

**Constituent Universities**

Appalachian  
State University

East Carolina  
University

Elizabeth City  
State University

Fayetteville State  
University

North Carolina  
Agricultural and  
Technical State  
University

North Carolina  
Central University

North Carolina  
State University  
at Raleigh

University of  
North Carolina  
at Asheville

University of  
North Carolina  
at Chapel Hill

University of  
North Carolina  
at Charlotte

University of  
North Carolina  
at Greensboro

University of  
North Carolina  
at Pembroke

University of  
North Carolina  
at Wilmington

University of  
North Carolina  
School of the Arts

Western Carolina  
University

Winston-Salem  
State University

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April 15, 2016

To: Office of State Budget and Management  
Joint Legislative Commission on Governmental Operations  
State Treasurer  
The University of North Carolina General Administration

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “Act”), the Board of Governors of North Carolina (the “Board”) is pleased to submit to you the attached debt capacity study (the “Study”) of The University of North Carolina (the “University”), along with the reports from each constituent institution of the University (collectively, the “Campuses”) submitted to the Board under the Act.

The Study provides an assessment of each Campus’s general fiscal position and its capacity to issue debt over the next five years, offering stakeholders another tool for assessing each Campus’s capital improvement needs and priorities in light of each Campus’s strategic mission and operational objectives. The Study also provides a framework for measuring each’s Campus’s debt burden, compares each Campus’s debt burden to selected peers and offers recommendations for prudently managing each Campus’s credit rating. In addition, the Study provides the reader an overview of the University’s policies and procedures relating to debt management, the criteria generally used to assess credit risk for public universities and makes recommendations for the sound fiscal management of the University’s debt.

Over time, subsequent iterations of the Study will help the University, Campus leadership and other policymakers identify and evaluate trends in the Campuses’ overall financial condition and their capital investment priorities.

Respectfully submitted,

# The University of North Carolina

## Debt Capacity Study

2016 Debt Capacity Study

April 1, 2016

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## Executive Summary

### Purpose of the Study

The Current Operations and Capital Improvements Appropriations Act of 2015, which was signed into law on September 18, 2015, added a new Article 5 to Chapter 116D of the General Statutes of North Carolina (the “**Act**”), requiring each constituent institution (collectively, the “**Campuses**”) of The University of North Carolina (the “**University**”) to provide the Board of Governors of the University (the “**Board**”) with an annual report on its current and anticipated debt levels. The Act requires that the University, in turn, submit to the Office of State Budget and Management, the Joint Legislative Commission on Governmental Operations, the State Treasurer and The University of North Carolina General Administration (“**General Administration**”) an annual study incorporating each Campus report.

This report (the “**Study**”) has been developed to address the Act’s mandate to advise stakeholders “on the estimated debt capacity of The University of North Carolina for the upcoming five fiscal years” and establish “guidelines for evaluating the University’s debt burden.”

### Note to the Reader of the Study

The Study’s narrative includes discussion on the following points:

- An overview of public university debt, including the criteria rating agencies generally use to assess a public university’s creditworthiness;
- The University’s current debt management policies and procedures;
- General findings regarding each Campus’s capacity to issue debt over the next five years; and
- Recommendations to strengthen the University’s debt management policies.

**Appendix A** contains key definitions for ratios and other terms used throughout the Study. The Act also requires the Board to submit a uniform report from each Campus regarding its debt burden and anticipated debt levels, in addition to other data and information relating to each Campus’s fiscal management. Those Campus reports are attached to the Study as **Appendix B**.

### Methodology Used

Because the Act defines “debt” for the purposes of the Study to exclude debt serviced with “funds appropriated from the General Fund of the State,” the Study primarily focuses on special obligation bonds issued under Article 3 of Chapter 116D (“**special obligation bonds**” or “**general revenue bonds**”) and other long-term debt issued on behalf of each Campus to finance various capital facilities, including housing and other enterprise projects.

N.C. Gen. Stat. §116D-26(a) prohibits using the obligated resources of one Campus to secure the debt of another campus, meaning the University has no debt capacity independent of its Campuses’ individual ability to issue debt. The Study does not, therefore, aggregate each Campus’s individual debt levels and obligated resources to derive a University-wide debt capacity measure. Instead, the Study offers a comprehensive review of each Campus’s debt capacity using the guidelines presented in the Act, which the System has presented in detail in the Campus reports included as part of **Appendix B**.

The Act expressly requires the University to establish guidelines for two ratios—**debt to obligated resources** and a **five-year payout ratio**. The Study includes two additional ratios that are more widely used to measure a

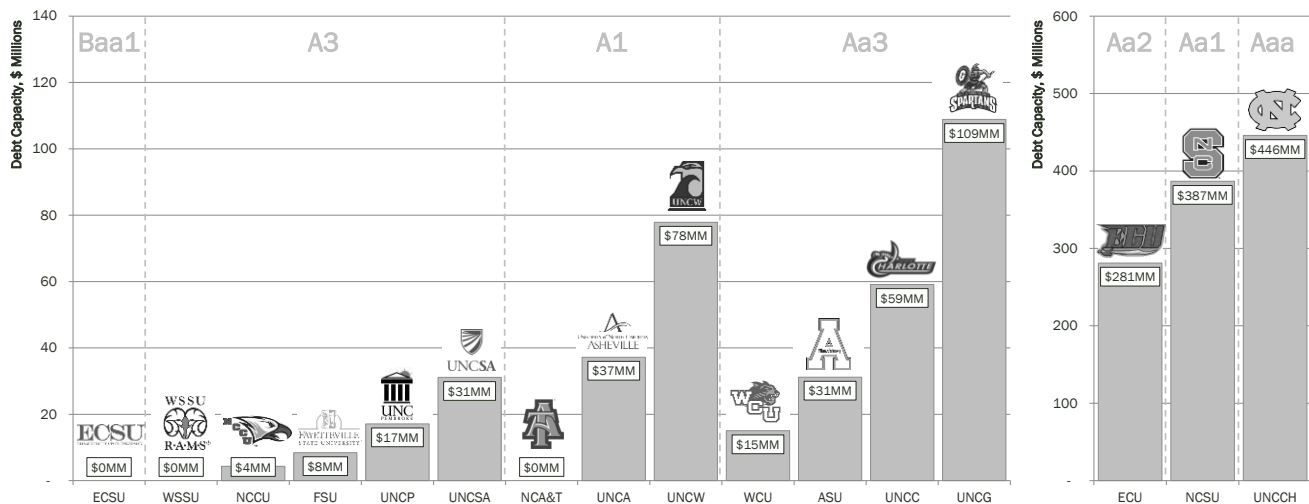
public university's debt burden—**expendable resources to debt** and **debt service to operating expenses**. See **Appendix A** for more details on each ratio.

The Study is based on a financial model that has been developed to measure four ratios on a pro forma basis over the next five years (the “**Study Period**”). Recognizing the wide diversity in enrollment, funding sources and missions across each Campus, General Administration has worked with each Campus to establish tailored and meaningful target policies for its ratios. While a Campus's ultimate debt capacity is affected by a number of quantitative and qualitative factors, for the purposes of the Study, “**estimated debt capacity**” is defined as the maximum amount of debt each Campus could issue without exceeding its ceiling ratio for **debt to obligated resources** in any single year of the Study Period.

## Conclusions

The table below summarizes each Campus's **current estimated debt capacity** as defined for the purposes of the Study. The numbers in the table below reflect the maximum amount of debt each Campus could issue in **fiscal year 2016** without exceeding its ceiling ratio for **debt to obligated resources** during any year of the Study Period, after taking into account any legislatively-approved projects the Campuses plan to finance in the next five years (collectively, the “**Approved Future Projects**”). Each Campus's Approved Future Projects, if any, are detailed in its report included as part of **Appendix B**.

### Estimated Debt Capacity Across the System (2016)

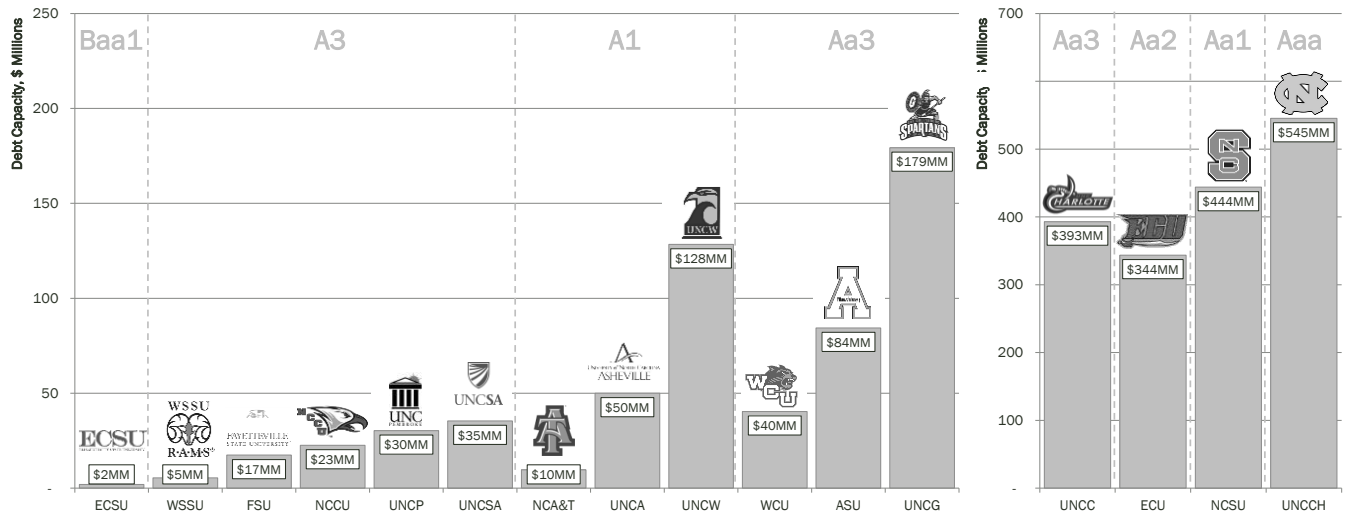


\*The estimated debt capacity figures for ECU, NCSU and UNC have been presented in a separate chart using a compressed scale to make the estimated debt capacity figures for the other Campuses easier to interpret.

\*\*FSU, UNCP and UNCSA are not currently rated by Moody's. FSU and UNCP have been grouped based on their corresponding ratings from either Standard and Poor's or Fitch; UNCSA has been grouped based on an estimated Moody's rating of A3.

Each Campus's estimated debt capacity is projected to grow over the course of the Study Period. The table below summarizes each Campus's **projected estimated debt capacity for fiscal year 2020**, assuming it issued no debt (other than debt to finance any Approved Future Projects) until the last year of the Study Period.

### Estimated Debt Capacity Across the System (2020)



\*The estimated debt capacity figures for UNCC, ECU, NCSU and UNC have been presented in a separate chart using a compressed scale to make the estimated debt capacity figures for the other Campuses easier to interpret.

\*\*FSU, UNCP and UNCSA are not currently rated by Moody's. FSU and UNCP have been grouped based on their corresponding ratings from either Standard and Poor's or Fitch; UNCSA has been grouped based on an estimated Moody's rating of A3.

While the Study provides useful insight into each Campus's overall fiscal position and capital needs and will help Campuses, policymakers and other stakeholders identify trends and challenges facing each Campus and the University as a whole over time, it is impossible to capture the nuances and complexity of each Campus's mission, business model, size and infrastructure needs in a debt capacity measure based on a single statutory ratio. **The University's current debt approval process, which is predicated on a collaborative, project-by-project analysis of tailored cost estimates and identified sources of repayment, should continue to drive decision-making with respect to any proposed financing.**

# Debt Capacity Methodology

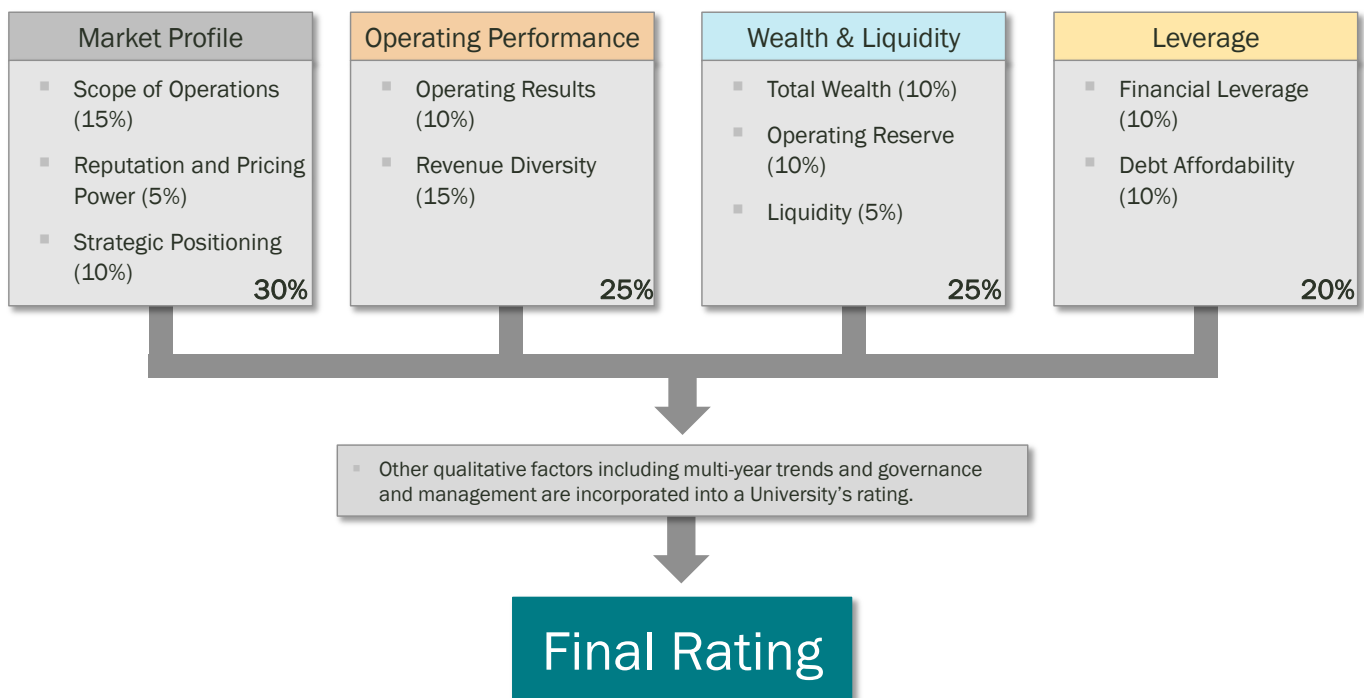
## Overview of Strategic Debt Management and Credit Assessment

The prudent use of debt, in service of each Campus's mission, provides a number of strategic benefits:

- **Achieving intergenerational equity** – The vast majority of capital projects will benefit students for decades. Financing a portion of each Campus's planned capital investments enables each Campus to better align the benefits and financial burdens across multiple generations.
- **Enhancing effectiveness** – A Campus may use debt to invest in transformative projects on an accelerated schedule, permitting the Campus to leverage its resources to better scale its programs, serve its stakeholders and meet its mandated mission.
- **Imposing discipline** – Debt can be used to clarify priorities and reduce other spending that may crowd-out investments necessary for the Campus's long-term health.

Burdensome debt levels, however, can undermine an institution's effectiveness and viability. Debt may diminish a Campus's future operational flexibility and may limit its ability to adapt to future developments and trends in the marketplace. In the worst instances, debt levels may hasten a Campus's decline, creating a downward spiral that exerts ever-increasing pressure on the institution's balance sheet.

Each Campus's credit rating (for those with rated debt) serves as a general barometer of how the rating agencies view the Campus's financial strength and its debt management practices, which, in turn, informs the Campus's reputation in the capital markets. In assessing a public university's creditworthiness, rating agencies generally consider three or four broad categories of factors. The table below summarizes the factors that Moody's Investors Service ("**Moody's**") considers as part of its "scorecard," which guides its credit profile analysis in the higher education sector:



\*The Study focuses on Moody's methodology, as it rates nearly all of the Campuses.

As part of their criteria, the rating agencies give significant weight to various qualitative factors, such as the strength of the institution's leadership, the quality and responsiveness of its long-range planning and the role of any centralized oversight. In a rating report issued in February in connection with a Campus bond offering, for example, Moody's noted that the Campus "**benefits from being part of the UNC system, which has a demonstrated history of strong oversight of member institutions**" and listed the Campus's "**generous operating and capital support from the State of North Carolina**" as a primary credit strength.

For a number of reasons, the Study has not attempted to tie "debt capacity" to the predicted impact any new debt may have on a Campus's credit rating. First, each Campus's mission and strategic planning should drive its debt management decisions, not the other way around. Managing a Campus's operations solely to achieve a certain credit rating may distort strategic objectives and lead to unintended consequences. As Moody's states in its current Rating Methodology for Global Higher Education (dated November 23, 2015):

"Strategic positioning depends on effective short- and long-range planning, consistent self-assessment and benchmarking, and ongoing monitoring and accountability. ... Determining the appropriate level of investment is a significant challenge, as too little investment can result in a gradual loss of student demand, research funding, or philanthropy if donors feel that the university is in decline. Overinvesting can saddle a college with an unsustainable business model, with revenue unable to support high fixed costs, including debt service."

Second, projecting the exact amount of debt a Campus could issue during the Study Period without negatively impacting its credit rating is difficult. Any single financial ratio makes up only a fraction of the overall credit analysis, and weak ratios may be ignored or deemphasized in a particular situation based on multi-year trends, projections and other qualitative factors. Further, while the Campuses' financial performance has no impact on the State's credit rating, each Campus's credit rating has historically benefitted from the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category, making comparisons to median ratios challenging. Finally, because median ratios are not perfectly correlated to rating outcomes, a model that attempts to draw a linear relationship between any single ratio and a projected rating outcome would have limited predictive value.

In this context, **it is important to distinguish "debt capacity" from "debt affordability."** Debt capacity provides a general indication of each Campus's ability to absorb debt on its balance sheet during the Study Period. Debt affordability, on the other hand, evaluates the merits of a specific financing (or a specific amount of debt), taking into account a number of quantitative and qualitative factors relating to the projects under consideration, including project revenues and expenses, cost of funds, competing strategic priorities and the "hidden" costs of foregoing the projects entirely.

### Overview of UNC System Debt

The majority of debt within the scope of the Study is comprised of special obligation bonds issued by the Board on behalf of each Campus in accordance with Article 3 of Chapter 116D of the General Statutes of North Carolina, as amended ("**Article 3**"). Campuses may use special obligation bonds (or "**general revenue bonds**," as they are commonly called) to finance any capital facility located at the Campus that supports the Campus's mission, but only if the Board has specifically designated the project as a "special obligation bond project" in accordance with Article 3.

Article 3 contains a number of procedural safeguards to ensure the thoughtful use of special obligation bonds. For example, before any general revenue bonds are issued, Article 3 requires the approval of the **Campus Board of Trustees**, the **Board of Governors**, the **General Assembly** and the **Director of the Budget** (in consultation, if necessary with the **Joint Legislative Commission on Governmental Operations**).



As part of its approval, the Board of Governors must (1) designate the proposed project as a “special obligation bond project” and the obligated resources that will serve as the source of repayment for the proposed bonds and (2) establish that sufficient obligated resources are reasonably expected to be available to service the proposed bonds. In its report to the General Assembly seeking approval for a proposed Article 3 project, the Board must provide details regarding the project need, expected project costs, expected increases in operating costs following completion (including any contemplated impact on student costs), estimated debt service and the sources and amounts of obligated resources to be used to repay the debt.

Although Article 3 focuses on a Campus’s obligated resources in the aggregate, as a practical matter, the plan of finance for each proposed project is evaluated on a standalone basis. **If a Campus is unable to demonstrate that existing or future revenues associated with a particular project are sufficient to service the proposed debt, then the financing will generally not move forward unless the project is redesigned to a sustainable and appropriate scale.** Those project-specific revenues may take the form of enterprise system revenues (such as dormitory or dining system revenues) or other dedicated revenue sources (such as capital campaign donations or student fees). Campus debt issued under other legislative authority, including student housing revenue bonds under Article 19 of Chapter 116D, is also subject to procedural safeguards and are evaluated on a project-by-project basis.

This slight disconnect between the statutory framework for evaluating debt capacity—with its focus on **affordability relative to each Campus’s aggregate obligated resources**—and the practical manner in which projects are evaluated and approved—with its focus on **an individual project’s affordability based on a specific source of repayment**—means that the Study presents an inherently conservative picture of each Campus’s debt capacity. While the model’s inherent conservatism encourages prudent planning, the Study’s limitations in evaluating the affordability of any single Campus project should be noted.

Unlike the State of North Carolina’s debt capacity study, for example, where future debt service is paid out of well-defined and relatively predictable revenue streams, Campus projects may be financed through a variety of revenue sources, none of which is easily modeled on a pro forma basis at the aggregate obligated resources level. In addition, the Act establishes a target ratio that compares aggregate debt (which will increase immediately by the full amount of the debt once issued) to obligated resources (which will increase incrementally each year). This means that any new financing will generally reduce the Campus’s debt capacity as reflected in the Study, even if the new project would be entirely supported by new revenues that would not exist but for the project.

None of the Campus debt included in the Study affects the State of North Carolina’s debt capacity or credit rating. Such obligations are payable only from the applicable Campus’s obligated resources (or other pledged revenues) and do not constitute a debt or liability of the State or a pledge of the State’s full faith and credit.

### Development of the Financial Model

To support the Study, a financial model has been developed to analyze four financial ratios for each Campus on a pro forma basis over the course of the Study Period. Because Article 3 does not permit the Campuses to pool their obligated resources to form a common source of funds to support all Campus project financings, the Study focuses on the individual Campus data and does not attempt to aggregate each Campus’s capacity to derive a University-wide measure of “debt capacity.” The other components of the model are designed to assist each Campus in establishing guidelines for maintaining prudent debt levels and for evaluating capital investment priorities in light of fiscal constraints.

Each Campus’s debt capacity reflects the amount of debt each Campus could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**. Each Campus has developed its own target

policy for each ratio in consultation with General Administration to ensure the ratio is tailored and meaningful for that Campus's particular size, mission, resources and average age of plant.

## Description of Ratios

The model considers the following four ratios:

### Statutory Ratios

| Ratio                              | Explanation  | Commentary  |
|------------------------------------|--|---|
| <b>Debt to Obligated Resources</b> | Compares each Campus's outstanding debt to the funds legally available to service its debt         | <ul style="list-style-type: none"> <li>Provides a general indication of a Campus's ability to repay debt from wealth that can be accessed over time</li> <li>Tied to the statutory framework for Campus debt, so ratio is not used outside the State</li> </ul> |
| <b>Five-Year Payout</b>            | Measures the percentage of each Campus's debt to be retired within the subsequent five year period | <ul style="list-style-type: none"> <li>Indicates how rapidly a Campus's debt is amortizing and how much additional debt capacity may be created in the near term</li> <li>Five year horizon is not widely used</li> </ul>                                       |

### Supplementary Ratios

| Ratio                               | Explanation   | Commentary   |
|-------------------------------------|---|--|
| <b>Debt Service to Operations</b>   | Measures debt service burden as a percentage of each Campus's total operating expenses                | <ul style="list-style-type: none"> <li>Indicates a Campus's operating flexibility to finance existing requirements and new initiatives</li> <li>Uses expenses rather than revenues because expenses tend to be more stable year-over-year</li> </ul> |
| <b>Expendable Resources to Debt</b> | Measures the number of times each Campus's liquid and expendable net assets covers its aggregate debt | <ul style="list-style-type: none"> <li>Provides a general indication of a Campus's ability to repay debt from wealth that can be accessed over time</li> <li>Permits comparisons to peers outside the State</li> </ul>                               |

The first two ratios—**debt to obligated resources** and **five-year payout**—are mandated by the Act. While the ratios provide useful snapshots of each Campus's debt portfolio and fiscal condition, the two ratios are not widely used or tracked outside of North Carolina. To provide additional data points and peer comparisons, the Study tracks two additional ratios—**debt service to operations** and **expendable resources to debt**.

Note that the Study uses each Campus's "Available Funds" as a proxy for its obligated resources. "Available Funds" is reported publicly by each Campus with outstanding general revenue bond debt and reflects how Article 3's "obligated resources" concept has been translated into the bond documentation governing each Campus's general revenue bonds. The two concepts are identical for most Campuses, but to the extent there is any discrepancy, "Available Funds" will produce the more conservative amount.

See **Appendix A** for more information on the ratios and the definitions for related terms.

### Methodology for Setting Target Ratios

Because of the differences in each Campus's mission, enrollment, resources and capital needs, imposing a single set of target policies across all Campuses would distort the information produced by the Study—either by generating too much capacity for the larger Campuses or by holding smaller Campuses to unrealistic benchmarks relative to their size and scale. To produce a more meaningful model for each Campus, the Campuses, in consultation with General Administration, have set their own target policies for the model ratios.

In setting its target policies, each Campus considered a number of quantitative and qualitative factors, including comparisons to its designated peer institutions, its strategic initiatives, its historical results, its average age of plant, its recent and projected growth and any existing Campus debt policies. As discussed above, the Campuses' credit ratings are bolstered by a number of favorable qualitative factors, including, most importantly, the State's long history of support. Because the Campuses benefit from those qualitative factors, it follows that many Campuses' quantitative measures are weaker than the median ratios for their assigned rating category. Campuses were not forced, therefore, to set their target ratios directly in line with those median ratios, as that approach would invite quantitative comparisons to larger, wealthier peers. Campuses used median ratios as an important benchmark in setting their policy ratios.

For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—each Campus has set both a target policy and a floor or ceiling policy, as applicable. Each Campus's target and policy ratios are summarized below.

### Debt to Obligated Resources

| Institution    |         |      |
|----------------|---------|------|
| ECSU           | Target  | 2.00 |
|                | Ceiling | 2.25 |
| UNCG           | Target  | 2.00 |
|                | Ceiling | 2.50 |
| WSSU           | Target  | 2.00 |
|                | Ceiling | 3.00 |
| UNCP           | Target  | 1.70 |
|                | Ceiling | 2.00 |
| NCCU           | Target  | 1.50 |
|                | Ceiling | 1.75 |
| UNCA           | Target  | 1.50 |
|                | Ceiling | 2.00 |
| UNCC           | Target  | 1.50 |
|                | Ceiling | 1.75 |
| FSU            | Target  | 1.30 |
|                | Ceiling | 1.80 |
| NCA&T          | Target  | 1.10 |
|                | Ceiling | 1.75 |
| WCU            | Target  | 1.10 |
|                | Ceiling | 1.25 |
| ASU            | Target  | 1.00 |
|                | Ceiling | 1.25 |
| ECU            | Target  | 1.00 |
|                | Ceiling | 1.25 |
| NCSU           | Target  | 1.00 |
|                | Ceiling | 1.25 |
| UNCCH          | Target  | 1.00 |
|                | Ceiling | 1.00 |
| UNCSA          | Target  | 1.00 |
|                | Ceiling | 1.50 |
| UNCW           | Target  | 1.00 |
|                | Ceiling | 1.50 |
| Median Target  |         | 1.20 |
| Median Ceiling |         | 1.75 |

### Expendable Financial Resources to Debt

| Institution   | Policy (NLT) |
|---------------|--------------|
| WSSU          | 0.25         |
| FSU           | 0.35         |
| NCCU          | 0.35         |
| UNCP          | 0.39         |
| UNCA          | 0.45         |
| ECSU          | 0.50         |
| UNCC          | 0.60         |
| UNCW          | 0.60         |
| UNCG          | 0.65         |
| NCA&T         | 0.70         |
| ECU           | 0.75         |
| ASU           | 0.80         |
| WCU           | 0.90         |
| NCSU          | 1.00         |
| UNCSA         | 1.25         |
| UNCCH         | 1.50         |
| Median Policy | 0.63         |

### 5-Year Payout Ratio

| Institution   |        |     |
|---------------|--------|-----|
| UNCCH         | Target | 10% |
|               | Floor  | 10% |
| NCA&T         | Target | 15% |
|               | Floor  | 10% |
| NCSU          | Target | 15% |
|               | Floor  | 10% |
| UNCA          | Target | 15% |
|               | Floor  | 10% |
| UNCC          | Target | 15% |
|               | Floor  | 12% |
| WSSU          | Target | 15% |
|               | Floor  | 10% |
| UNCP          | Target | 17% |
|               | Floor  | 10% |
| ECSU          | Target | 20% |
|               | Floor  | 10% |
| FSU           | Target | 20% |
|               | Floor  | 10% |
| UNCG          | Target | 20% |
|               | Floor  | 15% |
| UNCW          | Target | 20% |
|               | Floor  | 15% |
| NCCU          | Target | 20% |
|               | Floor  | 15% |
| ASU           | Target | 25% |
|               | Floor  | 10% |
| ECU           | Target | 25% |
|               | Floor  | 12% |
| UNCSA         | Target | 25% |
|               | Floor  | 12% |
| WCU           | Target | 25% |
|               | Floor  | 15% |
| Median Target |        | 20% |
| Median Floor  |        | 10% |

### Debt Service to Operations

| Institution   | Policy (NTE) |
|---------------|--------------|
| UNCG          | 8.00%        |
| UNCC          | 7.00%        |
| UNCP          | 6.70%        |
| UNCW          | 6.50%        |
| WSSU          | 6.50%        |
| UNCA          | 5.80%        |
| ECSU          | 5.50%        |
| FSU           | 5.00%        |
| NCCU          | 5.00%        |
| WCU           | 4.60%        |
| ASU           | 4.50%        |
| ECU           | 4.00%        |
| NCSU          | 4.00%        |
| UNCCH         | 4.00%        |
| NCA&T         | 3.50%        |
| UNCSA         | 3.00%        |
| Median Policy | 5.00%        |

## Other Assumptions and Factors Affecting the Model

The Campus financial model is based on each Campus's financial results as of **June 30, 2015**—the most recent period for which audited financials are available. The model includes debt issued to finance new projects since June 30, 2015, but the model excludes any refinancing, redemption or other debt payments that have occurred during the current fiscal year, building an additional element of conservatism into the model.

The financial model also takes into account any legislatively approved project that each Campus plans to finance during the Study Period. Interest rate assumptions for any pro forma debt are based on conservative, fixed rate projections and are adjusted to account for each Campus's credit rating and the expected term of the financing.

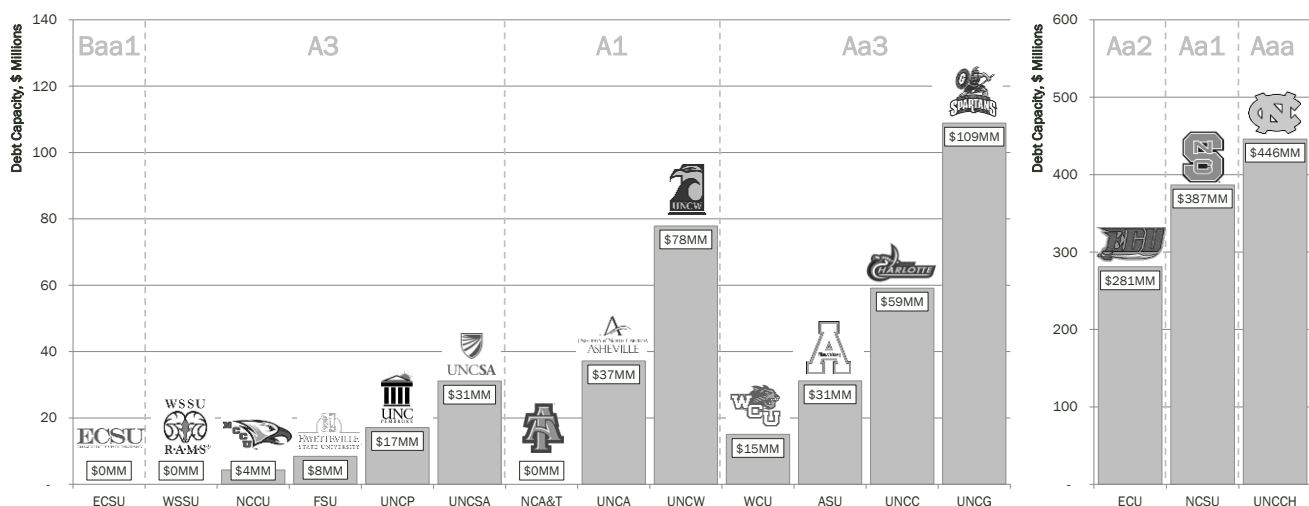
The financial model adds back to each Campus's unrestricted net assets any noncash charge taken in connection with the implementation of GASB 68 and will make similar adjustments for the implementation of related accounting policies in the future.

Finally, by default, the financial model assumes that each Campus's Available Funds, expendable resources and operating expenses will grow by an annual rate equal to the Consumer Price Index (1.40% at the time the model was developed). Each Campus was given the option, however, to adjust the growth factor for each of the model components based on its reasonable expectations for its performance over the Study Period. Any such adjustment, and the factors considered in making the adjustment, is described in the individual Campus reports attached as **Appendix B**.

## Conclusions

The table below summarizes each Campus's **current estimated debt capacity** as defined for the purposes of the Study. The numbers in the table below reflect **the maximum amount of debt each Campus could issue in fiscal year 2016** without exceeding its ceiling ratio for **debt to obligated resources** during any year of the Study Period, after taking into account any Approved Future Projects. Each Campus's Approved Future Projects, if any, are detailed in its report included as part of **Appendix B**.

### Estimated Debt Capacity Across the System (2016)

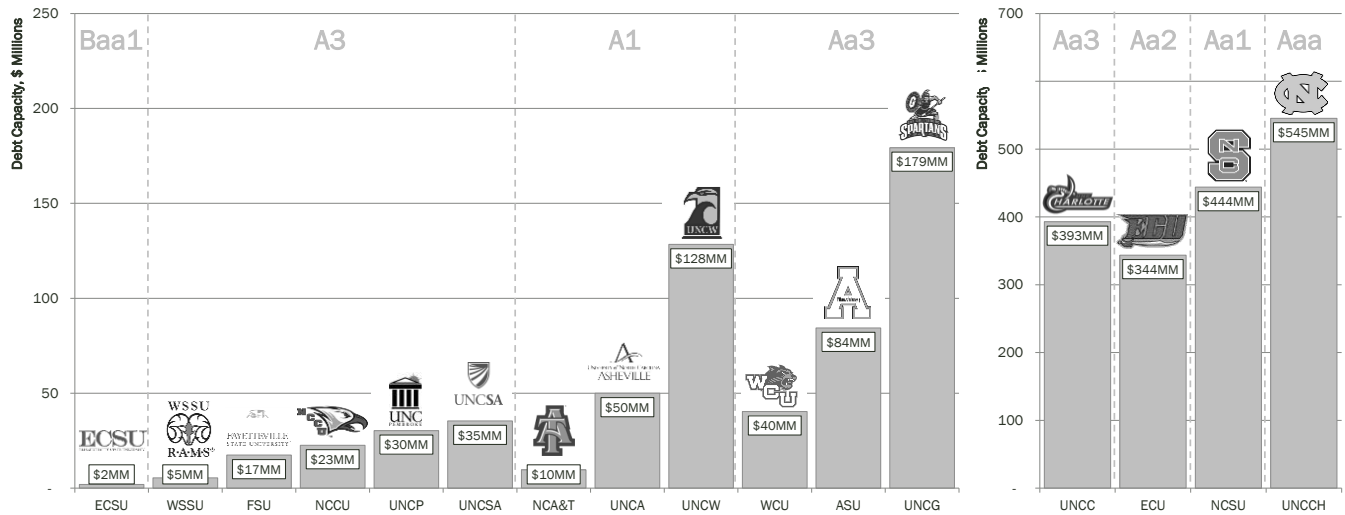


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\*\*FSU, UNCP and UNCSA are not currently rated by Moody's. FSU and UNCP have been grouped based on their corresponding ratings from either Standard and Poor's or Fitch; UNCSA has been grouped based on an estimated Moody's rating of A3.

