Current and Forecasted Debt Payment Ratios

(FY21 - FY26)

Annual Report – June 2021

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. Debt issued for projects could be used to grow strategic programs, increase the University's revenue and operating expense base which could provide additional prudent borrowing capacity in future years. However, excessive debt service as a percentage of operating expenses could constrain future programming opportunities. In times of unusual revenue variability, debt service is largely a fixed cost of operation.

The University's long-term debt ratings are Aa1 and AA+ from Moody's and Fitch, respectively. Recent rating reports from the Series 2021A & B bonds 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 annual debt service is projected as the maximum principal and interest payment. It includes both interest payments and retirement of bond principal in the numerator of the ratio. During this forecast period, approximately $70-$80 million of principal is scheduled to be retired annually.

An analysis of the debt service payment ratios for University as a whole, and for each campus, is summarized below. The analysis includes all currently outstanding long-term obligations of the University as of June 30, 2021 (Table 1). For our projections, we have assumed that the $225 million of Series 2020 Variable Rate Demand Bonds are funded out at 3% interest cost and are amortized on a level debt service basis over 30 years. Similarly, the Series 2019C fixed rate Put Bonds, that pay interest through 9/1/24 at 2% are assumed to pay interest thereafter at 3% for their remaining term and are amortized on a level debt service basis. This analysis includes all approved projects or proposed for Regent approval in June of 2021 and initially financed through the issuance of external obligations for the period in FY21 (Table 2). Currently, there are no additional projects authorized for external borrowing for FY22 or FY23.

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).

$$Debt\ Service\ Payment\ Ratio = \frac{Maximum\ Annual\ Debt\ Service}{Unrestricted\ Current\ Fund\ Expenditures +\ Mandatory\ Transfers}$$

As with any forecasting, some assumptions are used to derive the results. Normally, the current fiscal year would serve a basis for projection of upcoming fiscal years. Based on a survey of all campuses, the expected FY21 results are significantly affected by operations under the COVID-19 and were deemed too skewed for determining five-year grow trends. Hence, growth trends from FY16-20 were applied to FY23-26, based on the starting point for budgeted FY22, adopted by the Regents in June 2021. Projection of FY23-26 expenditures is more uncertain due to the unprecedented fluctuations caused by operation during the COVID-19 in FY21 and anticipated recovery FY22.

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 6.9% annually from FY16-20 permitting significant new borrowing for needed projects without significantly affecting the calculated ratios.

Assumptions
Forecasting the debt service payment ratios requires projection of several variables over a five-year period.

1. **Current Debt Structure and Projected Interest Rates.** The University's weighted average cost of borrowing to call dates is approximately 2.20%. For VRDB's issued in 2020 and Put Bonds issued in 2019, currently costing .33% in the variable rate mode, a 3% conversion rate is utilized, 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 $2,980,000 per year per on the $439 million in either variable rate or fixed rate put modes, 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 FY22 budgeted amounts. Historically, for FY16-FY20 the calculated annual increase in UCFE&MT's has been 6.9% in part because CU Medicine expenditures at the Anschutz campus grew by a compound rate of 9.1% during that period. The projection of UCFE&MT in this report is based on the actual average increases in the previous five fiscal years ended 6/30/20. FY21 UCFE&MT are expected to be $370 million lower than in FY20 due to covid-19 impacts on E&G expenditures and auxiliary activities. Future results may vary from projections.

Projected Debt Service Payment Ratios

University of Colorado System (Table 3):
As of June 30, 2021, the University has $1.90 billion in outstanding long-term debt. (Table 1). 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 and 2020 VRDB's over twenty-five years. With no change to currently outstanding debt structure, maximum annual debt service payments for the University will occur in FY26, $150.2 million. The University's current debt payment ratio for "existing-only" debt is 4.6% as of FY21. If the University were to issue no new debt, the system-wide ratio would decrease to 2.8% by FY26.

The University has financed the additional project on Table 2, the University-wide debt payment ratio is forecasted to be 2.9% in FY26 and would still be able to accommodate an additional $220 million in annual debt service payments while remaining below 7% debt service payment capacity. Thus, total University debt could increase by approximately $4.3 billion in FY26, 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 FY26.

University of Colorado Boulder (Table 4):
In FY26, maximum future debt service payments for CU-Boulder's outstanding long-term obligations is approximately $79.3 million and reflects a FY21 debt payment ratio of 6.3%. With no change to currently outstanding debt structure, total debt service payments for the campus are expected to be $79.3 million in FY25, and the debt payment ratio would decline to 4.6% by FY26 if no additional debt is issued.

With the campus financing the additional projects on Table 2, its debt payment ratio would fall from 6.4% in FY21 to 4.7% by FY26. That would leave the campus with an additional $39 million in capacity under the 7% debt payment ratio in FY26, approximately $764 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 10.3% due to covid-19 budget reductions and expected to be 7.1% in FY22 as operations normalize. If no additional debt is issued, the campus debt payment ratio is projected to decline to 5.8% by FY26.

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):
For the Denver campus, the current debt ratio for FY21 is 6.5%, based upon operating impacts of covid-19 during the fiscal year. The debt ratio is expected in FY22 to fall to 5.5% with a return to normal operations. It is projected that Denver could increase debt service payments in FY26 by approximately $7.8 million and stay within the 7% limitation, an approximate $150 million borrowing, at 3% on a 30-year level payment basis.

University of Colorado Anschutz Medical Campus (Table 7)
For the CU Anschutz Medical Campus, the current debt service payment ratio for FY21 is 2.5%, including the issuance of bonds for the Anschutz Health Sciences Building and additional research support facilities and covid-19 impacts in FY21. The FY22 debt payment ratio is projected to be 2.1%, with normalized operations and no new debt. If the campus issues no additional debt, that ratio is expected to decline to approximately 1.4% by FY26.

Appendix A – Rating Reports

University of Colorado, CO

Update to credit analysis

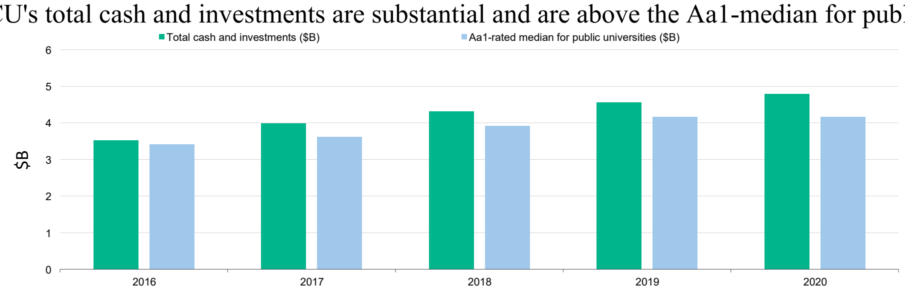
Summary

University of Colorado's ("CU" Aa1/stable) excellent credit quality reflects its role as the State of Colorado's (Aa1 stable) flagship institution, with excellent strategic positioning, a significant research enterprise, and important role as a provider of medical education for the state. Campus locations in Boulder, Denver, Aurora, and Colorado Springs — along Colorado's Front Range — continues to bolster student draw and provides mitigation to potential short-term enrollment disruptions stemming from the coronavirus pandemic. Additionally, CU's diverse and substantial scope of operations and sizable liquidity provides mitigation to potential financial impacts of the pandemic. Additionally, overall wealth is sizable and growing, supported by improving philanthropy. Before of the pandemic, CU produced strong, positive operating performance with sounds revenue growth, which we expect to resume after fiscal 2021.

