Current and Forecasted Debt Payment Ratios (FY20 - FY25)

Annual Report – June 2020

University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

Purpose of this Annual Report

The purpose of this report on Current and Forecasted Debt Payment Ratios is to assist the Board of Regents in its evaluation of the University of Colorado's long-term borrowing obligations and its ability to consider campus proposals for additional capital projects. Excessive debt service as a percentage of operating expenses can serve to constrain future programming opportunities. However, debt issued for projects also grows strategic programs, increases the University's revenue and operating expense base, and provides additional prudent borrowing capacity in future years. In times of unusual revenue variability, debt service is largely a fixed cost of operation.

Recent rating reports from 2019 are included in Appendix A for further information.

Under C.R.S. §23-20-129.5(2)(d) the University is required to maintain a debt service payment ratio of less than 10% of the University's annual unrestricted expenditures plus mandatory transfers. Historically, Regent policy has been more conservative than the statutory provision, limiting the annual debt service payment ratio to 7%. In applying this debt monitoring measure, it is important to recognize that annual debt service includes both interest payments and retirement of bond principal in the numerator of the ratio. Currently, over half of the university's annual debt service payment represents the retirement of bond principal.

An analysis of the debt service payment ratios for University as a whole, and for each campus, is summarized below. The analysis contemplates all currently outstanding long-term obligations of the University as of June 30, 2020 (Table 1). On July 1, 2020 a variable rate demand bond issue is expected to temporarily replace the University's commercial paper program for construction financing. The assumed rate for the university's VRDB issue is 1% during the construction phase of the financed projects. This analysis includes all approved projects or proposed for Regent approval in June of 2020 and initially financed through the issuance of external obligations for the period from FY21 through FY22 (Table 2). Currently, there are no additional projects authorized for external borrowing for FY22, only authorized completion of financing for projects undertaken in earlier fiscal years at the Anschutz Campus.

Methodology

Each fiscal year's debt service payment ratio is calculated by dividing the maximum annual debt service (MADS) payment, by the sum of that fiscal year's forecasted combined unrestricted current fund expenditures plus mandatory transfers (UCFE&MT).

$$\boxed{\text{Maximum Annual Principal and Interest}} \div \boxed{\text{Unrestricted Current Fund Expenditures \& Mandatory Transfers}} = \boxed{\text{Debt Service Payment Ratio}}$$

As with any forecasting, there are assumptions used to derive the results. This year projection of FY21-25 expenditures is much more uncertain due to the impact of Covid-19 on expected operations of campus in FY21 and anticipated recovery in subsequent years. Also, assumed growth rates in future fiscal years are more uncertain, as a result. In comparing projections from previous reports to actual experience, projected debt service payment ratios have generally been overestimated primarily due to assumptions that proved to be conservative regarding future growth of unrestricted general fund expenditures (the denominator of the ratio).

Debt service payment ratios are not static indicators. The University has experienced compound annual growth rate of unrestricted current fund expenditures and mandatory transfers of approximately 8.4% annually From FY15-20, the denominator of this ratio, permitting significant new borrowing for needed projects without significantly affecting the calculated ratios. *All readers are cautioned about the conclusions of this report due to the uncertainties of operations due to Covid-19 in FY21 and FY22.*

Assumptions

Forecasting the debt service payment ratios takes into account several variables over a five-year period. These variables include the current debt service payment structure of the University, an assumed future interest rate for new borrowing on approved projections, projected growth rates of current fund expenditures on each of the campuses as provided by the Office for Budget and Finance, and capital project costs and amounts financed, provided by the campuses and system office.

1. **Current Debt Structure and Projected Interest Rates.** The University's weighted average cost of borrowing to call dates is approximately 2.62%. For fixed rate bonds expected to be issued in FY 21-22 we are using an assumed borrowing rate of 3%, higher than our historical and current experience. In terms of sensitivity of the projected debt service ratio based on future interest rates, an increase to 4% cost of borrowing would impact annual principal and interest by $700,000 per year per $100 million borrowed, a relatively small impact compared to year-to-year changes in annual unrestricted current fund expenditures at the University.
2. **Future Years' Expenditure Base.** The base year, upon which unrestricted current fund expenditures plus mandatory transfers are calculated, are expected FY21 budgeted amounts. Historically, for FY16-FY20 the calculated annual increase in UCFE&MT's was 8.3%, in part because CU Medicine expenditures at the Anschutz campus grew by a compound rate of 9.7% during that period. The projection of UCFE&MT in this report is based on the actual average increases in the last 5 fiscal years, adjusted for expected lower operating results expected in FY21 and a return to more normal patterns thereafter.

3. **Future Borrowing.** Amounts financed for each project are as listed (Table 2), and are for projects that have been or are expected to be approved by the Regents by June of 2020.

Projected Debt Service Payment Ratios

University of Colorado System (Table 3):

As of June 30, 2020, the University has $1.64 billion in outstanding long term debt from directly issued revenue bonds, 5.1 million in other long-term obligations from contingent liabilities outstanding (Table 1) and currently $50 million of commercial paper outstanding, expected to be retired on July 1, 2020. For this report, and consistent with the University's Master Bond Resolution, we have assumed level debt service amortization of the Series 2019C Put Bonds over twenty-five years. With no change to currently outstanding debt structure, maximum annual debt service payments for the University will occur in FY22, $139.9 million decreasing to $131.7 million in FY25. The University's current debt payment ratio for "existing-only" debt is 4.1% as of FY21. If the University were to issue no new debt, the system-wide ratio would decrease to 2.9% by FY25.

If the University finances the additional projects on Table 2, the University-wide debt payment ratio is forecasted to be 3.0% in FY25 and would still be able to accommodate an additional $194 million in annual debt service payments while remaining below 7% debt service payment capacity. Thus, total University debt could increase by approximately $3.7 billion in FY25, assuming 3% borrowing cost and a 30-year term and remain within the Board of Regents' 7% debt service payment ratio cap, assuming no additional growth in UCFE&MT after FY25.

University of Colorado Boulder (Table 4):

In FY23, maximum future debt service payments for CU-Boulder's outstanding long-term obligations is approximately $74.2 million and reflects a FY21 debt payment ratio of 5.5%. With no change to currently outstanding debt structure, total debt service payments for the campus are expected to be $70.8 million in FY25, and the debt payment ratio would decline to 3.9% by FY25 if no additional debt is issued.

With the campus financing the additional projects on Table 2, its debt payment ratio would fall from 5.6% in FY21 to 4.5% by FY25. That would leave the campus with an additional $43.1 million in capacity under the 7% debt payment ratio in FY25, approximately $825 million of borrowing capacity, assuming 3% interest cost on a 30 year, level debt service borrowing.

University of Colorado Colorado Springs (Table 5):

In FY24, maximum payments for UCCS's long-term obligations will be approximately $19.0 million. Colorado Springs' current debt service payment ratio in FY21 is 8.7%. If no additional debt is issued, the campus debt payment ratio is projected to decline to 7.2% by FY25.

There are no anticipated additional borrowings at this time.