Each Campus's estimated debt capacity is projected to grow over the course of the Study Period. The table below summarizes each Campus's **projected estimated debt capacity for fiscal year 2020**, assuming it issued no debt (other than debt to finance any Approved Future Projects) until the last year of the Study Period.

### Estimated Debt Capacity Across the System (2020)



\*The estimated debt capacity figures for UNCC, ECU, NCSU and UNC have been presented in a separate chart using a compressed scale to make the estimated debt capacity figures for the other Campuses easier to interpret.

\*\*FSU, UNCP and UNCSA are not currently rated by Moody's. FSU and UNCP have been grouped based on their corresponding ratings from either Standard and Poor's or Fitch; UNCSA has been grouped based on an estimated Moody's rating of A3.

The range of capacities reflects the diversity among the Campuses, each with its own strengths, challenges and mission. The Study reflects the general health and proactive management of each Campus's balance sheet, much of which is attributable to the State's history of strong support for the University and its Campuses.

Several Campuses with limited or no debt capacity have recently embarked on significant capital improvement plans and should have relatively modest borrowing needs in the near future. The Study also indicates relatively rapid amortization rates for most Campuses, which will create additional capacity (or improve leverage measures) for those Campuses over the course of the Study Period.

A small handful of Campuses are facing significant headwinds in terms of enrollment and revenue growth, which is reflected in their debt capacity results. For those Campuses, improving debt capacity, alone, may not be a priority; instead, their debt capacity will improve as they continue to work with General Administration to implement new strategies and policies to meet their unique challenges.

While the Study provides useful insight into each Campus's overall fiscal position and capital needs and will help Campuses, policymakers and other stakeholders identify trends and challenges facing each Campus and the University as a whole over time, the Study also underscores the unique nature of public higher education debt and the value of General Administration's centralized support and oversight. The Study's emphasis on aggregate debt and asset levels, then, is valuable, but the current approval process, which is predicated on a collaborative, project-by-project analysis of tailored cost estimates and project-specific sources of repayment, should continue to drive decision-making with respect to any proposed project.

## Recommendations

### Debt Management Policies

Many Campuses have adopted their own debt management policies to guide their debt management and capital investment efforts. To the extent not already in place, Campuses should develop and implement a debt management policy tailored to its particular needs, financial condition and strategic vision. Each Campus should also consider developing specific criteria for evaluating and, if warranted, approving critical infrastructure projects even when the Study shows that the Campus faces limited (or no) debt capacity.

### Recommended Use of the Study

The complexity and diversity of each Campus's mission, business model, size and infrastructure needs present challenges for developing a single, comprehensive financial model that is appropriate for each Campus. As a result, the Study is framed broadly and does not consider a number of factors that would be relevant to the evaluation of any particular financing, such as the self-liquidating nature of a proposed project.

The Study should be used, therefore, as a general assessment of each Campus's overall fiscal position and to help Campuses, policymakers and other stakeholders identify trends and challenges facing each Campus and the University as a whole over time. Like any other strategic debt management tool, however, the Study is not intended as a substitute for the considered judgment of Campus leadership, General Administration, the Board or the General Assembly. There may be times when a Campus would be better served foregoing a particular project even when it has significant debt capacity. Likewise, there may be instances when a project should be pursued even if it would cause the Campus to violate one of its target ratios. While the Study will provide another helpful data point—perhaps indicating, for example, when additional scrutiny for any particular project may be warranted—the University's current debt approval process, which is predicated on a collaborative, project-by-project analysis of tailored cost estimates and identified sources of repayment, should continue to drive decision-making with respect to any proposed financing.

### Recommended Changes to the Study

Because of the weight given to qualitative factors in the rating process, there are inherent limitations on the ability of any quantitative model to predict what impact any new debt may have on an issuer's credit rating, particularly given the number (and interdependence) of the various credit factors considered by the rating agencies in the public higher education sector. Over time, however, the Study methodology and financial model should be refined to incorporate feedback from the Campuses, policymakers and other stakeholders in order to provide a better sense of the relationship between a Campus's debt capacity, as estimated by the Study, and the Campus's ability to issue debt without negatively impacting its credit rating. Supplementing the information required by the Act with an analysis that more closely follows the rating agencies' scorecard methodology, for example, may offer readers a more comprehensive assessment of each Campus's debt management practices.

Policymakers may also consider altering the schedule for delivering the Campus reports, which are currently due under the Act by November 1 of each year. Because audited financials will not be available before November 1, Campuses may be forced to use audited financial data that is more than a year old or use preliminary audited results, which will then be compared to audited peer data from a prior period. If the Campus reports were due in January or February (with the University's report due shortly thereafter), then the Study would likely provide stakeholders with more current and helpful data.



## Appendix A: Key Definitions

**Debt:** Debt incurred under [Chapter 116D of the North Carolina General Statutes] or any other debt that will be serviced with funds available to the institutions from gifts, grants, receipts, Medicare reimbursements for education costs, hospital receipts from patient care, or other funds, or any combination of these funds, but not including debt that will be serviced with funds appropriated from the General Fund of the State.

**Obligated Resources:** Any sources of income or receipts of the Board of Governors or the institution at which a special obligation bond project is or will be located that are designated by the Board as the security and source of payment for bonds issued under this Article to finance a special obligation bond project, including, without limitation, any of the following:

- a. Rents, charges, or fees to be derived by the Board of Governors or the institution from any activities conducted at the institution.
- b. Earnings on the investment of the endowment fund of the institution at which a special obligation project will be located, to the extent that the use of the earnings will not violate any lawful condition placed by the donor upon the part of the endowment fund that generates the investment earnings.
- c. Funds to be received under a contract or a grant agreement, including "overhead costs reimbursement" under a grant agreement, entered into by the Board of Governors or the institution to the extent the use of the funds is not restricted by the terms of the contract or grant agreement or the use of the funds as provided in this Article does not violate the restriction.
- d. Funds appropriated from the General Fund to the Board of Governors on behalf of a constituent institution for utilities of the institution that constitute energy savings as that term is defined in G.S. 143-64.17.

Except as provided in sub-subdivision d. of this subdivision, obligated resources do not include funds appropriated to the Board of Governors or the institution from the General Fund by the General Assembly from funds derived from general tax and other revenues of the State, and obligated resources do not include tuition payment by students.

**5-Year Payout Ratio:** Percentage of each Campus's long-term debt scheduled to be retired during the succeeding five-year period.

**Debt Service to Operations:** Ratio that measures a Campus's debt service burden as a percentage of its total expenses. Ratio uses aggregate operating expenses as opposed to operating revenues because expenses are generally more stable.

Debt Service to Operations = (Annual Debt Service) / (Total Operating Expenses)

### Expendable Resources to Debt:

Ratio that measures the number of times a Campus's liquid and expendable net assets covers the Campus's aggregate funded debt. In calculating the ratio, the Campus's Unrestricted Net Assets has been adjusted to add any non-cash charges for the period (such as adjustments required by GASB 68).

Expendable Resources to Debt =  $\frac{\text{Adjusted Unrestricted Net Assets} + \text{Restricted Expendable Net Assets}}{\text{Debt}}$



## Appendix B: Reports from Constituent Institutions

# The University of North Carolina System Debt Capacity Study

Appalachian State University  
Campus Report

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), Appalachian State University (“**ASU**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. ASU has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, ASU, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—ASU has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, ASU’s debt capacity reflects the amount of debt ASU could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that ASU intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- ASU’s current debt profile, including project descriptions financed with, and the sources of repayment for, ASU’s outstanding debt;
- ASU’s current credit profile, along with recommendations for maintaining or improving ASU’s credit rating; and
- A copy of any ASU debt management policy currently in effect.

## Overview of ASU

For the fall 2015 semester, ASU had a headcount student population of approximately 17,932 including 16,290 undergraduate students and 1,692 graduate and doctoral students. During the 2015 academic year, ASU employed approximately 1,327 full-time, part-time and temporary instructional faculty.

Over the past 10 years, ASU’s enrollment has increased approximately 19%. ASU expects modest enrollment growth over the Study Period. ASU’s average age of plant (12.77 years) is slightly higher than the median ratio for all Campuses (12.58 years). An average age of plant of less than 14 generally indicates the institution is taking a sustainable approach to its deferred maintenance and reinvestment programs.

ASU does not anticipate significant additional borrowings during the Study Period.

Rather than using the financial model’s standard growth assumption of 1.40%, ASU has assumed a growth factor for its obligated resources, expendable resources and operating expenses of 2.20% per year. ASU’s growth assumptions more closely align with ASU’s detailed internal planning and better reflect ASU’s anticipated enrollment growth during the Study Period.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on ASU's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to ASU by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt ASU expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below overstates ASU's current debt burden.

| 1                         | 2                          | 3                              | 4         | 5                     | 6                | 7          | 8            | 9            | 10                |
|---------------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|------------|--------------|--------------|-------------------|
| Obligated Resources       |                            |                                |           |                       | Outstanding Debt |            |              |              |                   |
| Fiscal Year               | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal  | Net Interest | Debt Service | Principal Balance |
| 2011                      | 155,061,517                | -                              |           | 155,061,517           | 2016             | 13,119,055 | 9,717,175    | 22,836,230   | 218,943,091       |
| 2012                      | 162,051,341                | -                              | 4.51%     | 162,051,341           | 2017             | 11,561,861 | 9,201,192    | 20,763,054   | 207,381,229       |
| 2013                      | 178,711,203                | -                              | 10.28%    | 178,711,203           | 2018             | 10,795,215 | 8,719,181    | 19,514,397   | 196,586,014       |
| 2014                      | 200,217,789                | -                              | 12.03%    | 200,217,789           | 2019             | 11,256,014 | 8,238,182    | 19,494,196   | 185,330,000       |
| 2015                      | 172,255,352                | 26,893,291                     | -0.53%    | 199,148,643           | 2020             | 11,700,000 | 7,763,527    | 19,463,527   | 173,630,000       |
| 2016                      | 203,529,913                | -                              | 2.20%     | 203,529,913           | 2021             | 12,225,000 | 7,232,092    | 19,457,092   | 161,405,000       |
| 2017                      | 208,007,571                | -                              | 2.20%     | 208,007,571           | 2022             | 12,650,000 | 6,683,038    | 19,333,038   | 148,755,000       |
| 2018                      | 212,583,738                | -                              | 2.20%     | 212,583,738           | 2023             | 13,060,000 | 6,120,359    | 19,180,359   | 135,695,000       |
| 2019                      | 217,260,580                | -                              | 2.20%     | 217,260,580           | 2024             | 13,680,000 | 5,501,838    | 19,181,838   | 122,015,000       |
| 2020                      | 222,040,313                | -                              | 2.20%     | 222,040,313           | 2025             | 12,210,000 | 4,907,822    | 17,117,822   | 109,805,000       |
| <b>Operating Expenses</b> |                            |                                |           |                       | 2026             | 12,750,000 | 4,370,281    | 17,120,281   | 97,055,000        |
| Fiscal Year               | Operating Exp.             | Growth                         |           |                       | 2027             | 11,610,000 | 3,874,750    | 15,484,750   | 85,445,000        |
| 2011                      | 347,531,550                |                                |           |                       | 2028             | 11,115,000 | 3,436,231    | 14,551,231   | 74,330,000        |
| 2012                      | 338,583,805                | -2.57%                         |           |                       | 2029             | 9,620,000  | 2,977,094    | 12,597,094   | 64,710,000        |
| 2013                      | 345,070,135                | 1.92%                          |           |                       | 2030             | 10,005,000 | 2,582,103    | 12,587,103   | 54,705,000        |
| 2014                      | 362,246,081                | 4.98%                          |           |                       | 2031             | 10,420,000 | 2,168,947    | 12,588,947   | 44,285,000        |
| 2015                      | 362,739,731                | 0.14%                          |           |                       | 2032             | 8,995,000  | 1,761,241    | 10,756,241   | 35,290,000        |
| 2016                      | 370,720,005                | 2.20%                          |           |                       | 2033             | 7,910,000  | 1,387,419    | 9,297,419    | 27,380,000        |
| 2017                      | 378,875,845                | 2.20%                          |           |                       | 2034             | 8,290,000  | 1,019,400    | 9,309,400    | 19,090,000        |
| 2018                      | 387,211,114                | 2.20%                          |           |                       | 2035             | 6,375,000  | 686,381      | 7,061,381    | 12,715,000        |
| 2019                      | 395,729,758                | 2.20%                          |           |                       | 2036             | 5,595,000  | 418,300      | 6,013,300    | 7,120,000         |
| 2020                      | 404,435,813                | 2.20%                          |           |                       | 2037             | 4,695,000  | 192,319      | 4,887,319    | 2,425,000         |
|                           |                            |                                |           |                       | 2038             | 780,000    | 75,825       | 855,825      | 1,645,000         |
|                           |                            |                                |           |                       | 2039             | 805,000    | 46,594       | 851,594      | 840,000           |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 50,731,926              | 9,383,685                         | 18,076,300                         | 32,741,418                            | -   | -      | -                              | 110,933,330          |
| 2012                 | 43,715,396              | 9,544,080                         | 19,198,038                         | 40,713,760                            | 7,559,903   | -4.80% | -                              | 105,611,371          |
| 2013                 | 60,661,734              | 5,352,328                         | 20,570,955                         | 38,895,346                            | 2,216,970   | 16.71% | -                              | 123,263,393          |
| 2014                 | 60,436,462              | 8,189,244                         | 23,228,516                         | 46,333,711                            | 2,374,146   | 10.18% | -                              | 135,813,787          |
| 2015                 | 39,511,169              | 9,463,239                         | 25,279,071                         | 54,999,821                            | 7,040,187   | 9.79%  | 26,893,291                     | 149,106,404          |
| 2016                 | 67,865,358              | 9,671,430                         | 25,835,211                         | 56,209,817                            | 7,195,071   | 2.20%  | -                              | 152,386,745          |
| 2017                 | 69,358,396              | 9,884,202                         | 26,403,585                         | 57,446,433                            | 7,353,363   | 2.20%  | -                              | 155,739,253          |
| 2018                 | 70,884,281              | 10,101,654                        | 26,984,464                         | 58,710,255                            | 7,515,137   | 2.20%  | -                              | 159,165,517          |
| 2019                 | 72,443,735              | 10,323,891                        | 27,578,122                         | 60,001,880                            | 7,680,470   | 2.20%  | -                              | 162,667,158          |
| 2020                 | 74,037,497              | 10,551,016                        | 28,184,841                         | 61,321,922                            | 7,849,440   | 2.20%  | -                              | 166,245,836          |

## 3. Proposed Debt Financings

The table below summarizes any legislatively approved projects that ASU expects to finance during the Study Period. Using the assumptions outlined in the table below, the model has developed a tailored, but conservative, debt service schedule for each proposed financing and incorporated each pro forma debt service schedule into its calculations of the financial ratios as detailed in **Section 4** of this Campus Report.

### ASU Proposed Debt Financings

| Year  | Use of Funds | Borrowing Amount | Term     | Source of Repayment |
|-------|--------------|------------------|----------|---------------------|
| 2017  | Winkler Hall | 22,000,000       | 25 Years | Housing Revenues    |
|       |              |                  |          |                     |
|       |              |                  |          |                     |
|       |              |                  |          |                     |
| Total |              | 22,000,000       |          |                     |

## 4. Financial Ratios

### Debt to Obligated Resources

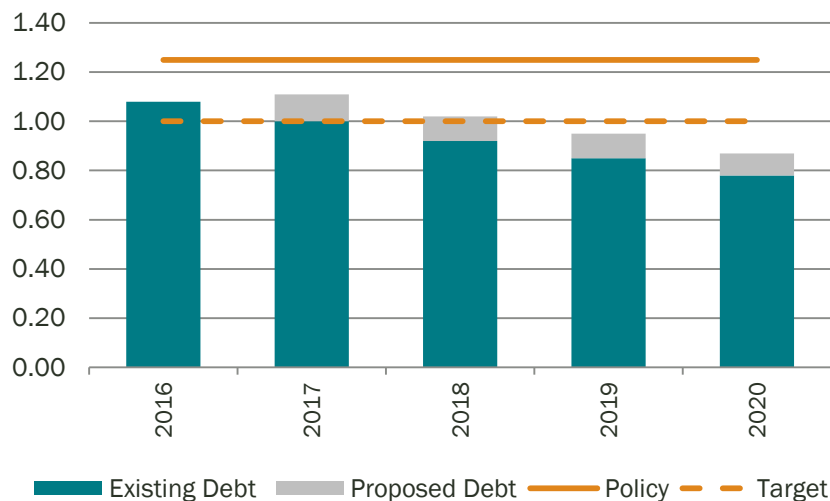
- **What does it measure?** ASU's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.00
- Ceiling Ratio: Not to exceed 1.25
- Projected 2016 Ratio: 1.08
- Highest Study Period Ratio: 1.10 (2017)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 203,529,913         | 2.20%  | 218,943,091   |               | 1.08             | n/a              | 1.08          |
| 2017                        | 208,007,571         | 2.20%  | 207,381,229   | 22,000,000    | 1.00             | 0.11             | 1.10          |
| 2018                        | 212,583,738         | 2.20%  | 196,586,014   | 21,414,590    | 0.92             | 0.10             | 1.03          |
| 2019                        | 217,260,580         | 2.20%  | 185,330,000   | 20,810,271    | 0.85             | 0.10             | 0.95          |
| 2020                        | 222,040,313         | 2.20%  | 173,630,000   | 20,186,433    | 0.78             | 0.09             | 0.87          |

### Debt to Obligated Resources



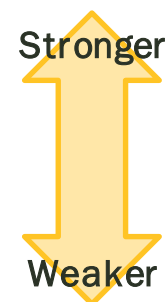
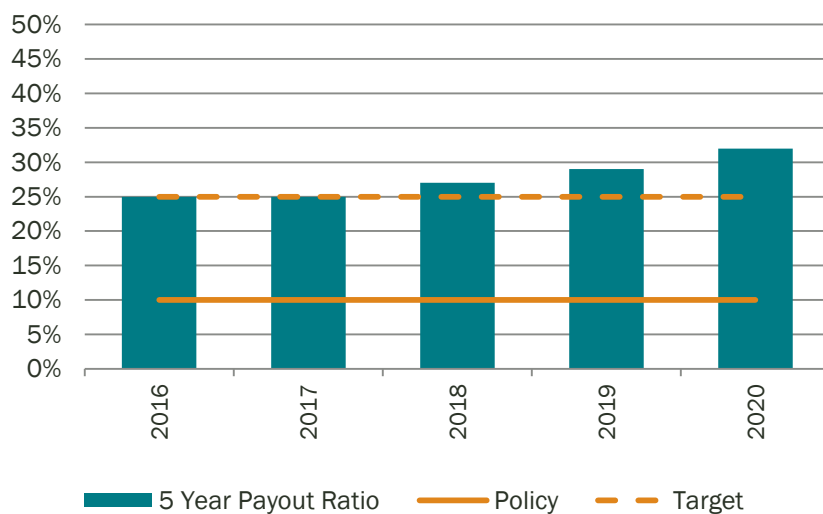
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of ASU's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 25%
- Floor Ratio: Not less than 10%
- Projected 2016 Ratio: 25%
- Lowest Study Period Ratio: 25% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 218,943,091         | 25%   |   |
| 2017        | 229,381,229         | 25%   |   |
| 2018        | 218,000,604         | 27%   |   |
| 2019        | 206,140,271         | 29%   |   |
| 2020        | 193,816,433         | 32%   |   |

### 5-Year Payout Ratio





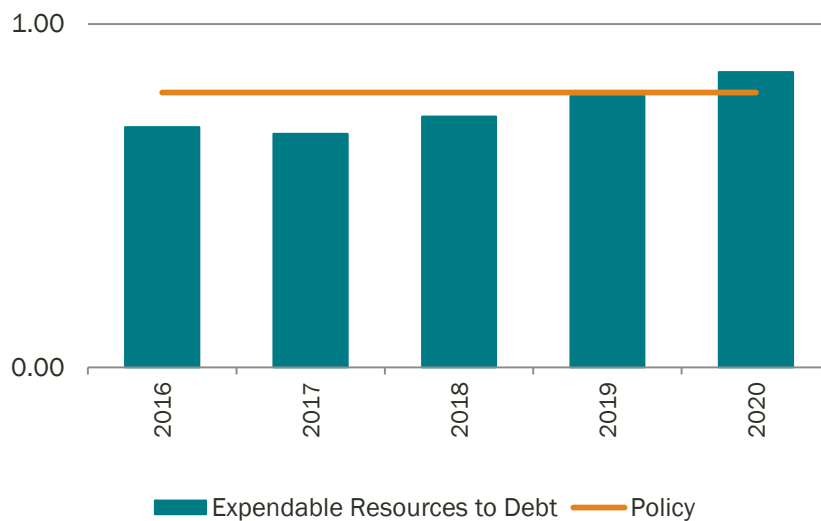
## Expendable Resources to Debt

- **What does it measure?** The number of times ASU's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.80x
- Projected 2016 Ratio: 0.70x
- Lowest Study Period Ratio: 0.70x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 152,386,745          | 2.20%  | 218,943,091   | -             | 0.70          | 0.70                     |
| 2017                         | 155,739,253          | 2.20%  | 207,381,229   | 22,000,000    | 0.75          | 0.68                     |
| 2018                         | 159,165,517          | 2.20%  | 196,586,014   | 21,414,590    | 0.81          | 0.73                     |
| 2019                         | 162,667,158          | 2.20%  | 185,330,000   | 20,810,271    | 0.88          | 0.79                     |
| 2020                         | 166,245,836          | 2.20%  | 173,630,000   | 20,186,433    | 0.96          | 0.86                     |

## Expendable Resources to Debt



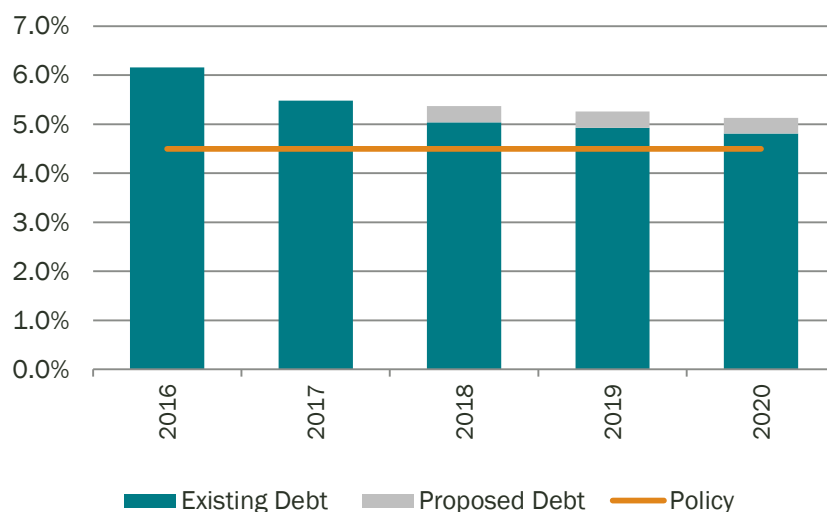
## Debt Service to Operating Expenses

- **What does it measure?** ASU's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 4.50%
- Projected 2016 Ratio: 6.16%
- Highest Study Period Ratio: 6.16% (2016)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 370,720,005        | 2.20%  | 22,836,230  | -           | 6.16%            | n/a              | 6.16%         |
| 2017                               | 378,875,845        | 2.20%  | 20,763,054  | -           | 5.48%            | n/a              | 5.48%         |
| 2018                               | 387,211,114        | 2.20%  | 19,514,397  | 1,296,010   | 5.04%            | 0.33%            | 5.37%         |
| 2019                               | 395,729,758        | 2.20%  | 19,494,196  | 1,296,010   | 4.93%            | 0.33%            | 5.25%         |
| 2020                               | 404,435,813        | 2.20%  | 19,463,527  | 1,296,010   | 4.81%            | 0.32%            | 5.13%         |

### Debt Service to Operating Expenses



Weaker  
↑  
↓  
Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, ASU's debt capacity is based on the amount of debt ASU could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, **the lowest constraint on ASU's debt capacity** in any single year during the Study Period occurs in 2017.
- Based solely on the **debt to obligated resources** ratio, ASU's current estimated debt capacity is **\$31,201,136**. After taking into account any legislatively approved projects detailed in **Section 3** above, if ASU issued no additional debt until the last year of the Study Period, then ASU's debt capacity for 2020 is projected to increase to **\$84,375,319**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.08  | 1.25                                  | 34,600,085    |
| 2017          | 1.10  | 1.25                                  | 31,201,136    |
| 2018          | 1.03  | 1.25                                  | 46,768,422    |
| 2019          | 0.95  | 1.25                                  | 65,178,174    |
| 2020          | 0.87  | 1.25                                  | 84,375,319    |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of ASU's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If ASU were to use all of its calculated debt capacity during the Study Period, ASU's credit ratings may face significant downward pressure.**
- The debt capacity calculation shown above provides a general indication of ASU's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities..
- Projecting the exact amount ASU could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.

- If “debt capacity” were linked to those national median ratios, many Campuses would have limited debt capacity for an extended period of time.
- **Factor Interdependence**
  - The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
  - For example, a university’s “**strategic positioning**” score, which accounts for 10% of its overall score under Moody’s criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.
- **Distortions Across Rating Categories**
  - Because quantitative ratios account for only a portion of an issuer’s final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
  - Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.
  - Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

ASU's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## Appalachian State University

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series  | Description                         | Par Outstanding | Final Maturity | Use of Funds  | Refunding    | Source of Repayment   |
|---------|-------------------------------------|-----------------|----------------|---|--------------|---|
| 2005    | General Revenue and Refunding Bonds | 3,920,000       | 7/15/2017      | White Residence Hall Renovation<br>Lovill Residence Hall Renovation<br>Athletic Facilities<br>Athletic Facilities<br>Parking<br>Residence Halls | 2000<br>2000 | Housing Revenues<br>Housing Revenues<br>Athletic Revenues<br>Debt Service Fee<br>Parking Revenues<br>Housing Revenues |
| 2006A   | UNC System Pool Revenue Bonds       | 13,095,000      | 10/1/2026      | Doughton Residence Hall Renovation<br>New Dining Hall<br>Hoey Residence Hall Renovation<br>Student Recreation Center<br>Broyhill Inn            | 2000         | Housing Revenues<br>Dining Revenues<br>Housing Revenues<br>Debt Service Fee<br>Debt Service Fee                       |
| 2007    | New River Light & Power Note        | 150,000         | 10/12/2016     | Electric Utility Infrastructure   |              | Electric Utility Revenues   |
| 2008A   | UNC System Pool Revenue Bonds       | 42,985,000      | 10/1/2033      | Steam Utility System<br>Cannon Residence Hall Renovation<br>Parking Improvements<br>Athletic Facilities<br>Athletic Facilities                  |              | Steam Utility Revenues<br>Housing Revenues<br>Parking Revenues<br>Athletic Revenues<br>Debt Service Fee               |
| 2009B   | UNC System Pool Revenue Bonds       | 13,520,000      | 10/1/2033      | Frank Residence Hall Renovation<br>Athletic Facilities  |              | Housing Revenues<br>Athletic Revenues   |
| 2010B-1 | UNC System Pool Revenue Bonds       | 19,080,000      | 10/1/2035      | Cone Residence Hall Renovation<br>Athletic Facilities<br>Athletic Facilities<br>Bookstore   | 2001         | Housing Revenues<br>Athletic Revenues<br>Debt Service Fee<br>Bookstore Revenues                                       |
| 2011    | General Revenue Bonds               | 56,630,000      | 10/1/2036      | Addition to Student Union<br>Honors Residence Hall<br>Student Leadership Annex<br>Steam Utility System  |              | Debt Service Fee<br>Housing Revenues<br>Debt Service Fee<br>Steam Utility Revenues                                    |

## Appalachian State University

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                       | Par Outstanding | Final Maturity | Use of Funds                                   | Refunding | Source of Repayment       |
|--------|-----------------------------------|-----------------|----------------|--|-----------|---------------------------|
| 2011   | Utility System Revenue Bonds      | 1,755,000       | 12/20/2021     | Electric Utility Infrastructure                |           | Electric Utility Revenues |
| 2011   | Capital Lease                     | 507,730         | 5/1/2016       | Human Resource Services Administratin Building |           | Endowment Funds           |
| 2012   | Capital Lease                     | 2,392,703       | 10/1/2017      | Mountaineer Residence Hall                     |           | Housing Revenues          |
| 2012   | Refunding Bonds                   | 22,045,000      | 5/1/2028       | Housing  | 2002      | Housing Revenues          |
|        |                                   |                 |                | Housing  | 2005      | Housing Revenues          |
|        |                                   |                 |                | Student Recreation Center                      | 2003A     | Debt Service Fee          |
|        |                                   |                 |                | Athletic Facilities                            | 2005      | Athletic Revenues         |
| 2014A  | General Revenue & Refunding Bonds | 21,935,000      | 6/30/2040      | Belk Residence Hall Renovation                 |           | Housing Revenues          |
|        |                                   |                 |                | Anne Belk Hall Renovation                      |           | Debt Service Fee          |
|        |                                   |                 |                | Athletic Facilities                            |           | Athletic Revenues         |
|        |                                   |                 |                | Residence Halls                                | 2005      | Housing Revenues          |
|        |                                   |                 |                | Athletic Facilities                            | 2005      | Athletic Revenues         |
|        |                                   |                 |                | Athletic Facilities                            |           | Debt Service Fee          |
|        |                                   |                 |                | Parking  | 2005      | Parking Revenues          |
| 2014B  | Taxable Refunding Bonds           | 12,760,000      | 6/30/2026      | Residence Halls                                | 2005      | Housing Revenues          |
|        |                                   |                 |                | Athletic Facilities                            | 2005      | Athletic Revenues         |
|        |                                   |                 |                | Athletic Facilities                            |           | Debt Service Fee          |
|        |                                   |                 |                | Parking  | 2005      | Parking Revenues          |
| 2014C  | Refunding Bonds                   | 21,210,000      | 4/1/2032       | Housing  | 2006A     | Housing Revenues          |
|        |                                   |                 |                | Dining   | 2006A     | Debt Service Fee          |
| 2015   | Equipment Capital Leases          | 76,714          | 6/30/2019      | Athletics Equipment                            |           | Athletic Revenues         |
| Total  |                                   | 232,062,147     |                |  |           |                           |

## 7. Credit Profile

The following page provides a snapshot of ASU's current credit ratings, along with (1) a summary of various credit factors identified in ASU's most recent rating report and (2) recommendations for maintaining and improving ASU's credit ratings in the future.



# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains a Aa3 rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Healthy support for operations and capital projects from the Aaa-rated State of North Carolina
- Consistent net tuition revenue growth
- Predictable operating performance reflects the stability of key revenue sources and careful budgeting
- Well-funded multiple-employer defined benefit pension plan relative to peers, with total adjusted debt at 1.2 times operating revenue

### Credit Challenges

- Narrow liquidity to operating expenses, with monthly days cash on hand of 74 days compared to the Aa3 median of 143 days
- Moderately high leverage, with spendable cash and investments to debt of 0.4 times and debt to cash flow of 8.5 times
- Geographic concentration of enrollment and primarily undergraduate focus increases exposure to conditions within North Carolina

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.
- Pursue strategies, working within the existing statutory framework relating to reversions, to increase liquidity through growth in cash reserves.