Tempering the long-term credit quality of the university 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 ("UCHA" Aa3/positive). Additionally, CU has exposure to a large unfunded state pension liability.

Exhibit 1

CU's total cash and investments are substantial and are above the Aa1-median for public universities



Fiscal 2020 median data is based on fiscal 2019 median data.

Source: Moody's Investors Service

Credit strengths

» Large, diverse scope of operations as Colorado's flagship, multi-campus university, and academic medical center

» Substantial total cash and investments of $4.8 billion and monthly liquidity of $2.8 billion providing 238 monthly days cash on hand

» Strong brand recognition with sizable enrollment and solid net tuition revenue growth

» Large and growing research enterprise with $683 million in research-related expenses in fiscal 2020

» Manageable direct debt leverage with spendable cash investments to pro forma debt of 2.1x

Credit challenges

» Relatively weak state funding support from the State of Colorado (Aa1 stable), with 4% of Moody's adjusted revenue coming from state fee-for-service funding

» Sizable pension liability with a Moody's adjusted net-pension liability of $2.6 billion

» Exposure to the volatile healthcare industry with a component unit physician practice plan that contributes 25% to overall operating revenue
» Over the short-run, coronavirus related operational and budgetary impacts will thin operating performance through fiscal 2021

Rating outlook

The stable outlook reflects expectations that CU will manage through coronavirus-related impacts through fiscal 2021 with budget and operational adjustments. It also reflects expectations that operating performance will improve in fiscal 2022.

Factors that could lead to an upgrade

» Material growth in financial cushion relative to debt and operations with sustained elevated improvement in cash flow
» Further enhancement in philanthropic support
» Short-term VMIG 1 and P-1 ratings: not applicable

Factors that could lead to a downgrade

» Sustained weakening of operating performance and erosion of liquidity over a period of years
» Sustained, significant increase in leverage
» For short-term VMIG 1 rating: Moody's downgrades the short-term CR Assessment of the Bank, or a multi-notch downgrade of the long-term rating of the bonds
» For short-term P-1 ratings: significant deterioration in available liquidity, underlying credit quality, or market access

Key indicators

Exhibit 2

UNIVERSITY OF COLORADO, CO

	2016	2017	2018	2019	2020	Pro Forma	Median: Aa Rated Public Universities
Total FTE Enrollment	54,208	56,548	58,313	59,559	59,749	59,749	30,062
Operating Revenue ($000)	3,592,799	3,877,367	4,215,331	4,512,867	4,694,660	4,694,660	1,282,865
Annual Change in Operating Revenue (%)	8.4	7.9	8.7	7.1	4.0	4.0	4.2
Total Cash & Investments ($000)	3,519,401	3,990,991	4,322,200	4,560,882	4,797,240	4,797,240	1,582,410
Total Debt ($000)	1,754,977	1,548,830	1,679,075	1,637,503	1,723,461	1,964,366	690,511
Spendable Cash & Investments to Total Debt (x)	1.7	2.2	2.2	2.4	2.4	2.1	1.5
Spendable Cash & Investments to Operating Expenses (x)	0.9	0.9	0.9	0.9	0.9	0.9	0.7
Monthly Days Cash on Hand (x)	221	230	248	239	238	238	157
Operating Cash Flow Margin (%)	11.7	12.2	11.4	11.9	10.1	10.1	11.8
Total Debt to Cash Flow (x)	4.2	3.3	3.5	3.1	3.6	4.1	4.1
Annual Debt Service Coverage (x)	4.2	4.0	3.9	4.1	3.3	3.3	2.8

Pro forma total debt includes proposed new debt, debt issued after the end of fiscal 2020, and recent amortization.
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 2020, CU recorded $4.7 billion in operating revenue and fall 2020 enrollment of 59,749 full-time equivalent (FTE) students.

Detailed credit considerations

Market position: student market, research and physician's group support a diverse and large operating scope and excellent strategic position

Strong student demand will continue across CU's four campuses as pandemic transmission rates are expected to decline with the continued vaccine roll out, leading to nearly normal operations in the fall. Favorably, unlike many other universities, CU had little enrollment change in the fall 2020 because of the pandemic, with full-time equivalent (FTE) students up slightly to 59,749 from 59,559. (Overall headcount did decline slightly, however, year-over-year.) In an effort to reduce transmission of COVID-19 and keep faculty, staff, and students safe, CU reduced density on campuses and in residency facilities and offered classes primarily in hybrid or online mode. Barring public health setbacks in the summer and early fall, expectations are for a return to more normal density and operations in fall 2021.

In addition to strong student demand and diverse program offerings, CU has a large and diverse operating base, sizable research profile, and a beneficial partnership with UCHA which support its excellent strategic position. CU's sizable operating base grew by 4% in fiscal 2020, reaching nearly $4.7 billion. Multiple revenue streams grew, including net tuition, physician's group revenue, and grants and contracts. CU's research profile continues growing, with research related expenses hitting $683 million in fiscal 2020, up 14% since fiscal 2016.

The university maintains a strong working relationship with the Anschutz Medical Campus in Aurora, that is co-located with UCHA (UCHA, a legally separate organization with separately secured debt.) UCHA, which recorded nearly $5.2 billion of revenue in fiscal 2020 (Moody's adjusted), 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 2019 results showing nearly $1.2 billion in operating revenue.

Operating performance: coronavirus impacts will erode performance in fiscal 2021, expected to improve in fiscal 2022

Operating performance will weaken in 2021, driven by negative financial impacts from the COVID-19 pandemic and state budget cuts, but will improve as operations normalize and state funding improves in fiscal 2022. For fiscal 2021, CU management estimated that systemwide it faced a budget shortfall of over $200 million for year, including enacted federal higher education support. The estimated shortfall was driven primarily by losses from auxiliary revenue, including athletics. The state also reduced all university's operating support, when including federal CARES support, by 5% in fiscal 2021. Management did take swift operating expense actions to reduce the budget shortfall, including furloughs and position controls. Management is expecting improved fiscal 2022 performance, barring public health setbacks, with more normalized operations on campus and improved state funding.

