s leading comprehensive research universities, demonstrating success in growing its awards. It received $788 million of research awards in fiscal 2016, showing year-over-year growth since fiscal 2013. The university reported a small decrease in awards for fiscal 2017 but still substantial at $744 million.

Although it has a medical school, UM does not own a hospital and is not directly exposed to challenges in the health care sector. University of Minnesota Medical Center (UMMC), now owned and operated by Fairview Health Services (FHS, A2 stable), is the clinical training site for UM’s medical school students and its research partner. UM, FHS and University of Minnesota Physicians (UMP) had entered into a Letter of Intent to create a new single organization. However, the parties chose to not move forward at this time and have maintained their current relationships.

Operating Performance: Modest cash flow generation, with well-diversified revenue base
University of Minnesota is expected to generate balanced, but not strong, operating performance in fiscals 2017 and 2018, in line with the 8% cash flow margins generated in fiscals 2015 and 2016. The thin operations reflect program investments and other one-time expenses. UM, under its president, is acting to reduce administrative and other costs under a six-year program.

The diverse revenue base provides operating stability but only modest growth. Total revenues grew over 3% for fiscal 2016 across all revenue lines and are projected to show slightly less growth in fiscal 2017. Following a $54 million (4.5%) appropriation increase for the prior biennium, the state approved a total $22 million recurring or 3.5% appropriation increase for the current fiscal 2018-2019 biennium. Tuition revenues should also increase from board-approved tuition increases.

University of Minnesota, MN: New Issue – Moody’s assigns Aa1 to University of Minnesota’s Series 2017 General Obligation Bonds; outlook stable
Wealth and Liquidity: Ample balance sheet reserves and liquidity

UM’s balance sheet profile will remain strong, helping support debt and operations. Fiscal 2016 total cash and investments of $4.9 billion includes $2.5 billion held by University of Minnesota Foundation and is up from prior years. The university’s investments of $2.57 billion at June 30, 2016 were primarily comprised of the Consolidated Endowment Fund ($1.26 billion) and the short-term reserves (TIP) ($1.11 billion). The university reports higher cash and investments at December 31, 2016 and projects a further increase for June 30, 2017 fiscal year-end.

The university’s endowment is managed by its Office of Investments and Banking in conjunction with external managers. The university’s CEF produced a nearly 11% positive return for fiscal 2017, slightly lower than returns reported by peer institutions and reflecting asset allocations. The portfolio allocation is favorably diversified, with significant weighting in less liquid, non-public debt. The TIP portfolio is held in cash and treasuries and agency bonds.

Fundraising is strong, with $234 million of three-year average gift revenues for fiscals 2014-2016 and $252 million for fiscal 2016 alone, as reported in the financial statements. UM reports $337 million in gifts and commitments for fiscal 2017, the second highest total in the university’s history. UM is preparing for a comprehensive campaign, with the goal and timing not yet finalized.

Liquidity

Unrestricted liquidity is ample at $1.56 billion, translating to 180 monthly days cash on hand. Unrestricted liquidity provides a strong 530% cushion to demand debt, including $33 million of University Gateway Corporation’s variable rate bonds supported by bank SBPAs and guaranteed by University of Minnesota Foundation.

UM’s maturing commercial paper is supported by its own liquidity. At June 30, 2017 it had $999 million of discounted daily liquidity, largely checking accounts at P-1 rated banks and treasuries. The internal daily liquidity provides a strong 5.7 times coverage of its commercial paper excluding the largest money market investment with one sponsor. There is a limit of $175 million of commercial paper that can mature in a 5 business day period.

Leverage: Moderate direct leverage, with significant other long-term liabilities

University of Minnesota’s leverage for direct debt relative to its balance sheet reserves and cash flow is moderate, but higher when including the adjusted net pension liability for the state pension plans. For fiscal 2016 spendable cash and investments cushion pro forma total debt (including the Series 2017 bonds and Series F commercial paper issued since June 30, 2016) 2.4 times, with pro forma debt-to-cash flow of 5.6 times.

Pro forma debt includes $49 million of University Gateway Corporation (UGC) debt (Aa1 based on a guarantee of the University of Minnesota Foundation) and $252 million of Special Purpose debt paid by the State of Minnesota and secured by a pledge of specified debt service transfers to university from a standing state general fund appropriation. Removing the state-supported debt materially reduces leverage to with 2.9 times spendable cash and investments to debt.

UM has significant debt plans over the next two to three years, currently considering issuing up to $221 million of debt over FY 2019 through FY 2020. Projects include about $104 million for the renovation of Pioneer Hall and its dining center and $50 million for its contribution to costs of three projects approved by the state for funding. The borrowings are subject to construction timing, expected gifts and UM’s use of its own reserves for the projects. However, UM will repay $223 million of debt from 2018 through 2020, resulting in a much lower net debt increase. Moody’s will assess the impact of new debt issuance in light of operations and project funding sources.

Debt Structure

Currently UM’s only variable rate debt is its commercial paper (Series A, B, C, D, E and F) with $238 million outstanding. UGC has three variable rate bonds with the tender feature supported by a Standby Bond Purchase Agreement from Wells Fargo Bank, N.A. expiring on 8/31/2018.

Debt-Related Derivatives

None
PENSIONS AND OPEB
UM has substantial debt-like liabilities through pensions, and its unfunded share of the states defined benefit plans could pressure operations if longer-term pension funding needs emerge. UM employees participate in a number of federal and state defined benefit pension plans, including the State Employees Retirement Fund (SERF). UM also offers a number of defined contribution plans. The pension liability related to CASB 68 was $246 million. Moody’s adjusted net pension liability (ANPL) at June 30, 2016, using a standard discount rate, is $1.4 billion, bringing total adjusted debt to $2.8 billion. Even with this, UM’s total adjusted debt remains manageable, with total adjusted debt to operating revenues of 0.8 times, comparable to the median for Aa1-rated public universities.

UM also provides retiree healthcare benefits, funding on a pay-as-you-go basis with a $4.4 million contribution in FY 2016. It reported a $138 million OPEB liability at June 30, 2016.

Governance and Management: Good Fiscal Oversight
University of Minnesota’s Board of Regents and leadership team display good fiscal oversight reflected in the strengthened unrestricted liquidity and balance sheet reserves. The leadership team has good tenure diversity between long-serving and recently appointed management. Board members are elected biennially to six year terms.

Legal Security
All General Obligation bonds and commercial paper are unconditional, direct and general obligations of the university. There are no debt service reserve funds for the bonds.

Use of Proceeds

Obligor Profile
University of Minnesota, founded in 1851, has a national market position as the states flagship and land grant university and a Big 10 conference member. One of the nation’s largest research universities, total revenues were nearly $3.4 billion with $788 million of research awards for fiscal 2016. A multi-campus university, enrollment was over 67,000 headcount students for fall 2016 at its Twin Cities, Duluth, Morris, Crookston, and Rochester campuses.

Methodology
The principal methodology used in this rating was Global Higher Education published in November 2015. Please see the Rating Methodologies page on www.moodys.com for a copy of this methodology.
## Ratings

Exhibit 3

**University of Minnesota, MN**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Rating</th>
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<tr>
<td>General Obligation Bonds, Series 2017A</td>
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<td>General Obligation Taxable Refunding Bonds, Series 2017C</td>
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<td>Rating Description</td>
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