## 8. Peer Comparison

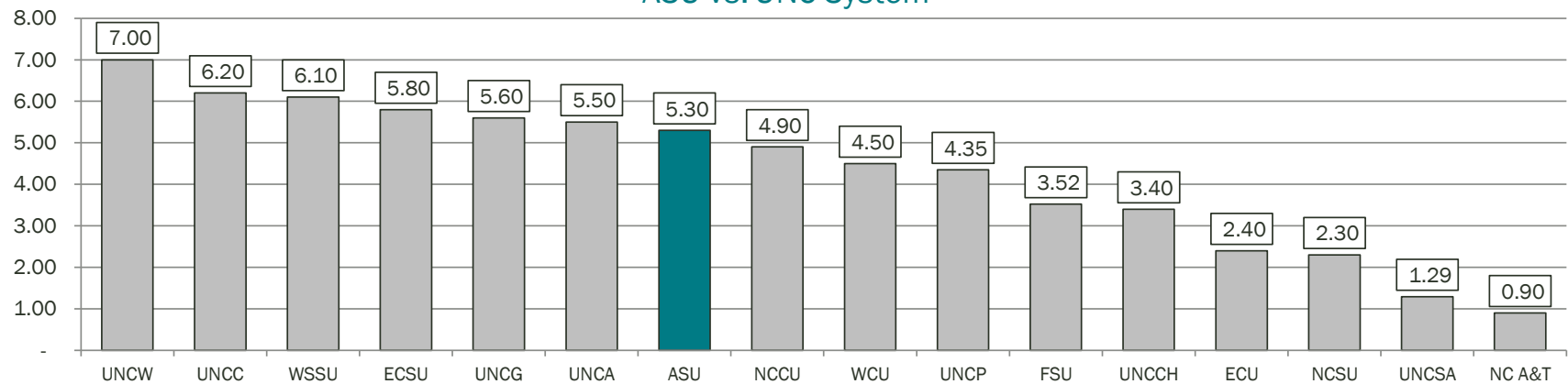
The following pages compare two measures of ASU's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both ASU and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

# Debt Service to Operating Expenses (%)

**Debt Service to Operating Expenses (%)**  
ASU vs. National Peers



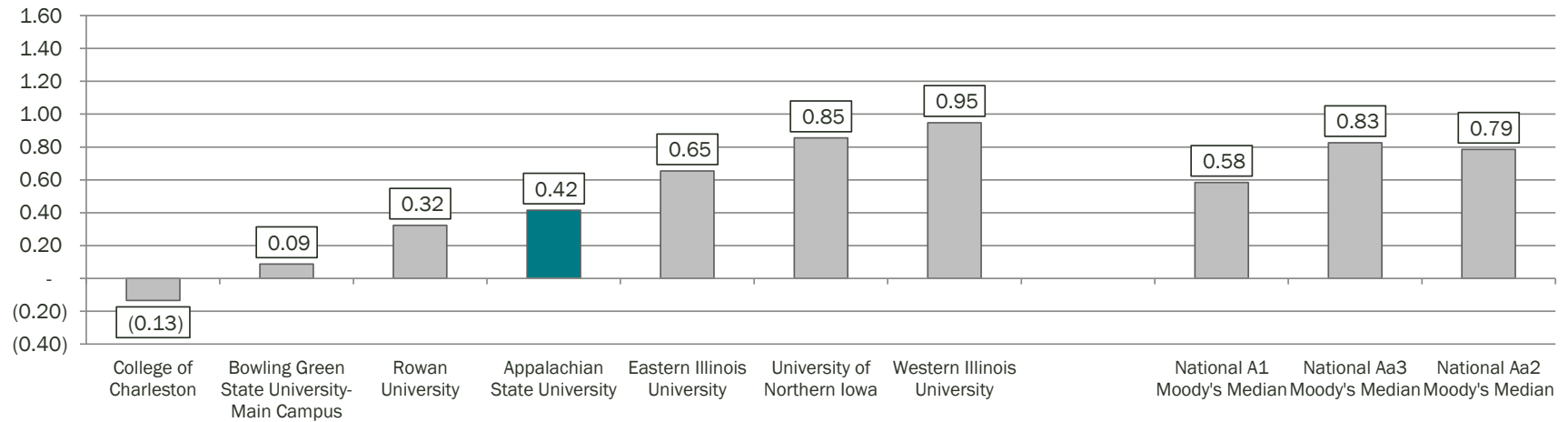
**Debt Service to Operating Expenses (%)**  
ASU vs. UNC System



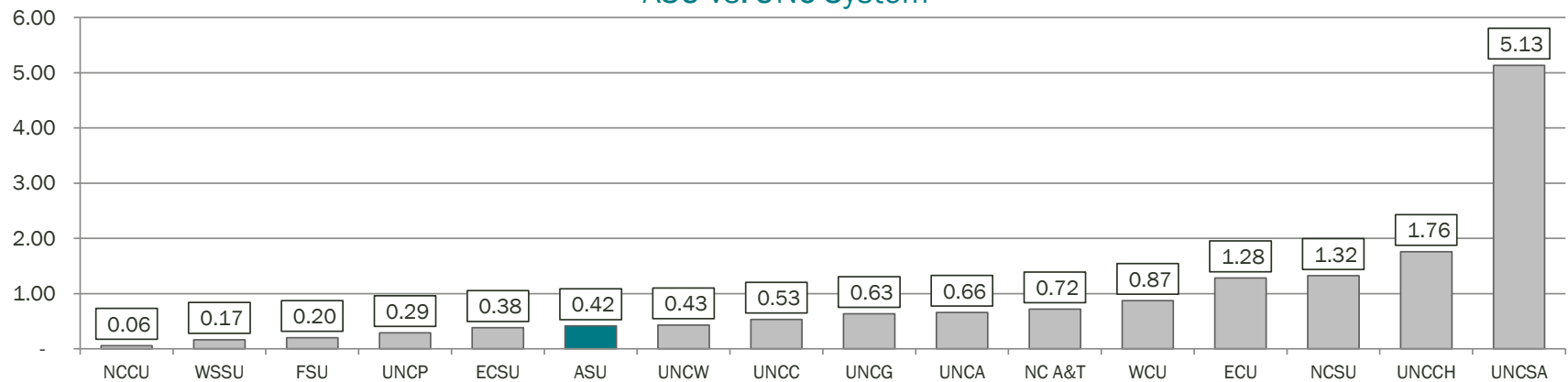
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

**Expendable Financial Resources to Debt**  
ASU vs. National Peers



**Expendable Financial Resources to Debt**  
ASU vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

ASU does not currently have a debt policy.

# The University of North Carolina System Debt Capacity Study

East Carolina University  
Campus Report

## Table of Contents

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## 1. Executive Summary

### Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), East Carolina University (“**ECU**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. ECU has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, ECU, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—ECU has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, ECU’s debt capacity reflects the amount of debt ECU could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that ECU intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- ECU’s current debt profile, including project descriptions financed with, and the sources of repayment for, ECU’s outstanding debt;
- ECU’s current credit profile, along with recommendations for maintaining or improving ECU’s credit rating; and
- A copy of any ECU debt management policy currently in effect.

### Overview of ECU

For the fall 2015 semester, ECU had a headcount student population of nearly 28,300, including more than 23,000 undergraduate students and 5,000 graduate and doctoral students. During the 2015 academic year, ECU employed 2,028 full-time, part-time and temporary instructional faculty.

Over the past 10 years, ECU’s enrollment has increased approximately 9%. ECU expects modest enrollment growth over the Study Period. ECU’s average age of plant (12.38), which is slightly lower than the median ratio for all Campuses (12.58), is expected to decrease in light of ECU’s recent investments in its facilities. ECU’s average age of plant generally indicates the institution is taking a sustainable approach to its deferred maintenance and reinvestment programs.

Since June 30, 2015, ECU has issued \$173,385,000 in new money debt to address various campus infrastructure needs, including the construction of two student unions, a bookstore and additional parking. ECU does not anticipate significant additional borrowings during the Study Period. ECU has made no changes to the financial model’s standard growth assumptions.



## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on ECU's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to ECU by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt ECU expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate ECU's current debt burden.

| 1                   | 2                          | 3                              | 4         | 5                     | 6                | 7          | 8            | 9            | 10                |
|---------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|------------|--------------|--------------|-------------------|
| Obligated Resources |                            |                                |           |                       | Outstanding Debt |            |              |              |                   |
| Fiscal Year         | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal  | Net Interest | Debt Service | Principal Balance |
| 2011                | 387,222,106                | -                              |           | 387,222,106           | 2016             | 8,884,339  | 7,776,843    | 16,661,183   | 177,819,251       |
| 2012                | 434,385,997                | -                              | 12.18%    | 434,385,997           | 2017             | 9,694,204  | 7,458,070    | 17,152,274   | 168,125,047       |
| 2013                | 467,939,528                | -                              | 7.72%     | 467,939,528           | 2018             | 10,069,861 | 7,093,309    | 17,163,169   | 158,055,186       |
| 2014                | 504,487,990                | -                              | 7.81%     | 504,487,990           | 2019             | 10,596,325 | 6,685,041    | 17,281,366   | 147,458,862       |
| 2015                | 436,214,840                | 63,819,367                     | -0.88%    | 500,034,207           | 2020             | 8,443,862  | 6,266,662    | 14,710,524   | 139,015,000       |
| 2016                | 507,034,686                | -                              | 1.40%     | 507,034,686           | 2021             | 8,075,000  | 5,931,908    | 14,006,908   | 130,940,000       |
| 2017                | 514,133,172                | -                              | 1.40%     | 514,133,172           | 2022             | 8,165,000  | 5,585,584    | 13,750,584   | 122,775,000       |
| 2018                | 521,331,036                | -                              | 1.40%     | 521,331,036           | 2023             | 7,435,000  | 5,266,586    | 12,701,586   | 115,340,000       |
| 2019                | 528,629,670                | -                              | 1.40%     | 528,629,670           | 2024             | 7,750,000  | 4,939,393    | 12,689,393   | 107,590,000       |
| 2020                | 536,030,486                | -                              | 1.40%     | 536,030,486           | 2025             | 6,950,000  | 4,605,282    | 11,555,282   | 100,640,000       |
| Operating Expenses  |                            |                                |           |                       | 2026             | 7,320,000  | 4,301,251    | 11,621,251   | 93,320,000        |
| Fiscal Year         | Operating Exp.             | Growth                         |           |                       | 2027             | 7,645,000  | 3,984,144    | 11,629,144   | 85,675,000        |
| 2011                | 753,669,644                |                                |           |                       | 2028             | 8,190,000  | 3,612,937    | 11,802,937   | 77,485,000        |
| 2012                | 747,455,547                | -0.82%                         |           |                       | 2029             | 8,550,000  | 3,243,569    | 11,793,569   | 68,935,000        |
| 2013                | 783,350,806                | 4.80%                          |           |                       | 2030             | 8,925,000  | 2,869,923    | 11,794,923   | 60,010,000        |
| 2014                | 820,266,769                | 4.71%                          |           |                       | 2031             | 7,170,000  | 2,524,642    | 9,694,642    | 52,840,000        |
| 2015                | 817,708,689                | -0.31%                         |           |                       | 2032             | 6,675,000  | 2,225,358    | 8,900,358    | 46,165,000        |
| 2016                | 829,156,611                | 1.40%                          |           |                       | 2033             | 6,970,000  | 1,930,064    | 8,900,064    | 39,195,000        |
| 2017                | 840,764,803                | 1.40%                          |           |                       | 2034             | 7,275,000  | 1,619,082    | 8,894,082    | 31,920,000        |
| 2018                | 852,535,511                | 1.40%                          |           |                       | 2035             | 5,585,000  | 1,335,730    | 6,920,730    | 26,335,000        |
| 2019                | 864,471,008                | 1.40%                          |           |                       | 2036             | 3,345,000  | 1,145,642    | 4,490,642    | 22,990,000        |
| 2020                | 876,573,602                | 1.40%                          |           |                       | 2037             | 2,410,000  | 1,029,206    | 3,439,206    | 20,580,000        |
|                     |                            |                                |           |                       | 2038             | 2,525,000  | 916,375      | 3,441,375    | 18,055,000        |
|                     |                            |                                |           |                       | 2039             | 2,655,000  | 786,875      | 3,441,875    | 15,400,000        |
|                     |                            |                                |           |                       | 2040             | 2,790,000  | 650,750      | 3,440,750    | 12,610,000        |
|                     |                            |                                |           |                       | 2041             | 2,930,000  | 507,750      | 3,437,750    | 9,680,000         |
|                     |                            |                                |           |                       | 2042             | 3,080,000  | 357,500      | 3,437,500    | 6,600,000         |
|                     |                            |                                |           |                       | 2043             | 3,230,000  | 211,863      | 3,441,863    | 3,370,000         |
|                     |                            |                                |           |                       | 2044             | 3,370,000  | 71,613       | 3,441,613    | -                 |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 189,338,916             | 23,895,327                        | 9,343,801                          | 31,666,650                            | 11,536,870  |        | -                              | 242,707,824          |
| 2012                 | 214,193,367             | 9,731,555                         | 9,248,911                          | 28,902,451                            | -   | 7.98%  | -                              | 262,076,284          |
| 2013                 | 221,593,385             | 17,550,455                        | 11,404,507                         | 35,210,815                            | 4,822,813   | 7.20%  | -                              | 280,936,350          |
| 2014                 | 211,148,200             | 46,712,772                        | 14,632,475                         | 46,382,707                            | 15,600,145  | 7.95%  | -                              | 303,276,009          |
| 2015                 | 157,628,074             | 46,304,086                        | 14,388,438                         | 46,766,048                            | 14,676,235  | 3.61%  | 63,819,367                     | 314,229,777          |
| 2016                 | 224,547,705             | 46,952,343                        | 14,589,876                         | 47,420,773                            | 14,881,703  | 1.40%  | -                              | 318,628,994          |
| 2017                 | 227,691,373             | 47,609,676                        | 14,794,134                         | 48,084,663                            | 15,090,047  | 1.40%  | -                              | 323,089,800          |
| 2018                 | 230,879,052             | 48,276,211                        | 15,001,252                         | 48,757,849                            | 15,301,307  | 1.40%  | -                              | 327,613,057          |
| 2019                 | 234,111,358             | 48,952,078                        | 15,211,270                         | 49,440,459                            | 15,515,526  | 1.40%  | -                              | 332,199,640          |
| 2020                 | 237,388,918             | 49,637,407                        | 15,424,228                         | 50,132,625                            | 15,732,743  | 1.40%  | -                              | 336,850,434          |

## 3. Proposed Debt Financings

The table below summarizes any legislatively approved projects that ECU expects to finance during the Study Period. Using the assumptions outlined in the table below, the model has developed a tailored, but conservative, debt service schedule for each proposed financing and incorporated each pro forma debt service schedule into its calculations of the financial ratios as detailed in Section 4 of this Campus Report.

### ECU Proposed Debt Financings

| Year  | Use of Funds                            | Borrowing Amount | Term     | Source of Repayment |
|-------|---|------------------|----------|---------------------|
| 2018  | Housing Residence Hall Renovations Ph 2 | 26,100,000       | 30 Years | Housing Receipts    |
|       |   |                  |          |                     |
|       |   |                  |          |                     |
|       |   |                  |          |                     |
| Total |   | 26,100,000       |          |                     |

## 4. Financial Ratios

### Debt to Obligated Resources

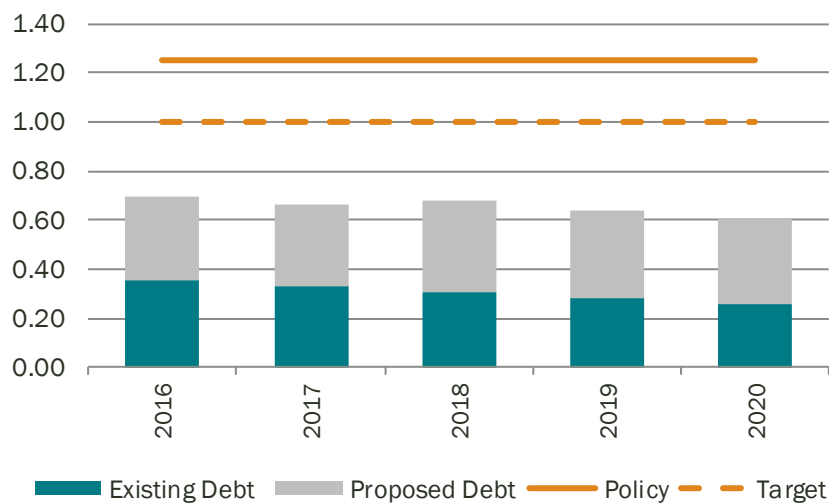
- **What does it measure?** ECU's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.00
- Ceiling Ratio: Not to exceed 1.25
- Projected 2016 Ratio: 0.70
- Highest Study Period Ratio: 0.70 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 507,034,686         | 1.40%  | 177,819,251   | 174,995,116   | 0.35             | 0.35             | 0.70          |
| 2017                        | 514,133,172         | 1.40%  | 168,125,047   | 174,450,116   | 0.33             | 0.34             | 0.67          |
| 2018                        | 521,331,036         | 1.40%  | 158,055,186   | 196,615,116   | 0.30             | 0.38             | 0.68          |
| 2019                        | 528,629,670         | 1.40%  | 147,458,862   | 192,065,948   | 0.28             | 0.36             | 0.64          |
| 2020                        | 536,030,486         | 1.40%  | 139,015,000   | 187,364,588   | 0.26             | 0.35             | 0.61          |

### Debt to Obligated Resources



↑ Weaker  
↓ Stronger

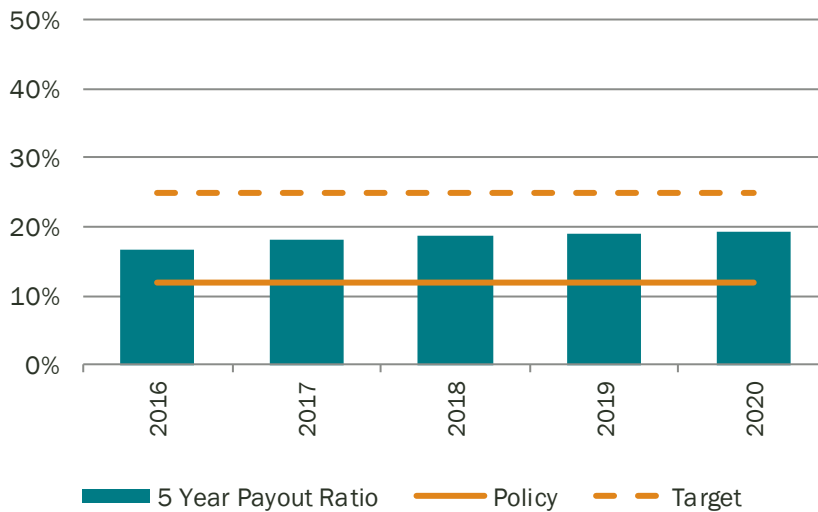
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of ECU's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 25%
- Floor Ratio: Not less than 12%
- Projected 2016 Ratio: 17%
- Lowest Study Period Ratio: 17% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 352,814,367         | 17%   |   |
| 2017        | 342,575,162         | 18%   |   |
| 2018        | 354,670,302         | 19%   |   |
| 2019        | 339,524,810         | 19%   |   |
| 2020        | 326,379,588         | 19%   |   |

### 5-Year Payout Ratio



Stronger  
Weaker

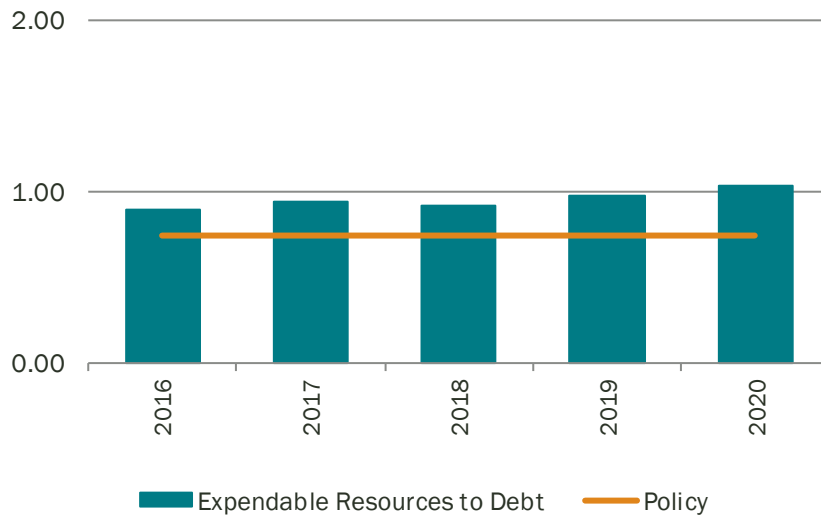
## Expendable Resources to Debt

- **What does it measure?** The number of times ECU's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.75x
- Projected 2016 Ratio: 0.90x
- Lowest Study Period Ratio: 0.90x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 318,628,994          | 1.40%  | 177,819,251   | 174,995,116   | 1.79          | 0.90                     |
| 2017                         | 323,089,800          | 1.40%  | 168,125,047   | 174,450,116   | 1.92          | 0.94                     |
| 2018                         | 327,613,057          | 1.40%  | 158,055,186   | 196,615,116   | 2.07          | 0.92                     |
| 2019                         | 332,199,640          | 1.40%  | 147,458,862   | 192,065,948   | 2.25          | 0.98                     |
| 2020                         | 336,850,434          | 1.40%  | 139,015,000   | 187,364,588   | 2.42          | 1.03                     |

## Expendable Resources to Debt



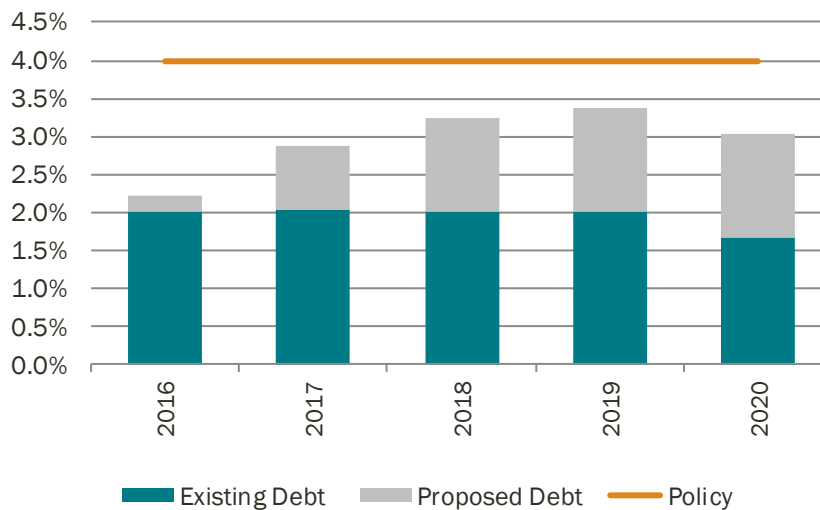
## Debt Service to Operating Expenses

- **What does it measure?** ECU's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 4.00%
- Projected 2016 Ratio: 2.22%
- Highest Study Period Ratio: 3.36% (2019)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 829,156,611        | 1.40%  | 16,661,183  | 1,755,538   | 2.01%            | 0.21%            | 2.22%         |
| 2017                               | 840,764,803        | 1.40%  | 17,152,274  | 7,078,169   | 2.04%            | 0.84%            | 2.88%         |
| 2018                               | 852,535,511        | 1.40%  | 17,163,169  | 10,413,563  | 2.01%            | 1.22%            | 3.23%         |
| 2019                               | 864,471,008        | 1.40%  | 17,281,366  | 11,799,261  | 2.00%            | 1.36%            | 3.36%         |
| 2020                               | 876,573,602        | 1.40%  | 14,710,524  | 11,786,694  | 1.68%            | 1.34%            | 3.02%         |

### Debt Service to Operating Expenses



Weaker  
↑  
↓  
Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, ECU's debt capacity is based on the amount of debt ECU could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, ECU's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, ECU's current estimated debt capacity is **\$280,978,991**. After taking into account any legislatively approved projects detailed in **Section 3** above, if ECU issued no additional debt until the last year of the Study Period, then ECU's debt capacity for 2020 is projected to increase to **\$343,658,519**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 0.70  | 1.25                                  | 280,978,991   |
| 2017          | 0.67  | 1.25                                  | 300,091,302   |
| 2018          | 0.68  | 1.25                                  | 296,993,493   |
| 2019          | 0.64  | 1.25                                  | 321,262,278   |
| 2020          | 0.61  | 1.25                                  | 343,658,519   |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of ECU's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If ECU were to use all of its calculated debt capacity during the Study Period, ECU's credit ratings may face significant downward pressure.
- Projecting the exact amount ECU could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would have limited debt capacity for an extended period of time.
  - Factor Interdependence**
    - The quantitative and qualitative factors interact with one another in ways that are difficult to predict.

- For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.
- **Distortions Across Rating Categories**
  - Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
  - Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.



## 6. Debt Profile

ECU's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## East Carolina University

### 2016 Debt Capacity Study

#### Summary of Debt Outstanding as of FYE June 30, 2015

| Series       | Description                          | Par Outstanding    | Final Maturity | Use of Funds  | Refunding               | Source of Repayment  |
|--------------|--------------------------------------|--------------------|----------------|---|-------------------------|--|
| 2001B        | UNC System Revenue Bonds             | 455,000            | 11/1/2015      | Todd Dining Hall<br>Slay and Umstead Residence Halls<br>Fiber Optic Network                                     | 1992<br>1994<br>1995    | Dining Receipts<br>Housing Receipts<br>Housing Receipts                |
| 2006A        | UNC System Pool Revenue Bonds        | 10,505,000         | 10/1/2033      | College Hill Residence Hall<br>Student Health Renovations and Addition<br>Jones Residence Hall<br>Galley Dining | 1999<br>2001A<br>2001A  | Housing Receipts<br>Student Fee<br>Housing Receipts<br>Dining Receipts |
| 2009A        | UNC System Pool Revenue Bonds        | 38,760,000         | 10/1/2034      | Croatian Dining Project<br>Scott Residence Hall<br>Softball Field<br>Jarvis Residence Hall                      | 1998                    | Dining Receipts<br>Housing Receipts<br>Student Fee<br>Housing Receipts |
| 2010A        | UNC System Pool Revenue Bonds        | 18,880,000         | 10/1/2029      | East End Zone<br>College Hill Residence Hall  | 2004C                   | Athletic Receipts<br>Housing Receipts                                  |
| 2010B        | Taxable General Revenue Bonds (BABs) | 26,725,000         | 10/1/2035      | Tyler Residence Hall<br>Wright Place Dining Renovations<br>Olympic Sports Facility                              |                         | Housing Receipts<br>Dining Receipts<br>Student Fee                     |
| 2011A        | UNC System Pool Revenue Bonds        | 11,390,000         | 5/1/2023       | Student Recreation Center<br>West End Dining<br>College Hill Residence Hall                                     | 2001C<br>2003A<br>2004C | Student Fee<br>Dining Receipts<br>Housing Receipts                     |
| 2012         | General Revenue Refunding Bond       | 8,895,000          | 4/1/2027       | West End Dining<br>College Hill Residence Hall  | 2003A<br>2004C          | Dining Receipts<br>Housing Receipts                                    |
| 2012         | Note Payable (US Bank)               | 6,503,590          | 11/1/2019      | Auxiliary Gym   |                         | Pledge Receipts  |
| 2013A        | General Revenue Refunding Bonds      | 10,905,000         | 10/1/2033      | College Hill Residence Hall   | 2004C                   | Housing Receipts   |
| 2014A        | General Revenue Bonds                | 53,685,000         | 10/1/2043      | Gateway East and West Residence Halls   |                         | Housing Receipts   |
| <b>Total</b> |                                      | <b>186,703,590</b> |                |   |                         |  |

#### Summary of New Money Debt Issued During FYE June 30, 2016

| Series       | Description                   | Par Outstanding    | Final Maturity | Use of Funds  | Refunding | Source of Repayment  |
|--------------|-------------------------------|--------------------|----------------|---|-----------|--|
| 2015A        | General Revenue Bonds         | 29,955,000         | 10/1/2044      | West Campus Student Union   |           | Student Fee  |
| 2016A        | General Revenue Bonds         | 139,920,000        | 10/1/2045      | East Campus Student Union<br>Parking<br>Dining<br>White Residence Hall Renovation<br>Clement Residence Hall Renovation<br>Green Residence Hall Renovation |           | Student Fee<br>Parking Receipts<br>Dining Receipts<br>Housing Receipts<br>Housing Receipts<br>Housing Receipts |
| 2016B        | Taxable General Revenue Bonds | 3,510,000          | 10/1/2018      | Bookstore   |           | Bookstore Receipts   |
| <b>Total</b> |                               | <b>173,385,000</b> |                |   |           |  |

## 7. Credit Profile

The following page provides a snapshot of ECU's current credit ratings, along with (1) a summary of various credit factors identified in ECU's most recent rating report and (2) recommendations for maintaining and improving ECU's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains a Aa2 rating on the University's general revenue bonds. The outlook is stable.
- Standard and Poor's maintains a AA- rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Healthy support from the Aaa-rated State
- Relatively modest leverage
- Strong management of university finances and enrollment translates into steady operating results
- Revenue diversity, including patient care revenue and a small research enterprise, helps insulate ECU from pressure on any one revenue source
- Growing enrollment

### Credit Challenges

- Relatively small size and geographic reach compared to Aa2-rated peers
- Financial reserves are narrow relative to peers.

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

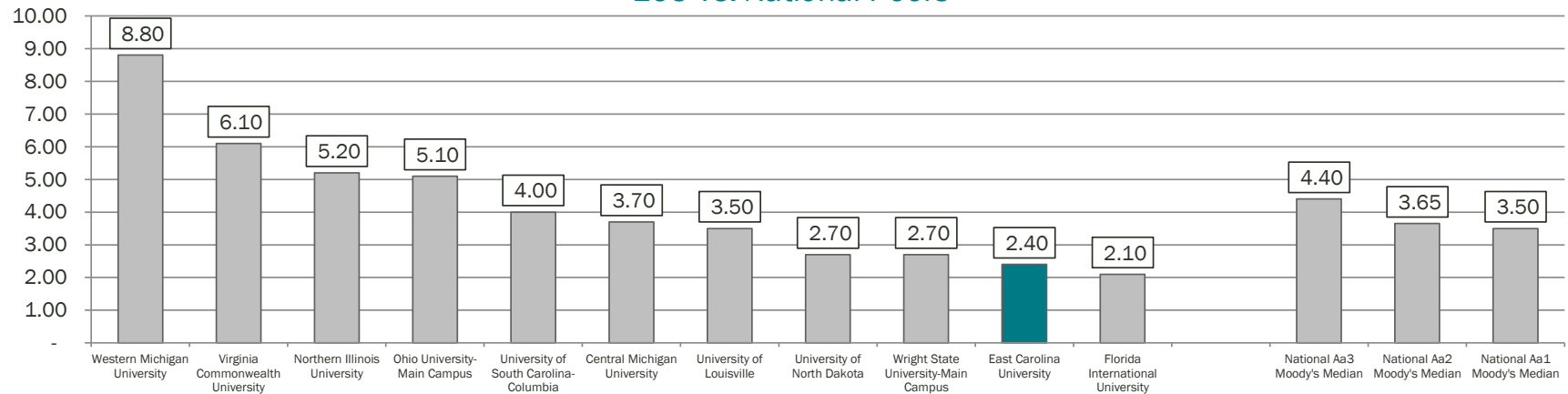
- Pursue strategies, working within the existing statutory framework relating to reversions, to increase liquidity through growth in cash reserves.
- Continue to seek strategies to limit new debt in the near term while addressing critical infrastructure needs, in accordance with the University's existing debt policy and in service of the University's other strategic initiatives.

## 8. Peer Comparison

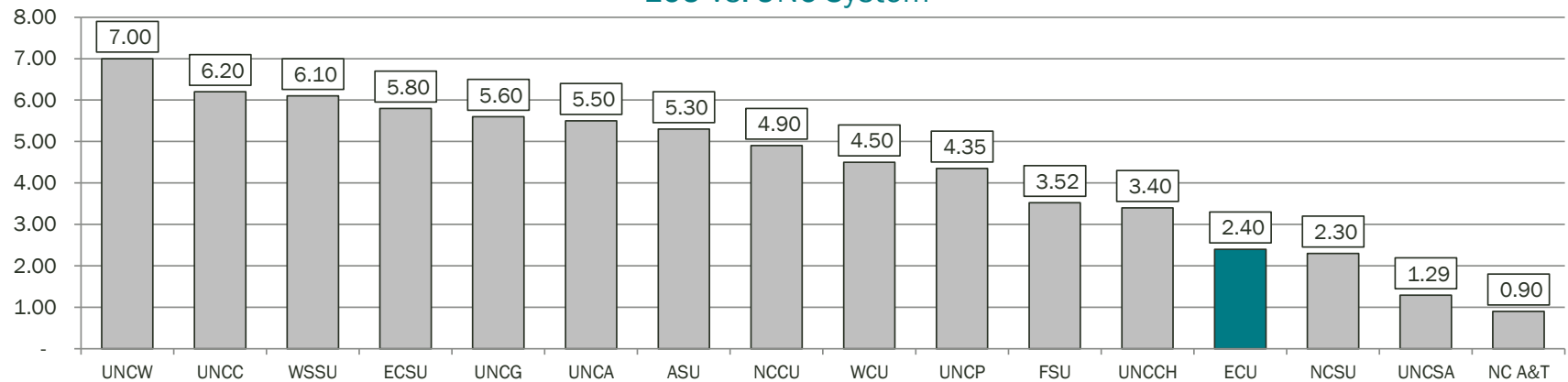
The following pages compare two measures of ECU's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both ECU and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

# Debt Service to Operating Expenses (%)

**Debt Service to Operating Expenses (%)**  
ECU vs. National Peers



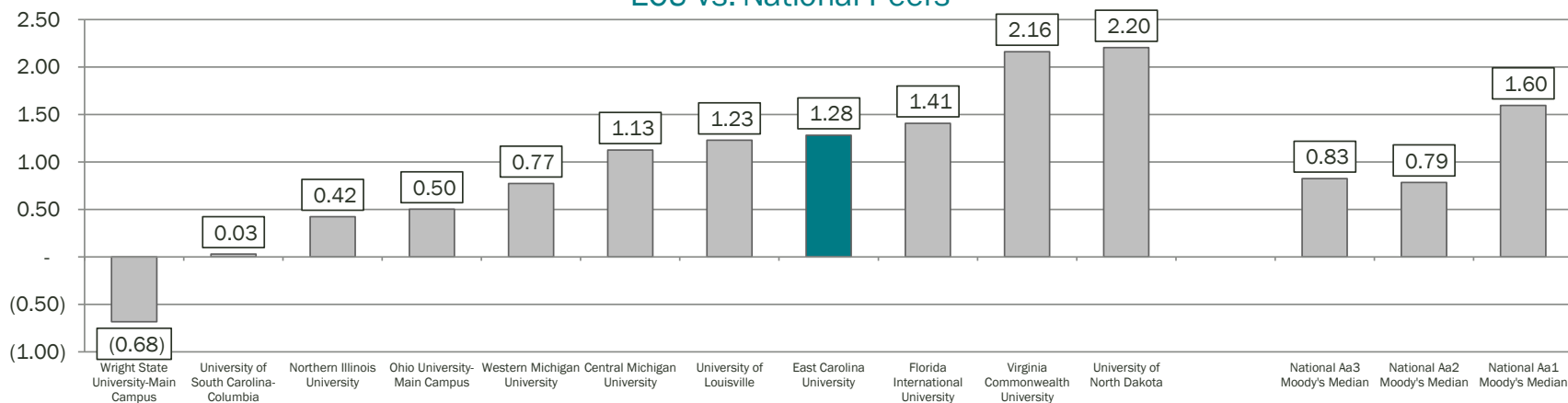
**Debt Service to Operating Expenses (%)**  
ECU vs. UNC System



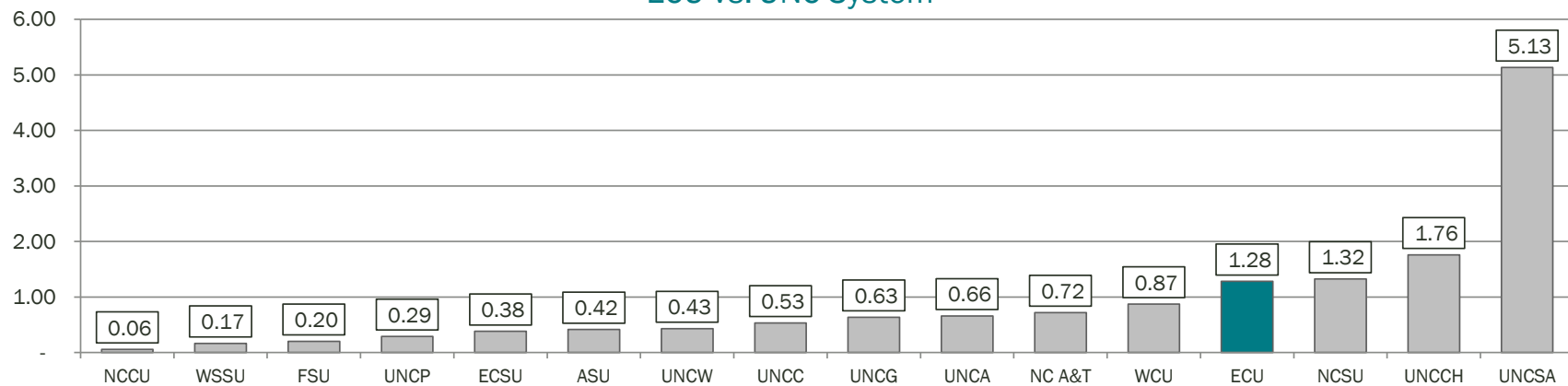
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

**Expendable Financial Resources to Debt**  
ECU vs. National Peers



**Expendable Financial Resources to Debt**  
ECU vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

ECU's current debt policy is included in the following pages.