A favorable credit characteristic of CU is its diverse revenue base, which partially mitigates historically weak direct state support. CU has multiple revenue streams, with the largest, student charges, comprising just 32.6% of revenue. CU does have some risk from its second largest source, healthcare, which is derived from its physician's group and comprises 25% of its revenue base. CU has very low direct state funding support, with just 4% of revenue coming from the state's fee-for-service contracts. (The state also provides funding through the College Opportunity Fund (COF) a stipend granted to undergraduate students that is included in net tuition revenue.

Wealth and liquidity: sound wealth and liquidity will continue

Overall wealth and liquidity will remain key credit strengths for CU. Total cash and investments totaled $4.8 billion in fiscal 2020, having grown over 36% since the end of fiscal 2016, driven by longer term investment market returns and growing philanthropy. Spendable cash and investments totaled $4.1 billion and also grew by over 36% since fiscal 2016. Those cash and investments provide over 0.9x coverage of operating expenses, similar to peers of the same credit quality.

Liquidity

CU's liquidity will remain excellent despite short-term operating volatility and plans to convert $100 million of traditional working capital to longer-term investments. At the end of fiscal 2020, the university reported nearly $2.78 billion in availably monthly liquidity, excluding CARES funds received in fiscal 2020 for fiscal 2021 operations, translating into 238 days of monthly cash on hand. These liquid reserves provide buffer in case of unexpected operating volatility in fiscal 2021 and fiscal 2022.
The university has sizable available discounted daily liquidity, nearly $520 million as of December 31, 2020, providing support to its commercial paper note programs in case of reactivation. The CP program includes extendable CP combined and has total authorization of $200 million, with a maximum of $75 million that can mature within a 5-day period established within a 5-day period.

The university does have other potential calls on liquidity, including puttable Series 2019C bonds totaling $215 million and unfunded commitments of $302 million associated with long-term investments. We expect the university's seasoned Treasury staff to manage these potential draws.

Leverage: low capital asset debt burden offset by substantial net pension liability

Leverage remains manageable despite CU's 2021 debt issuance and thinner operating performance, as its substantial wealth and operating flexibility provides mitigation. Spendable cash and investments cover pro forma debt a sound 2.1x, though debt to cash flow is elevated compared with peers at 4.1x, but manageable given CU's other strong credit characteristics. The former coverage is projected to improve given investment market returns and strong philanthropy, though the latter will more than likely erode given expected thinner operating performance. over the short term.

CU has favorably continued to invest in capital, despite limited state support, with continued capital spending above depreciation (measured by purchases of property, plant, and equipment divided by annual depreciation). CU's average age of plant is a sound 12.5 years. Given the growth of CU and its expanding research enterprise, it will continue facing capital funding pressures, but sound philanthropy and historically solid cash flow partly mitigates potential future costs of capital needs.

Legal security

CU's proposed Series 2021A, Series 2021B-1, and Series 2021B-2, will be on parity with outstanding debt, and secured by a pledge of net revenue (gross revenue less maintenance and operation expense) 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 direct cost recovery, and mandatory facilities construction fees. There are no debt service reserve funds.

Fiscal 2020 pledged net revenue totaled $1.3 billion and provide 9.9x coverage of maximum annual debt service.

Debt structure

Recent debt issuances in fiscal 2020 and 2019 have introduced some new debt structure risk for CU, though a seasoned treasury staff and sizable liquid reserves mitigates this risk. CU has $225 million of outstanding variable rate bonds that were issued in 2020. Bonds are in weekly rate mode and are backed by SBPA agreements. (For further details, please see the prior credit opinion.) Put risk was also added in 2019 with the issuance of the 2019C puttable bonds.

CU has an outstanding commercial paper and extendable commercial paper program that are currently dormant but still authorized for $200 million in total. Management does anticipate reactivating the program at some point in the near future.

Also included in the university's debt profile is $5.1 million in a fixed rate direct bank placement with US Bank N.A. for CU Medicine (formerly UPI), a blended component unit of the university.

Debt-related derivatives

None

Pensions and OPEB

The university has significant additional debt like obligations that adds long-term credit risk through its participation in state pension and retirement health plans. However, given the university's historically 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 2018-20) average adjusted net pension liability (ANPL) is $2.6 billion. Added to pro forma direct debt of nearly $2.0 billion, total adjusted debt is about 1.0x operating revenue, slightly higher than peers of similar credit quality.

Certain of the university’s employees (100% of classified and approximately 30% of faculty and nonclassified) 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 2020.

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 $713 million for fiscal 2020.

ESG considerations

Environmental

According to Moody's affiliate Four Twenty Seven, CU's primary campus location in Boulder has relatively low risk for most environmental factors, except water stress. Specifically, CU’s main campus in Boulder is susceptible to potential drought-like patterns and exposes the campus community to water security issues. Favorably, CU works with federal and state agencies on water security initiatives, including acting as a key partner in a $100 million national water security initiative. The university also works with local leaders on water security issues and is heavily involved in monitoring consumption and available resources.

Social
We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. Consistent with most universities, CU transitioned its campuses to a fully online curriculum through summer 2020, and brought back students to campus in fall 2020, albeit with lower density on campus and course modes in online and hybrid formats. Based on current information, management is expecting more normal operations in fall 2021.
A positive social factor is the university’s location in the State of Colorado, which is witnessing a growing number of high school graduates. The university also enjoys strong brand recognition that allows it to recruit in other nearby states with increasing numbers of high school graduates.

Governance
The University of Colorado’s four campuses is overseen by a Board of Regents consisting of nine members that serve staggered six year terms, one elected from each of Colorado’s seven congressional districts and two from the state at large. The board is charged constitutionally with the general supervision of CU and the exclusive control and direction of all funds of and appropriations to the university, unless otherwise provided by law. Having a Board that is elected those expose the university to potential political risk.
A key governance consideration of University of Colorado is the state’s TABOR rule that constrains the operating funding for all universities in Colorado. Favorably, CU does not rely heavily on state funding for its operations, with only a small fraction of its $4.8 billion operating revenue coming from that source.

Rating methodology and scorecard factors

The Higher Education Methodology includes a scorecard that summarizes the factors that are generally most important to higher education credit profiles. Because the scorecard is a summary and may not include every consideration in the credit analysis for a specific issuer, a scorecard-indicated outcome may or may not match an assigned rating. We assess strategic positioning on a qualitative basis, as described in the methodology

Exhibit 3
University of Colorado

Scorecard Factors and Sub-factors	Value	Score
Factor 1: Market Profile (30%)		
Scope of Operations (Operating Revenue) ($000)	4,694,660	Aaa
Reputation and Pricing Power (Annual Change in Operating Revenue) (%)	4.0	A3
Strategic Positioning	Aa	Aa
Factor 2: Operating Performance (25%)		
Operating Results (Operating Cash Flow Margin) (%)	10.1	A1
Revenue Diversity (Maximum Single Contribution) (%)	32.6	Aaa
Factor 3: Wealth & Liquidity (25%)		
Total Wealth (Total Cash & Investments) ($000)	4,797,240	Aaa
Operating Reserve (Spendable Cash & Investments to Operating Expenses) (x)	0.9	Aa1
Liquidity (Monthly Days Cash on Hand)	238	Aa1
Factor 4: Leverage (20%)		
Financial Leverage (Spendable Cash & Investments to Total Debt) (x)	2.1	Aa1
Debt Affordability (Total Debt to Cash Flow) (x)	4.1	Aa1
Scorecard-Indicated Outcome		Aa1
Assigned Rating		Aa1