The largest recent project for UCCS, the $45 million Hybl Sports Medicine Project, is being developed in partnership with Centura Health, a prominent non-profit healthcare provider. Centura Health and City of Champions TIFF are expected to pay long-term lease or other contractual agreements 42% of the debt service on this project as a project partners. The debt payment ratio in Table 5 assumes 100% of the debt service cost is borne by the campus. Hence, the projected ratios overstate the likely campus impact of the debt service payment costs of the project.

University of Colorado Denver Campus (Table 6):

UC Denver

For the Denver campus, the current debt ratio for FY21 is 4.9%, based upon the refinancing for CVA in Series 2019B, and issuance of bonds for City Heights Housing with the Series 2019C Bonds. It is projected that Denver could increase debt service payments in FY25 by approximately $8.7 million and stay within the 7% limitation, an approximate $170 million borrowing, at 3% on a 30-year level payment basis.

University of Colorado Anschutz Medical Campus (Table 7)

CU Anschutz Medical Campus

For the CU Anschutz Medical Campus, the current debt service payment ratio for FY21 is 1.9%, including the issuance of bonds for the Central Utilities Project in Series 2019B. If the campus issues no additional debt, that ratio is expected to decline to approximately 1.3% by FY25. Based on the borrowing for new debt for the projects listed on Table 2, the FY21 ratio would rise to approximately 2.4%, before declining to 1.6% in FY26.

Appendix A – Rating Reports

MOODY'S
INVESTORS SERVICE

Rating Action: Moody's assigns Aa1 to University of Colorado's (CO) Series 2019B&C; outlook stable

18 Sep 2019

New York, September 18, 2019 -- Moody's Investors Service has assigned Aa1 ratings to the University of Colorado's (CO) (CU) planned $84.2 million University Enterprise Revenue and Refunding Revenue Bonds, Series 2019B and $205 million University Enterprise Revenue and Refunding Revenue Bonds, Series 2019C (Term Rate Bonds) (Green Bonds) to be issued by the Regents of the University of Colorado. The Series 2019B bonds will be fixed rate with a final maturity in fiscal 2049. The Series 2019C bonds will be in a term rate mode for five years and subject to conversion to a fixed rate or another term rate mode for the term rate period. We maintain Aa1 and P-1 ratings on approximately $1.6 billion of outstanding university enterprise revenue bonds, and commercial paper (CP) and extendable commercial paper (ECP) programs. The outlook is stable.

RATINGS RATIONALE

The Aa1 rating reflects CU's role as the State of Colorado's (Aa1 stable, issuer rating) flagship institution, with excellent strategic positioning, a significant research enterprise and important role in the provision of medical education for Colorado. The four campus locations, in Boulder, Denver, Aurora and Colorado Springs - along Colorado's Front Range - bolster student draw. The rating is further supported by CU's substantial $4.2 billion very diverse scope of operations, consistent positive operating performance, and robust gift activity. Continued prudent financial stewardship underpins strong growth in cash and investments and manageable leverage.

Tempering the rating is very limited state support for operations and capital, ongoing need for capital investment across its multiple campuses, and exposure to potentially volatile healthcare operations through its affiliation with the University of Colorado Hospital Authority. CU also has a high underfunded pension liability, though state-enacted pension reforms during fiscal 2018 have decreased the magnitude of future potential expense pressure.

RATING OUTLOOK

The stable outlook reflects our expectations that CU will continue to record steady student demand and growth in student charges, strong research activity and flexibility to adjust to federal funding challenges, and substantial gift support.

FACTORS THAT COULD LEAD TO AN UPGRADE

- Material growth in financial cushion to debt and operations, with sustained elevated improvement in cash flow

- Further enhancement in philanthropic support FACTORS THAT

COULD LEAD TO A DOWNGRADE

- Sustained weakening of financial reserves, liquidity and leverage

- Material deterioration in enrollment or research leading to weaker operations LEGAL

SECURITY

CU's planned Series 2019B and 2019C bonds will be on parity with outstanding revenue debt and CP/ECP notes, secured by a pledge of net revenues (gross revenue less maintenance and operation expenses) of certain auxiliary enterprise facilities, including income derived from housing, dining, parking, rent of research facilities, and particular student fees. The parity obligations are also secured by a pledge of 100% of tuition revenues, revenue from indirect cost recovery, and mandatory facilities construction fees. There are no debt service reserve funds.

Fiscal year 2018 pledged net revenues totaled $1.26 billion, representing approximately 30% of the university's 2018 operating revenues (Moody's calculated) of $3.9 billion. Pro forma maximum annual debt service coverage by pledged revenues is projected at 8.3x upon issuance of the Series 2019B and 2019C bonds and inclusive of 100% of tuition revenue.

USE OF PROCEEDS

Proceeds of the Series 2019B bonds will be used to: make improvements to the Campus Village Apartments at the CU-Denver campus; make improvements at the Anschutz Medical Campus central utility plant; refund CP used to make improvements at the Fleming Tower on the CU-Boulder campus; and pay costs of issuance.
Proceeds of the Series 2019C bonds will be used to: construct a first-year student housing project at CU- Denver; refund CP used to construct the Aerospace Engineering Science Building and Williams Village East Housing at CU-Boulder; and pay costs of issuance.

PROFILE

The University of Colorado is the flagship public higher education institution for the State of Colorado with multiple campuses. The main campus is located in Boulder, with additional campuses in Downtown Denver, Aurora (Anschutz Medical campus) and Colorado Springs. CU is a member of the Association of American Universities. In fiscal 2018, CU recorded $4.2 billion in operating revenue, and in fiscal year 2019 enrolled 53,521 full-time equivalent (FTE) students.

METHODOLOGY

The principal methodology used in these ratings was Higher Education published in May 2019. Please see the Rating Methodologies page on www.moodys.com for a copy of this methodology.

REGULATORY DISCLOSURES

For ratings issued on a program, series, category/class of debt or security this announcement provides certain regulatory disclosures in relation to each rating of a subsequently issued bond or note of the same series, category/class of debt, security or pursuant to a program for which the ratings are derived exclusively from existing ratings in accordance with Moody's rating practices. For ratings issued on a support provider, this announcement provides certain regulatory disclosures in relation to the credit rating action on the support provider and in relation to each particular credit rating action for securities that derive their credit ratings from the support provider's credit rating. For provisional ratings, this announcement provides certain regulatory disclosures in relation to the provisional rating assigned, and in relation to a definitive rating that may be assigned subsequent to the final issuance of the debt, in each case where the transaction structure and terms have not changed prior to the assignment of the definitive rating in a manner that would have affected the rating. For further information please see the ratings tab on the issuer/entity page for the respective issuer on www.moodys.com.

Regulatory disclosures contained in this press release apply to the credit rating and, if applicable, the related rating outlook or rating review.

Please see www.moodys.com for any updates on changes to the lead rating analyst and to the Moody's legal entity that has issued the rating.