# **East Carolina University**

## **Debt Management Guidelines**

*Draft*



Last Revised: 3-31-2011

### **East Carolina University**

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# East Carolina University

## Debt Management Guidelines

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# **East Carolina University**

## **Debt Management Guidelines**

### **I. Introduction**

#### **Purpose**

To fulfill its mission, East Carolina University will need to make ongoing strategic capital investments for additional academic, student life, medical, athletic, and other plant facilities using an appropriate mix of funding sources including State bonds and appropriations, University bonds, internal reserves, and private giving.

The purpose of this debt policy is to ensure the appropriate mix of funding sources is used and to provide guidance on the strategic use of debt as a funding source. Debt is a valuable source of capital project financing and its use should be limited to projects that relate to the mission and strategic objectives of the University. The amount of debt incurred affects the financial health of the University and its credit rating. Debt provides a limited low cost source of funding for capital projects and, together with other limited resources, should be used and allocated appropriately and strategically.

This policy provides a discipline and framework that will be used by management to evaluate the appropriate use of debt in capital financing plans.

#### **Objectives of the Debt Policy**

The objectives stated below provide the framework by which decisions will be made regarding the use and management of debt. The debt policy and objectives are subject to re-evaluation and change over time.

This Debt Policy is set forth to:

1. Outline a process for identifying and prioritizing capital projects considered eligible for debt financing and assuring that debt-financed projects have a feasible plan of repayment. Projects that relate to the core mission and that have associated revenues will generally be given higher priority for debt financing.
2. Define the quantitative tests that will be used to evaluate the University's overall financial health and present and future debt capacity.
3. Define project specific quantitative tests, as appropriate, that will be used to determine the financial feasibility of an individual project.
4. Manage the University's debt to maintain an acceptable credit rating. The University, consistent with the capital objectives, will limit its overall debt to a level that will maintain an acceptable credit rating with bond rating agencies. Maintaining an acceptable

credit rating will permit the University to continue to issue debt and finance capital projects at favorable interest rates, although the attainment or maintenance of a specific rating is not an objective of this policy.

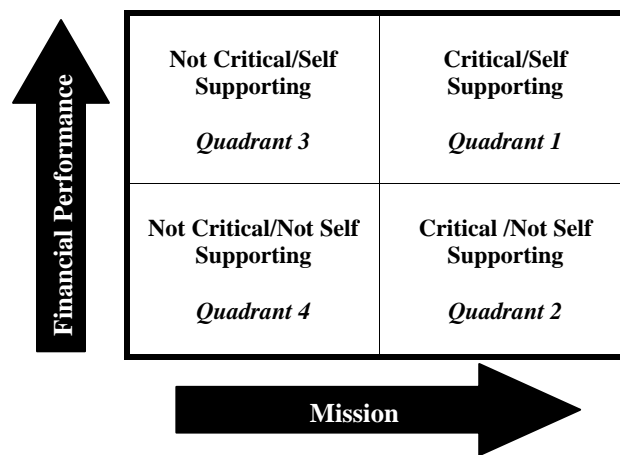
5. Establish guidelines to limit the risk of the University's debt portfolio. The University will manage debt on a portfolio basis, rather than on a transactional or project specific basis, and will use an appropriate mix of fixed and variable rate debt to achieve the lowest cost of capital while limiting exposure to market interest rate shifts. Various types of debt structures and instruments will be considered, monitored, and managed within the framework established in this policy and according to internal management procedures. Debt instruments covered by this policy include not only bonds, but obligations of the university, such as special obligations, lease purchases, installment purchases, commercial paper, limited obligations, notes, etc.
6. Assign responsibilities for the implementation and management of the University's Debt Policy.

## **II. Process for Identifying and Prioritizing Capital Projects Requiring Debt**

At the current credit rating the University has adequate but limited debt capacity. Additionally, the State of North Carolina adheres to limits on debt issuance provided in its adopted debt affordability policy and the University must compete with all other state agencies for capital projects bonding authority. Therefore it is essential that the University appropriately prioritize capital projects requiring debt.

Management will allocate the use of debt financing within the University to include prioritization of debt resources among all uses, including academic and student life projects, plant and equipment financing, and projects with University-wide impact.

The debt allocation matrix below depicts an approach to prioritizing capital projects requiring debt.



**Figure 1 Debt Allocation Matrix**

## Explanation of debt allocation matrix

### Quadrant 1:

Project is critical to the core missions of research, service or instruction **and** has its own funding source (i.e., non-general fund supported).

### Quadrant 2

Project is critical to the core missions of research, service or instruction **but does not** have its own funding source (i.e., will require-general fund support).

### Quadrant 3

Project is not critical to the core missions of research, service or instruction **but** has its own funding source (i.e., non-general fund supported).

### Quadrant 4

Project is not critical to the core missions of research, service or instruction **and does not have** its own funding source (i.e., will require general fund support).

Note that approval of projects in Quadrant 3 and 4 will reduce the ability to issue debt for the mission critical projects identified in Quadrants 1 and 2.

## Guidelines for Prioritizing Capital Projects Requiring Debt

Management will use the following guidelines when prioritizing capital projects and making decisions about financing options and use of debt:

1. Only projects related to the mission of the University, directly or indirectly, will be eligible for debt financing.
2. State funding and philanthropy are expected to remain major sources of financing for the University's capital projects. In assessing the possible use of debt, all other financing and revenue sources will be considered. State appropriations and bonds, philanthropy, project-generating revenues, research facilities and administration cost reimbursement, expendable reserves, and other sources are expected to finance a portion of the cost of a project. Debt is to be used conservatively and strategically.
3. The University will consider other funding opportunities (e.g., joint ventures, real estate development, etc.) when appropriate and advantageous to the University. Opportunities and financing sources will be evaluated within the context of the Debt Policy.
4. Federal research projects will receive priority consideration for debt financing due to partial reimbursement of operating expenses (including the interest component of applicable debt service) of research facilities.

5. Every project considered for financing must have a defined, supportable plan of costs (construction and incremental operating) approved by management. A project that has a related revenue stream or can create budgetary savings will receive priority consideration. However, projects may not receive a higher priority simply because they are self-supporting. For example, a project that mitigates life safety issues may be given preferences over a self supporting project.

### **III. Debt Ratios**

The University will establish guidelines for overall debt management using a select number of ratios that are specific to the ability to issue debt and are key determinants used by the rating agencies in rating the University's bonds. The Moody's Investors Service annual Public University Median Report will be used as a guide and the University will review and contrast performance measures that are viewed with more emphasis, including but not limited to: unrestricted resources to debt, expendable resources to debt, and debt burden. The ratios will be calculated and reported annually and when new debt is issued, and revised periodically to reflect any changes in accounting standards. A goal is to measure the total amount of outstanding debt compared to University balance-sheet resources and the annual operating budget. These ratios can be derived from the financial statements and are based on current GAAP requirements, including the GASB 34/35 reporting format and are consistent with ratios used in the higher education industry to permit benchmarking. Furthermore, in light of GASB implemented changes to GAAP accounting rules, any changes made by the rating analysts to ratio methodology will be incorporated accordingly.

### **IV. Project Specific Quantitative Tests**

Consideration of the performance ratios will determine the ability and/or advisability of issuing additional debt from a University-wide perspective. Determination of the prioritization of individual projects to be allocated a portion of available debt capacity is a separate, internal decision that must be made before a project is initiated.

Many factors will influence this internal decision process. First and foremost will be how the project is prioritized with regard to mission criticality as described by the debt allocation matrix (four quadrant model) above. Although debt will be structured to meet the University's comprehensive long-term objectives, each project being financed will be required to provide a sound business plan, including the source of repayment for the debt and appropriate and realistic repayment terms. Among other things, the repayment terms will require that the loan term is no greater than the expected useful life of the asset financed. Additionally, every project considered for debt financing must have a management approved plan of project costs, including incremental operating expenses and revenues. Incremental revenues include revenue increases directly associated with the project (e.g., usage fees) that can only be realized if the project is undertaken. Similarly, incremental expenses include any increase in expected operating costs associated with the project. Revenues and cost savings should be estimated conservatively, especially for high-risk projects.

## **V. General Debt Management Guidelines**

### ***Methods of Sale***

The University will use the method of sale that will achieve the lowest cost of capital considering the complexity of the transaction. This can be achieved by using either a competitive or negotiated sale method for the placement of bond offerings. For transactions using new or non-traditional pledges of University revenues, or those involving greater complexity, a negotiated method of sale will be considered, and legislative approval requested, on an individual transaction basis. Bonds may also be sold through a private or limited placement, but only if it is determined that a public offering through either a competitive or negotiated sale is not in the best interests of the university.

### ***Selection of Financial Advisors, Underwriters and Bond Counsel***

The University will use a request for proposal process to select Financial Advisors, Underwriters and Bond Counsel. Firms providing financial advisory and bond counsel services are generally selected for a specific period of time rather than for individual transactions. Underwriting firms will be selected on individual transactions and will be selected based upon expertise related to the specific transaction. Additionally, the University may use the Financial Advisors, Underwriters and Bond Counsel selected by General Administration through its own similar competitive process.

### ***Structure and Maturity***

Generally, debt should be structured on a level debt basis, i.e., so that the annual debt service repayments will, as nearly as practicable, be the same in each year. A deviation from these preferences is permissible if it can be demonstrated to be in the university's best interest, such as restructuring debt to avoid a default. On projects that are designed to be self sufficient, the debt service may be structured to match future anticipated receipts.

The University will issue bonds to finance capital projects under the provisions of trust indentures approved by the Board of Trustees.

Debt in the form of capitalized lease obligations will be approved by the Board of Trustees and issued on behalf of the University by the ECU Real Estate Foundation, and other financing entities.

The University will employ maturity structures that correspond with the life of the facilities financed, generally not to exceed 30 years. Equipment will be financed for a period up to 120% of its useful life. As market dynamics change, maturity structures should be reevaluated. Call features should be structured to provide the highest degree of flexibility relative to cost.

### ***Variable Rate Debt***

A degree of exposure to variable interest rates within the University's debt portfolio may be desirable in order to:

- (i) take advantage of repayment/restructuring flexibility; and

- (ii) benefit from historically lower average interest costs; and
- (iii) diversify the debt portfolio; and,
- (iv) provide a hedge to short-term working capital balances.

Management will monitor overall interest rate exposure, analyze and quantify potential risks, and coordinate appropriate fixed/variable allocation strategies.

Recognizing the desire to manage interest rate risk, the amount of variable rate debt outstanding shall not exceed 20% of the University's outstanding debt. This limit is based on (i) the University's desire to limit annual variances in its debt portfolio, (ii) provide sufficient structuring flexibility to management, (iii) keep the University's variable rate allocation within acceptable external parameters, and (iv) use variable rate debt (and/or swaps) to optimize debt portfolio allocation and minimize costs.

$$\frac{\text{VARIABLE RATE AND LIQUIDITY EXPOSURE}}{\text{TOTAL LONG-TERM DEBT OUTSTANDING}} < 20\%$$

***Budgetary controls for variable rate debt:*** To avoid a situation in which debt service on variable rate bonds exceeds the annual amount budgeted; the following guidelines should be followed in establishing a variable rate debt service budget:

- i) A principal amortization schedule should be established, with provision made for payment of amortization installments in each respective annual budget;
- ii) Provide for payment of interest for each budget year using an assumed budgetary interest rate that allows for fluctuations in interest rates on the bonds without exceeding the amount budgeted. The budgetary interest rate may be established by:
  - (1) using an artificially high interest rate given current market conditions; or (2) setting the rate based on the last 12 months actual rates of an appropriate index plus a 200 basis point cushion or spread to anticipate interest rate fluctuations during the budget year. The spread should be determined by considering the historical volatility of short-term interest rates, the dollar effect on the budget and current economic conditions and forecasts; or,
  - (3) any other reasonable method determined by the university
- iii) The amount of debt service incurred in each budget year should be monitored monthly by the university to detect any significant deviations from the annual budgeted debt service. Any deviations in interest rates that might lead to a budgetary problem should be addressed immediately; and
- iv) As part of the effort to monitor actual variable rate debt service in relation to the budgeted amounts and external benchmarks, the university should establish a system to



monitor the performance of any service provider whose role it is to periodically reset the interest rates on the debt, i.e., the remarketing agent or auction agent.

**Liquidity:** One of the features typical of variable rate debt instruments is the bondholder's right to require the issuer to repurchase the debt at various times and under certain conditions. This, in theory, could force the issuer to repurchase large amounts of its variable rate debt on short notice, requiring access to large amounts of liquid assets. Issuers that do not have large amounts of liquid assets may establish a liquidity facility with a financial institution that will provide the money needed to satisfy the repurchase. The liquidity provider should have a rating of A1/P1 or higher. The liquidity agreement does not typically run for the life of long-term debt. Accordingly, there is a risk that the provider will not renew the agreement or that it could be renewed only at substantially higher cost. Similar issues may arise if the liquidity provider encounters credit problems or an event occurs that results in early termination of the liquidity arrangement; in either case the issuer must arrange for a replacement liquidity facility.

**Swaps:** Should the University participate in the use of Swaps, it must do so in agreement with the Board of Governors of the University of North Carolina "Swap Policy for Constituent Institutions", as shown in Appendix A.

#### **Taxable Debt (without Federal subsidies)**

While all the University's capital projects may not qualify for tax-exempt debt, taxable debt should be used only in appropriate cases as it generally represents a more expensive source of capital relative to tax-exempt issuance. Issuing taxable debt reduces the University's overall debt affordability due to higher associated interest expense. When utilized, taxable debt will be structured to provide maximum repayment flexibility and rapid principal amortization.

#### **Capitalized Interest**

Capitalized interest from bond proceeds is used to pay debt service until a revenue producing project is completed or to manage cash flows for debt service in special circumstances. Because the use of capitalized interest increases the cost of the financing, it should only be used when necessary for the financial feasibility of the project. In revenue-producing transactions, the University will attempt to structure debt service payments to match the revenue structure in order to minimize the use of capitalized interest.

#### **Credit Ratings**

The University will maintain ongoing communication and interaction with bond rating agencies, striving to educate the agencies about the general credit structure and financial performance of the University in order to attain the highest credit rating possible.

#### **Refunding Targets**

Generally, refunding bonds are issued to achieve debt service savings by redeeming high interest rate debt with lower interest rate debt. Refunding bonds may also be issued to restructure debt or modify covenants contained in the bond documents. Current tax law limits to one time the issuance of tax-exempt advance refunding bonds to refinance bonds issued after 1986. There is

no similar limitation for tax-exempt current refunding bonds. The University will continuously monitor its outstanding tax-exempt debt portfolio for refunding and/or restructuring opportunities. The following guidelines should apply to the issuance of refunding bonds, unless circumstances warrant a deviation there from:

- a) Refunding bonds should generally be structured to achieve level annual debt service savings.
- b) The life of the refunding bonds should not exceed the remaining life of the bonds being refunded.
- c) Advance refunding bonds issued to achieve debt service savings should have a minimum target savings level measured on a present value basis equal to 2-3% of the par amount of the bonds being advance refunded. The 2-3% minimum target savings level for advance refundings should be used as a general guide to guard against prematurely using the one advance refunding opportunity for post-1986 bond issues. However, because of the numerous considerations involved in the sale of advance refunding bonds, the target should not prohibit advance refundings when the circumstances justify a deviation from the guideline.
- d) Refunding bonds that do not achieve debt service savings may be issued to restructure debt or provisions of bond documents if such refunding serves a compelling university interest.

For current refundings, the University will consider transactions that, in general, produce present value savings (based on refunded bonds). A refunding will also be considered if it relieves the University of certain limitations, covenants, payment obligations or reserve requirements that reduce flexibility. The University will also consider refinancing certain obligations within a new money offering even if savings levels are minimal in order to consolidate debt into a general revenue pledge, and/or reduce the administrative burden and cost of managing many small outstanding obligations.

## **VI. Disclosure**

### **Primary Disclosure**

The University shall use best practices in preparing disclosure documents in connection with the public offer and sale of debt so that accurate and complete financial and operating information needed by the markets to assess the credit quality and risks of each particular debt issue is provided.

The disclosure recommendations of the Government Finance Officers Association's "Disclosure for State and Local Governments Securities," and the National Federation of Municipal Analysts' "Recommended Best Practices in Disclosure for Private Colleges and Universities" should be followed to the extent practicable, specifically including the recommendation that

financial statements be prepared and presented according to generally accepted accounting principles.

### **Secondary Disclosure**

The University will continue to meet its ongoing disclosure requirements as required under Rule 15c2-12 of the Securities and Exchange Commission. The University will submit financial reports, statistical data, and any other material events as required under outstanding bond indentures.

## **VII. Tax-Exempt Debt - Post Issuance Considerations**

### **Bond Proceeds Investment**

The University will invest bond-funded construction funds, capitalized interest funds, and costs of issuance funds appropriately to achieve the highest return available under arbitrage limitations. When sizing bond transactions, the University will consider funding on either a net or gross basis.

### **Arbitrage**

The University will comply with federal arbitrage requirements on invested tax-exempt bond proceeds, causing arbitrage rebate calculations to be performed annually and rebate payments to be remitted to the IRS periodically as required.

### **Private Use and Gifts**

The University will monitor all arrangements with third parties to use bond-financed property, including the federal government and other colleges and universities, in order to ensure the tax-exempt status of the related debt. The University will monitor any sales of bond-financed property, and any lease management contracts, research arrangements and naming rights agreements to the extent such arrangements impact bond-financed property, and will work closely with bond counsel in determining events/actions that may cause a bond issue to become taxable. The University will also work with the bond counsel to train University personnel in these matters. In order to track arrangements that could potentially result in a loss of tax-exempt status of University debt, a record of financed facilities, including facilities financed by the State will be maintained.

The University will track gifts which are restricted to facilities financed, or to be financed with tax-exempt debt and will work with bond counsel to ensure that such gifts are used in a manner that complies with federal tax law limitations.

## **VIII. Responsibility**

### **Assignment of Responsibilities**

The Vice Chancellor for Administration and Finance is directly responsible for overseeing capital debt management and adhering to advice and guidelines adopted by the Board of Trustees.

### ***Facilities Planning and Facilities Management***

The Associate Vice Chancellor for Campus Operations will take the lead role in estimating and defining project costs and in maintaining a list of projects that are being considered. The Associate Vice Chancellor for Campus Operations will take the lead role in developing capital planning documents for the current year, current biennium and the capital plan.

### ***Treasury Management***

The Financial Director will maintain a schedule of current and forecasted debt and associated payment of principal, interest and fees. The Associate Vice Chancellor for Financial Services is responsible for the administration of all aspects of debt financing, including accounting, and contracting with financial advisors, underwriters and bond counsel to issue new debt or refinance existing debt.

### ***Management***

A Debt/Capital Committee will be established by the Vice Chancellor of Administration and Finance. The committee will consist of no more than 12 individuals from various areas of the University including, but not necessarily limited to: Financial Services, Campus Operations, Academic Affairs, Health Sciences, Research and Graduate Studies, Student Life, and Athletics. The Debt/Capital Committee will meet on a regular basis to review projects being considered and the various financing options available. They will make recommendations to the Vice Chancellor for Administration and Finance who will present the recommendations of this group to the Executive Council and the Chancellor, for further discussion and prioritization.

### ***Board of Trustees***

The Board of Trustees will consider for approval each special obligation project of the University, in accordance with State law. The Board of Trustees will consider and approve this Debt Policy and any proposed changes to it.

### ***Review of Debt Policy/Oversight***

This debt policy is a living document. The Executive Council will review this policy at least annually and change as needed to reflect changing conditions and practices. However, it is noted that consistent application of the University's debt policy provides evidence of debt management discipline over the long term. This review process is necessary to ensure that the policy remains consistent with the University's objectives/debt philosophy and responsive to evolving practices. In addition, the Debt/Capital Committee will hold periodic meetings in order to review short and intermediate term financing needs, market opportunities, and financial performance. This periodic review will help the University determine appropriate financial decisions as well as review capital investments and the timing of financing plans responsive to market conditions.

## **Glossary**

**Annual debt service** – the principal and interest due on long-term debt in a fiscal year.

**Bridge financing** – any type of financing used to “bridge” a period of time. For universities, it generally refers to financings that provide funding in advance of a long-term bond issue or the receipt of gift funding.

**Capital project** – physical facilities or equipment or software that may be capitalized.

**GAAP** – Generally Accepted Accounting Principles.

**GASB 34/35** – Government Accounting Standards Board Statement Nos. 34 and 35.

**Leverage** – long-term debt as a component of the total assets of the University. “High leverage” indicates an institution that has a considerable portion of its assets that are debt financed.

**Competitive sale** – A sale of municipal securities by an issuer in which underwriters or syndicates of underwriters submit sealed bids to purchase the securities. The securities are won and purchased by the underwriter or syndicate of underwriters who submit the best bid according to guidelines in the notice of sale.

**Negotiated sale** – In a negotiated underwriting the sale of bonds is by negotiation and agreement with an underwriter or underwriting syndicate selected by the issuer before the moment of sale. This is in contrast to a competitive or an advertised sale.

**Advance refunding** – A financing structure under which new bonds are issued to repay an outstanding bond issue more than ninety (90) days from the date of issuance of the new issue. Generally, the proceeds of the new issue are invested in government securities, which are placed in escrow. The interest and principal repayments on these securities are then used to repay the old issue, usually on the first call date. Advance refundings are done to save interest, extend the maturity of the debt or change existing restrictive covenants.

**Current refunding** – Sale of a new issue, the proceeds of which are to be used, within ninety (90) days, to retire an outstanding issue by, essentially, replacing the outstanding issues with the new issue. Current refundings are done to save interest cost, extend the maturity of the debt, or change existing restrictive covenants.

**Primary disclosure** – SEC Rule 15c2-12 obligates underwriters participating in primary (new) offerings of municipal securities (of \$1,000,000 or more; are sold to more than 35 people; and have a maturity greater than 9 months) to obtain, review, and distribute to investors copies of the issuer’s official statement. While previously exempt, as of December 1, 2010, all new Variable Rate Demand Obligations will also be subject to Rule 15c2-12.

**Secondary disclosure** - At the time bonds are offered, the issuer must outline the type of Annual Financial Information it will provide annually and the terms of its continuing disclosure agreement. Issuers are also required to provide notice of certain events to each NRMSIR or Municipal Securities Rulemaking Board within 10 business days after the occurrence of the event. Certain events require an events notice to be filed, ***regardless of materiality*** as follows:

1. Failure to pay principal and interest;
2. Unscheduled draws on debt service reserves;
3. Unscheduled draws on credit enhancement;
4. Substitution of credit or liquidity providers, or their failure to perform;
5. Adverse tax opinions or events affecting the tax-exempt status of the security;
6. Defeasances;
7. Rating changes;
8. Issuance by IRS of proposed or final determination of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the securities;
9. Tender offers; and,
10. Bankruptcy, insolvency, receivership or similar proceeding.

For other events, an events notice only needs to be filed if ***deemed material***.

1. Non-payment related defaults;
2. Modifications to rights of security holders;
3. Bond calls;
4. Release, substitution, or sale of property securing repayment of the securities;
5. Mergers, consolidations, acquisitions the sale of all or substantially all of the assets of the obligated person or their termination; and,
6. Appointment of a successor or additional trustee or the change of the name of a trustee.

# East Carolina University

## Financing Schedule

### Example

| <u>Date</u><br><u>[Actual Dates to Be Inserted]</u> | <u>Event</u>   | <u>Responsibility</u> |
|---|--|-----------------------|
| Month 1   | Develop/Review financial projections for available revenues to repay debt service                              | ECU/FA                |
| Month 1   | Schedule conference call with UNC-GA staff to discuss the proposed financing and schedule                      | ECU/FA                |
| Month 1   | Select underwriting team   | ECU/FA                |
| Month 2   | Organizational conference call with the working group to review the plan of finance and the financing schedule | WG                    |
| Month 2   | Board of Trustees approval   | ECU                   |
| Month 2   | Underwriters Counsel and Bond Counsel receive disclosure/due diligence information from ECU                    | ECU                   |
| Month 2   | Distribute Preliminary Official Statement and legal documents to working group                                 | BC/UC                 |
| Month 3   | Document review meeting/conference call  | WG                    |
| Month 3   | Distribute 2 <sup>nd</sup> draft of legal documents and POS  | BC/UC                 |
| Month 3   | Board of Governors resolution to General Administration  | BC                    |
| Month 3   | Conference call to review 2 <sup>nd</sup> draft of documents   | WG                    |
| Month 3   | Distribute information package to Rating Agencies/ Bond Insurers   | FA; U                 |
| Month 4   | Board of Governors Finance Committee approval  | S                     |
| Month 4   | Board of Governors approval  | S                     |
| Month 4   | Rating Agency/Insurer visits or conference calls   | ECU, FA; U            |
| Month 4   | Receive Bond Insurance bids and select Bond Insurer  | ECU, FA, U            |
| Month 5   | Receive Ratings  | ECU, FA, U            |
| Month 5   | Distribute Preliminary Official Statement  | UC                    |
| Month 5   | Bond Sale  | ECU, FA, U            |
| Month 5   | Sign Bond Purchase Agreement   | U, ECU                |
| Month 5   | Distribute Final Official Statement  | U; UC                 |
| Month 5   | Pre-closing  | WG                    |
| Month 5   | Closing  | WG                    |

#### Key                      Working Group Participants

|     |                     |
|-----|---------------------|
| ECU | University staff    |
| WG  | Working Group       |
| FA  | Financial Advisor   |
| BC  | Bond Counsel        |
| S   | UNC System          |
| U   | Underwriter         |
| UC  | Underwriter Counsel |
| WG  | Working Group       |

## **Appendix A**

### **BOARD OF GOVERNORS OF THE UNIVERSITY OF NORTH CAROLINA**

#### **SWAP POLICY FOR CONSTITUENT INSTITUTIONS**

This policy will govern the use by the constituent institutions of the University of North Carolina System of Swap Agreements.

#### **DEFINITIONS**

“*Chief Financial Officer*” means the person from time to time serving as the responsible financial person for a Constituent Institution.

“*Constituent Institution*” means one of the constituent institutions of the University of North Carolina System listed in Section 116-4 of the North Carolina General Statutes, as amended.

“*Swap Agreement*” mean a written contract entered into in connection with the debt issued or to be issued by or on behalf of a Constituent Institution in the form of a rate swap agreement, basis swap agreement, forward rate agreement, interest rate option agreement, rate cap agreement, rate floor agreement, rate collar agreement, or other similar agreement, including any option to enter into or terminate any of the foregoing or any combination of such agreements.

#### **THE CONDITIONS UNDER WHICH SWAP AGREEMENTS MAY BE ENTERED INTO**

##### ***Purposes***

A Constituent Institution may use a Swap Agreement for the following purposes only:

- (a) To achieve significant savings as compared to a product available in the debt market.
- (b) To enhance investment returns within prudent risk guidelines.
- (c) To prudently hedge risk in the context of a particular financing or the overall asset/liability management of the Constituent Institution.
- (d) To incur variable rate exposure, such as selling interest rate caps or entering into a swap in which the Constituent Institution’s payment obligation is floating rate.
- (e) To achieve more flexibility in meeting the Constituent Institution’s overall financial objectives than can be achieved in conventional markets.

***Legality.*** The Board must receive an opinion acceptable to the market from a nationally recognized bond counsel law firm acceptable to the Chief Financial Officer of the Constituent Institution that the Swap Agreement is a legal, valid and binding obligation of the Board and entering into the transaction complies with applicable law.



## **SPECULATION**

A Constituent Institution may not use a Swap Agreement for speculative purposes. Associated risks will be prudent risks that are appropriate for the Constituent Institution to take.

## **ASPECTS OF RISK EXPOSURE ASSOCIATED WITH A SWAP AGREEMENT**

Before entering into a Swap Agreement, the Constituent Institution shall evaluate all the risks inherent in the transaction. These risks to be evaluated could include counterparty risk, termination risk, rollover risk, basis risk, tax event risk and amortization risk.

The Constituent Institution shall endeavor to diversify its exposure to counterparties. To that end, before entering into a transaction, it should determine its exposure to the relevant counterparty or counterparties and determine how the proposed transaction would affect the exposure. The exposure should not be measured solely in terms of notional amount, but rather how changes in interest rates would affect the Constituent Institution's exposure.

## **COUNTERPARTY SELECTION CRITERIA**

The Constituent Institution may enter into a Swap Agreement if the counterparty has at least two long term unsecured credit ratings in the double A category from Fitch Ratings, Moody's, or S&P and the counterparty has demonstrated experience in successfully executing a Swap Agreement. The Constituent Institution may enter into a Swap Agreement if the counterparty has at least two long term unsecured credit ratings in the single A category or better from Fitch Ratings, Moody's, or S&P only if (a) the counterparty either provides a guarantor or assigns the agreement to a party meeting the rating criteria in the preceding sentence or (b) the counterparty (or guarantor) collateralizes the Swap Agreement in accordance with the criteria set forth in this Policy and the transaction documents.

If the rating of the counterparty, or if secured, the entity unconditionally guaranteeing its payment obligations not satisfy the requirements of the Counterparty Selection Criteria, then the obligations of the counterparty must be fully and continuously collateralized by direct obligations of, or obligations the principal and interest on which are guaranteed by, the United States of America and such collateral must be deposited with financial institution serving as a custodial agent for the Constituent Institution.

## **METHODS BY WHICH A SWAP AGREEMENT IS TO BE PROCURED**

***Negotiated Method.*** A Constituent Institution may procure a Swap Agreement by a negotiated method under any of the following conditions:

(a) (1) If the Chief Financial Officer of the Constituent Institution makes a determination that, due to the size or complexity of a particular swap, a negotiated transaction would result in the most favorable pricing and terms; or

(2) If a derivative embedded within a refunding issue is proposed and meets the Constituent Institution's savings target; and

(b) If the Constituent Institution receives a certification from an independent financial institution or financial advisor that the terms and conditions of the Swap Agreement provides the Constituent Institution a fair

market value as of the date of its execution in light of the facts and circumstances.

***Competitive Method.*** A Constituent Institution may also procure a Swap Agreement by competitive bidding. The competitive bid can limit the number of firms solicited to no fewer than three. The Constituent Institution may determine which parties it will allow to participate in a competitive transaction. In situations in which the Constituent Institution would like to achieve diversification of counterparty exposure, the Constituent Institution may allow a firm or firms not submitting the bid that produces the lowest cost to match the lowest bid. The parameters for the bid must be disclosed in writing to all potential bidders.

## **LONG-TERM IMPLICATIONS**

In evaluating a particular transaction involving the use of Swap Agreement, the Constituent Institution shall review long-term implications associated with entering into the Swap Agreement, including costs of borrowing, historical interest rate trends, variable rate capacity, credit enhancement capacity, opportunities to refund related debt obligations and other similar considerations.

# The University of North Carolina System Debt Capacity Study

Elizabeth City State University  
Campus Report

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), Elizabeth City State University (“**ECSU**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. ECSU has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, ECSU, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—ECSU has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, ECSU’s debt capacity reflects the amount of debt ECSU could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that ECSU intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- ECSU’s current debt profile, including project descriptions financed with, and the sources of repayment for, ECSU’s outstanding debt;
- ECSU’s current credit profile, along with recommendations for maintaining or improving ECSU’s credit rating; and
- A copy of any ECSU debt management policy currently in effect.

## Overview of ECSU

For the fall 2015 semester, ECSU had a headcount student population of approximately 1,585, including 1,535 undergraduate students and 50 graduate and doctoral students. During the 2015 academic year, ECSU employed approximately 407 full-time, part-time and temporary instructional faculty.

ECSU has experienced significant challenges in its enrollment trends over the past decade, which may continue throughout the Study Period. ECSU’s average age of plant (12.78 years) is higher than the median ratio for all Campuses (12.58 years). An average age of plant of less than 14 generally indicates the institution is taking a sustainable approach to its deferred maintenance and reinvestment programs.

ECSU does not anticipate significant additional borrowings during the Study Period.