FitchRatings

RATING ACTION COMMENTARY

Fitch Rates University of Colorado's Series 2021A&B Bonds 'AA+'; Affirms IDR at 'AA+'

Fri 19 Mar, 2021 - 3:50 PM ET

Fitch Ratings - Chicago - 19 Mar 2021: Fitch Ratings has assigned 'AA+' ratings to approximately $27.4 million of series 2021A tax-exempt fixed rate green revenue bonds, $11.6 million of series 2021B-1 tax-exempt fixed rate revenue bonds, and $28.1 million of series 2021B-2 taxable fixed rate revenue bonds to be issued by the Regents of the University of Colorado on behalf of the University of Colorado (CU). In addition, Fitch has affirmed CU's 'AA+' Issuer Default Rating (IDR), 'AA+' revenue bond ratings, and the 'F1+' Short-Term rating on the university's commercial paper (CP) program.

The Rating Outlook is Stable.

Proceeds from the series 2021A bonds will be used to support CU's capital program while proceeds from the series 2021B bonds will be used to refund all or portions of series 2011B, series 2012A-1, series 2012A-2, series 2012A-3, series 2013B, series 2014B-1, and series 2015C bonds. Proceeds also will be used to pay the costs of issuance. The series 2021A and series 2012B bonds are expected to price on either March 24 or March 25.

Revenue bonds are secured by University of Colorado 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.

The 'F1+' Short-term rating is based on the adequacy of CU's self-liquidity to support its commercial paper (CP) program and CU's strong overall credit quality.

ANALYTICAL CONCLUSION

CU's 'AA+' IDR is based on to the university's very strong financial profile combined with its 'aa' revenue defensibility and 'a' operating risk profile assessments. As a comprehensive flagship research university, CU has a statewide and expanding national draw for students and has considerable fundraising capabilities, both of which Fitch expects will continue despite the coronavirus pandemic.

The ongoing coronavirus pandemic creates an uncertain environment for the U.S. public finance higher education sector. Fitch's forward-looking analysis is informed by management's expectations and by Fitch's macroeconomic views. Fitch's scenarios will evolve as needed during this dynamic period. For the 2020-21 academic year, CU has progressed with a mix of in-person and hybrid instruction, with in-person learning resuming at the beginning of the school year. Student housing has been open since the beginning of the 2020-21 school year, although at a lower capacity and with other modifications implemented. Management estimates that combined revenue pressures and added expenses associated with the pandemic resulted in approximately $420 million shortfall to the university; CARES Act, HEERF II, and related stimulus offset this shortfall by providing CU with $164 million in funds.

The Stable Outlook reflects Fitch's expectation that CU will maintain at least sufficient adjusted cash flow margins and robust balance sheet strength, which should provide necessary financial flexibility as the university continues to manage through the challenges presented by the coronavirus pandemic and associated economic contraction.

Revenue Defensibility: 'aa'

Comprehensive Flagship Research University with Expanding Reach

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.

Operating Risk: 'a'

Track-Record of Good Cash Flow Margins; Coronavirus Pressuring Interim 2021

CU has a track-record of sufficient adjusted cash flow margins, averaging approximately 12% over the five-year period through fiscal 2020, which Fitch expects CU to sustain over the long-term once near-term pressures abate. Capital spending needs are manageable, particularly in the context of its 12.5-year age of plant and track record of consistent and robust capex well ahead of depreciation levels.

Financial Profile: 'aa'

Very Strong Capital-Related Ratios in the Forward Look

CU's financial profile is very strong in the context of the university's strong revenue defensibility and good operating risk profile assessments. Fitch expects capital-related ratios to remain strong in the forward-looking scenario analysis, even in a downside stress scenario.

ASYMMETRIC ADDITIONAL RISK CONSIDERATIONS

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

RATING SENSITIVITIES

Factors that could, individually or collectively, lead to positive rating action/upgrade:

--Operating margins that prove resilient beyond fiscal 2021, ultimately leading to a sustained adjusted cash flow margin of consistently better than 12%;

--Continued improvement in already strong leverage ratios, most notably available funds (AF)-to-adjusted debt approaching 200%.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

--Prolonged operating pressures resulting in adjusted cash flow margins closer to 6% for a sustained period;

--A significant increase in leverage and/or weakening of liquidity leading to an AF-to-adjusted well below 100%.

BEST/WORST CASE RATING SCENARIO

International scale credit ratings of Sovereigns, Public Finance and Infrastructure issuers have a best-case rating upgrade scenario (defined as the 99th percentile of rating transitions, measured in a positive direction) of three notches over a three-year rating horizon; and a worst-case rating downgrade scenario (defined as the 99th percentile of rating transitions, measured in a negative direction) of three notches over three years. The complete span of bestand worst-case scenario credit ratings for all rating categories ranges from 'AAA' to 'D'. Best- and worst-case scenario credit ratings are based on historical performance. For more information about the methodology used to determine sector-specific best- and worst-case scenario credit ratings, visit [https://www.fitchratings.com/site/re/10111579].

CREDIT PROFILE

CU is a comprehensive flagship graduate research university and the largest institution of higher education in Colorado. The university 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, the flagship of ‘AA’ rated UCHealth. UCHealth is a separate legal entity but maintains very tight alignment with CU’s School of Medicine and is CU’s primary teaching hospital. The CU system recorded operating revenue in excess of $4.2 billion in audited fiscal 2020 (June 30 year-end).

Prior to the coronavirus pandemic, CU has realized steady student enrollment growth in recent years. Total undergraduate enrollment for the entire CU system declined 2.7% in fall 2020, due largely to the pandemic and related economic recession. Despite the pandemic, graduate enrollment continued to grow, up 2.4% in fall 2020. The Anschutz Medical Campus in particular has proven to be resilient to external shocks. Fitch expects the CU system to continue to broaden its reach and attract more interest in enrollment in the future. Management notes that to date freshmen applications for fall 2021 at Boulder are up more than 25%.

REVENUE DEFENSIBILITY

CU is a comprehensive flagship research university with broad statewide and expanding national/international draw. Retention rates are sound and average SAT/ACT scores are very high. On the other hand, acceptance and matriculation rates are comparatively modest for a 'AA' rated flagship. Fitch views CU's enrollment demand to be reasonably inelastic to tuition rates. State support has been robust, and while the state announced higher education budget cuts in mid-calendar year 2020 due to the economic recession, recent budget indications indicate a more favorable outlook for higher ed in the state. The endowment spend rate is quite manageable and should support liquidity growth.