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MOODY'S INVESTORS SERVICE

CREDIT OPINION
2 July 2019

Rate this Research

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University of Colorado, CO

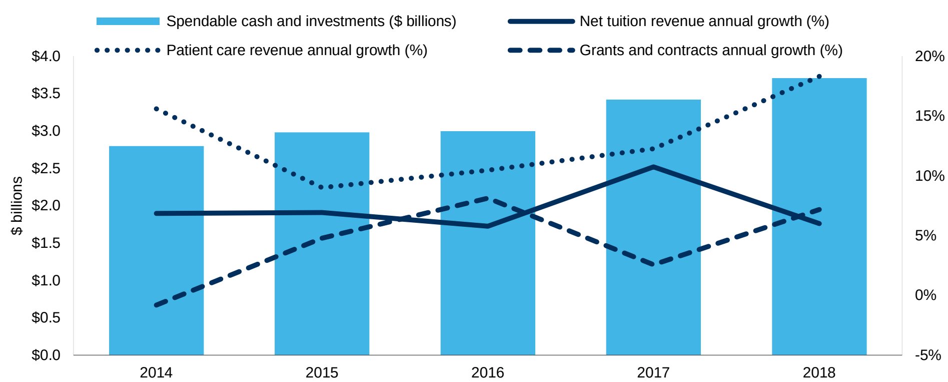
Update to credit analysis

Summary

University of Colorado's (CU, Aa1 stable) strong credit profile reflects its role as the State of Colorado (Aa1 stable, issuer rating) flagship institution, with excellent strategic positioning, a significant research enterprise and important role in the provision of medical education for Colorado. The four campus locations, in Boulder, Denver, Aurora and Colorado Springs - along Colorado's Front Range - bolster student draw. The rating is further supported by CU's substantial $4.2 billion very diverse scope of operations, consistent positive operating performance, and robust gift activity. Continued prudent financial stewardship underpins strong growth in cash and investments and manageable leverage. Tempering the rating is very limited state support for operations and capital, ongoing capital investment across its multiple campuses, and exposure to potentially volatile healthcare operations through its affiliation with the University of Colorado Hospital Authority (UCHA, Aa3 stable). CU also has a high underfunded pension liability, though state-enacted pension reforms during fiscal 2018 have decreased the magnitude of future potential expense pressure.

Exhibit 1

Substantial growth in cash and investments resulting from robust gift activity, as well as strong growth in major revenue streams - tuition, patient care and grants and contracts



Source: Moody's Investors Service

Credit strengths

» Large, diverse scope of operations ($4.2 billion in fiscal 2018) as Colorado's flagship, multi-campus university, and academic medical center

» Significant and growing total cash and investments of $4.3 billion and 247 monthly days cash on hand

» Strong brand recognition demonstrated by robust 33% growth in net tuition revenue over the fiscal 2014-18 period

» Sizeable and growing $700 million multi-disciplinary research activity

» Manageable leverage; spendable cash and investments cover debt by 2.2x, and ongoing capital spending averaging 1.9x annually

Credit challenges

» Weak state funding for operations, 3.4% of fiscal 2018 Moody's adjusted operating revenues, and capital support

» Volatile healthcare exposure through a component unit physician practice plan that contributes 23% of operating revenues

» Relatively high expense growth requires attention to stronger revenue growth

» Large pension liability

Rating outlook

The stable outlook reflects our expectations that CU will continue to record steady student demand and growth in student charges, strong research activity and flexibility to adjust to federal funding challenges, and substantial gift support.

Factors that could lead to an upgrade

» Material growth in financial cushion to debt and operations, with sustained elevated improvement in cash flow margins

» Further enhancement in philanthropic support

Factors that could lead to a downgrade

» Sustained weakening of financial reserves, liquidity and leverage

» Material deterioration in enrollment or research leading to weaker operations

Key indicators

Exhibit 2
University of Colorado, CO

	2014	2015	2016	2017	2018	Median: Aa Rated Public Universities
Total Fall FTE Enrollment	49,398	50,766	51,749	53,997	55,684	29,353
Operating Revenue ($000)	3,069,437	3,314,945	3,592,799	3,877,367	4,215,331	1,186,906
Annual Change in Operating Revenue (%)	6.7	8.0	8.4	7.9	8.7	3.2
Total Cash & Investments ($000)	3,257,934	3,491,243	3,519,401	3,990,991	4,322,200	1,363,489
Total Debt ($000)	1,900,207	1,778,164	1,754,977	1,548,830	1,679,075	643,972
Spendable Cash & Investments to Total Debt (x)	1.5	1.7	1.7	2.2	2.2	1.5
Spendable Cash & Investments to Operating Expenses (x)	1.0	1.0	0.9	0.9	0.9	0.7
Monthly Days Cash on Hand (x)	222	224	220	225	247	169
Operating Cash Flow Margin (%)	11.5	12.3	11.7	11.0	11.4	11.2
Total Debt to Cash Flow (x)	5.4	4.3	4.2	3.6	3.5	4.7
Annual Debt Service Coverage (x)	3.7	4.3	3.5	3.1	3.4	2.9

Source: Moody's Investors Service

Profile

The University of Colorado is the flagship public higher education institution for the state of Colorado with multiple campuses. The main campus is located in Boulder, with additional campuses in Downtown Denver, Aurora (Anschutz Medical campus) and Colorado Springs. CU is a member of the Association of American Universities. In fiscal 2018, CU recorded $4.2 billion in operating revenue, and in fall 2018 enrolled 55,684 full-time equivalent (FTE) students.

Detailed credit considerations

Market position: solid brand, comprehensive programming and sizable research activity

Student demand will remain sound across CU's four campuses due to the diversity of missions, academic programs and strong research activity. Enrollment across the institution totaled 55,684 FTE for fall 2018, up 13% over fall 2014, inclusive of 19% graduate and postgraduate students. Enrollment at the flagship Boulder campus comprises over half of the university's 67,002 headcount, while the Colorado Springs (UCCS) campus is 19% of headcount. The remaining 29% is enrolled at the Anschutz Medical Center campus in Aurora (7%) or the UC Denver campus (22%) at the Auraria Higher Education Center.

CU's net tuition per student will remain high relative to peers, though guaranteed tuition pricing programs at the Boulder campus and planned flat resident undergraduate pricing are likely to moderate growth in the near term. Pricing varies across campuses, but the fiscal 2018 aggregate net tuition per student of $21,136 is well above the Aa1-median ($13,987). Higher net tuition per student stems from material non-resident enrollment (nearly half of the Boulder flagship campus fall 2018 first time students were from out of state), very limited state support, and a large mix of higher tuition graduate programs. CU Boulder implemented a guaranteed tuition pricing program for resident undergraduates beginning in fiscal 2017, augmenting its existing non-resident guaranteed tuition program. To date, roughly 56% of the overall system's students participate in this program.