Rather than using the financial model’s standard growth assumption of 1.40%, ECSU has assumed that its obligated resources, operating expenses and expendable resources will remain flat during the Study Period.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on ECSU's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to ECSU by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt ECSU expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate ECSU's current debt burden.

| 1                         | 2                          | 3                              | 4         | 5                     | 6                | 7         | 8            | 9            | 10                |
|---------------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|-----------|--------------|--------------|-------------------|
| Obligated Resources       |                            |                                |           |                       | Outstanding Debt |           |              |              |                   |
| Fiscal Year               | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal | Net Interest | Debt Service | Principal Balance |
| 2011                      | 14,713,115                 | -                              |           | 14,713,115            | 2016             | 1,035,000 | 1,859,912    | 2,894,912    | 27,550,000        |
| 2012                      | 10,387,589                 | -                              | -29.40%   | 10,387,589            | 2017             | 1,105,000 | 1,814,474    | 2,919,474    | 26,445,000        |
| 2013                      | 13,819,124                 | -                              | 33.03%    | 13,819,124            | 2018             | 1,095,000 | 1,769,162    | 2,864,162    | 25,350,000        |
| 2014                      | 12,684,153                 | -                              | -8.21%    | 12,684,153            | 2019             | 1,150,000 | 1,718,957    | 2,868,957    | 24,200,000        |
| 2015                      | 2,753,167                  | 8,464,965                      | -11.56%   | 11,218,132            | 2020             | 900,000   | 1,663,370    | 2,563,370    | 23,300,000        |
| 2016                      | 11,218,132                 | -                              | 0.00%     | 11,218,132            | 2021             | 975,000   | 1,616,261    | 2,591,261    | 22,325,000        |
| 2017                      | 11,218,132                 | -                              | 0.00%     | 11,218,132            | 2022             | 980,000   | 1,559,057    | 2,539,057    | 21,345,000        |
| 2018                      | 11,218,132                 | -                              | 0.00%     | 11,218,132            | 2023             | 1,065,000 | 1,497,603    | 2,562,603    | 20,280,000        |
| 2019                      | 11,218,132                 | -                              | 0.00%     | 11,218,132            | 2024             | 1,130,000 | 1,430,172    | 2,560,172    | 19,150,000        |
| 2020                      | 11,218,132                 | -                              | 0.00%     | 11,218,132            | 2025             | 1,195,000 | 1,358,381    | 2,553,381    | 17,955,000        |
| <b>Operating Expenses</b> |                            |                                |           |                       | 2026             | 1,255,000 | 1,282,386    | 2,537,386    | 16,700,000        |
| Fiscal Year               | Operating Exp.             | Growth                         |           |                       |                  |           |              |              |                   |
| 2011                      | 83,890,352                 |                                |           |                       |                  |           |              |              |                   |
| 2012                      | 79,942,513                 | -4.71%                         |           |                       |                  |           |              |              |                   |
| 2013                      | 81,025,837                 | 1.36%                          |           |                       |                  |           |              |              |                   |
| 2014                      | 71,859,951                 | -11.31%                        |           |                       |                  |           |              |              |                   |
| 2015                      | 60,724,158                 | -15.50%                        |           |                       |                  |           |              |              |                   |
| 2016                      | 60,724,158                 | 0.00%                          |           |                       |                  |           |              |              |                   |
| 2017                      | 60,724,158                 | 0.00%                          |           |                       |                  |           |              |              |                   |
| 2018                      | 60,724,158                 | 0.00%                          |           |                       |                  |           |              |              |                   |
| 2019                      | 60,724,158                 | 0.00%                          |           |                       |                  |           |              |              |                   |
| 2020                      | 60,724,158                 | 0.00%                          |           |                       |                  |           |              |              |                   |
|                           |                            |                                |           |                       | 2027             | 1,315,000 | 1,202,592    | 2,517,592    | 15,385,000        |
|                           |                            |                                |           |                       | 2028             | 1,280,000 | 1,118,999    | 2,398,999    | 14,105,000        |
|                           |                            |                                |           |                       | 2029             | 1,350,000 | 1,036,727    | 2,386,727    | 12,755,000        |
|                           |                            |                                |           |                       | 2030             | 1,415,000 | 949,871      | 2,364,871    | 11,340,000        |
|                           |                            |                                |           |                       | 2031             | 1,490,000 | 858,835      | 2,348,835    | 9,850,000         |
|                           |                            |                                |           |                       | 2032             | 1,560,000 | 762,966      | 2,322,966    | 8,290,000         |
|                           |                            |                                |           |                       | 2033             | 1,645,000 | 662,513      | 2,307,513    | 6,645,000         |
|                           |                            |                                |           |                       | 2034             | 805,000   | 554,658      | 1,359,658    | 5,840,000         |
|                           |                            |                                |           |                       | 2035             | 850,000   | 487,465      | 1,337,465    | 4,990,000         |
|                           |                            |                                |           |                       | 2036             | 895,000   | 416,515      | 1,311,515    | 4,095,000         |
|                           |                            |                                |           |                       | 2037             | 945,000   | 341,810      | 1,286,810    | 3,150,000         |
|                           |                            |                                |           |                       | 2038             | 995,000   | 262,931      | 1,257,931    | 2,155,000         |
|                           |                            |                                |           |                       | 2039             | 1,050,000 | 179,878      | 1,229,878    | 1,105,000         |
|                           |                            |                                |           |                       | 2040             | 1,105,000 | 92,234       | 1,197,234    | -                 |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 5,473,516               | 6,768,885                         | -                                  | -                                     | -   |        | -                              | 12,242,401           |
| 2012                 | 9,201,014               | 10,833,218                        | -                                  | -                                     | 2,780,131   | 40.94% | -                              | 17,254,101           |
| 2013                 | 7,352,615               | 11,681,123                        | -                                  | -                                     | 2,478,603   | -4.05% | -                              | 16,555,135           |
| 2014                 | 7,755,484               | 11,787,108                        | -                                  | -                                     | 1,835,372   | 6.96%  | -                              | 17,707,219           |
| 2015                 | 1,720,155               | 11,725,158                        | -                                  | -                                     | 743,197   | 19.54% | 8,464,965                      | 21,167,082           |
| 2016                 | 10,185,120              | 11,725,158                        | -                                  | -                                     | 743,197   | 0.00%  | -                              | 21,167,082           |
| 2017                 | 10,185,120              | 11,725,158                        | -                                  | -                                     | 743,197   | 0.00%  | -                              | 21,167,082           |
| 2018                 | 10,185,120              | 11,725,158                        | -                                  | -                                     | 743,197   | 0.00%  | -                              | 21,167,082           |
| 2019                 | 10,185,120              | 11,725,158                        | -                                  | -                                     | 743,197   | 0.00%  | -                              | 21,167,082           |
| 2020                 | 10,185,120              | 11,725,158                        | -                                  | -                                     | 743,197   | 0.00%  | -                              | 21,167,082           |

## 3. Proposed Debt Financings

While ECSU evaluates its capital investment needs on a regular basis, ECSU currently has no legislatively approved projects that it anticipates financing during the Study Period.

## 4. Financial Ratios

### Debt to Obligated Resources

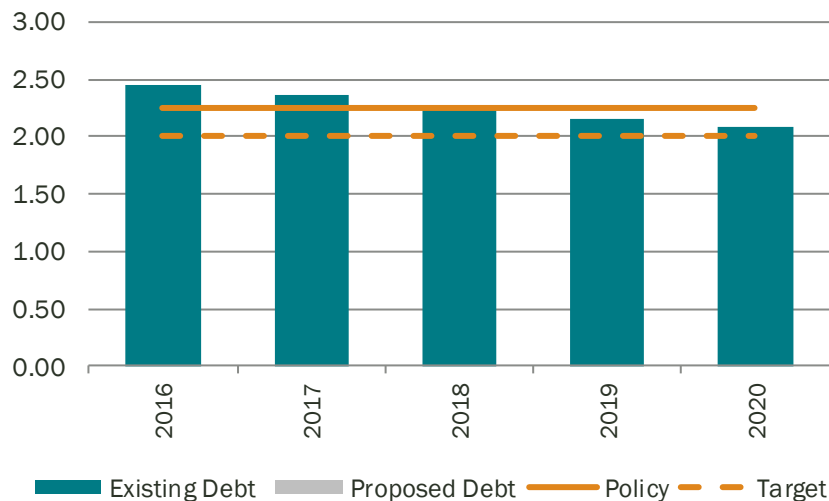
- **What does it measure?** ECSU's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 2.00
- Ceiling Ratio: Not to exceed 2.25
- Projected 2016 Ratio: 2.46
- Highest Study Period Ratio: 2.46 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 11,218,132          | 0.00%  | 27,550,000    | -             | 2.46             | n/a              | 2.46          |
| 2017                        | 11,218,132          | 0.00%  | 26,445,000    | -             | 2.36             | n/a              | 2.36          |
| 2018                        | 11,218,132          | 0.00%  | 25,350,000    | -             | 2.26             | n/a              | 2.26          |
| 2019                        | 11,218,132          | 0.00%  | 24,200,000    | -             | 2.16             | n/a              | 2.16          |
| 2020                        | 11,218,132          | 0.00%  | 23,300,000    | -             | 2.08             | n/a              | 2.08          |

### Debt to Obligated Resources





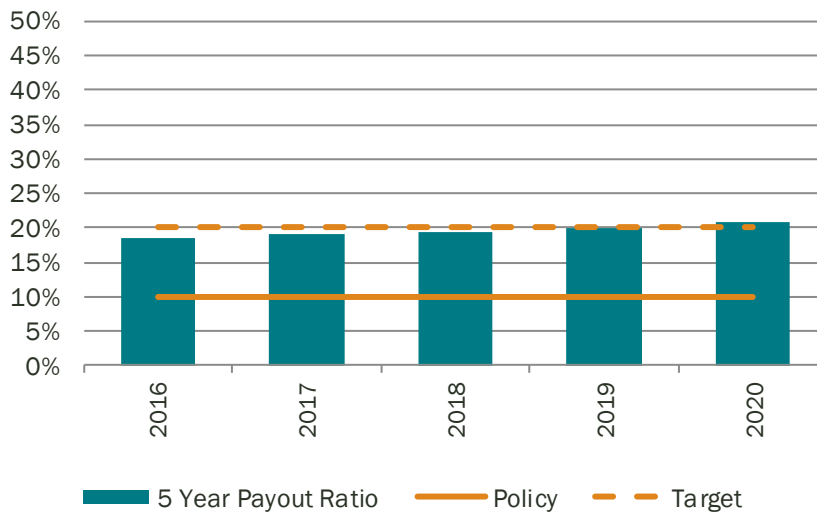
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of ECSU's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 20%
- Floor Ratio: Not less than 10%
- Projected 2016 Ratio: 18%
- Lowest Study Period Ratio: 18% (2016)

### 5-Year Payout Ratio

| 1                   | 2                 | 3     |
|---------------------|-------------------|-------|
| 5 Year Payout Ratio |                   |       |
| Fiscal Year         | Principal Balance | Ratio |
| 2016                | 27,550,000        | 18%   |
| 2017                | 26,445,000        | 19%   |
| 2018                | 25,350,000        | 19%   |
| 2019                | 24,200,000        | 20%   |
| 2020                | 23,300,000        | 21%   |

### 5-Year Payout Ratio



Stronger

Weaker

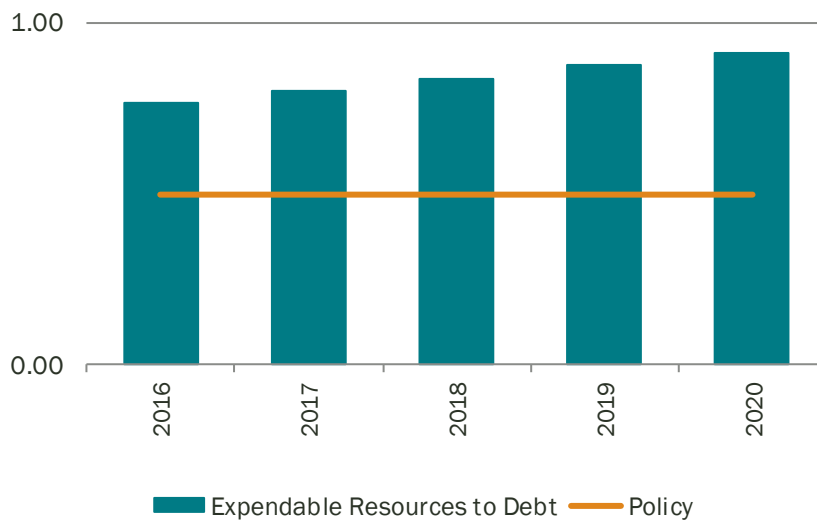
## Expendable Resources to Debt

- **What does it measure?** The number of times ECSU's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.5x
- Projected 2016 Ratio: 0.77x
- Lowest Study Period Ratio: 0.77x (2016)

### Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 21,167,082           | 0.00%  | 27,550,000    | -             | 0.77          | 0.77                     |
| 2017                         | 21,167,082           | 0.00%  | 26,445,000    | -             | 0.80          | 0.80                     |
| 2018                         | 21,167,082           | 0.00%  | 25,350,000    | -             | 0.83          | 0.83                     |
| 2019                         | 21,167,082           | 0.00%  | 24,200,000    | -             | 0.87          | 0.87                     |
| 2020                         | 21,167,082           | 0.00%  | 23,300,000    | -             | 0.91          | 0.91                     |

### Expendable Resources to Debt



Stronger  
↑  
↓  
Weaker

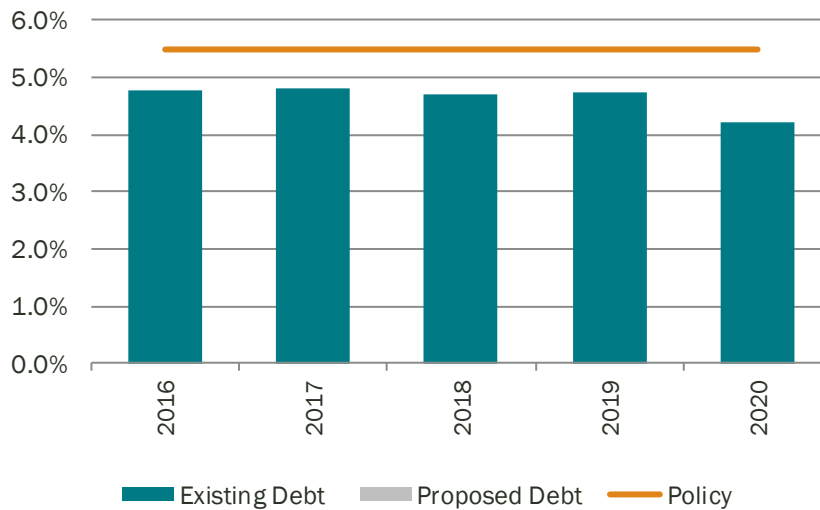
## Debt Service to Operating Expenses

- **What does it measure?** ECSU's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 5.50%
- Projected 2016 Ratio: 4.77%
- Highest Study Period Ratio: 4.81% (2017)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 60,724,158         | 0.00%  | 2,894,912   | -           | 4.77%            | n/a              | 4.77%         |
| 2017                               | 60,724,158         | 0.00%  | 2,919,474   | -           | 4.81%            | n/a              | 4.81%         |
| 2018                               | 60,724,158         | 0.00%  | 2,864,162   | -           | 4.72%            | n/a              | 4.72%         |
| 2019                               | 60,724,158         | 0.00%  | 2,868,957   | -           | 4.72%            | n/a              | 4.72%         |
| 2020                               | 60,724,158         | 0.00%  | 2,563,370   | -           | 4.22%            | n/a              | 4.22%         |

### Debt Service to Operating Expenses



## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, ECSU's debt capacity is based on the amount of debt ECSU could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, ECSU's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, ECSU has no current estimated debt capacity. After taking into account any legislatively approved projects detailed in **Section 3** above, if ECSU issued no additional debt until the last year of the Study Period, then ECSU's debt capacity for 2020 is projected to increase to **\$1,940,797**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 2.46  | 2.25                                  | (2,309,203)   |
| 2017          | 2.36  | 2.25                                  | (1,204,203)   |
| 2018          | 2.26  | 2.25                                  | (109,203)     |
| 2019          | 2.16  | 2.25                                  | 1,040,797     |
| 2020          | 2.08  | 2.25                                  | 1,940,797     |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of ECSU's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- Projecting the exact amount ECSU could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would have limited debt capacity for an extended period of time.
  - Factor Interdependence**
    - The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
    - For example, a university's **"strategic positioning"** score, which accounts for 10% of its

overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.

- **Distortions Across Rating Categories**

- Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
- Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

ECSU's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## Elizabeth City State University

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series       | Description                          | Par Outstanding   | Final Maturity | Use of Funds                        | Refunding | Source of Repayment                  |
|--------------|--------------------------------------|-------------------|----------------|-------------------------------------|-----------|--------------------------------------|
| 1981A        | Dormitory System Revenue Bonds       | 75,000            | 10/1/2017      | Warrack Hall<br>Mitchell-Lewis Hall |           | Housing Revenues<br>Housing Revenues |
| 1981B        | Dormitory System Revenue Bonds       | 395,000           | 10/1/2020      | Warrack Hall<br>Mitchell-Lewis Hall |           | Housing Revenues<br>Housing Revenues |
| 2003A        | Educational Facilities Revenue Bonds | 10,800,000        | 6/1/2033       | Student Housing Project             |           | Housing Revenues                     |
| 2010A        | General Revenue Bonds                | 2,595,000         | 4/1/2027       | Housing and Dining Facilities       | 2002B     | Housing Revenues                     |
| 2010B        | Taxable General Revenue Bonds (BABs) | 14,720,000        | 4/1/2040       | Viking Tower                        |           | Housing Revenues                     |
| <b>Total</b> |                                      | <b>28,585,000</b> |                |                                     |           |                                      |

## 7. Credit Profile

The following page provides a snapshot of ECSU's current credit ratings, along with (1) a summary of various credit factors identified in ECSU's most recent rating report and (2) recommendations for maintaining and improving ECSU's credit ratings in the future.



# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains a Baa1 rating on the University's general revenue bonds. The outlook is negative.

## Key Information Noted in Reports

### Credit Strengths

- Very strong financial support from the Aaa-rated state
- Limited financial leverage
- Good budgetary oversight

### Credit Challenges

- Multiple years of enrollment and net tuition revenue declines
- Expectations of thinning auxiliary revenue, which will contribute to a decline in Available Funds that provide for debt service on the general revenue bonds

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

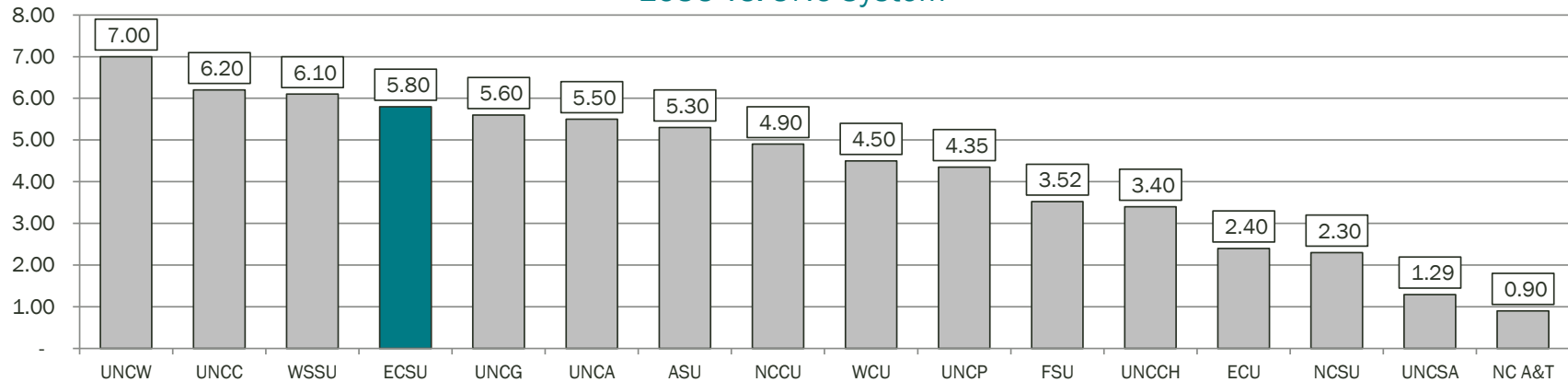
- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.
- Continue to develop and implement strategies and policies to meet the University's unique challenges, including strategies to stabilize and improve enrollment and revenue.

## 8. Peer Comparison

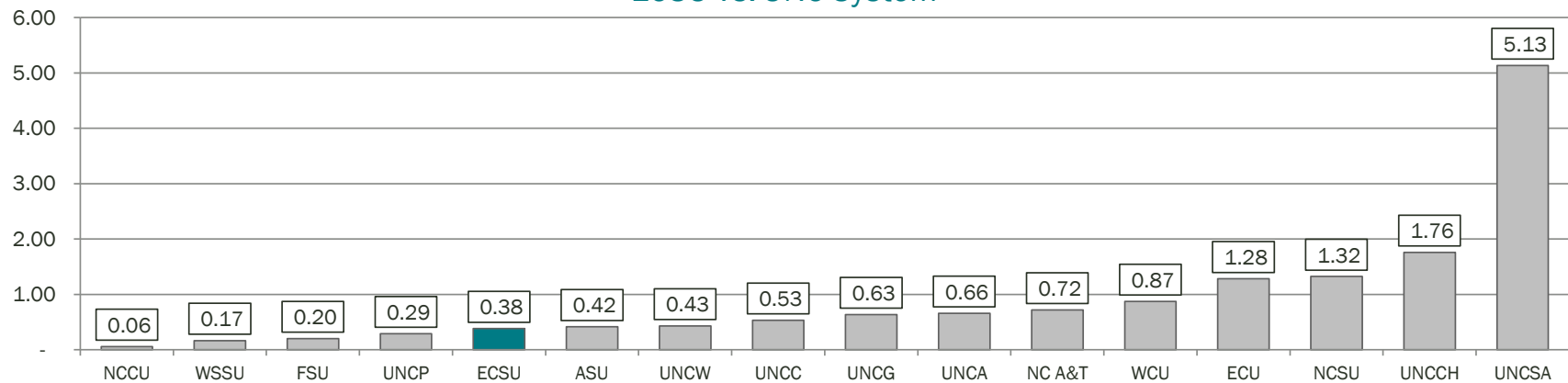
The following page compares two measures of ECSU's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to the Campuses in the UNC System. (None of ECSU's designated national peers were rated by Moody's.) The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

# D/S to Operating Expenses (%) & Exp. Financial Resources to Debt

**Debt Service to Operating Expenses (%)**  
ECSU vs. UNC System



**Expendable Financial Resources to Debt**  
ECSU vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

ECSU does not currently have a debt policy.

# The University of North Carolina System Debt Capacity Study

Fayetteville State University  
Campus Report

## Table of Contents

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), Fayetteville State University (“**FSU**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. FSU has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, FSU, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—FSU has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, FSU’s debt capacity reflects the amount of debt FSU could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that FSU intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- FSU’s current debt profile, including project descriptions financed with, and the sources of repayment for, FSU’s outstanding debt;
- FSU’s current credit profile, along with recommendations for maintaining or improving FSU’s credit rating; and
- A copy of any FSU debt management policy currently in effect.

## Overview of FSU

For the fall 2015 semester, FSU had a headcount student population of approximately 6,301, including 5,506 undergraduate students and 598 graduate and doctoral students. FSU employs approximately 310 full-time, part-time and temporary instructional faculty.

Over the past 10 years, FSU’s enrollment has decreased approximately 3%. FSU expects enrollment to stabilize and grow slightly over the Study Period. FSU’s average age of plant (13.2 years) is slightly higher than the median ratio for all Campuses (12.58 years). An average age of plant of less than 14 generally indicates the institution is taking a sustainable approach to its deferred maintenance and reinvestment programs.

FSU does not anticipate significant additional borrowings during the Study Period.

FSU has made no changes to the financial model’s standard growth assumptions.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on FSU's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to FSU by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt FSU expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate FSU's current debt burden.

| 1                   | 2                          | 3                              | 4         | 5                     | 6                | 7         | 8            | 9            | 10                |
|---------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|-----------|--------------|--------------|-------------------|
| Obligated Resources |                            |                                |           |                       | Outstanding Debt |           |              |              |                   |
| Fiscal Year         | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal | Net Interest | Debt Service | Principal Balance |
| 2011                | 30,445,495                 | -                              |           | 30,445,495            | 2016             | 1,063,000 | 2,090,482    | 3,153,482    | 55,294,000        |
| 2012                | 25,677,377                 | -                              | -15.66%   | 25,677,377            | 2017             | 1,198,000 | 2,067,221    | 3,265,221    | 54,096,000        |
| 2013                | 27,038,142                 | -                              | 5.30%     | 27,038,142            | 2018             | 1,302,000 | 2,040,206    | 3,342,206    | 52,794,000        |
| 2014                | 27,941,250                 | -                              | 3.34%     | 27,941,250            | 2019             | 1,360,000 | 2,010,256    | 3,370,256    | 51,434,000        |
| 2015                | 24,567,976                 | 10,356,914                     | 24.99%    | 34,924,890            | 2020             | 1,444,000 | 1,976,568    | 3,420,568    | 49,990,000        |
| 2016                | 35,413,838                 | -                              | 1.40%     | 35,413,838            | 2021             | 1,522,000 | 1,940,780    | 3,462,780    | 48,468,000        |
| 2017                | 35,909,632                 | -                              | 1.40%     | 35,909,632            | 2022             | 1,605,000 | 1,901,535    | 3,506,535    | 46,863,000        |
| 2018                | 36,412,367                 | -                              | 1.40%     | 36,412,367            | 2023             | 1,598,000 | 1,859,784    | 3,457,784    | 45,265,000        |
| 2019                | 36,922,140                 | -                              | 1.40%     | 36,922,140            | 2024             | 1,475,000 | 1,817,004    | 3,292,004    | 43,790,000        |
| 2020                | 37,439,050                 | -                              | 1.40%     | 37,439,050            | 2025             | 1,560,000 | 1,778,255    | 3,338,255    | 42,230,000        |
| Operating Expenses  |                            |                                |           |                       | 2026             | 1,665,000 | 1,735,779    | 3,400,779    | 40,565,000        |
| Fiscal Year         | Operating Exp.             | Growth                         |           |                       | 2027             | 1,760,000 | 1,689,620    | 3,449,620    | 38,805,000        |
| 2011                | 110,280,467                |                                |           |                       | 2028             | 1,865,000 | 1,639,311    | 3,504,311    | 36,940,000        |
| 2012                | 109,535,118                | -0.68%                         |           |                       | 2029             | 1,975,000 | 1,582,162    | 3,557,162    | 34,965,000        |
| 2013                | 108,180,213                | -1.24%                         |           |                       | 2030             | 2,100,000 | 1,516,560    | 3,616,560    | 32,865,000        |
| 2014                | 107,635,613                | -0.50%                         |           |                       | 2031             | 2,240,000 | 1,446,608    | 3,686,608    | 30,625,000        |
| 2015                | 109,576,373                | 1.80%                          |           |                       | 2032             | 2,380,000 | 1,371,542    | 3,751,542    | 28,245,000        |
| 2016                | 111,110,443                | 1.40%                          |           |                       | 2033             | 2,530,000 | 1,291,615    | 3,821,615    | 25,715,000        |
| 2017                | 112,665,989                | 1.40%                          |           |                       | 2034             | 3,735,000 | 1,206,320    | 4,941,320    | 21,980,000        |
| 2018                | 114,243,313                | 1.40%                          |           |                       | 2035             | 1,890,000 | 1,114,563    | 3,004,563    | 20,090,000        |
| 2019                | 115,842,719                | 1.40%                          |           |                       | 2036             | 2,015,000 | 1,018,781    | 3,033,781    | 18,075,000        |
| 2020                | 117,464,517                | 1.40%                          |           |                       | 2037             | 2,145,000 | 916,644      | 3,061,644    | 15,930,000        |
|                     |                            |                                |           |                       | 2038             | 2,275,000 | 807,906      | 3,082,906    | 13,655,000        |
|                     |                            |                                |           |                       | 2039             | 2,415,000 | 692,563      | 3,107,563    | 11,240,000        |
|                     |                            |                                |           |                       | 2040             | 2,570,000 | 570,106      | 3,140,106    | 8,670,000         |
|                     |                            |                                |           |                       | 2041             | 2,725,000 | 439,775      | 3,164,775    | 5,945,000         |
|                     |                            |                                |           |                       | 2042             | 2,885,000 | 301,569      | 3,186,569    | 3,060,000         |
|                     |                            |                                |           |                       | 2043             | 3,060,000 | 155,231      | 3,215,231    | -                 |



## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7       | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|---------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |         |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth  | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 5,582,213               | 3,683,266                         | (3,140,513)                        | 2,945,729                             | 195,654   |         | -                              | 8,875,041            |
| 2012                 | 2,786,754               | 3,564,848                         | (3,002,465)                        | 3,308,621                             | -   | -24.98% | -                              | 6,657,758            |
| 2013                 | 1,758,295               | 6,899,832                         |                                    |                                       | 220,965   | 26.73%  | -                              | 8,437,162            |
| 2014                 | 3,707,647               | 12,951,585                        | -                                  | -                                     | 3,737,296   | 53.16%  | -                              | 12,921,936           |
| 2015                 | (2,285,760)             | 14,576,816                        | -                                  | -                                     | 914,082   | 68.19%  | 10,356,914                     | 21,733,888           |
| 2016                 | 8,184,150               | 14,780,891                        | -                                  | -                                     | 926,880   | 1.40%   | -                              | 22,038,162           |
| 2017                 | 8,298,728               | 14,987,824                        | -                                  | -                                     | 939,856   | 1.40%   | -                              | 22,346,696           |
| 2018                 | 8,414,911               | 15,197,653                        | -                                  | -                                     | 953,014   | 1.40%   | -                              | 22,659,550           |
| 2019                 | 8,532,719               | 15,410,420                        | -                                  | -                                     | 966,356   | 1.40%   | -                              | 22,976,784           |
| 2020                 | 8,652,177               | 15,626,166                        | -                                  | -                                     | 979,885   | 1.40%   | -                              | 23,298,459           |

## 3. Proposed Debt Financings

While FSU evaluates its capital investment needs on a regular basis, FSU currently has no legislatively approved projects that it anticipates financing during the Study Period.

## 4. Financial Ratios

### Debt to Obligated Resources

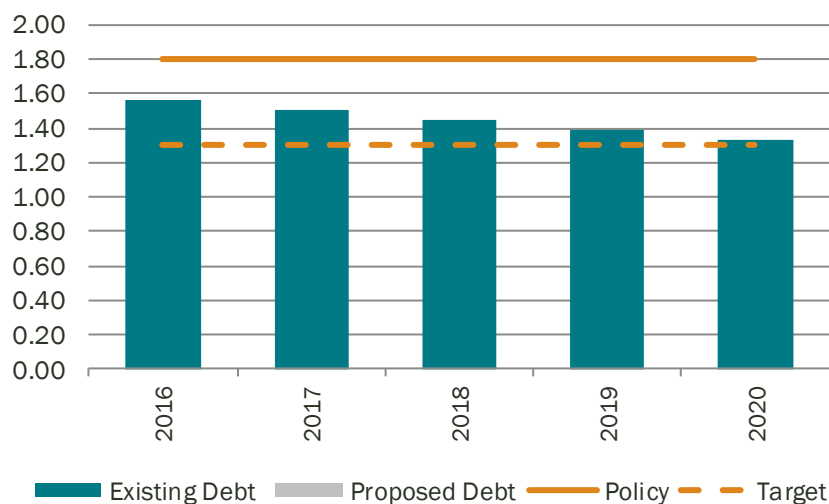
- **What does it measure?** FSU's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.30
- Ceiling Ratio: Not to exceed 1.80
- Projected 2016 Ratio: 1.56
- Highest Study Period Ratio: 1.56 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 35,413,838          | 1.40%  | 55,294,000    | -             | 1.56             | n/a              | 1.56          |
| 2017                        | 35,909,632          | 1.40%  | 54,096,000    | -             | 1.51             | n/a              | 1.51          |
| 2018                        | 36,412,367          | 1.40%  | 52,794,000    | -             | 1.45             | n/a              | 1.45          |
| 2019                        | 36,922,140          | 1.40%  | 51,434,000    | -             | 1.39             | n/a              | 1.39          |
| 2020                        | 37,439,050          | 1.40%  | 49,990,000    | -             | 1.34             | n/a              | 1.34          |

### Debt to Obligated Resources



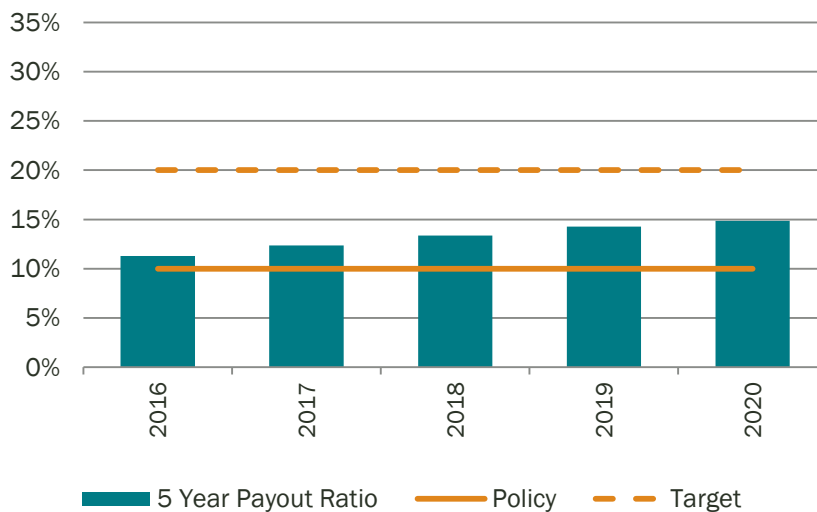
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of FSU's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 20%
- Floor Ratio: Not less than 10%
- Projected 2016 Ratio: 11%
- Lowest Study Period Ratio: 11% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 55,294,000          | 11%   |   |
| 2017        | 54,096,000          | 12%   |   |
| 2018        | 52,794,000          | 13%   |   |
| 2019        | 51,434,000          | 14%   |   |
| 2020        | 49,990,000          | 15%   |   |

### 5-Year Payout Ratio



Stronger  
↓  
Weaker

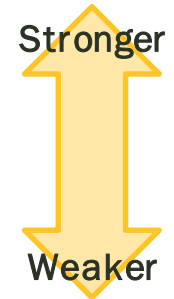
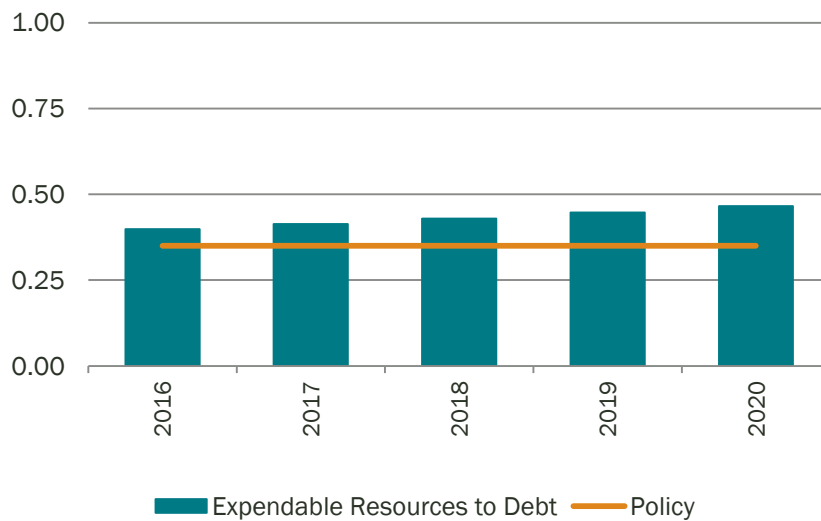
## Expendable Resources to Debt

- **What does it measure?** The number of times FSU's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.35x
- Projected 2016 Ratio: 0.40x
- Lowest Study Period Ratio: 0.40x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 22,038,162           | 1.40%  | 55,294,000    | -             | 0.40          | 0.40                     |
| 2017                         | 22,346,696           | 1.40%  | 54,096,000    | -             | 0.41          | 0.41                     |
| 2018                         | 22,659,550           | 1.40%  | 52,794,000    | -             | 0.43          | 0.43                     |
| 2019                         | 22,976,784           | 1.40%  | 51,434,000    | -             | 0.45          | 0.45                     |
| 2020                         | 23,298,459           | 1.40%  | 49,990,000    | -             | 0.47          | 0.47                     |

## Expendable Resources to Debt



## Debt Service to Operating Expenses

- **What does it measure?** FSU's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 5.00%
- Projected 2016 Ratio: 2.84%
- Highest Study Period Ratio: 2.93% (2018)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 111,110,443        | 1.40%  | 3,153,482   | -           | 2.84%            | n/a              | 2.84%         |
| 2017                               | 112,665,989        | 1.40%  | 3,265,221   | -           | 2.90%            | n/a              | 2.90%         |
| 2018                               | 114,243,313        | 1.40%  | 3,342,206   | -           | 2.93%            | n/a              | 2.93%         |
| 2019                               | 115,842,719        | 1.40%  | 3,370,256   | -           | 2.91%            | n/a              | 2.91%         |
| 2020                               | 117,464,517        | 1.40%  | 3,420,568   | -           | 2.91%            | n/a              | 2.91%         |

### Debt Service to Operating Expenses



## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, FSU's debt capacity is based on the amount of debt FSU could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, FSU's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, FSU's current estimated debt capacity is **\$8,450,909**. After taking into account any legislatively approved projects detailed in **Section 3** above, if FSU issued no additional debt until the last year of the Study Period, then FSU's debt capacity for 2020 is projected to increase to **\$17,400,290**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.56  | 1.80                                  | 8,450,909     |
| 2017          | 1.51  | 1.80                                  | 10,541,338    |
| 2018          | 1.45  | 1.80                                  | 12,748,261    |
| 2019          | 1.39  | 1.80                                  | 15,025,852    |
| 2020          | 1.34  | 1.80                                  | 17,400,290    |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of FSU's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If FSU were to use all of its calculated debt capacity during the Study Period, FSU's credit ratings may face significant downward pressure.**
- Projecting the exact amount FSU could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would

have limited debt capacity for an extended period of time.