CU's demand assessment is very strong, as Fitch views the university as having competitive demand indicators. Based on data provided by management, in fall 2020 the freshmen-to-sophomore retention rate remained a sound 85% at the Boulder flagship campus. This is only slightly below the trend of retention in recent years, indicating a resiliency despite the pandemic. Student quality is very strong as Boulder's freshmen average SAT and ACT scores consistently measure in the roughly 1250 and 27-28 range, respectively, both well above average. Other key demand characteristics are comparatively more modest (at least for a 'AA' rated flagship university) as Boulder's acceptance rate is consistently in the 80% range and the matriculation rate was below 20% in fall 2020, after measuring in the 20% - 25% in years prior to the pandemic.

In-state students accounted for just under 60% of undergraduate enrollment at Boulder in recent years, including 59% in fall 2020, which is rather low for a state university and is indicative of both the university's national draw and the flexibility afforded to CU by the state in terms of enrollment management. Illustrative of this, in previous years the state approved measures to allow CU to increase its share of out-of-state students from 33% to as high as 45% (for each campus). This measure increases the university's operating flexibility and could support further net student tuition growth.

While undergraduate enrollment declined in fall 2020 by 2.7% for the system (after years of growth), Fitch expect enrollment trends to rebound. To this end, management reports that Boulder freshmen applications increased more than 25% for fall 2021. Nevertheless, per U.S. Census Bureau data, recent population growth has been well above average in Colorado and this trend is expected to continue, portending continued enrollment demand over the long term, particularly given the university's expanding reach beyond the state's borders.

CU's revenue source characteristics are very strong. Fitch views the university's enrollment demand as being somewhat inelastic relative to price increases. This is illustrated by CU's robust recent net tuition growth; CU's five year net tuition revenue per FTE enrollment CAGR was 3.6% as of fiscal 2020, which is includes tuition and student fees shortfalls as a result of the pandemic during fiscal 2020. As a leading comprehensive flagship research university in a fast-growing state, CU's demand capacity is considerable.

Freshmen applications for the Boulder flagship campus have increased meaningfully in recent years, rising 58% between fall 2014 and fall 2020. Even in fall 2020, freshman applications at Boulder increased an estimated 9% over fall 2019 despite the uncertainty students and families faced while applying to colleges for fall 2020. As noted above, management reports that to-date applications for fall 2021 are up more than 25%. Over the long term, Fitch believes that significant population growth in Colorado, the university's increasingly national profile, and the recent flexibility afforded to CU by the state to allow for even more out-of-state students should support continued application and enrollment demand over time leading to further increases in net tuition and fees.

CU has considerable support from various revenue streams. Its endowment spend policy is a sustainable 4% and allow for continued liquidity growth and future investment returns over time, particularly given the university's track record of cash flow generation and fundraising capabilities. CU has received regular operating support from the state, and state support has increased steadily in recent years, as total funding grew from $164 million in fiscal 2014 to more than $250 million in fiscal 2020.

While in May the Colorado Joint Budget Commission announced a significant 58% cut in support to the higher education budget, amounting to nearly $500 million for all public universities and colleges in the state (an estimated $140 million cut to CU), the recent budget outlook has improved notably due to higher than expected tax receipts despite the economy. Moreover, CU received more than $164 million in CARES Act and HEERF II funding.

CU's healthcare operations provide considerable cash flow to the university. While UCHealth is a separate legal entity from CU, the two organizations are tightly and strategically aligned and UCHealth serves as the primary teaching hospital for CU's School of Medicine. Healthcare services accounted for approximately 28% of CU's fiscal 2020 total operating revenues. While healthcare providers were financially stressed because of the coronavirus, as most states significantly limited elective procedures and expenses, Fitch expects CU's health enterprise to continue to be accretive to the university's bottom line (even in fiscal 2020, revenue from CU's health services exceeded expenses by roughly $90 million).

OPERATING RISK

CU has a track-record of good adjusted cash flow margins, including in fiscal 2020. While margins are being pressured in interim fiscal 2021 because of the coronavirus and associated economic recession, over the long-term Fitch believes CU's operating platform is robust and should support sound results. Capital spending needs are manageable and flexible.

CU's trend of adjusted cash flow margin is good. As calculated by Fitch, the margin averaged approximately 12% over the five-year period, including 12.1% in fiscal 2020. Under Fitch's Criteria this includes a proportionate share of the service cost for reported pensions. As noted, CU has benefited from strong demand characteristics, recent fundraising success, state appropriations, and a successfully healthcare operation. Results continued in fiscal 2020 despite the
pandemic.

Management implemented a number of initiatives in response to the coronavirus, including: closing residential halls in mid-March and converting to almost entirely all online learning; recording approximately $29 million of CARES Act grants (in fiscal 2020); receiving roughly $138 million from the state's CARES Act allocation; furloughing staff hours, amounting to an effective 10% pay cut for senior management (and a lower cut for some other staff in university management); and some layoffs.

The greater operating margin challenges from the pandemic are being realized in fiscal 2021. Based on unaudited management data, net student tuition and fee and related operating revenues were down more than $100 million through six-months fiscal 2021 because of the coronavirus and related economic challenges. The cost cuts noted above have resulted in more than $30 million in expense savings. While this results in a fiscal shortfall relative to CU's trend performance, the interim period is also benefiting from considerable one-time and non-operating revenues, including more than $140 million of CARES Act grants, greater than $220 million of investment income, a nearly $15 million increase in gifts, and lower interest expense. As a result, total cash flow recorded in fiscal 2021 should continue to be sound.

Over the long term, as vaccines are rolled out and restrictions on campus activities continue to ease, Fitch expects CU to continue to benefit from strong student demand and generate sound adjusted operating margins.

Fitch views CU's near-term capex requirements as manageable in the context of the university's scope of operations, fundraising ability, and current average age of plant. Current capex is highlighted by the following projects: the Health Sciences Building on the Anschutz medical campus (construction completion expected by fall 2021); build-out of the research building basement at the Anschutz campus; and construction of a student housing building at the Denver campus (expected to open in summer 2021).

While Fitch views CU has having a degree of flexibility in terms of the timing and scope of capex, we expect CU to maintain a pace of capital spending to meet growth, student demand, and research needs. CU's average age of plant measured 12.5 years at FYE 2020. Furthermore, the university has invested in its physical infrastructure at a robust pace as its capital spending ratio averaged approximately 1.7x over the five years through FY 2020.

CU has demonstrated considerable fundraising capabilities in recent years, supporting both university operations and capital needs. Philanthropy has been sustained despite the pandemic and should continue as CU's profile expands.

FINANCIAL PROFILE

CU's total debt just over $1.8 billion at FYE 2020 (which includes direct debt, notes payable, capitalized leases, and other obligations). AF measured greater than $4.5 billion, including available Foundation funds (Fitch defines AF as unrestricted cash and investments less non-expendable restricted net assets). AF-to-operating expense measured in excess of 100% at FYE 2020, and therefore does not pose an asymmetric risk despite equity market volatility.