Medical research and education are an important aspect of CU's role as the leading public Academic Medical Center in the state. The university maintains a strong working relationship with the Anschutz Medical Campus in Aurora, that is co-located with the University of Colorado Hospital Authority (UCHA, a legally separate organization with separately secured debt, Aa3 stable). UCHA, which recorded $4.3 billion in fiscal 2018 Moody's adjusted operating revenue, is the primary teaching hospital for the CU School of Medicine, with the University of Colorado Hospital and Children's Hospital Colorado at the Anschutz campus. The university benefits in multiple ways from its relationship with UCHA, primarily through CU Medicine (formerly University Physicians, Inc. or UPI) practice plan and clinical research activity. CU Medicine includes roughly 2,600 physicians, with fiscal 2018 results showing $1.0 billion in operating revenue.

Robust research funding is an important component of CU's credit profile, with nearly equal focus on both health and natural sciences related activity. The scope of the university's research is considerable, with fiscal 2018 $700 million direct research expenditures and a reported $1.05 billion in sponsored research awards in fiscal 2018. Roughly 63% of awards stem from federal sponsors, of which funding has grown a solid 11.5% over the last five years.

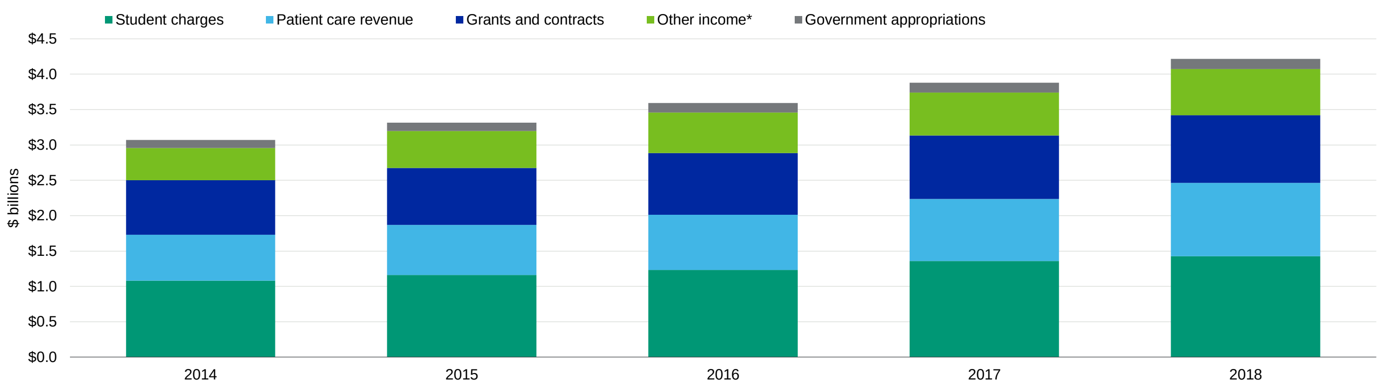
Operating performance: growth in all major revenue streams, with expected slowing in net tuition revenue

CU's good fiscal discipline, combined with solid student demand, improved research funding, and favorable operations of its physician practice plan unit will support the university's continued positive operating performance. Cash flow margins of roughly 11%-12% will continue to provide very good debt service coverage of nearly 3x annually.

The university's multiple major revenue streams are performing well, and are expected to remain sound in the near term. CU's revenue diversity provides stability for variations in any one income stream, as well as mitigating the very low state operating support. Net tuition revenue has grown a robust 33% over the fiscal 2014-18 period, though with guaranteed tuition pricing and planned limited tuition and fee increases, growth may begin to slow. Revenues derived from the physicians practice plan (CU Medicine) have risen a significant 60% in five years. Improvements in CU Medicine metrics are due largely to rising clinical volumes, strong oversight of reimbursement rates, and rate increases.

Exhibit 3

Revenue diversity and strong growth in individual revenue streams mitigate uncommonly low state operating support
Moody's adjusted operating revenue for fiscal 2014-18



*Other income includes: aales and services of departments, contributions for operations, Moody's adjusted investment income, and other revenue.
Source: Moody's Investors Service

State support for operations is uncommonly low (3.4%) and we expect funding to remain a minimal portion of operations. Favorably, state support did increase 27% over the fiscal 2014-18 period, with budgeted increases of roughly 12% increases for fiscal 2019 and 2020. State funding includes both the College Opportunity Fund (COF), a stipend granted to undergraduate students that we include in net tuition revenue, and the annual fee for service (FFS) contracts, which cover graduate students and other designated programs.

Wealth and liquidity: sound fiscal oversight; philanthropic success and retained earning bolster reserves

The university's total and relative wealth levels continue to be key strengths that add stability to its overall profile. Total cash and investments rose a very strong 33% over the fiscal 2014-18 period, reaching $4.3 billion at June 30, 2018, driven by fundraising success, favorable capital markets, and strong financial stewardship. Spendable cash and investments of $3.7 billion is up a similarly strong 32% in the fiscal 2014-18 period, far outpacing growth of similarly rated peers. Spendable cash and investments covered expenses a solid 0.9x, though slightly below the Aa1-rated median of 1.0x.

Robust philanthropic support will continue for CU, as the university embarks on its $4 billion "Essential CU" comprehensive capital campaign that will support academic, research and public service priorities across the four-campus CU system. To date $2 billion has been raised in gifts and pledges. The campaign is expected to conclude in spring 2023.

The university's overall cash and investments are separated into short term and long term pools to maximize liquidity and investment oversight strategies. The short term pool managed by the university totaled $2.6 billion at fiscal-end 2018, and was comprised largely of more liquid securities. The long term investment pool (LTIP) for CU assets was $1.67 billion at June 30, 2018 and stood at $1.42 billion as of April 30, 2019. The fiscal 2018 return was a strong 10.1% relative to similar endowment size peers, and through April 2019 was 4.6%. The foundation and university portfolios are managed internally with oversight provided by respective investment advisory committees and external assistance from third party advisors as needed.

Liquidity

CU's liquidity is excellent. The nearly $2.6 billion in monthly liquidity translates to 247 monthly days cash on hand, providing a good cushion to operations, particularly given the sound operating cash flow, conservative debt structure and predictable debt service, and modest other calls on liquidity. The fiscal 2018 Aa1-rated median was 203 monthly days.

CU has a commercial paper (CP) and extendible commercial paper (ECP) program. Maturing commercial paper is supported by its own liquidity. CU's self-liquidity assets and strong treasury management support the highest short term ratings on the new programs. At April 30, 2019 the university had $432 million of discounted daily liquidity, largely money market funds and US Treasuries. The internal daily liquidity provides a strong 4.5x coverage of its commercial paper excluding the largest money market investment with one sponsor. The calculation is based on the limitation of $75 million of commercial paper that can mature in a 5 day period that is included in its Issuing and Paying Agency Agreement, not on the maximum $200 million authorized by the university's board.