- **Factor Interdependence**

- The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
- For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.

- **Distortions Across Rating Categories**

- Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
- Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

FSU's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.



## Fayetteville State University

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                              | Par Outstanding | Final Maturity | Use of Funds                             | Refunding | Source of Repayment |
|--------|--|-----------------|----------------|--|-----------|---------------------|
| 2001   | Student Housing Facilities Revenue Bonds | 12,100,000      | 11/1/2033      | University Place Appartments             |           | Housing Revenues    |
| 2011   | Limited Obligation Bonds                 | 20,250,000      | 4/1/2043       | Renaissance Hall Student Housing Project |           | Housing Revenues    |
| 2013A  | General Revenue Bonds                    | 21,195,000      | 4/1/2043       | Rudolph Jones Student Center Renovation  |           | Debt Service Fee    |
| 2013B  | Taxable General Revenue Bonds            | 1,315,000       | 4/1/2021       | Rudolph Jones Student Center Renovation  |           | Debt Service Fee    |
| 2015   | Taxable General Revenue Refunding Bonds  | 1,497,000       | 4/1/2023       | Dining Facilities Renovation             | 2005      | Meal Plan Fee       |
| Total  |  | 56,357,000      |                |  |           |                     |

## 7. Credit Profile

The following page provides a snapshot of FSU's current credit ratings, along with (1) a summary of various credit factors identified in FSU's most recent rating report and (2) recommendations for maintaining and improving FSU's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Standard and Poor's maintains an A- rating on the University's general revenue bonds. The outlook is stable.
- Fitch maintains an A+ rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Substantial operating and capital support from North Carolina
- Stabilized enrollment given the success of the strategic initiatives, though mitigated by a decline in overall enrollment in fall 2014
- Moderate MADS burden of 4.5% relative to fiscal 2013 operating expenses

### Credit Challenges

- Rapid issuance of debt, from \$6 million at fiscal year-end 2009 to \$60 million
- Low level of unrestricted net assets relative to expenses and debt
- Operating performance that is balanced on a cash basis but variable on full-accrual basis.

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

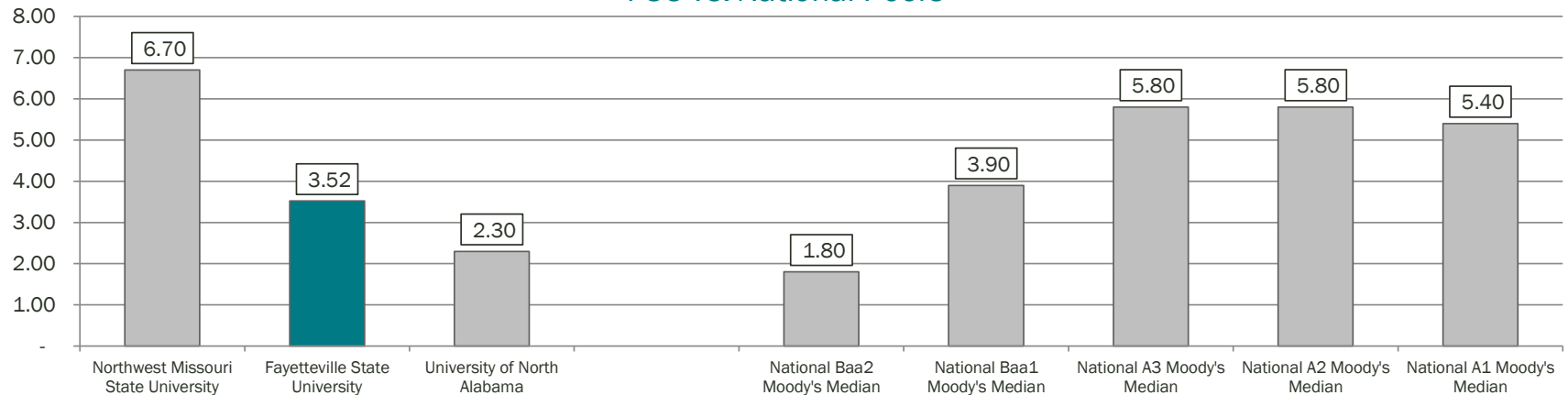
- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.
- Continue to develop and implement strategies and policies to meet the University's unique challenges, including strategies to stabilize and improve enrollment and revenue.

## 8. Peer Comparison

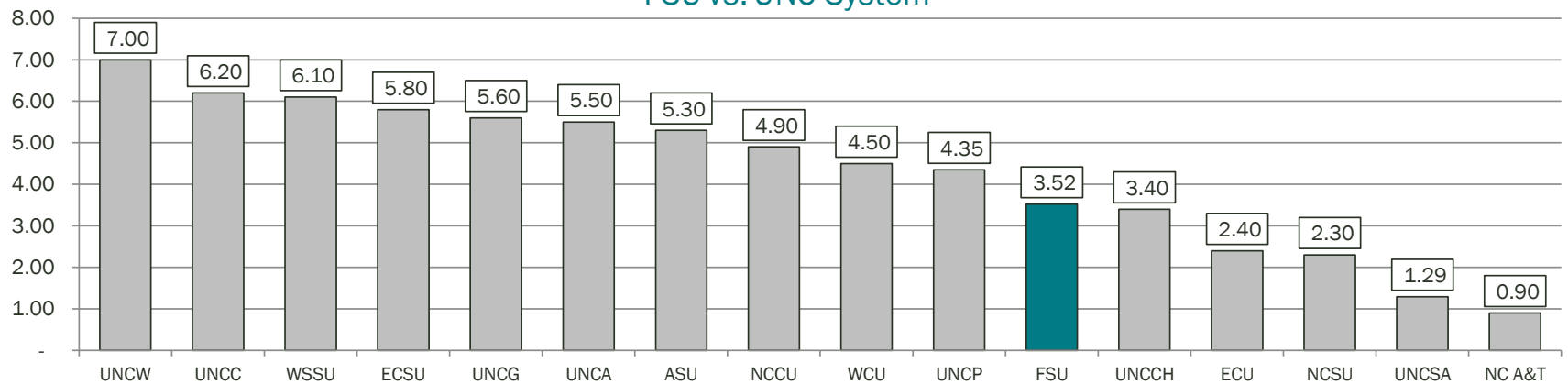
The following pages compare two measures of FSU's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both FSU and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

# Debt Service to Operating Expenses (%)

**Debt Service to Operating Expenses (%)**  
FSU vs. National Peers



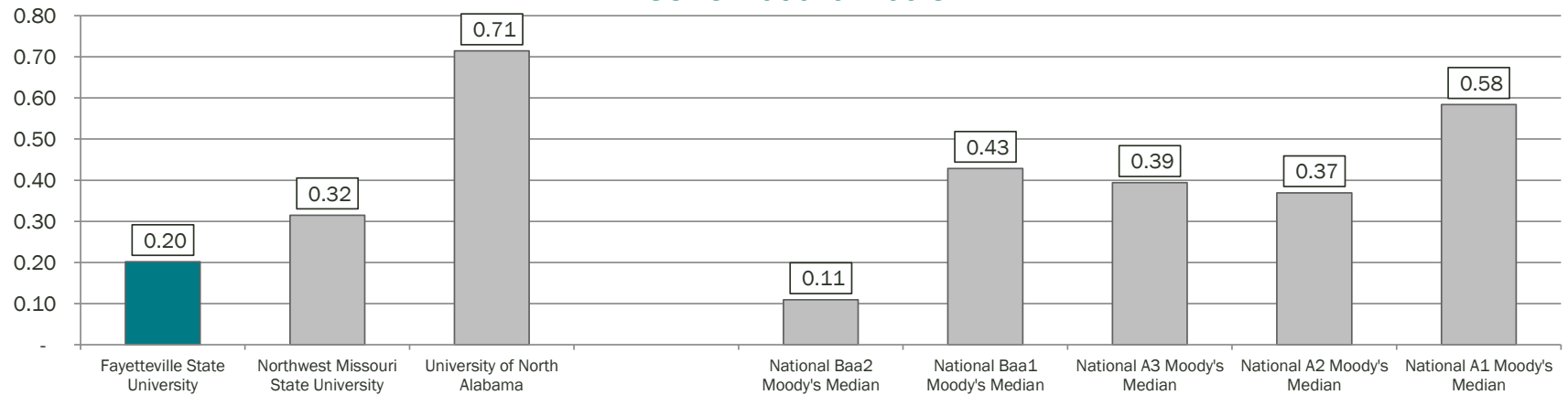
**Debt Service to Operating Expenses (%)**  
FSU vs. UNC System



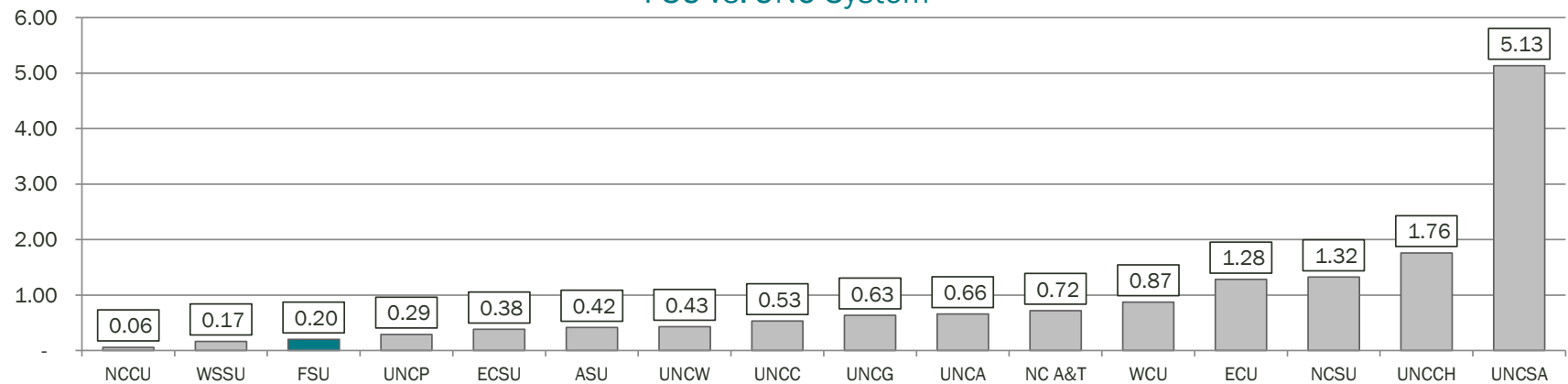
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

Expendable Financial Resources to Debt  
FSU vs. National Peers



Expendable Financial Resources to Debt  
FSU vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

FSU does not currently have a debt policy.

# The University of North Carolina System Debt Capacity Study

North Carolina A&T State University  
Campus Report



## Table of Contents

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), North Carolina A&T State University (“**NCA&T**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. NCA&T has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, NCA&T, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—NCA&T has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, NCA&T’s debt capacity reflects the amount of debt NCA&T could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that NCA&T intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- NCA&T’s current debt profile, including project descriptions financed with, and the sources of repayment for, NCA&T’s outstanding debt;
- NCA&T’s current credit profile, along with recommendations for maintaining or improving NCA&T’s credit rating; and
- A copy of any NCA&T debt management policy currently in effect.

## Overview of NCA&T

For the fall 2015 semester, NCA&T had a headcount student population of approximately 10,852, including 9,353 undergraduate students and 1,499 graduate and doctoral students. During the 2015 academic year, NCA&T employed approximately 710 full-time, part-time and temporary instructional faculty.

Over the past 10 years, NCA&T’s enrollment has decreased approximately 2%. NCA&T expects enrollment to remain relatively stable over the Study Period. NCA&T’s average age of plant (12.89 years) is slightly higher than the median ratio for all Campuses (12.58 years) but is expected to decrease as result of NCA&T’s recent investments in its facilities. An average age of plant of less than 14 generally indicates the institution is taking a sustainable approach to its deferred maintenance and reinvestment programs.

Since June 30, 2015, NCA&T has issued \$82.9 million in new money debt to address various campus infrastructure needs, including its Student Center. NCA&T does not anticipate significant additional borrowings during the Study Period.

NCA&T has made no changes to the financial model’s standard growth assumptions.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on NCA&T's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to NCA&T by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt NCA&T expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate NCA&T's current debt burden.

| Obligated Resources |                            |                                |           |                       | Outstanding Debt |           |              |              |                   |
|---------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|-----------|--------------|--------------|-------------------|
| Fiscal Year         | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal | Net Interest | Debt Service | Principal Balance |
| 2011                | 58,568,342                 | -                              |           | 58,568,342            | 2016             | 1,035,000 | 868,831      | 1,903,831    | 20,465,000        |
| 2012                | 54,020,592                 | -                              | -7.76%    | 54,020,592            | 2017             | 1,075,000 | 831,594      | 1,906,594    | 19,390,000        |
| 2013                | 52,339,156                 | -                              | -3.11%    | 52,339,156            | 2018             | 1,125,000 | 793,500      | 1,918,500    | 18,265,000        |
| 2014                | 50,758,492                 | -                              | -3.02%    | 50,758,492            | 2019             | 1,180,000 | 749,463      | 1,929,463    | 17,085,000        |
| 2015                | 34,473,502                 | 19,982,973                     | 7.29%     | 54,456,475            | 2020             | 1,255,000 | 699,094      | 1,954,094    | 15,830,000        |
| 2016                | 55,218,866                 | -                              | 1.40%     | 55,218,866            | 2021             | 1,300,000 | 648,978      | 1,948,978    | 14,530,000        |
| 2017                | 55,991,930                 | -                              | 1.40%     | 55,991,930            | 2022             | 680,000   | 610,125      | 1,290,125    | 13,850,000        |
| 2018                | 56,775,817                 | -                              | 1.40%     | 56,775,817            | 2023             | 710,000   | 585,922      | 1,295,922    | 13,140,000        |
| 2019                | 57,570,678                 | -                              | 1.40%     | 57,570,678            | 2024             | 730,000   | 559,631      | 1,289,631    | 12,410,000        |
| 2020                | 58,376,668                 | -                              | 1.40%     | 58,376,668            | 2025             | 770,000   | 527,656      | 1,297,656    | 11,640,000        |
|                     |                            |                                |           |                       | 2026             | 800,000   | 497,319      | 1,297,319    | 10,840,000        |
|                     |                            |                                |           |                       | 2027             | 825,000   | 468,947      | 1,293,947    | 10,015,000        |
|                     |                            |                                |           |                       | 2028             | 1,005,000 | 435,056      | 1,440,056    | 9,010,000         |
|                     |                            |                                |           |                       | 2029             | 1,045,000 | 394,719      | 1,439,719    | 7,965,000         |
|                     |                            |                                |           |                       | 2030             | 1,085,000 | 352,119      | 1,437,119    | 6,880,000         |
|                     |                            |                                |           |                       | 2031             | 1,130,000 | 307,713      | 1,437,713    | 5,750,000         |
|                     |                            |                                |           |                       | 2032             | 1,180,000 | 256,313      | 1,436,313    | 4,570,000         |
|                     |                            |                                |           |                       | 2033             | 1,010,000 | 202,575      | 1,212,575    | 3,560,000         |
|                     |                            |                                |           |                       | 2034             | 1,055,000 | 151,400      | 1,206,400    | 2,505,000         |
|                     |                            |                                |           |                       | 2035             | 580,000   | 110,750      | 690,750      | 1,925,000         |
|                     |                            |                                |           |                       | 2036             | 610,000   | 81,000       | 691,000      | 1,315,000         |
|                     |                            |                                |           |                       | 2037             | 640,000   | 49,750       | 689,750      | 675,000           |
|                     |                            |                                |           |                       | 2038             | 675,000   | 16,875       | 691,875      | -                 |
|                     |                            |                                |           |                       | 2039             |           |              | -            | -                 |

| Operating Expenses |                |        |
|--------------------|----------------|--------|
| Fiscal Year        | Operating Exp. | Growth |
| 2011               | 259,484,362    |        |
| 2012               | 254,516,139    | -1.91% |
| 2013               | 257,670,074    | 1.24%  |
| 2014               | 253,752,427    | -1.52% |
| 2015               | 246,294,140    | -2.94% |
| 2016               | 249,742,258    | 1.40%  |
| 2017               | 253,238,650    | 1.40%  |
| 2018               | 256,783,991    | 1.40%  |
| 2019               | 260,378,967    | 1.40%  |
| 2020               | 264,024,273    | 1.40%  |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5  | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|--|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |  |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temporarily Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 30,158,225              | 8,704,561                         | 1,471,658                          | 4,391,566                                    | -   |        | -                              | 44,726,010           |
| 2012                 | 28,512,199              | 9,631,604                         | 2,346,050                          | 4,607,211                                    | 857,066   | -1.09% | -                              | 44,239,997           |
| 2013                 | 26,459,260              | 13,533,188                        | 4,369,334                          | 8,988,644                                    | 1,027,724   | 18.27% | -                              | 52,322,702           |
| 2014                 | 29,026,908              | 17,787,459                        | 4,574,932                          | 8,836,380                                    |   | 15.10% | -                              | 60,225,680           |
| 2015                 | 17,698,430              | 19,891,736                        | 5,427,290                          | 8,239,898                                    | -   | 18.29% | 19,982,973                     | 71,240,328           |
| 2016                 | 38,208,943              | 20,170,221                        | 5,503,272                          | 8,355,257                                    | -   | 1.40%  | -                              | 72,237,692           |
| 2017                 | 38,743,868              | 20,452,604                        | 5,580,318                          | 8,472,230                                    | -   | 1.40%  | -                              | 73,249,020           |
| 2018                 | 39,286,282              | 20,738,940                        | 5,658,442                          | 8,590,841                                    | -   | 1.40%  | -                              | 74,274,506           |
| 2019                 | 39,836,290              | 21,029,285                        | 5,737,661                          | 8,711,113                                    | -   | 1.40%  | -                              | 75,314,349           |
| 2020                 | 40,393,998              | 21,323,695                        | 5,817,988                          | 8,833,069                                    | -   | 1.40%  | -                              | 76,368,750           |

## 3. Proposed Debt Financings

While NCA&T evaluates its capital investment needs on a regular basis, NCA&T currently has no legislatively approved projects that it anticipates financing during the Study Period.

## 4. Financial Ratios

### Debt to Obligated Resources

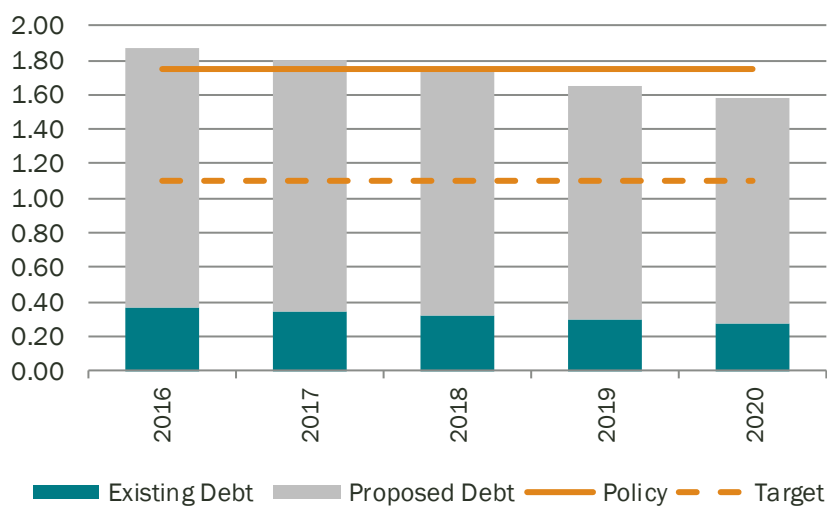
- **What does it measure?** NCA&T's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.10
- Ceiling Ratio: Not to exceed 1.75
- Projected 2016 Ratio: 1.87
- Highest Study Period Ratio: 1.87 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 55,218,866          | 1.40%  | 20,465,000    | 82,955,000    | 0.37             | 1.50             | 1.87          |
| 2017                        | 55,991,930          | 1.40%  | 19,390,000    | 81,415,000    | 0.35             | 1.45             | 1.80          |
| 2018                        | 56,775,817          | 1.40%  | 18,265,000    | 79,855,000    | 0.32             | 1.41             | 1.73          |
| 2019                        | 57,570,678          | 1.40%  | 17,085,000    | 78,270,000    | 0.30             | 1.36             | 1.66          |
| 2020                        | 58,376,668          | 1.40%  | 15,830,000    | 76,650,000    | 0.27             | 1.31             | 1.58          |

### Debt to Obligated Resources



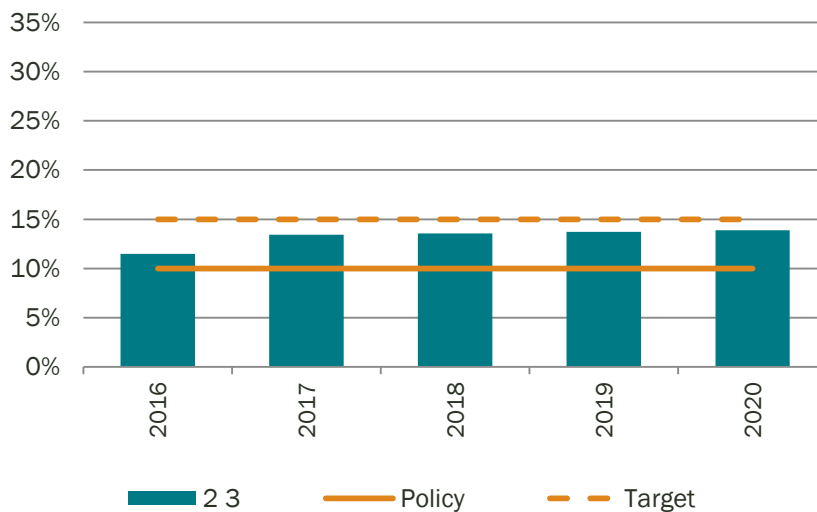
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of NCA&T's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 15%
- Floor Ratio: Not less than 10%
- Projected 2016 Ratio: 11%
- Lowest Study Period Ratio: 11% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 103,420,000         | 11%   |   |
| 2017        | 100,805,000         | 13%   |   |
| 2018        | 98,120,000          | 14%   |   |
| 2019        | 95,355,000          | 14%   |   |
| 2020        | 92,480,000          | 14%   |   |

### 5-Year Payout Ratio



Stronger  
Weaker

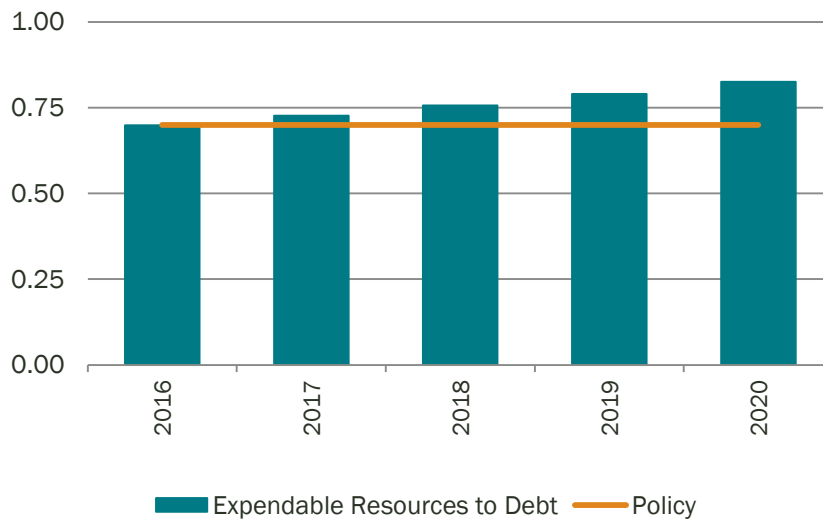
## Expendable Resources to Debt

- **What does it measure?** The number of times NCA&T's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.70x
- Projected 2016 Ratio: 0.70x
- Lowest Study Period Ratio: 0.70x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 72,237,692           | 1.40%  | 20,465,000    | 82,955,000    | 3.53          | 0.70                     |
| 2017                         | 73,249,020           | 1.40%  | 19,390,000    | 81,415,000    | 3.78          | 0.73                     |
| 2018                         | 74,274,506           | 1.40%  | 18,265,000    | 79,855,000    | 4.07          | 0.76                     |
| 2019                         | 75,314,349           | 1.40%  | 17,085,000    | 78,270,000    | 4.41          | 0.79                     |
| 2020                         | 76,368,750           | 1.40%  | 15,830,000    | 76,650,000    | 4.82          | 0.83                     |

## Expendable Resources to Debt



Stronger  
Weaker

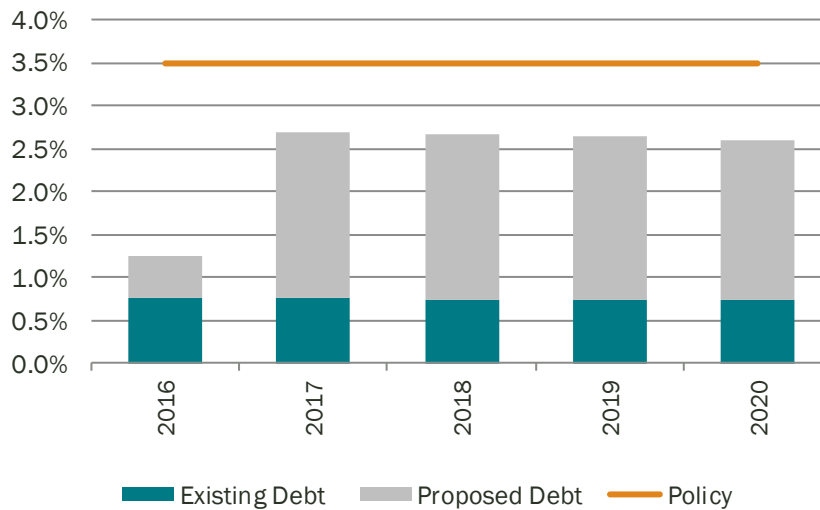
## Debt Service to Operating Expenses

- **What does it measure?** NCA&T's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 3.50%
- Projected 2016 Ratio: 1.24%
- Highest Study Period Ratio: 2.70% (2017)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 249,742,258        | 1.40%  | 1,903,831   | 1,201,951   | 0.76%            | 0.48%            | 1.24%         |
| 2017                               | 253,238,650        | 1.40%  | 1,906,594   | 4,940,946   | 0.75%            | 1.95%            | 2.70%         |
| 2018                               | 256,783,991        | 1.40%  | 1,918,500   | 4,943,351   | 0.75%            | 1.93%            | 2.67%         |
| 2019                               | 260,378,967        | 1.40%  | 1,929,463   | 4,942,223   | 0.74%            | 1.90%            | 2.64%         |
| 2020                               | 264,024,273        | 1.40%  | 1,954,094   | 4,944,297   | 0.74%            | 1.87%            | 2.61%         |

### Debt Service to Operating Expenses





## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, NCAT's debt capacity is based on the amount of debt NCAT could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, NCAT's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, NCAT has no current estimated debt capacity. After taking into account any legislatively approved projects detailed in **Section 3** above, if NCAT issued no additional debt until the last year of the Study Period, then NCAT's debt capacity for 2020 is projected to increase to **\$9,679,169**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.87  | 1.75                                  | (6,786,985)   |
| 2017          | 1.80  | 1.75                                  | (2,819,123)   |
| 2018          | 1.73  | 1.75                                  | 1,237,679     |
| 2019          | 1.66  | 1.75                                  | 5,393,687     |
| 2020          | 1.58  | 1.75                                  | 9,679,169     |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of NCAT's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- Projecting the exact amount NCAT could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would have limited debt capacity for an extended period of time.

- **Factor Interdependence**
  - The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
  - For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.
- **Distortions Across Rating Categories**
  - Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
  - Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

NCA&T's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## North Carolina A&T State University

### 2016 Debt Capacity Study

#### Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                   | Par Outstanding | Final Maturity | Use of Funds  | Refunding | Source of Repayment          |
|--------|-------------------------------|-----------------|----------------|---|-----------|------------------------------|
| 2006B  | UNC System Pool Revenue Bonds | 8,870,000       | 10/1/2033      | Parking Deck<br>Improve and Enlarge Dining Facility | 2000      | Student Fees<br>Student Fees |
| 2011C  | UNC System Pool Revenue Bonds | 2,830,000       | 10/1/2031      | Stadium Press Box                                   |           | Student Fees                 |
| 2013   | UNC System Pool Revenue Bonds | 9,800,000       | 10/1/2037      | Student Health Center                               |           | Student Fees                 |
| Total  |                               | 21,500,000      |                |   |           |                              |

#### Summary of New Money Debt Issued During FYE June 30, 2016

| Series | Description                   | Par Outstanding | Final Maturity | Use of Funds   | Refunding | Source of Repayment |
|--------|-------------------------------|-----------------|----------------|----------------|-----------|---------------------|
| 2015A  | General Revenue Bonds         | 72,220,000      | 10/1/2045      | Student Center |           | Student Fees        |
| 2015B  | Taxable General Revenue Bonds | 10,735,000      | 10/1/2022      | Student Center |           | Student Fees        |
| Total  |                               | 82,955,000      |                |                |           |                     |

## 7. Credit Profile

The following page provides a snapshot of NCA&T's current credit ratings, along with (1) a summary of various credit factors identified in NCA&T's most recent rating report and (2) recommendations for maintaining and improving NCA&T's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains an A1 rating on the University's general revenue bonds. The outlook is stable.
- Fitch maintains an A+ rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Market niche as a STEM focused HBCU (Historically black colleges and universities) attracting students from many states
- Large operating and enrollment base at the rating level with diversified revenue
- Prudent fiscal management contributes to consistently positive operating performance

### Credit Challenges

- Flexible reserves are limited relative to A1-rated peers
- High leverage following the issuance of Series 2015 bonds limits debt capacity at the current rating
- Demand debt related to foundation financed student housing introduces credit risk

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.
- Pursue strategies, working within the existing statutory framework relating to reversions, to increase liquidity through growth in cash reserves.