CU has considerable debt equivalents, particularly defined benefit (DB) pension plan obligations via the university's participation in the state plan of Colorado Public Employees' Retirement Association (PERA). Per the fiscal 2020 audit (whose DB pension data are based on PERA's measurement date of Dec. 31, 2019), CU's proportionate share of the collective net pension liability (NPL) was $1.0 billion and the university's ratio of plan assets to liabilities measured 62% (up from 43% as recently as Dec. 31, 2017). The discount rate was 7.25%; Fitch adjusts CU's DB pension obligation to a discount rate of 6%. This translates to an NLP of $1.4 billion (55% funded ratio). In 2018 the state passed SB 18-200, a major pension reform. Despite the sizable DB pension obligation, CU's net adjusted debt (adjusted debt minus AF) was favorably negative at FYE 2020.

The pension reform noted above temporarily freezes COLAs for current retirees, delays COLAs for new retirees, caps all future COLAs at 1.5% annually instead of the previous 2%, modifies age and salary requirements for future employees, and expands eligibility for PERA's defined contribution plan, among other changes. It also raises employee and employer contributions and requires an annual lump sum, $225 million state contribution for 30 years.

CU's capital-related ratios are very strong, and Fitch expects them to remain so in the forward look despite the current economic stress. The university's AF-to-adjusted debt measured approximately 135% at FYE 2020 and should remain in that range pro forma as the new debt added as part of the 2021 financing is comparatively de minimis. In the forward-looking scenario analysis, net adjusted debt remains favorably negative in every year of the base case (which includes Fitch modeled investment losses), and even remains negative throughout the stress case. AF-to-total adjusted debt never falls below 120% in the base case or below 105% in the stress case.

'F1+' Short-Term Rating

CU's long-term credit quality and 'AA+' IDR, together with its sufficient liquid resources and written procedures to fund any un-remarketed put and/or commercial paper roll on the $200 million of maximum potential CP debt, and self-liquidity support the 'F1+' Short-Term rating. While still authorized, the CP is dormant with no currently outstanding draws. Even including both the authorized $200 million of CP and CU's $225 million of variable rate demand obligations (VRDO) outstanding, total adjusted internal liquidity coverage of maximum potential CP/VRDOs measures an adequate 1.9x (based liquidity as of Dec. 31, 2020); in reality, self-liquidity coverage of the VRDOs is redundant given that they are supported by standby bond purchase agreements (SBPAs).

ASYMMETRIC ADDITIONAL RISK CONSIDERATIONS

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

Debt Structure

Pro forma, inclusive of the series 2021A&B financing, CU has just over $1.9 billion of debt, including notes payable, capital leases and other liabilities. The series 2020A-1, series 2020A-2, and series 2020B-1 VRDOs are supported by SBPAs from TD Bank N.A. Pro forma maximum annual debt service (MADS) is $152 million. Pro forma MADS coverage based on fiscal 2020 results is 3.3x and does not pose an asymmetric risk.

In addition to the sources of information identified in Fitch's applicable criteria specified below, this action was informed by information from Lumesis.

REFERENCES FOR SUBSTANTIALLY MATERIAL SOURCE CITED AS KEY DRIVER OF RATING

The principal sources of information used in the analysis are described in the Applicable Criteria.

ESG CONSIDERATIONS

Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of '3'. This 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. For more information on Fitch's ESG Relevance Scores, visit
www.fitchratings.com/esg

RATING ACTIONS

ENTITY/DEBT	**RATING**			**PRIOR**
University of Colorado (CO)	LT IDR	AA+ Rating Outlook Stable	Affirmed	AA+ Rating Outlook Stable
• University of Colorado (CO)/General Revenues/1 LT	LT	AA+ Rating Outlook Stable	Affirmed	AA+ Rating Outlook Stable
• University of Colorado (CO) / Self-Liquidity/1 ST	ST	F1+	Affirmed	F1+

Table 1

Outstanding Long-Term Obligations of the University of Colorado
As of June 30, 2021

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	310,000
University Enterprise Revenue Bonds, Series 2011A	2041	4.00 to 5.00	203,425,000	0
University Enterprise Revenue Refunding Bonds, Series 2011B	2024	3.00 to 5.00	52,600,000	10,075,000
University Enterprise Revenue Refunding Bonds, Series 2012A-1	2029	2.00 to 5.00	121,850,000	5,635,000
University Enterprise Revenue Refunding Bonds, Series 2012A-2	2035	3.25 to 5.00	53,000,000	1,985,000
University Enterprise Revenue Refunding Bonds, Series 2012A-3	2030	3.00 to 5.00	47,165,000	55,000
University Enterprise Revenue Bonds, Series 2012B	2042	5.00	95,705,000	10,510,000
Tax-Exempt University Enterprise Revenue Bonds, Series 2013A	2043	5.00	142,460,000	3,650,000
Taxable University Enterprise Revenue Bonds, Series 2013B	2043	2.639 to 5.177	11,245,000	825,000
Tax-Exempt University Enterprise Revenue Bonds, Series 2014A	2046	5.00	203,485,000	15,330,000
Tax-Exempt University Enterprise Refunding Revenue Bonds, Series 2014B1	2034	2.00 to 5.00	100,440,000	45,683,572
Tax-Exempt University Enterprise Refunding Revenue Bonds, Series 2015A	2038	2.00 to 5.00	102,450,000	47,548,486
Tax-Exempt University Enterprise Refunding Revenue Bonds, Series 2015B	2033	2.00 to 5.00	3,925,000	1,310,000
Taxable University Enterprise Refunding Revenue Bonds, Series 2015C	2027	1.781 to 3.039	71,325,000	47,295,000
Tax-Exempt University Enterprise Revenue Bonds, Series 2016A	2047	1.50 to 5.00	31,430,000	5,165,000
Tax-Exempt University Enterprise Revenue Refunding Bonds, Series 2016B-1	2039	2.22 to 5.00	156,810,000	152,560,000
Tax-Exempt University Enterprise Revenue Refunding Bonds, Series 2017A-1	2034	2.00 to 5.00	66,930,000	40,365,000
Tax-Exempt University Enterprise Revenue Refunding Bonds, Series 2017A-2	2046	3.00 to 5.00	471,390,000	450,945,000
Tax-Exempt University Enterprise Revenue Refunding Bonds, Series 2018B	2048	2.50 to 5.00	64,360,000	62,130,000
Taxable University Enterprise Refunding Revenue Bonds, Series 2019A	2043	2.04 to 3.17	147,980,000	142,405,000
Taxable University Enterprise Refunding Revenue Bonds, Series 2019A2	2047	1.70 to 2.79	101,885,000	91,680,000
Tax-Exempt Enterprise Revenue and Refunding Bonds, Series 2019B	2048	4.00 to 5.00	79,795,000	78,060,000
Tax-Exempt Enterprise Revenue and Refunding Bonds, Series 2019C	2024	2.00	214,625,000	214,625,000
Tax-Exempt Enterprise Revenue VRD Bonds, Series 2020A-1	2050	Variable	100,000,000	100,000,000
Tax-Exempt Enterprise Revenue VRD Bonds, Series 2020A-2	2050	Variable	75,000,000	75,000,000
Tax-Exempt Enterprise Revenue VRD Bonds, Series 2020B-1	2050	Variable	50,000,000	50,000,000
Taxable Enterprise Revenue and Refunding Bonds, Series 2020B-2	2048	.053 to 2.81	140,885,000	140,885,000
Tax-Exempt Enterprise Revenue Bonds, Series 2021A	2051	4.00 to 5.00	26,595,000	26,595,000
Taxable Enterprise Refunding Bonds, Series 2021B	2028	0.217 to 1.625	44,520,000	44,520,000
Total Revenue Bonds			**$3,189,970,000**	**$1,892,872,058**
Other Long-Term Obligations				
CU Medicine Private Placement Fixed Rate Bonds Series 2014(1)	2025	2.3	11,695,000	3,977,000
Total Other Long-Term Obligations			**$11,695,000**	**$3,977,000**
Total Revenue Bonds & Other Obligations			**$3,201,665,000**	**$1,896,849,058**