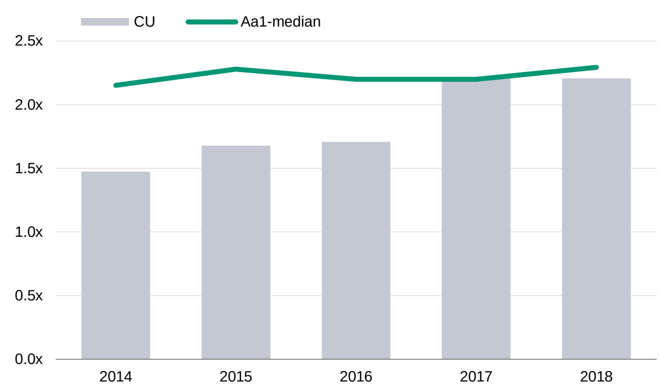
Leverage: manageable leverage including planned large fiscal 2020 issuance

Future capital plans are manageable given regular debt amortization, favorable operating performance, growth in cash and investments, and philanthropic success. The university's sizeable financial reserves and revenue provide very good support to debt. Fiscal 2018 spendable cash and investments covered pro forma debt by a solid 2.2x, nearly on par with the Aa1-median of 2.3x.

Exhibit 4

Despite increased debt, CU's leverage remains consistent with Aa1-rated peers

Spendable cash and investments to debt (x)

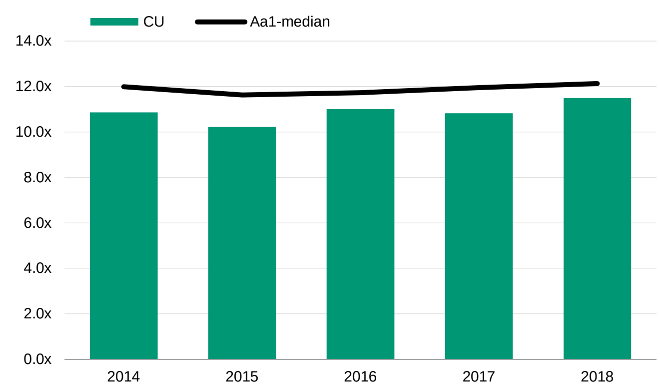


Source: Moody's Investors Service

Exhibit 5

Continued investment in facilities across the system has kept age of plant below Aa1-rated peers

Age of plant (years, x)



Source: Moody's Investors Serivce

CU's capital budget includes the use of the planned CP/ECP program over the next three years, with interim transactions to refinance with longer term debt. In addition, CU is planning a roughly $300 million new issue in fall 2019 (fiscal 2020) to refund approximately $150 million of commercial paper, to fund approximately $110 million for new projects at the Anschutz and Denver campuses, and to refund the approximately $50 million Series 2018A bonds. Given its strong wealth, size and scope of revenue, stable operating cash flow performance and ongoing principal amortization, we expect CU will prudently absorb and manage the sizable new issue.

Debt structure

The university's conservative long-term debt structure of fixed rate, regularly amortizing debt provides predictability in annual debt service payments and preserves future debt capacity as principal is reduced each year. The Series 2017A-2 bonds included crossover refunding components: $138 million were retired June 1, 2019, and $26 million will be refunded June 1, 2020, because of the long tenure before the refunding occurs, we include these bonds as additional pro forma debt.

The combined CP and ECP authorization is $200 million, with a maximum of $75 million that can mature within a 5-day period established within the Issuing and Paying Agent Agreement. Currently, CU has approximately $135.5 million in outstanding CP, and expects to take out a sizable portion of the CP in its planned fall 2019 revenue bond financing.

A blended component unit, CU Medicine (formerly UPI) has $7.5 million of debt in a fixed rate direct bank placement with US Bank, N.A.

Legal security

CU's revenue debt and CP/ECP notes are secured by a pledge of net revenue (gross revenue less maintenance and operation expenses) of certain auxiliary enterprise facilities, including income derived from housing, dining, parking, rent of research facilities, and particular student fees. The parity obligations are also secured by a pledge of 100% of tuition revenue, revenue from indirect cost recovery, and mandatory facilities construction fees. There are no debt service reserve funds.

Fiscal year 2018 pledged net revenue totaled $1.26 billion, representing approximately 30% of the university's 2018 operating revenue (Moody's calculated) of $4.2 billion. Pro forma maximum annual debt service coverage by pledged revenue is projected at 9.5x inclusive of 100% of tuition revenue.

Debt-related derivatives

None.

Pensions and OPEB

The university has substantial additional debt-like obligations that add long-term credit risk through its participation in state pension and retirement health plans. However, given the university's good cash flow and healthy reserves, including some recent state pension reform actions, the pension liability is manageable at the Aa1-rating level.

Moody's three-year (fiscal 2016-18) average adjusted net pension liability (ANPL) is $2.6 billion. Added to pro forma direct debt of nearly $1.7 billion, total adjusted debt is 1.0x operating revenue, relative to the Aa1-median of 0.9x.

Certain of the university's employees (100% of classified and approximately 30% of faculty and non-classified) participate in Colorado's Public Employees' Retirement Association (PERA) defined benefit cost-sharing, multiple-employer plan administered by the state. PERA also administers a voluntary tax-deferred retirement plan. The university fully funded its required contributions to all plans in fiscal 2018.

CU participates in two OPEB plans: a university sponsored single-employer plan and PERA's Health Care Trust Fund (HCTF). CU's share of the net OPEB liability was reported at $799 million for fiscal 2018.

Management and governance: system leadership transition in fiscal 2020; to date, focused and successful implementation of strategic growth

Excellent strategic positioning, underscored by steady leadership, has enabled the university system to achieve strategic targets, despite recent years of economic uncertainty and the constraints of operating under the state's TABOR limitations. Key achievements include growing financial reserves, continued economic development, and operational stability among the four campuses.

A new president for the comprehensive system will begin on July 1, 2019, transitioning from his prior role as president at University of North Dakota. His predecessor led the system since 2008.

Fitch Rates University of Colorado's Series 2019B&C Revenue Bonds 'AA+'

Fitch Ratings-Chicago-18 September 2019: Fitch Ratings has assigned 'AA+' ratings to approximately $84.2 million of series 2019B fixed rate enterprise revenue bonds and $205.79 million of series 2019C fixed rate enterprise revenue term rate bonds (Green Bonds) to be issued by the Regents of the University of Colorado (CU).

CU's Issuer Default Rating (IDR) is 'AA+'. The short-term rating on CU's commercial paper (CP) program is 'F1+'.

The Rating Outlook is Stable.

Proceeds from the series 2019B&C bonds will be used to take out portions of CU's outstanding CP debt that had been issued to provide financing for the Williams Village East housing project (Boulder campus), the Aerospace Engineering facility (Boulder campus, which opened earlier in September 2019), and the Fleming Tower Renovation (Boulder Campus). Proceeds will also be used to refund in full the outstanding series 2018A floating rate notes, provide funds to support construction of a first year student housing facility (Denver campus) and central utility plant (Anschutz medical campus in Aurora), finance the Campus Village apartments and fund minor improvements to the facility (Denver campus), and pay the costs of issuance.

CU is prepared to price as early as the week of Sept. 23, although management is keeping its options open regarding timing.

SECURITY

Revenue bonds are secured by CU enterprise revenues, consisting primarily of auxiliary net revenues, indirect cost recovery revenues, student fees, 100% of tuition revenues, and other self-funded and research related services. Pledged revenues exclude state appropriations.

ANALYTICAL CONCLUSION

KEY RATING DRIVERS

Revenue Defensibility: 'aa'; Comprehensive Flagship Research University with Expanding Reach

Revenue defensibility is consistent with a 'aa' assessment. CU is a comprehensive flagship research university with broad statewide and expanding national draw. Retention rates are sound and average SAT/ACT scores are well above average, although acceptance and matriculation rates are comparatively modest. Fitch views CU's enrollment demand to be somewhat inelastic to tuition rates, and state support has grown in recent years. The endowment spend rate is quite manageable and should support liquidity growth. Based on preliminary data for fall 2019, total system student FTE enrollment continues to grow, including at the Boulder flagship campus.

Operating Risk: 'a'; Track-Record of Adequate Adjusted Cash Flow Margins

CU's operating risk profile is consistent with an 'a' assessment. The university has a track-record of sufficient adjusted cash flow margins, which Fitch expects CU to sustain if not improve over time. Based on preliminary unaudited financial statements (June 30 year-end), CU's operating income improved in fiscal 2019 and the university continued to grow liquidity. Additionally, capital spending needs are manageable and only somewhat elevated in the near term.

Financial Profile: 'aa'; Very Strong Capital-Related Ratios through the Cycle

CU's financial profile is very strong. Capital-related ratios should improve, including through the cycle in the stress case of Fitch's FAST scenario analysis. In 2018, the state approved significant PERA pension reforms, which will provide meaningful long-term reductions to net pension liabilities to CU over time. Again, based on preliminary unaudited fiscal data, CU's liquidity increased further at FYE 2019 and should improve over time, leading to stronger capital-related ratios.

Asymmetric Additional Risk Considerations

There are no asymmetric risk factors associated with CU's rating.

RATING SENSITIVITIES

MAINTENANCE OF SOUND OPERATIONS AND STRONG BALANCE SHEET: Fitch expects the University of Colorado to maintain sound adjusted cash flow margins and balance sheet strength in support of its 'AA+' IDR.

CREDIT PROFILE

CU is a comprehensive flagship graduate research university and the largest institution of higher education in Colorado. CU offers a full array of undergraduate, graduate, and professional programs on four campuses: the flagship location in Boulder, Colorado Springs, Denver, and the Anschutz Medical Campus in Aurora. The Anschutz campus is also home to the University of Colorado Hospital (UCHealth; rated AA). UCHealth is a separate legal entity but maintains very tight alignment with CU's School of Medicine and is CU's primary teaching hospital.

CU has realized steady and significant student enrollment growth in recent years. For example, total system-wide FTE undergraduate enrollment increased nearly 3% in fall 2018 over the prior year and is up approximately 16% since fall 2013. Based on preliminary data for fall 2019, CU's total system student FTE enrollment continues to grow, increasing nearly 4% in fall 2019 (including 3% at the Boulder flagship campus). Student demand has yielded favorable net tuition and fee growth, which has increased roughly 5% over the last five years, rising to nearly $1.1 billion by fiscal 2018. Based on preliminary unaudited data, net tuition & fees will exceed $1.1 billion in fiscal 2019.

Relevant Rating Committee Date: July 1, 2019

For a more detailed assessment of CU's 'AA+' IDR, please see Fitch's press release dated July 2, 2019.
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In addition to the sources of information identified in Fitch's applicable criteria specified below, this action was informed by information from Lumesis. Media Relations: Sandro Scenga, New York, Tel: +1 212 908 0278, Email: sandro.scenga@thefitchgroup.com
Additional information is available on www.fitchratings.com Applicable Criteria
Fitch Internal Liquidity Worksheet (pub. 15 Feb 2019)
Public Sector, Revenue-Supported Entities Rating Criteria (pub. 28 May 2019) Short-Term Ratings Criteria (pub. 02 May 2019)
U.S. Public Finance College and University Rating Criteria (pub. 03 Jun 2019)

Additional Disclosures
Solicitation Status
Endorsement Policy

Table 1

Outstanding Long-Term Obligations of the University of Colorado As of June 30, 2020				
Long-Term Obligations	**Final Maturity**	**Interest Rate**	**Original Amount Issued**	**Outstanding**
Revenue Bonds				
University Enterprise Revenue Refunding Bonds, Series 2007A	2033	5.00	184,180,000	27,725,000
Tax-Exempt University Enterprise Refunding Revenue Bonds, Series 2009C	2026	4.00	24,510,000	615,000
University Enterprise Revenue Bonds, Series 2011A	2041	4.00 to 5.00	203,425,000	5,770,000
University Enterprise Revenue Refunding Bonds, Series 2011B	2024	3.00 to 5.00	52,600,000	21,235,000
University Enterprise Revenue Refunding Bonds, Series 2012A-1	2029	2.00 to 5.00	121,850,000	33,560,000
University Enterprise Revenue Refunding Bonds, Series 2012A-2	2035	3.25 to 5.00	53,000,000	2,910,000
University Enterprise Revenue Refunding Bonds, Series 2012A-3	2030	3.00 to 5.00	47,165,000	7,890,000
University Enterprise Revenue Bonds, Series 2012B	2042	5.00	95,705,000	14,000,000
Tax-Exempt University Enterprise Revenue Bonds, Series 2013A	2043	5.00	142,460,000	8,510,000
Taxable University Enterprise Revenue Bonds, Series 2013B	2043	2.639 to 5.177	11,245,000	2,020,000
Tax-Exempt University Enterprise Revenue Bonds, Series 2014A	2046	5.00	203,485,000	27,010,000
Tax-Exempt University Enterprise Refunding Revenue Bonds, Series 2014B1	2034	2.00 to 5.00	100,440,000	92,380,000
Tax-Exempt University Enterprise Refunding Revenue Bonds, Series 2015A	2038	2.00 to 5.00	102,450,000	66,725,000
Tax-Exempt University Enterprise Refunding Revenue Bonds, Series 2015B	2033	2.00 to 5.00	3,925,000	1,440,000
Taxable University Enterprise Refunding Revenue Bonds, Series 2015C	2027	1.781 to 3.039	71,325,000	52,355,000
Tax-Exempt University Enterprise Revenue Bonds, Series 2016A	2047	1.50 to 5.00	31,430,000	10,935,000
Tax-Exempt University Enterprise Revenue Refunding Bonds, Series 2016B-1	2039	2.22 to 5.00	156,810,000	153,630,000
Tax-Exempt University Enterprise Revenue Refunding Bonds, Series 2017A-1	2034	2.00 to 5.00	66,930,000	51,485,000
Tax-Exempt University Enterprise Revenue Refunding Bonds, Series 2017A-2	2046	3.00 to 5.00	471,390,000	464,335,000
Tax-Exempt University Enterprise Revenue Refunding Bonds, Series 2018B	2048	2.50 to 5.00	64,360,000	63,275,000
Taxable University Enterprise Refunding Revenue Bonds, Series 2019A	2043	2.04 to 3.17	147,980,000	144,925,000
Taxable University Enterprise Refunding Revenue Bonds, Series 2019A2	2047	1.70 to 2.79	101,885,000	99,525,000
Tax-Exempt Enterprise Revenue and Refunding Bonds, Series 2019B	2048	4.00 to 5.00	79,795,000	77,600,000
Tax-Exempt Enterprise Revenue and Refunding Bonds, Series 2019C	2024	2.00	214,625,000	214,625,000
Total Revenue Bonds			**$2,752,970,000**	**$1,644,480,000**
Other Long-Term Obligations				
CU Medicine Private Placement Fixed Rate Bonds Series 2014(1)	2025	2.3	11,695,000	5,141,000
Total Other Long-Term Obligations			**$11,695,000**	**$5,141,000**
Total Revenue Bonds & Other Obligations			**$2,764,665,000**	**$1,649,621,000**

[1] Issued to refund bonds, the proceeds of which financed the University Physicians Inc. (UPI) building.