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

Table 2

FY21 New Projects – Projected Debt Service
($000's)

	FY21	FY22	FY23	FY24	FY25	FY26
UC Boulder						
N.Wing Engineering	$ -	$ 1,247	$ 1,580	$ 1,576	$ 1,576	$ 1,581
Campus Total	**$ -**	**$ 1,247**	**$ 1,580**	**$ 1,576**	**$ 1,576**	**$ 1,581**
UC Colorado Springs						
Campus Total	$ -	$ -	$ -	$ -	$ -	$ -
UC Denver						
Campus Total	$ -	$ -	$ -	$ -	$ -	$ -
CU Anschutz Medical Campus						
Campus Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
UC Denver and Anschutz Combined						
Campus Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

General Notes: For the only project, actual net debt service for the Series 2021A bonds.

Table 3

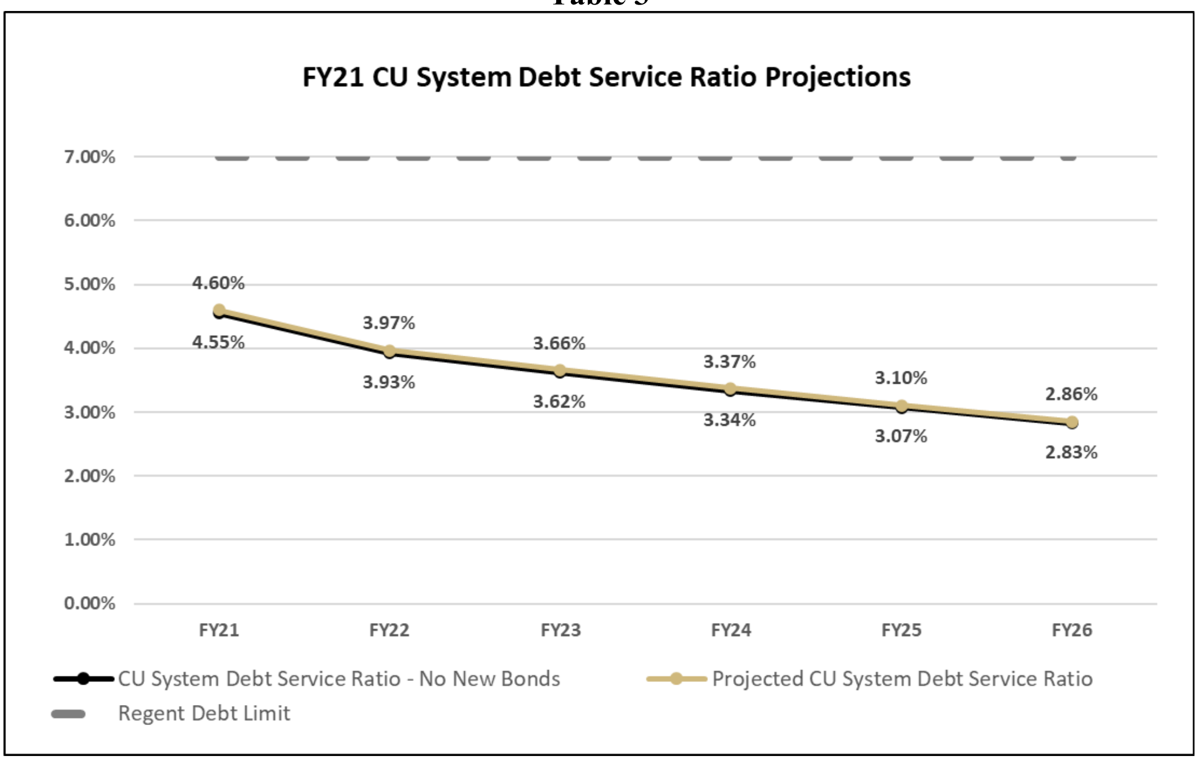


Table 4

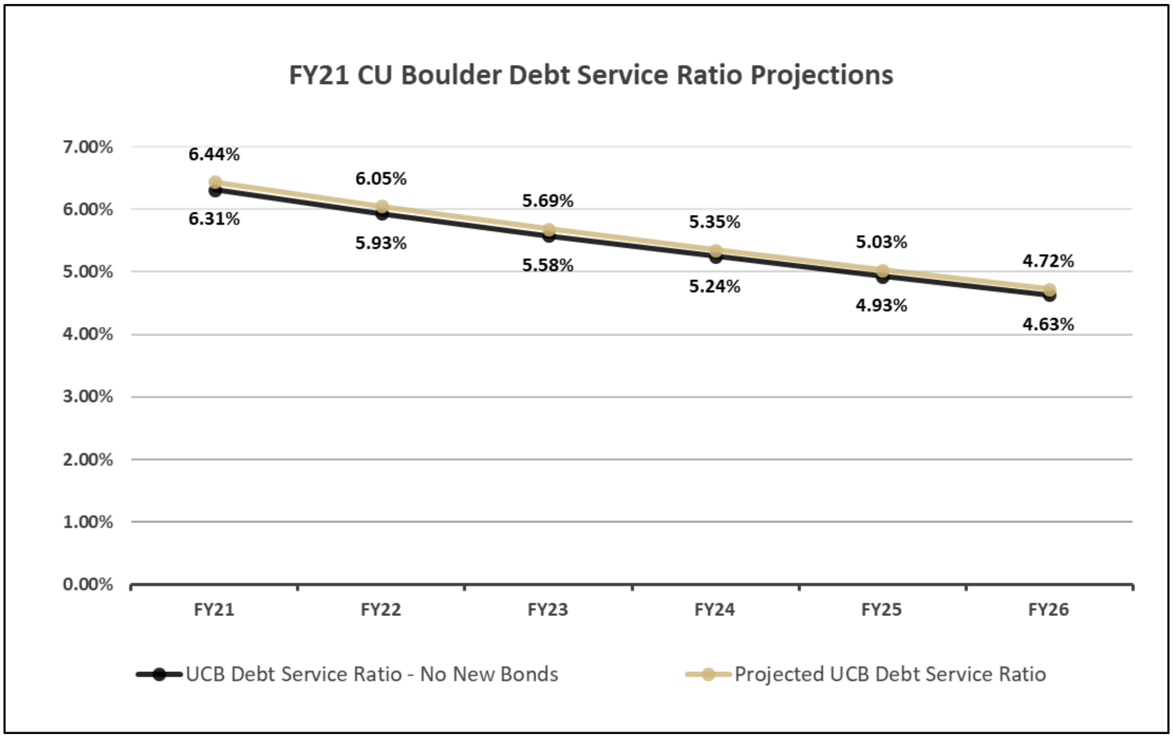


Table 5

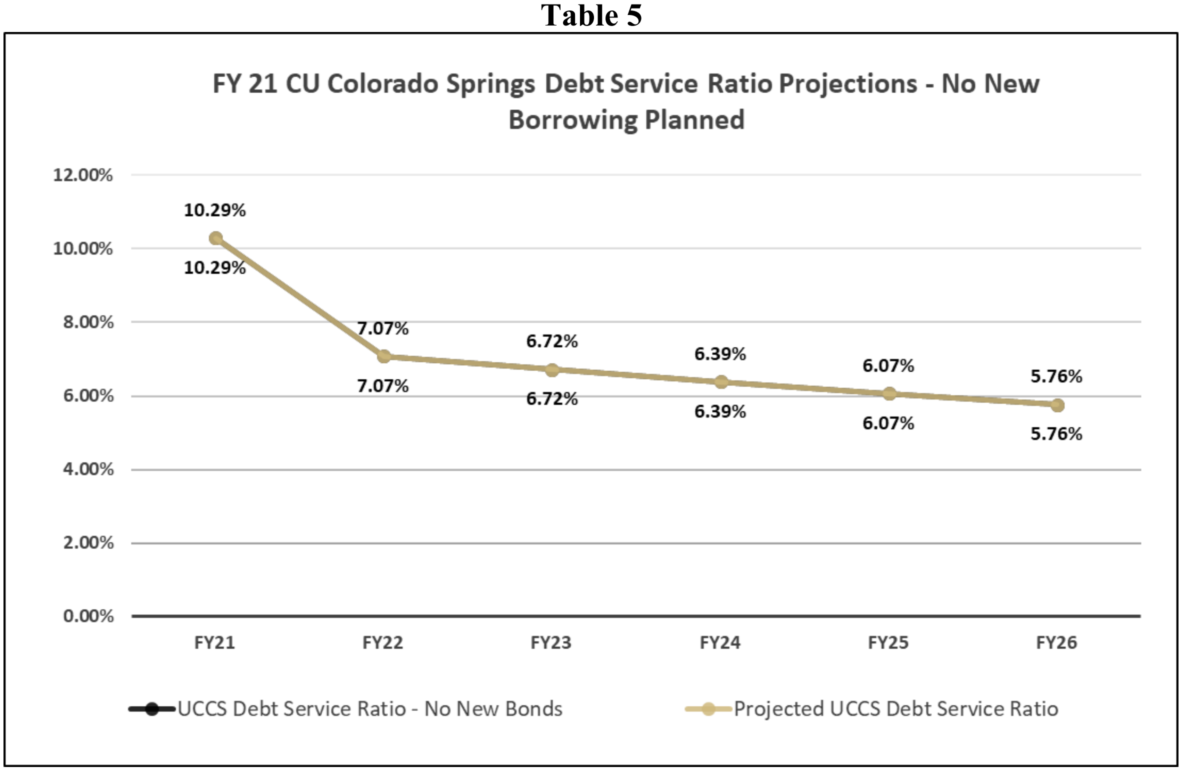


Table 6

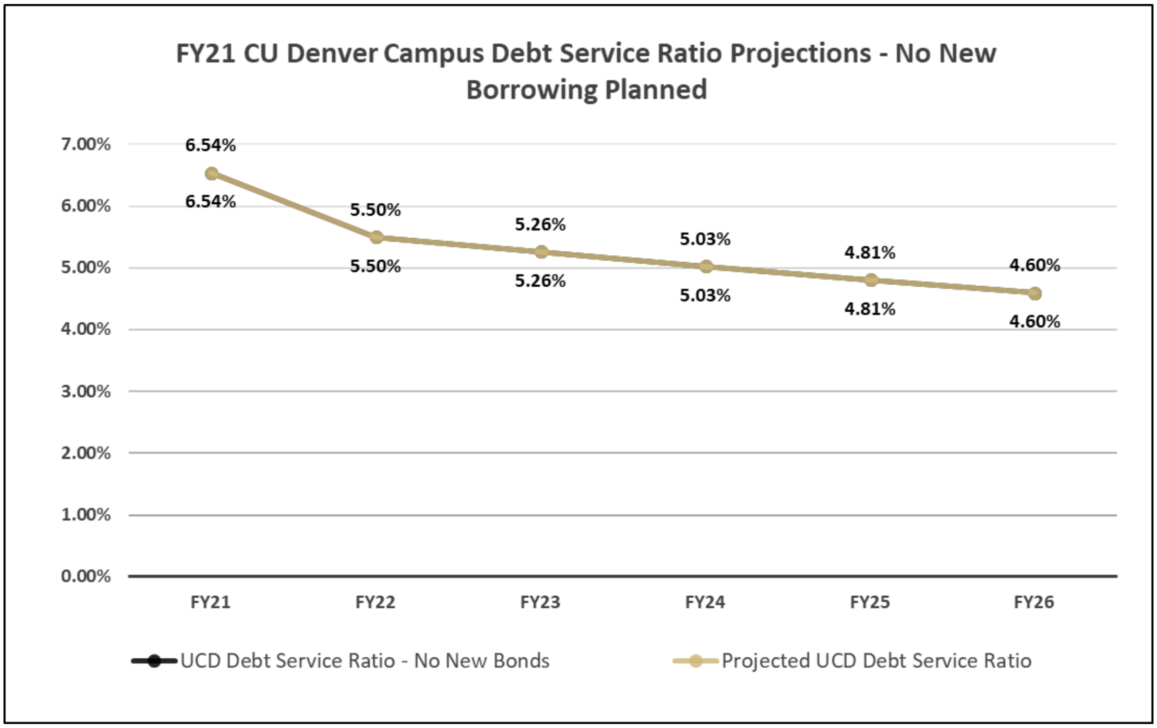


Table 7