Table 2

University of Colorado						
Summary of Approved Projects						
UC Boulder Campus	**FY21**	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**
IMIG Music(a)	$ 45,968					
Campus Total	**$ 45,968**					
UC Colorado Springs Campus	none					
CU Anschutz Medical Campus						
Anschutz Health Sciences Building(a)	$ 143,498	$ 14,222				
Basement Build outs R2 - AHSB(a)	$ 35,534	$ 3,522				
Campus Total	**$ 179,032**	**$ 17,743**				
UC Denver Campus	none					
System Total	**$ 225,000**	**$ 17,743**				

(a) Initially financed with VRDB's. Interest during construction assumed at 1% on outstanding balance. Costs of issuance assumed at 1%. Take out financing assumed at 3% over 27 years.

Table 3

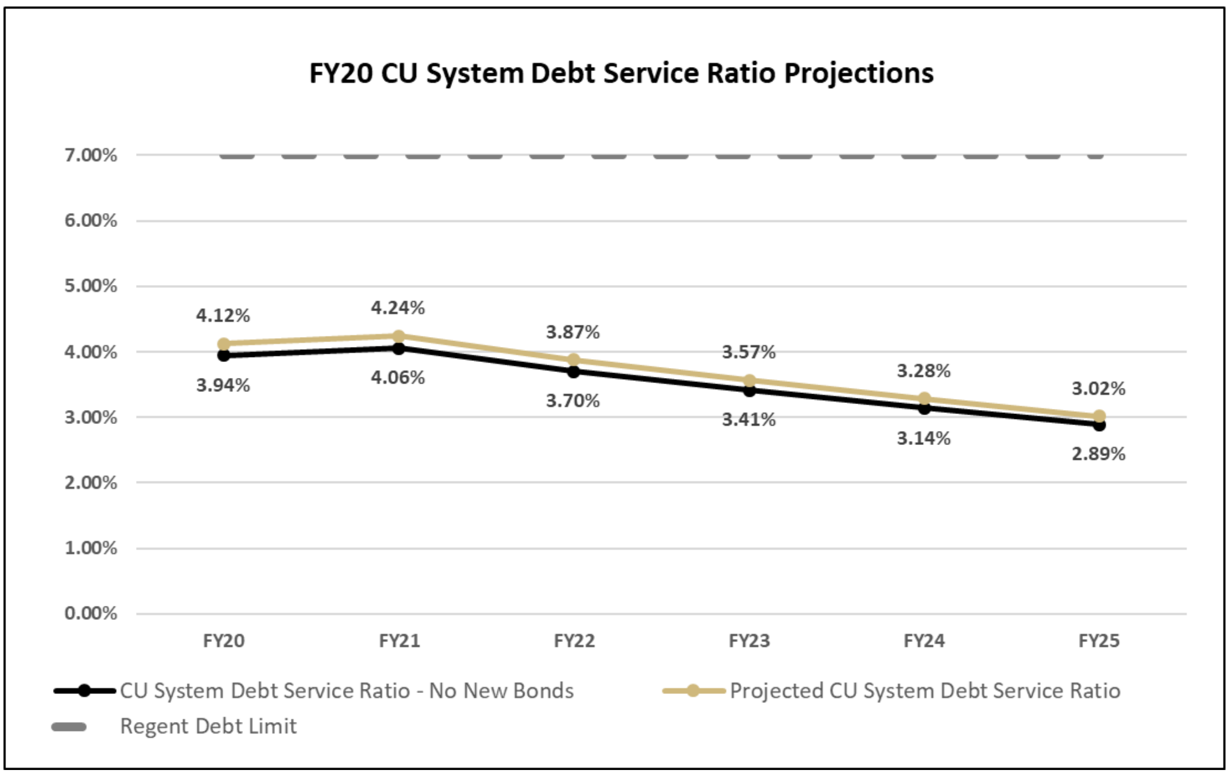
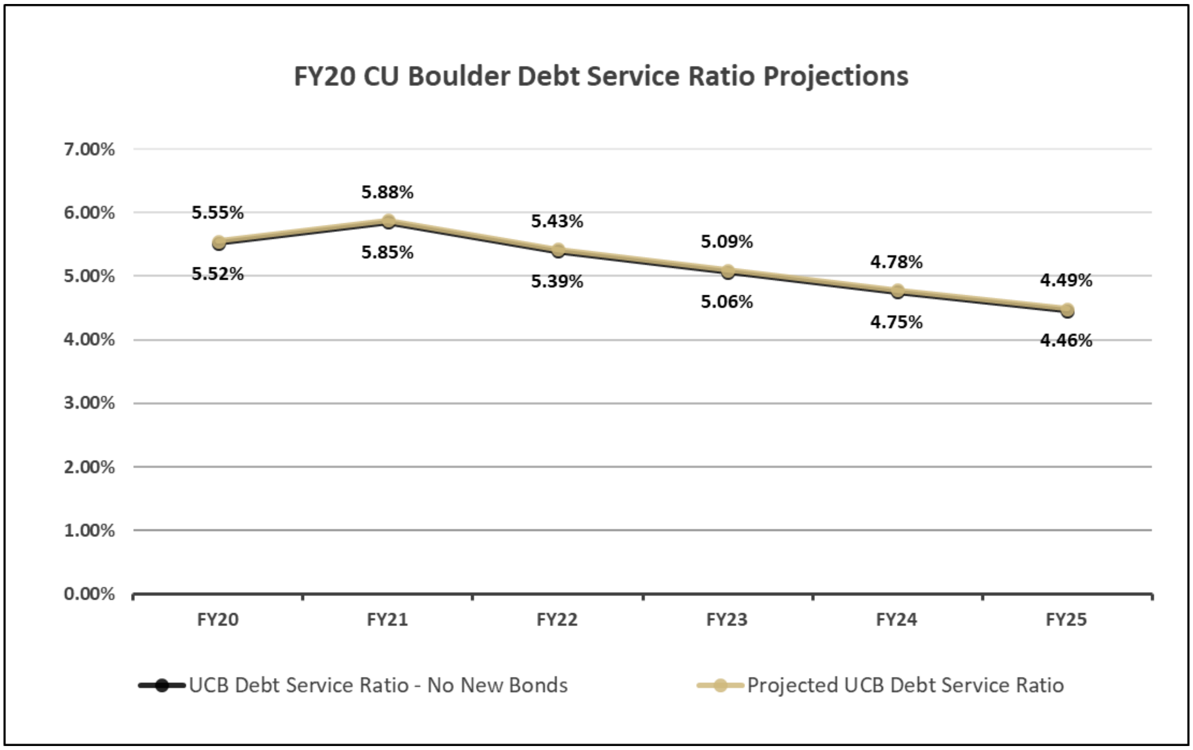


Table 4



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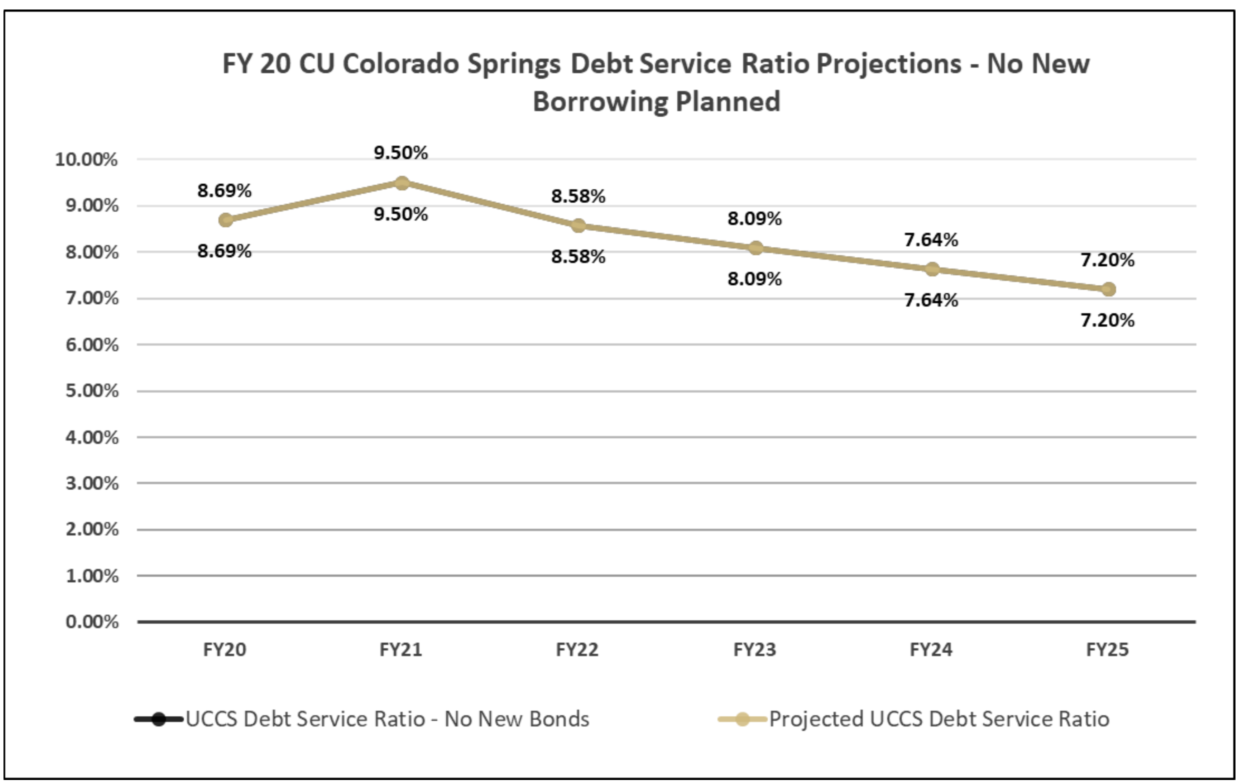

Table 6

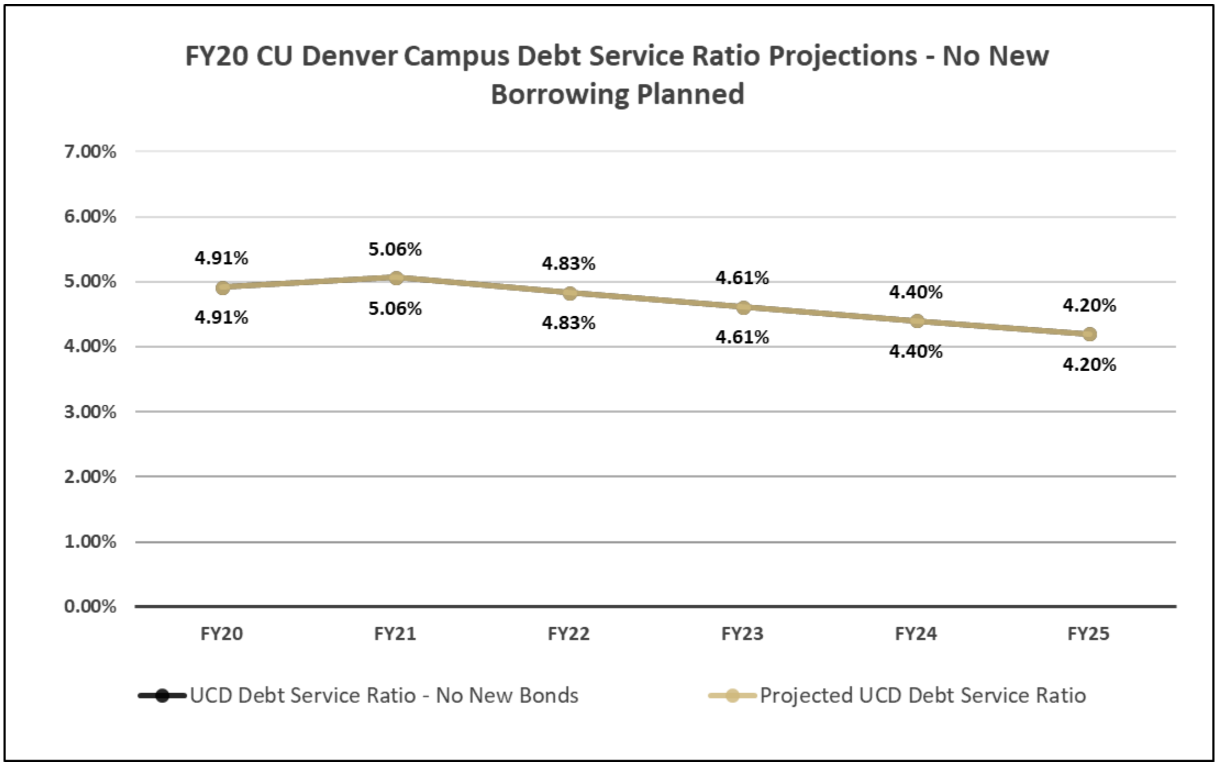

Table 7