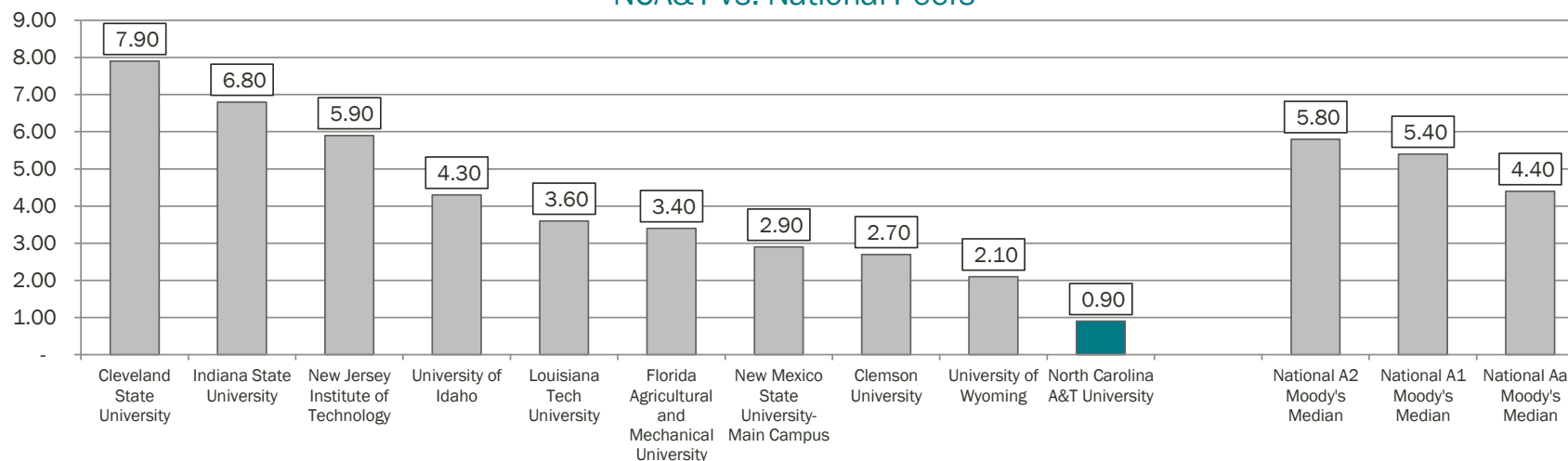
## 8. Peer Comparison

The following pages compare two measures of NCA&T's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both NCA&T and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

## Debt Service to Operating Expenses (%)

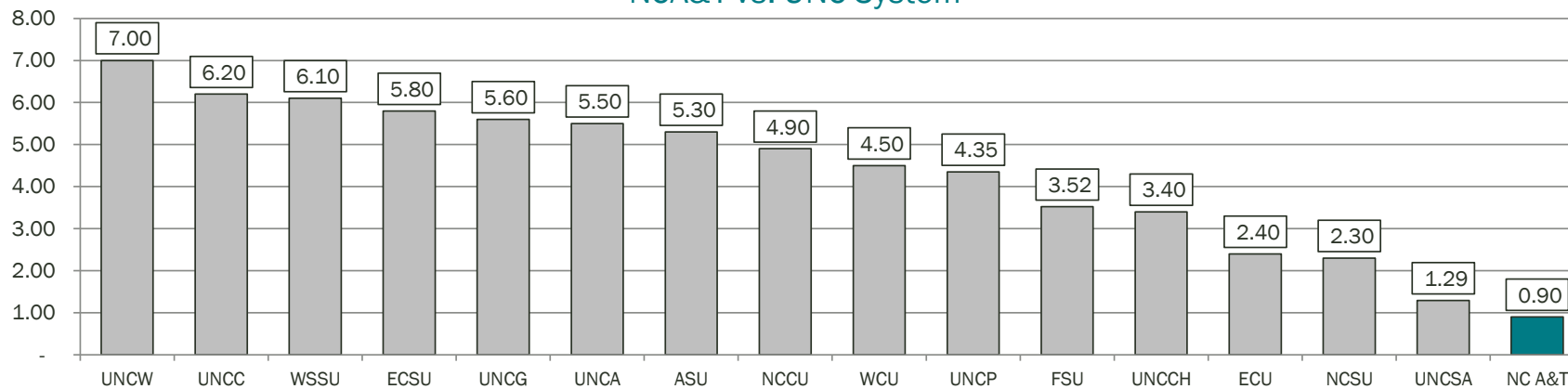
### Debt Service to Operating Expenses (%)

NCA&T vs. National Peers



### Debt Service to Operating Expenses (%)

NCA&T vs. UNC System

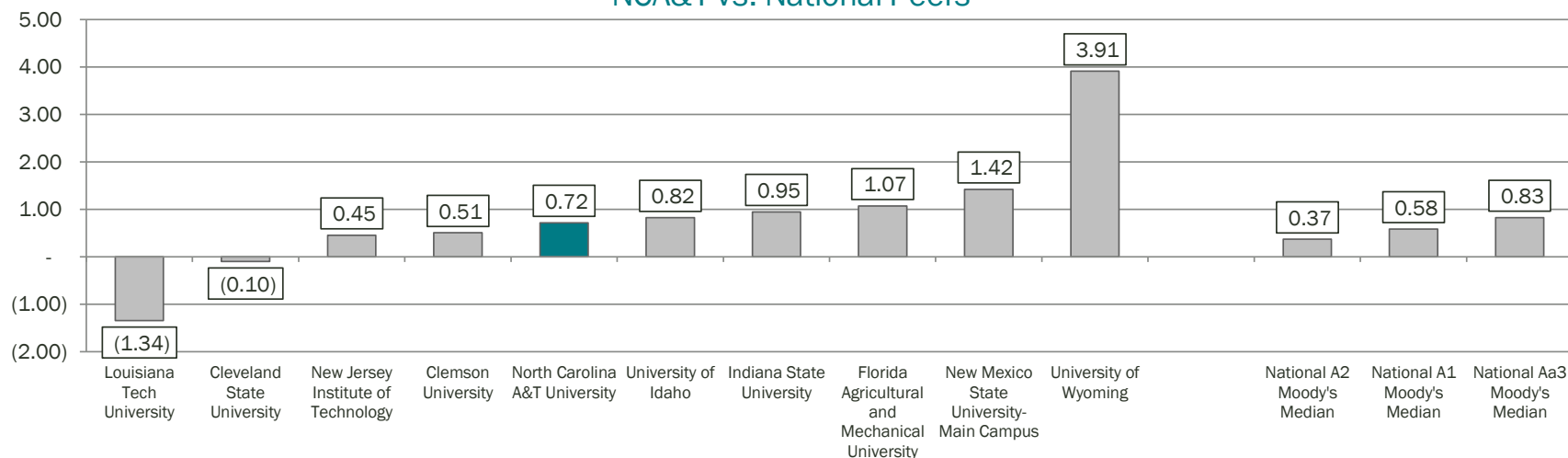


\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

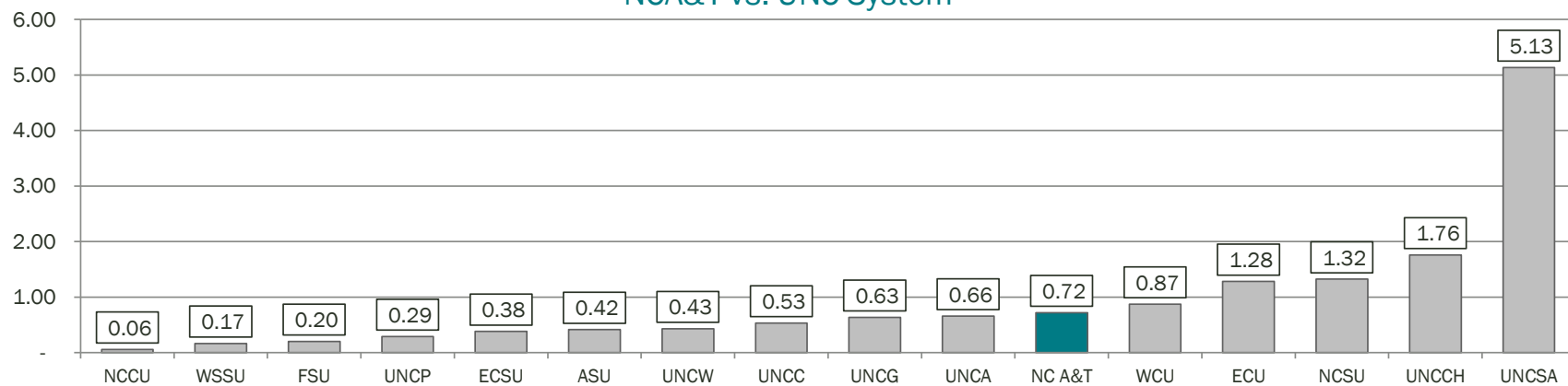


# Expendable Financial Resources to Debt

**Expendable Financial Resources to Debt**  
NCA&T vs. National Peers



**Expendable Financial Resources to Debt**  
NCA&T vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

NCA&T does not currently have a debt policy.

# The University of North Carolina System Debt Capacity Study

North Carolina Central University  
Campus Report

## Table of Contents

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), North Carolina Central University (“**NCCU**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. NCCU has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, NCCU, in consultation with General Administration, agreed to certain ceilings and floors for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—NCCU has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, NCCU’s debt capacity reflects the amount of debt NCCU could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that NCCU intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- NCCU’s current debt profile, including project descriptions financed with, and the sources of repayment for, NCCU’s outstanding debt;
- NCCU’s current credit profile, along with recommendations for maintaining or improving NCCU’s credit rating; and
- A copy of any NCCU debt management policy currently in effect.

## Overview of NCCU

For the fall 2015 semester, NCCU had a headcount student population of approximately 8,011, including 6,168 undergraduate students and 1,843 graduate and doctoral students. During the 2015 academic year, NCCU employed approximately 573 full-time, part-time and temporary instructional faculty.

Over the past 10 years, NCCU’s enrollment has decreased approximately 8%. NCCU’s enrollment has stabilized and is expected to grow modestly over the Study Period. NCCU’s average age of plant (14.23 years) is higher than the median ratio for all Campuses (12.58 years), which may indicate the need for increased investment in campus infrastructure in the near term.

Rather than using the financial model’s standard growth assumption of 1.40%, NCCU has assumed a growth factor for its obligated resources and expendable resources of 2.0% and a growth factor for its operating expenses of 0.50% per year (following a projected 1.50% decline in 2016). NCCU’s growth assumptions more closely align with NCCU’s detailed internal planning and better reflect NCCU’s anticipated enrollment growth during the Study Period.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on NCCU's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to NCCU by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt NCCU expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate NCCU's current debt burden.

| 1                         | 2                          | 3                              | 4         | 5                     | 6                | 7         | 8            | 9            | 10                |
|---------------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|-----------|--------------|--------------|-------------------|
| Obligated Resources       |                            |                                |           |                       | Outstanding Debt |           |              |              |                   |
| Fiscal Year               | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal | Net Interest | Debt Service | Principal Balance |
| 2011                      | 33,737,330                 | -                              |           | 33,737,330            | 2016             | 2,658,000 | 3,371,520    | 6,029,520    | 73,784,000        |
| 2012                      | 33,123,945                 | -                              | -1.82%    | 33,123,945            | 2017             | 2,762,000 | 3,276,505    | 6,038,505    | 71,022,000        |
| 2013                      | 43,365,401                 | -                              | 30.92%    | 43,365,401            | 2018             | 2,884,000 | 3,175,211    | 6,059,211    | 68,138,000        |
| 2014                      | 46,415,864                 | -                              | 7.03%     | 46,415,864            | 2019             | 3,018,000 | 3,060,043    | 6,078,043    | 65,120,000        |
| 2015                      | 24,808,497                 | 18,956,827                     | -5.71%    | 43,765,324            | 2020             | 3,158,000 | 2,934,548    | 6,092,548    | 61,962,000        |
| 2016                      | 44,640,630                 | -                              | 2.00%     | 44,640,630            | 2021             | 3,301,000 | 2,802,922    | 6,103,922    | 58,661,000        |
| 2017                      | 45,533,443                 | -                              | 2.00%     | 45,533,443            | 2022             | 3,454,000 | 2,667,663    | 6,121,663    | 55,207,000        |
| 2018                      | 46,444,112                 | -                              | 2.00%     | 46,444,112            | 2023             | 3,622,000 | 2,525,635    | 6,147,635    | 51,585,000        |
| 2019                      | 47,372,994                 | -                              | 2.00%     | 47,372,994            | 2024             | 3,165,000 | 2,373,831    | 5,538,831    | 48,420,000        |
| 2020                      | 48,320,454                 | -                              | 2.00%     | 48,320,454            | 2025             | 3,335,000 | 2,227,381    | 5,562,381    | 45,085,000        |
| <b>Operating Expenses</b> |                            |                                |           |                       | 2026             | 3,505,000 | 2,073,331    | 5,578,331    | 41,580,000        |
| Fiscal Year               | Operating Exp.             | Growth                         |           |                       |                  |           |              |              |                   |
| 2011                      | 201,296,790                |                                |           |                       |                  |           |              |              |                   |
| 2012                      | 185,671,001                | -7.76%                         |           |                       |                  |           |              |              |                   |
| 2013                      | 185,886,297                | 0.12%                          |           |                       |                  |           |              |              |                   |
| 2014                      | 186,207,161                | 0.17%                          |           |                       |                  |           |              |              |                   |
| 2015                      | 180,635,929                | -2.99%                         |           |                       |                  |           |              |              |                   |
| 2016                      | 177,926,390                | -1.50%                         |           |                       |                  |           |              |              |                   |
| 2017                      | 178,816,022                | 0.50%                          |           |                       |                  |           |              |              |                   |
| 2018                      | 179,710,102                | 0.50%                          |           |                       |                  |           |              |              |                   |
| 2019                      | 180,608,653                | 0.50%                          |           |                       |                  |           |              |              |                   |
| 2020                      | 181,511,696                | 0.50%                          |           |                       |                  |           |              |              |                   |
|                           |                            |                                |           |                       | 2027             | 3,695,000 | 1,909,497    | 5,604,497    | 37,885,000        |
|                           |                            |                                |           |                       | 2028             | 3,895,000 | 1,735,084    | 5,630,084    | 33,990,000        |
|                           |                            |                                |           |                       | 2029             | 4,100,000 | 1,549,488    | 5,649,488    | 29,890,000        |
|                           |                            |                                |           |                       | 2030             | 4,325,000 | 1,349,984    | 5,674,984    | 25,565,000        |
|                           |                            |                                |           |                       | 2031             | 4,570,000 | 1,135,150    | 5,705,150    | 20,995,000        |
|                           |                            |                                |           |                       | 2032             | 4,825,000 | 906,100      | 5,731,100    | 16,170,000        |
|                           |                            |                                |           |                       | 2033             | 5,095,000 | 664,238      | 5,759,238    | 11,075,000        |
|                           |                            |                                |           |                       | 2034             | 5,385,000 | 408,725      | 5,793,725    | 5,690,000         |
|                           |                            |                                |           |                       | 2035             | 5,690,000 | 138,725      | 5,828,725    | -                 |
|                           |                            |                                |           |                       | 2036             |           |              | -            | -                 |
|                           |                            |                                |           |                       | 2037             |           |              | -            | -                 |
|                           |                            |                                |           |                       | 2038             |           |              | -            | -                 |
|                           |                            |                                |           |                       | 2039             |           |              | -            | -                 |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | (3,293,579)             | 14,606,009                        | 1,868,993                          | 1,866,126                             | 2,896,194   |        | -                              | 12,151,355           |
| 2012                 | 2,166,828               | 10,419,677                        | 1,752,219                          | 1,386,186                             | -   | 29.41% | -                              | 15,724,910           |
| 2013                 | 3,827,058               | 13,275,755                        | 1,869,098                          | 1,800,658                             | 1,315,492   | 23.73% | -                              | 19,457,077           |
| 2014                 | 1,696,645               | 17,727,085                        | 990,623                            | 4,815,537                             | 2,537,336   | 16.63% | -                              | 22,692,554           |
| 2015                 | (17,045,957)            | 18,987,844                        | 793,288                            | 4,429,655                             | 1,868,338   | 6.88%  | 18,956,827                     | 24,253,319           |
| 2016                 | 1,949,087               | 19,367,601                        | 809,154                            | 4,518,248                             | 1,905,705   | 2.00%  | -                              | 24,738,385           |
| 2017                 | 1,988,069               | 19,754,953                        | 825,337                            | 4,608,613                             | 1,943,819   | 2.00%  | -                              | 25,233,153           |
| 2018                 | 2,027,831               | 20,150,052                        | 841,844                            | 4,700,785                             | 1,982,695   | 2.00%  | -                              | 25,737,816           |
| 2019                 | 2,068,387               | 20,553,053                        | 858,680                            | 4,794,801                             | 2,022,349   | 2.00%  | -                              | 26,252,572           |
| 2020                 | 2,109,755               | 20,964,114                        | 875,854                            | 4,890,697                             | 2,062,796   | 2.00%  | -                              | 26,777,624           |

## 3. Proposed Debt Financings

While NCCU evaluates its capital investment needs on a regular basis, NCCU currently has no legislatively approved projects that it anticipates financing during the Study Period.

## 4. Financial Ratios

### Debt to Obligated Resources

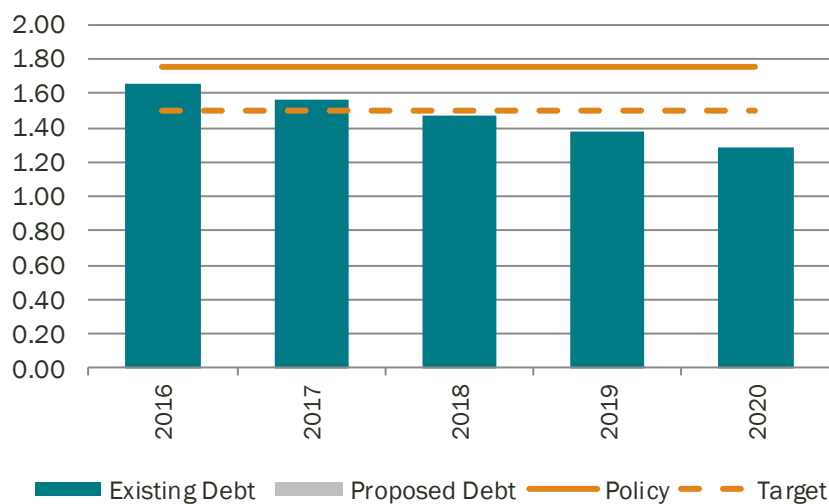
- **What does it measure?** NCCU's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.50
- Ceiling Ratio: Not to exceed 1.75
- Projected 2016 Ratio: 1.65
- Highest Study Period Ratio: 1.65 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 44,640,630          | 2.00%  | 73,784,000    | -             | 1.65             | n/a              | 1.65          |
| 2017                        | 45,533,443          | 2.00%  | 71,022,000    | -             | 1.56             | n/a              | 1.56          |
| 2018                        | 46,444,112          | 2.00%  | 68,138,000    | -             | 1.47             | n/a              | 1.47          |
| 2019                        | 47,372,994          | 2.00%  | 65,120,000    | -             | 1.37             | n/a              | 1.37          |
| 2020                        | 48,320,454          | 2.00%  | 61,962,000    | -             | 1.28             | n/a              | 1.28          |

### Debt to Obligated Resources





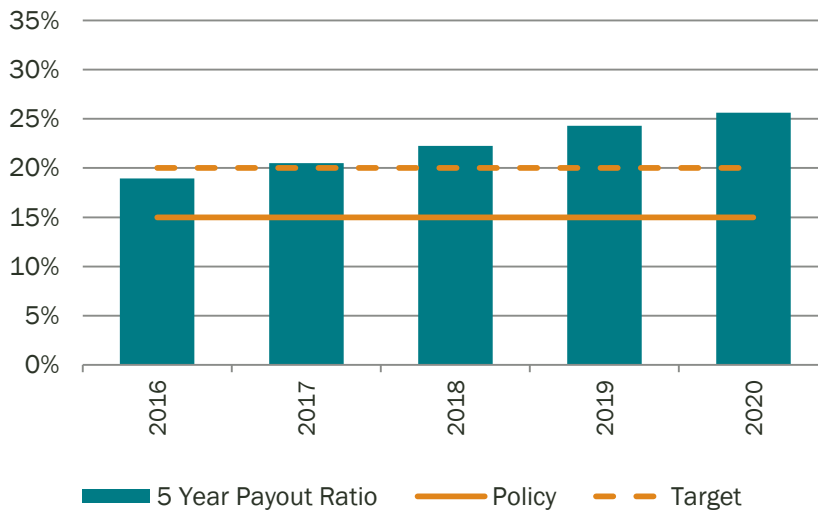
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of NCCU's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 20%
- Floor Ratio: Not less than 15%
- Projected 2016 Ratio: 19%
- Lowest Study Period Ratio: 19% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 73,784,000          | 19%   |   |
| 2017        | 71,022,000          | 20%   |   |
| 2018        | 68,138,000          | 22%   |   |
| 2019        | 65,120,000          | 24%   |   |
| 2020        | 61,962,000          | 26%   |   |

### 5-Year Payout Ratio



Stronger  
Weaker

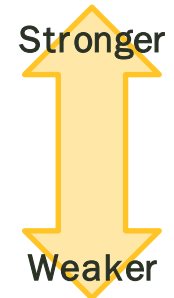
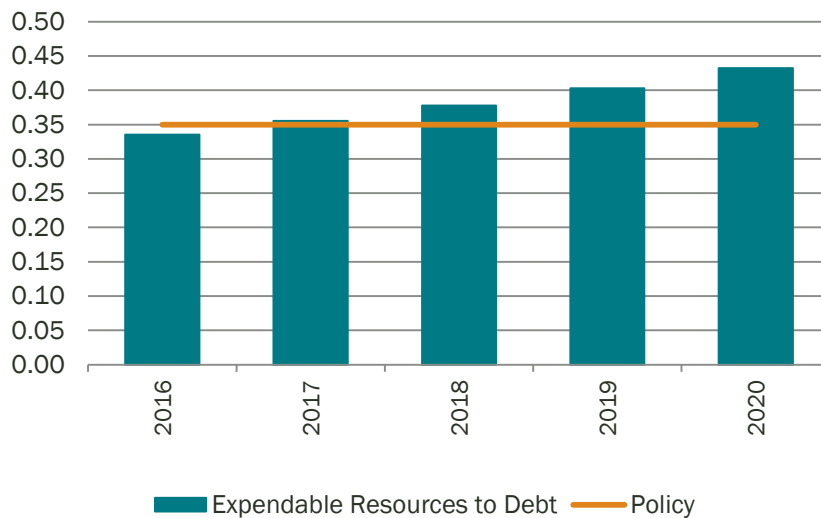
## Expendable Resources to Debt

- **What does it measure?** The number of times NCCU's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.35x
- Projected 2016 Ratio: 0.34x
- Lowest Study Period Ratio: 0.34x (2016)

### Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 24,738,385           | 2.00%  | 73,784,000    | -             | 0.34          | 0.34                     |
| 2017                         | 25,233,153           | 2.00%  | 71,022,000    | -             | 0.36          | 0.36                     |
| 2018                         | 25,737,816           | 2.00%  | 68,138,000    | -             | 0.38          | 0.38                     |
| 2019                         | 26,252,572           | 2.00%  | 65,120,000    | -             | 0.40          | 0.40                     |
| 2020                         | 26,777,624           | 2.00%  | 61,962,000    | -             | 0.43          | 0.43                     |

### Expendable Resources to Debt



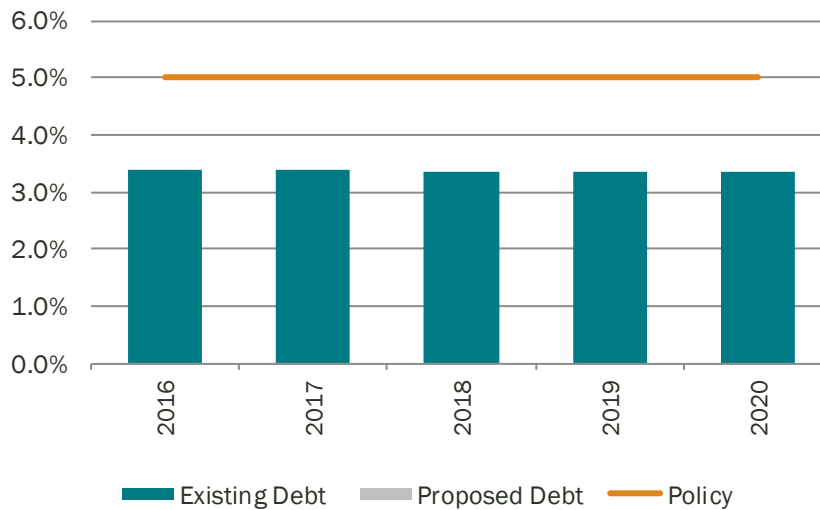
## Debt Service to Operating Expenses

- **What does it measure?** NCCU's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 5.00%
- Projected 2016 Ratio: 3.39%
- Highest Study Period Ratio: 3.39% (2016)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 177,926,390        | -1.50% | 6,029,520   | -           | 3.39%            | n/a              | 3.39%         |
| 2017                               | 178,816,022        | 0.50%  | 6,038,505   | -           | 3.38%            | n/a              | 3.38%         |
| 2018                               | 179,710,102        | 0.50%  | 6,059,211   | -           | 3.37%            | n/a              | 3.37%         |
| 2019                               | 180,608,653        | 0.50%  | 6,078,043   | -           | 3.37%            | n/a              | 3.37%         |
| 2020                               | 181,511,696        | 0.50%  | 6,092,548   | -           | 3.36%            | n/a              | 3.36%         |

### Debt Service to Operating Expenses



↑ Weaker  
↓ Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, NCCU's debt capacity is based on the amount of debt NCCU could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, NCCU's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, NCCU's current estimated debt capacity is **\$4,337,103**. After taking into account any legislatively approved projects detailed in **Section 3** above, if NCCU issued no additional debt until the last year of the Study Period, then NCCU's debt capacity for 2020 is projected to increase to **\$22,598,795**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.65  | 1.75                                  | 4,337,103     |
| 2017          | 1.56  | 1.75                                  | 8,661,525     |
| 2018          | 1.47  | 1.75                                  | 13,139,196    |
| 2019          | 1.37  | 1.75                                  | 17,782,740    |
| 2020          | 1.28  | 1.75                                  | 22,598,795    |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of NCCU's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If NCCU were to use all of its calculated debt capacity during the Study Period, NCCU's credit ratings may face significant downward pressure.**
- Projecting the exact amount NCCU could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.

- If “debt capacity” were linked to those national median ratios, many Campuses would have limited debt capacity for an extended period of time.
- **Factor Interdependence**
  - The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
  - For example, a university’s “**strategic positioning**” score, which accounts for 10% of its overall score under Moody’s criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.
- **Distortions Across Rating Categories**
  - Because quantitative ratios account for only a portion of an issuer’s final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
  - Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

NCCU's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## North Carolina Central University

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                              | Par Outstanding | Final Maturity | Use of Funds  | Refunding | Source of Repayment   |
|--------|--|-----------------|----------------|---|-----------|---|
| 2003A  | Student Housing Facilities Revenue Bonds | 17,785,000      | 10/1/2034      | Eagle Landing   |           | Housing Revenues  |
| 2009C  | UNC System Pool Revenue Bonds            | 54,170,000      | 10/1/2034      | Latham Parking Deck<br>Chidley Hall<br>Richmond Hall<br>Residence Hall 2<br>Walker Sports Complex |           | Parking and Vehicle Registration Revenues<br>Housing Revenues<br>Housing Revenues<br>Housing Revenues<br>Debt Service Fee |
| 2014   | Revenue Refunding Bonds                  | 4,487,000       | 4/1/2023       | Chidley Hall  | 2004B     | Housing Revenues  |
| Total  |  | 76,442,000      |                |   |           |   |

## 7. Credit Profile

The following page provides a snapshot of NCCU's current credit ratings, along with (1) a summary of various credit factors identified in NCCU's most recent rating report and (2) recommendations for maintaining and improving NCCU's credit ratings in the future.



# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains an A3 rating on the University's general revenue bonds. The outlook is negative.

## Key Information Noted in Reports

### Credit Strengths

- Strong governmental support from the Aaa-rated State of North Carolina, which provides 46% of operating revenue as well as significant oversight over debt plans.
- Demonstrated ability and willingness to adjust expenditures in the face of falling operating revenue, including significant cuts in fiscal 2015

### Credit Challenges

- Thin operating results driven by falling student charge revenue
- Very narrow liquidity of 31 days cash on hand
- Limited capital investment led to a buildup of deferred maintenance

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.
- Continue to develop and implement strategies and policies to meet the University's unique challenges, including strategies to stabilize and improve enrollment and revenue.

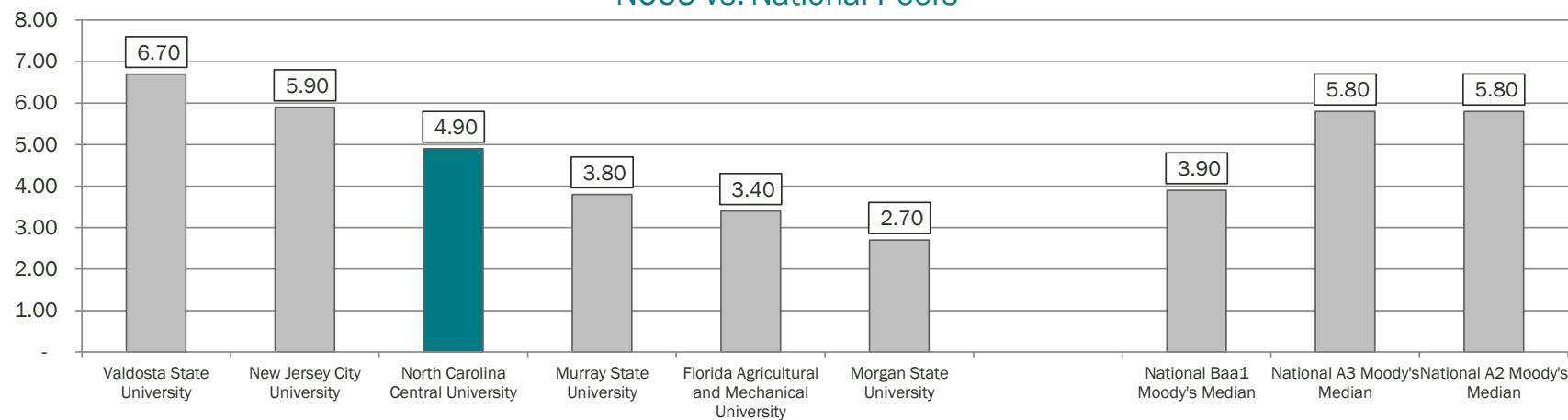
## 8. Peer Comparison

The following pages compare two measures of NCCU's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both NCCU and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

## Debt Service to Operating Expenses (%)

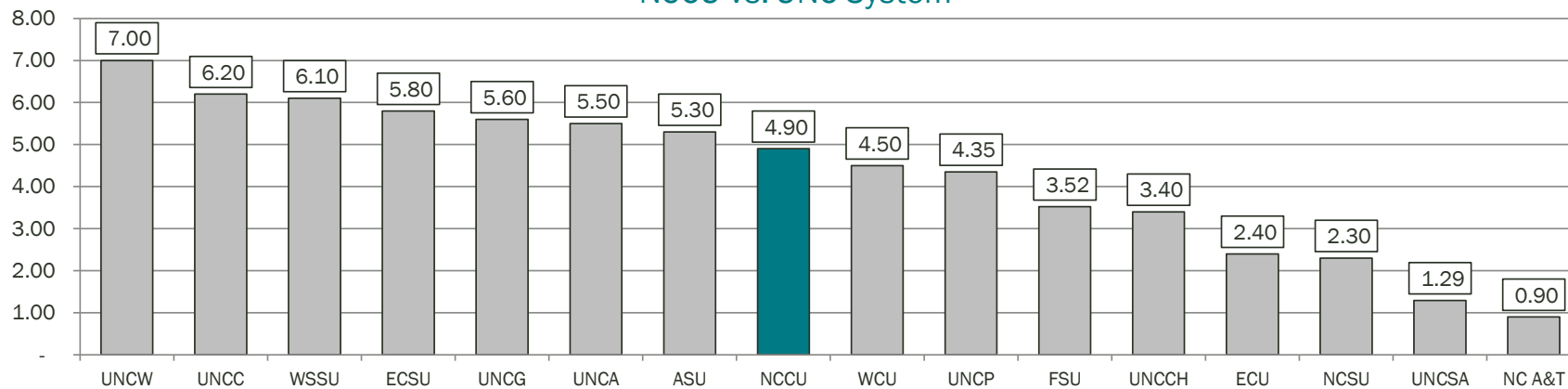
### Debt Service to Operating Expenses (%)

NCCU vs. National Peers



### Debt Service to Operating Expenses (%)

NCCU vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

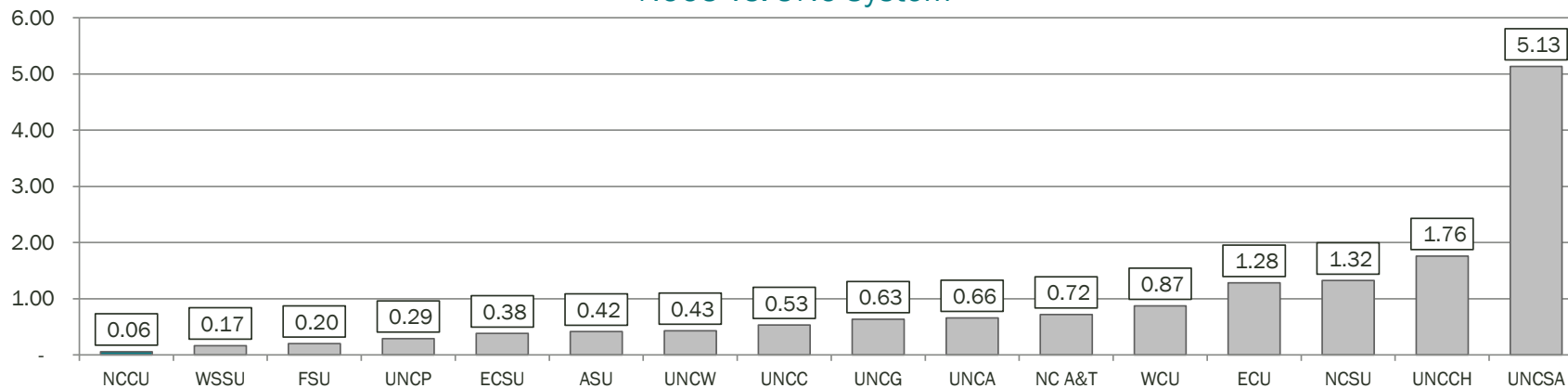
## Expendable Financial Resources to Debt

### NCCU vs. National Peers



## Expendable Financial Resources to Debt

### NCCU vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

NCCU does not currently have a debt policy.

# The University of North Carolina System Debt Capacity Study

North Carolina State University Campus Report

## Table of Contents

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), North Carolina State University (“**NCSU**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. NCSU has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, NCSU, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—NCSU has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, NCSU’s debt capacity reflects the amount of debt NCSU could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that NCSU intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- NCSU’s current debt profile, including project descriptions financed with, and the sources of repayment for, NCSU’s outstanding debt;
- NCSU’s current credit profile, along with recommendations for maintaining or improving NCSU’s credit rating; and
- A copy of any NCSU debt management policy currently in effect.

## Overview of NCSU

For the fall 2015 semester, NCSU had a headcount student population of approximately 34,000, including more than 24,000 undergraduate students and nearly 10,000 graduate and doctoral students. During the 2015 academic year, NCSU employed approximately 2,230 full-time, part-time and temporary instructional faculty.

Over the past 10 years, NCSU’s enrollment has increased approximately 9%. NCSU expects modest enrollment growth over the Study Period. NCSU’s average age of plant (10.27) is lower than the median ratio for all Campuses (12.58) and generally indicates NCSU is taking a sustainable approach to its deferred maintenance and reinvestment programs.

NCSU anticipates incurring approximately \$74 million in additional debt during the Study Period, as summarized in **Section 3** below.

NCSU has made no changes to the financial model’s standard growth assumptions.



## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on NCSU's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to NCSU by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt NCSU expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate NCSU's current debt burden.

| 1                   | 2                          | 3                              | 4         | 5                     | 6                | 7          | 8            | 9            | 10                |
|---------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|------------|--------------|--------------|-------------------|
| Obligated Resources |                            |                                |           |                       | Outstanding Debt |            |              |              |                   |
| Fiscal Year         | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal  | Net Interest | Debt Service | Principal Balance |
| 2011                | 498,697,339                | -                              |           | 498,697,339           | 2016             | 13,465,000 | 19,222,256   | 32,687,256   | 462,090,000       |
| 2012                | 535,302,052                | -                              | 7.34%     | 535,302,052           | 2017             | 13,985,000 | 18,680,122   | 32,665,122   | 448,105,000       |
| 2013                | 598,854,000                | -                              | 11.87%    | 598,854,000           | 2018             | 14,510,000 | 18,147,296   | 32,657,296   | 433,595,000       |
| 2014                | 632,148,426                | -                              | 5.56%     | 632,148,426           | 2019             | 14,140,000 | 17,603,582   | 31,743,582   | 419,455,000       |
| 2015                | 594,359,948                | 91,006,700                     | 8.42%     | 685,366,648           | 2020             | 14,685,000 | 17,075,127   | 31,760,127   | 404,770,000       |
| 2016                | 694,961,781                | -                              | 1.40%     | 694,961,781           | 2021             | 15,245,000 | 16,508,869   | 31,753,869   | 389,525,000       |
| 2017                | 704,691,246                | -                              | 1.40%     | 704,691,246           | 2022             | 15,870,000 | 15,879,220   | 31,749,220   | 373,655,000       |
| 2018                | 714,556,923                | -                              | 1.40%     | 714,556,923           | 2023             | 16,510,000 | 15,239,615   | 31,749,615   | 357,145,000       |
| 2019                | 724,560,720                | -                              | 1.40%     | 724,560,720           | 2024             | 17,180,000 | 14,585,808   | 31,765,808   | 339,965,000       |
| 2020                | 734,704,570                | -                              | 1.40%     | 734,704,570           | 2025             | 17,895,000 | 13,900,922   | 31,795,922   | 322,070,000       |
| Operating Expenses  |                            |                                |           |                       | 2026             | 18,650,000 | 13,178,602   | 31,828,602   | 303,420,000       |
| Fiscal Year         | Operating Exp.             | Growth                         |           |                       | 2027             | 19,485,000 | 12,379,414   | 31,864,414   | 283,935,000       |
| 2011                | 1,189,113,648              |                                |           |                       | 2028             | 20,395,000 | 11,509,206   | 31,904,206   | 263,540,000       |
| 2012                | 1,194,655,533              | 0.47%                          |           |                       | 2029             | 21,335,000 | 10,577,409   | 31,912,409   | 242,205,000       |
| 2013                | 1,279,177,823              | 7.08%                          |           |                       | 2030             | 22,375,000 | 9,546,456    | 31,921,456   | 219,830,000       |
| 2014                | 1,285,952,770              | 0.53%                          |           |                       | 2031             | 26,825,000 | 8,485,418    | 35,310,418   | 193,005,000       |
| 2015                | 1,333,767,028              | 3.72%                          |           |                       | 2032             | 12,535,000 | 7,750,486    | 20,285,486   | 180,470,000       |
| 2016                | 1,352,439,766              | 1.40%                          |           |                       | 2033             | 13,060,000 | 7,288,643    | 20,348,643   | 167,410,000       |
| 2017                | 1,371,373,923              | 1.40%                          |           |                       | 2034             | 13,660,000 | 6,749,473    | 20,409,473   | 153,750,000       |
| 2018                | 1,390,573,158              | 1.40%                          |           |                       | 2035             | 14,310,000 | 6,169,052    | 20,479,052   | 139,440,000       |
| 2019                | 1,410,041,182              | 1.40%                          |           |                       | 2036             | 14,960,000 | 5,586,333    | 20,546,333   | 124,480,000       |
| 2020                | 1,429,781,759              | 1.40%                          |           |                       | 2037             | 15,645,000 | 4,937,375    | 20,582,375   | 108,835,000       |
|                     |                            |                                |           |                       | 2038             | 16,355,000 | 4,227,375    | 20,582,375   | 92,480,000        |
|                     |                            |                                |           |                       | 2039             | 17,040,000 | 3,543,450    | 20,583,450   | 75,440,000        |
|                     |                            |                                |           |                       | 2040             | 17,720,000 | 2,864,000    | 20,584,000   | 57,720,000        |
|                     |                            |                                |           |                       | 2041             | 18,445,000 | 2,140,700    | 20,585,700   | 39,275,000        |
|                     |                            |                                |           |                       | 2042             | 19,195,000 | 1,387,900    | 20,582,900   | 20,080,000        |
|                     |                            |                                |           |                       | 2043             | 20,080,000 | 502,000      | 20,582,000   | -                 |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5  | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|--|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |  |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temporarily Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 177,832,834             | 140,828,570                       | 49,513,768                         | 150,843,183                                  | 15,521,948  |        | -                              | 503,496,407          |
| 2012                 | 214,418,502             | 147,406,474                       | 47,353,384                         | 156,242,737                                  | 15,796,061  | 9.16%  | -                              | 549,625,036          |
| 2013                 | 230,802,294             | 285,752,034                       | 51,085,116                         | 190,873,883                                  | 138,957,190   | 12.72% | -                              | 619,556,137          |
| 2014                 | 256,240,700             | 241,254,150                       | 63,211,020                         | 245,176,120                                  | 70,962,222  | 18.62% | -                              | 734,919,768          |
| 2015                 | 217,106,466             | 211,507,389                       | 67,699,571                         | 273,815,338                                  | 32,523,251  | 12.75% | 91,006,700                     | 828,612,213          |
| 2016                 | 312,426,750             | 214,468,492                       | 68,647,365                         | 277,648,753                                  | 32,978,577  | 1.40%  | -                              | 840,212,784          |
| 2017                 | 316,800,725             | 217,471,051                       | 69,608,428                         | 281,535,835                                  | 33,440,277  | 1.40%  | -                              | 851,975,763          |
| 2018                 | 321,235,935             | 220,515,646                       | 70,582,946                         | 285,477,337                                  | 33,908,440  | 1.40%  | -                              | 863,903,424          |
| 2019                 | 325,733,238             | 223,602,865                       | 71,571,107                         | 289,474,020                                  | 34,383,159  | 1.40%  | -                              | 875,998,072          |
| 2020                 | 330,293,503             | 226,733,305                       | 72,573,103                         | 293,526,656                                  | 34,864,523  | 1.40%  | -                              | 888,262,045          |

### 3. Proposed Debt Financings

The table below summarizes any legislatively approved projects that NCSU expects to finance during the Study Period. Using the assumptions outlined in the table below, the model has developed a tailored, but conservative, debt service schedule for each proposed financing and incorporated each pro forma debt service schedule into its calculations of the financial ratios as detailed in **Section 4** below.

#### NCSU Proposed Debt Financings

| Year  | Use of Funds                        | Borrowing Amount | Term     | Source of Repayment |
|-------|-------------------------------------|------------------|----------|---------------------|
| 2017  | Reynolds Renovation                 | 18,600,000       | 25 Years | Gifts               |
| 2020  | Commercial Paper - Engineering Oval | 35,000,000       | 25 Years | Gifts               |
|       |                                     |                  |          |                     |
| Total |                                     | 53,600,000       |          |                     |

## 4. Financial Ratios

### Debt to Obligated Resources

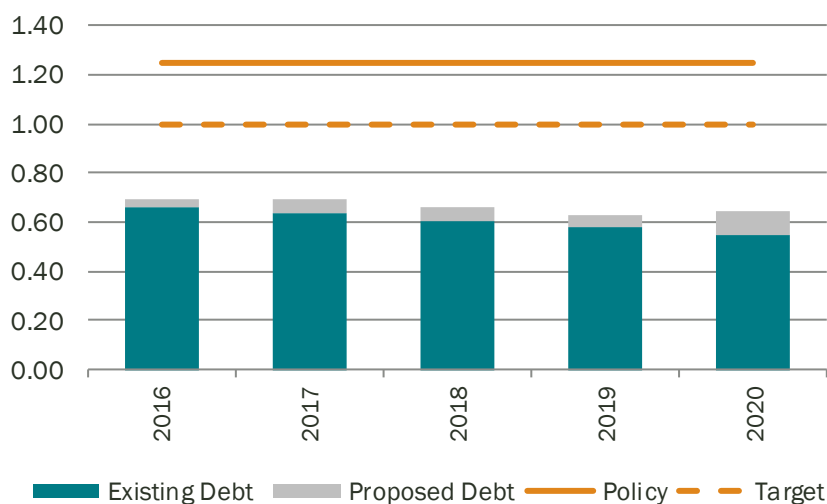
- **What does it measure?** NCSU's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.00
- Ceiling Ratio: Not to exceed 1.25
- Projected 2016 Ratio: 0.69
- Highest Study Period Ratio: 0.69 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 694,961,781         | 1.40%  | 462,090,000   | 20,000,000    | 0.66             | 0.03             | 0.69          |
| 2017                        | 704,691,246         | 1.40%  | 448,105,000   | 38,600,000    | 0.64             | 0.05             | 0.69          |
| 2018                        | 714,556,923         | 1.40%  | 433,595,000   | 37,357,412    | 0.61             | 0.05             | 0.66          |
| 2019                        | 724,560,720         | 1.40%  | 419,455,000   | 36,076,902    | 0.58             | 0.05             | 0.63          |
| 2020                        | 734,704,570         | 1.40%  | 404,770,000   | 69,757,306    | 0.55             | 0.09             | 0.65          |

### Debt to Obligated Resources



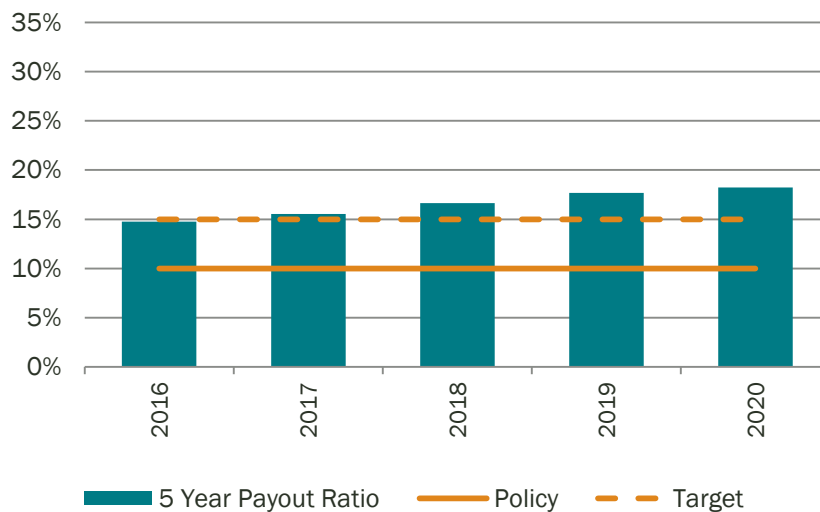
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of NCSU's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 15%
- Floor Ratio: Not less than 10%
- Projected 2016 Ratio: 15%
- Lowest Study Period Ratio: 15% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 482,090,000         | 15%   |   |
| 2017        | 486,705,000         | 16%   |   |
| 2018        | 470,952,412         | 17%   |   |
| 2019        | 455,531,902         | 18%   |   |
| 2020        | 474,527,306         | 18%   |   |

### 5-Year Payout Ratio



Stronger  
↑  
↓  
Weaker

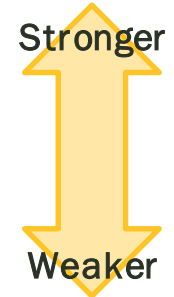
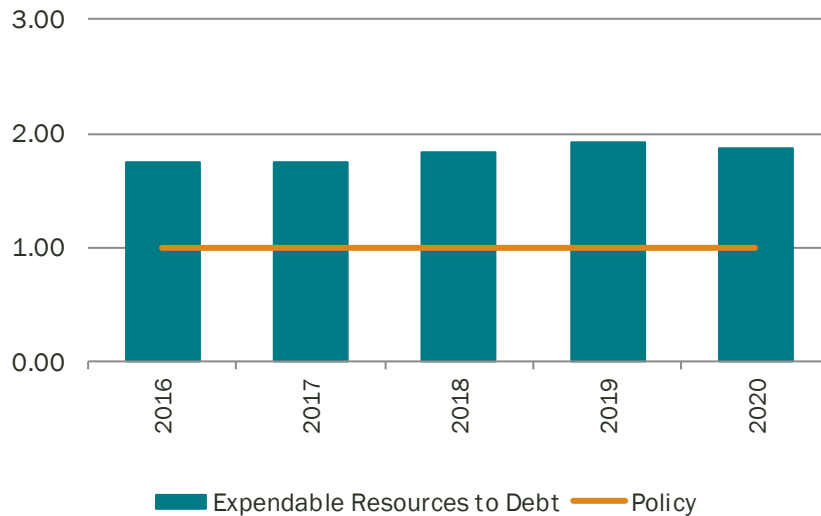
## Expendable Resources to Debt

- **What does it measure?** The number of times NCSU's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 1.00x
- Projected 2016 Ratio: 1.74x
- Lowest Study Period Ratio: 1.74x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 840,212,784          | 1.40%  | 462,090,000   | 20,000,000    | 1.82          | 1.74                     |
| 2017                         | 851,975,763          | 1.40%  | 448,105,000   | 38,600,000    | 1.90          | 1.75                     |
| 2018                         | 863,903,424          | 1.40%  | 433,595,000   | 37,357,412    | 1.99          | 1.83                     |
| 2019                         | 875,998,072          | 1.40%  | 419,455,000   | 36,076,902    | 2.09          | 1.92                     |
| 2020                         | 888,262,045          | 1.40%  | 404,770,000   | 69,757,306    | 2.19          | 1.87                     |

## Expendable Resources to Debt



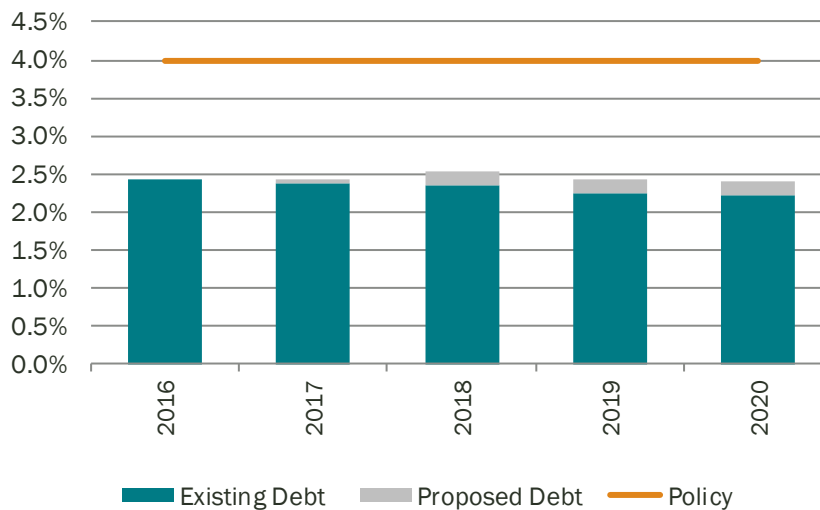
## Debt Service to Operating Expenses

- What does it measure? NCSU's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- How is it calculated? Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 4.00%
- Projected 2016 Ratio: 2.42%
- Highest Study Period Ratio: 2.52% (2018)

## Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 1,352,439,766      | 1.40%  | 32,687,256  | -           | 2.42%            | n/a              | 2.42%         |
| 2017                               | 1,371,373,923      | 1.40%  | 32,665,122  | 605,720     | 2.38%            | 0.04%            | 2.43%         |
| 2018                               | 1,390,573,158      | 1.40%  | 32,657,296  | 2,449,088   | 2.35%            | 0.18%            | 2.52%         |
| 2019                               | 1,410,041,182      | 1.40%  | 31,743,582  | 2,449,088   | 2.25%            | 0.17%            | 2.42%         |
| 2020                               | 1,429,781,759      | 1.40%  | 31,760,127  | 2,449,088   | 2.22%            | 0.17%            | 2.39%         |

## Debt Service to Operating Expenses



Weaker  
Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, NCSU's debt capacity is based on the amount of debt NCSU could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, NCSU's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, NCSU's debt capacity for 2016 is **\$386,612,226**. After taking into account any legislatively approved projects detailed in **Section 3** above, if NCSU issued no additional debt until the last year of the Study Period, then NCSU's debt capacity for 2020 is projected to increase to **\$443,853,407**.

| Debt Capacity |   |                                       |               |
|---------------|---|---------------------------------------|---------------|
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 0.69  | 1.25                                  | 386,612,226   |
| 2017          | 0.69  | 1.25                                  | 394,159,058   |
| 2018          | 0.66  | 1.25                                  | 422,243,742   |
| 2019          | 0.63  | 1.25                                  | 450,168,998   |
| 2020          | 0.65  | 1.25                                  | 443,853,407   |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of NCSU's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If NCSU were to use all of its calculated debt capacity during the Study Period, NCSU's credit ratings may face significant downward pressure.**
- Projecting the exact amount NCSU could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would

have limited debt capacity for an extended period of time.

- **Factor Interdependence**
  - The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
  - For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.
- **Distortions Across Rating Categories**
  - Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
  - Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

NCSU's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.



## North Carolina State University

2016 Debt Capacity Study

## Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                          | Par Outstanding | Final Maturity | Use of Funds   | Refunding     | Source of Repayment  |
|--------|--------------------------------------|-----------------|----------------|--|---------------|--|
| 2003B  | Variable Rate General Revenue Bonds  | 42,625,000      | 10/1/2027      | Wolf Village Residence Halls<br>Doak Baseball and Tennis Complex<br>Greek Housing Renovations  |               | Housing Revenues<br>Athletics Revenues<br>Housing Revenues   |
| 2005A  | General Revenue Bonds                | 4,500,000       | 10/1/2015      | Centennial Campus Projects<br>Vet Med Research Building<br>Reynolds / Weisiger / Case Renovations<br>Partners 3<br>Barry / Becton / Bagwell Renovations<br>Greek Housing Renovations<br>College of Engineering Building 2<br>Wolf Village Residence Halls  | 1997B         | Centennial Campus Receipts<br>Centennial Campus Receipts<br>Student Fees<br>Centennial Campus Receipts<br>Housing Revenues<br>Housing Revenues<br>Centennial Campus Receipts<br>Housing Revenues     |
| 2008A  | Variable Rate General Revenue Bonds  | 66,335,000      | 10/1/2028      | Centennial Campus Infrastructure<br>Derr Track Soccer Softball Complex<br>Carmichael Addition<br>Thompson Theater<br>Gold, Welch, Syme Res Halls, First Year<br>College Building<br>North End Zone - CF Stadium<br>Western Manor<br>Carter Finley Concrete Repairs   |               | Centennial Campus Receipts<br>Student Fees<br>Student Fees<br>Student Fees<br>Housing Revenues<br><br>Athletics Revenues<br>Housing Revenues<br>Student Fees   |
| 2008B  | General Revenue Bonds                | 3,315,000       | 10/1/2020      | Residence Hall Improvements<br>Housing System Projects<br>Centennial Campus Infrastructure<br>Derr Track Soccer Softball Complex<br>Carmichael Addition<br>Thompson Theater<br>Gold, Welch, Syme Res Halls, First Year<br>College Building<br>North End Zone - CF Stadium<br>Western Manor<br>Carter Finley Concrete Repairs | 1998B<br>2000 | Housing Revenues<br>Housing Revenues<br>Centennial Campus Receipts<br>Student Fees<br>Student Fees<br>Student Fees<br>Housing Revenues<br><br>Athletics Revenues<br>Housing Revenues<br>Student Fees |
| 2010A  | General Revenue Bonds                | 12,820,000      | 10/1/2022      | Centennial Campus Projects<br>Terry Companion Animal Hospital<br>Student Health Addition<br>West Lot Parking Deck<br>Atrium Renovation<br>Athletic Facilities Renovations  | 1999A         | Centennial Campus Receipts<br>Gifts<br>Student Fees<br>Transportation Receipts<br>Dining Receipts<br>Student Fees  |
| 2010B  | Taxable General Revenue Bonds (BABs) | 59,565,000      | 10/1/2035      | Terry Companion Animal Hospital<br>Student Health Addition<br>West Lot Parking Deck<br>Atrium Renovation<br>Athletic Facilities Renovations<br>Carmichael Complex Improvements   |               | Gifts<br>Student Fees<br>Transportation Receipts<br>Dining Receipts<br>Student Fees<br>Student Fees  |
| 2012   | General Revenue Refunding Bonds      | 13,260,000      | 10/1/2018      | Wolf Village Residence Halls   | 2003A         | Housing Revenues   |
| 2013A  | General Revenue Bonds                | 132,440,000     | 10/1/2042      | Wolf Ridge Residence Halls   |               | Housing Revenues   |
| 2013B  | Taxable General Revenue Bonds        | 140,695,000     | 10/1/2041      | Talley Student Union   |               | S & Dining/Bookstore Receipts  |
| Total  |                                      | 475,555,000     |                |  |               |  |

## Summary of New Money Debt Issued During FYE June 30, 2016

| Series | Description      | Par Outstanding | Final Maturity | Use of Funds | Refunding | Source of Repayment |
|--------|------------------|-----------------|----------------|--------------|-----------|---------------------|
| 2016   | Commercial Paper | 12,400,000      | 25 years       | Reynolds     |           | Gifts               |
| 2016   | Commercial Paper | 7,600,000       | 15 year        | Carmichael   |           | Student Fees        |
| Total  |                  | 20,000,000      |                |              |           |                     |

## 7. Credit Profile

The following page provides a snapshot of NCSU's current credit ratings, along with (1) a summary of various credit factors identified in NCSU's most recent rating report and (2) recommendations for maintaining and improving NCSU's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains a Aa1 rating on the University's general revenue bonds. The outlook is stable.
- Standard and Poor's maintains a AA rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Excellent student market position as land-grant university with diverse degree programs
- Solid support from Aaa-rated state
- Growing sponsored research enterprise
- Large financial resource cushion with total financial resources of \$1.3 billion
- Increasing philanthropic support
- Strong annual fundraising that averages over \$100 million per year
- Good financial management as evidenced by a history of strong operating performance

### Credit Challenges

- Limited unrestricted liquidity relative to peers
- Ongoing capital needs will lead to increased debt over time
- Political limits on pricing power for in-state undergraduate students restrain prospects for revenue growth
- Rapid debt issuance in a short period of time

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

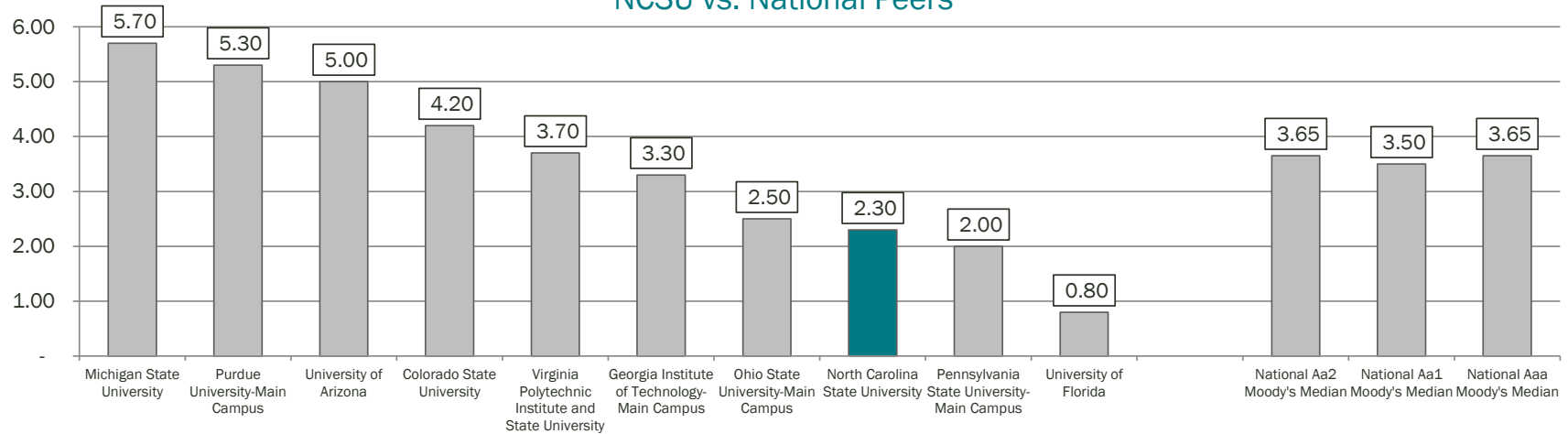
- The University sees strategic value in maintaining its current rating levels.
- The University will continue to seek strategies to limit new debt in the near term while addressing the critical infrastructure needs of a growing campus, in accordance with the University's existing debt policy and in service of the University's other strategic initiatives.

## 8. Peer Comparison

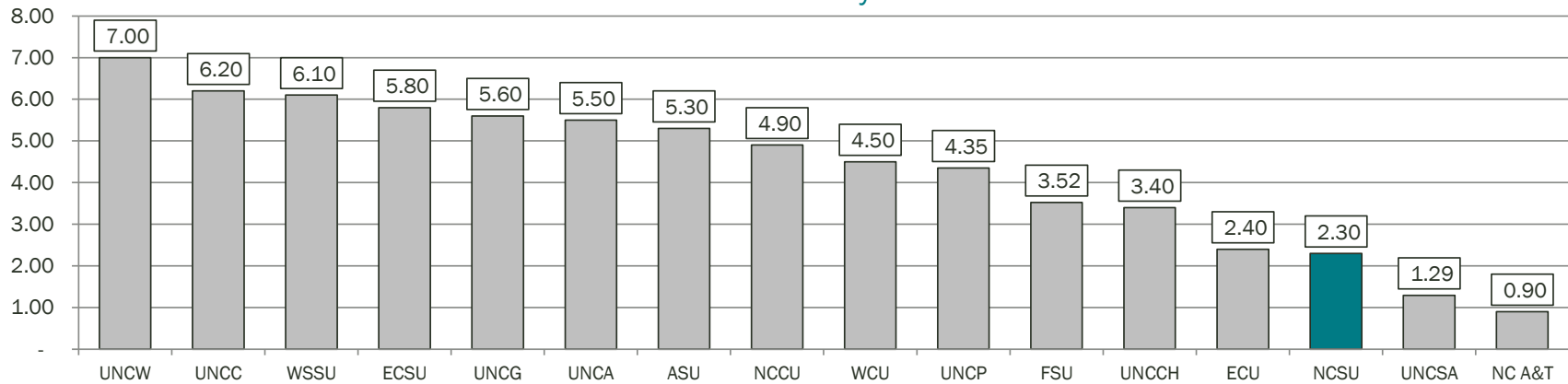
The following pages compare two measures of NCSU's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both NCSU and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

# Debt Service to Operating Expenses (%)

**Debt Service to Operating Expenses (%)**  
NCSU vs. National Peers



**Debt Service to Operating Expenses (%)**  
NCSU vs. UNC System

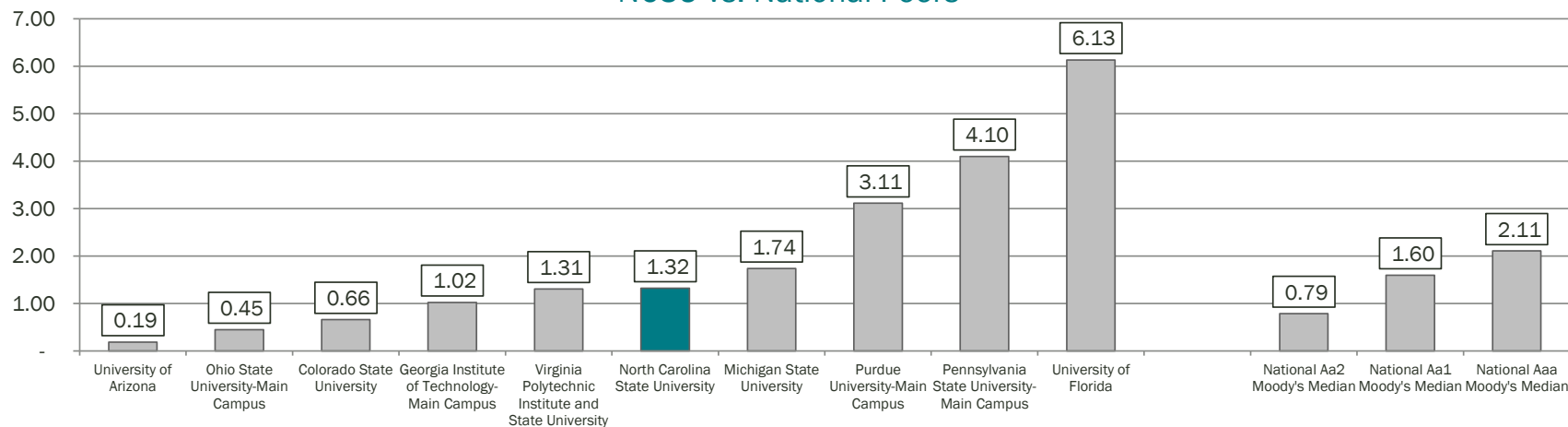


\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

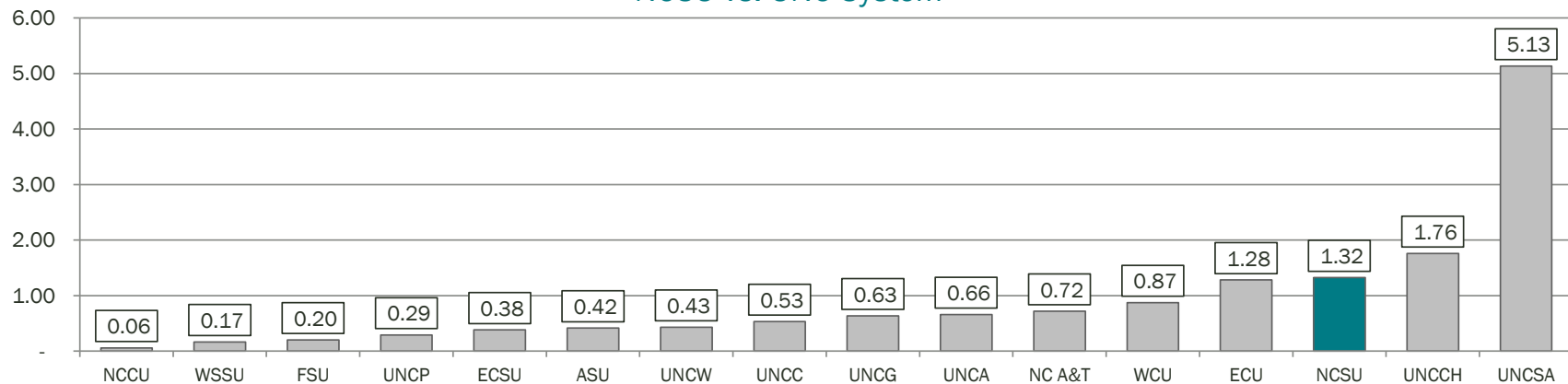
## Expendable Financial Resources to Debt

### NCSU vs. National Peers



## Expendable Financial Resources to Debt

### NCSU vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

NCSU's current debt policy is attached.

# North Carolina State University

## Debt Management Guidelines

### Revised August 2015

#### Summary

Debt financing, especially tax-exempt debt, provides a low-cost source of capital for the University to fund capital investments to achieve its mission and strategic objectives. Indeed, as the economic landscape continues to evolve and change, the use of debt will become an increasingly important tool that enables our institution to move its strategy forward. In this environment, appropriate financial leverage plays a key role and is considered a long-term component of the University's balance sheet. Given that the University has limited debt repayment resources, the allocation of and management of debt is a limited resource. The guidelines provided in this document are the framework by which decisions will be made regarding the issuance of debt to finance particular capital improvements.

#### Authority

North Carolina General Statutes Chapter 116D Article 3 authorize the Board of Governors of the University of North Carolina (the Board) to issue special obligation bonds for improvements to the facilities of the University of North Carolina System.

Prior to a bond issue, the Board designates the capital improvements financed as "special obligation bond projects" and the University's Board of Trustees approves the issuance of special obligation bonds for those projects.

The State Energy Conservation Finance Act, Article 8 of Chapter 142 of the North Carolina General Statutes authorizes the Board to solicit and, through G.S. 143-64.17A, finance guaranteed energy conservation measures. These financing agreements must have the approval of the Office of State Budget and Management, the State Treasurer, and Counsel of State prior to closing.

#### Criteria

The University's debt capacity is a limited resource. Only projects that relate to the mission of the University, directly or indirectly, will be considered for debt financing. In general, projects that will be approved are broader in scope than college, or unit-based projects. However, certain mission-critical school-based projects can also receive approval. Before beginning the planning for fundraising process for any project which might require debt financing, the approval of the Vice Chancellor for Finance and Administration and the Vice Chancellor for University Advancement is required.

Projects financed through a bonding program will have received approval through the NC State Legislature annual non-appropriated capital improvements bill and will have been designated as "special obligation projects" by the North Carolina Board of Governors. Energy conservation measures will have received state agency approval as required.

A project that has a related revenue stream (self-liquidating project) will receive priority consideration. For these projects, the use of debt must be supported by an achievable financial plan that includes servicing the debt, including interest expense, financing related infrastructure and utilities, meeting any new or increased operating costs (including security applications), and providing for appropriate replacement and



renovation costs. Energy conservation measures must show that savings will be adequate to service the debt and all annual monitoring costs. Other projects funded by budgetary savings, gifts, and grants will be considered on a case by case basis. Any projects that will require gift financing, or include a gift financing component, must be jointly approved by the Vice Chancellor for University Advancement and the Vice Chancellor for Finance and Administration before approaching any prospective donors about gifts to the project. Because of the ancillary costs of projects, the amount of gifts raised must also include an associated endowment for any projects that are to be 100% gift financed. In all cases, institutional strategy and not donor capacity must drive the decision to build a project.

#### Maintenance of Credit Rating

Maintaining a high credit rating will permit the University to continue to issue debt and finance capital projects at favorable interest rates while meeting its strategic objectives. While the University's decision to issue additional debt will be primarily focused on the strategic importance of the new capital improvement(s) the potential impact of a change in credit rating will also be reviewed. The University recognizes that external economic, natural, or other events may from time to time affect the creditworthiness of its debt. Nevertheless, the University is committed to ensuring that actions within its control are prudent. Management will provide the rating agencies with full and timely access to required information.

#### Methods of Sale

The standard methods of sale are competitive, negotiated and private placement. University management will evaluate each method of sale and determine the best type for each bond issue.

#### Financing Team Professionals

Selection of financing team professionals will be accomplished based on guidance from UNC General Administration. Bond Counsel, Financial Advisor (if needed) and Underwriter pool will be selected using the RFP (request for proposals) method.

#### General Revenue Pledge

The University will utilize general revenue secured debt (available funds pledge) for all financing needs, unless for energy conservation measures or other certain projects where management desires to structure specific revenue pledges independent of general revenue projects. The general revenue pledge provides a strong, flexible security that captures the strengths of not only auxiliary and student related revenues, but of the University's research programs. General revenue bonds price better than corresponding auxiliary or facilities and administrative cost recovery bonds. In addition, on general revenue debt, the University has, historically, been subject to fewer operating or financial covenants and coverage levels imposed by the market and external constituents.

#### Refunding

Refunding and/or restructuring opportunities will be evaluated on a regular basis. Costs incurred by the refunding activity will be taken into consideration with a target of 3% present value savings. The University will also consider refinancing for other strategic

reasons including the elimination of certain limitations, covenants, payment obligations or reserve requirements that reduce flexibility.

#### Types of Instruments

Tax-exempt debt – The University recognizes the benefits associated with tax-exempt debt, and therefore will manage the tax-exempt portfolio to maximize the use of tax-exempt debt subject to changing conditions and changes in tax law.

Taxable debt – The University will manage its debt portfolio to implement taxable strategies based on private use considerations, tax law, and current market conditions. Taxable debt is likely to be a perpetual component of the University's liabilities. Taxable debt will be utilized to fund projects ineligible for tax-exempt financing.

Commercial paper – The University recognizes that a commercial paper (CP) program can provide low-cost working capital and provide bridge financing for projects. However, as with other debt structures, the level of CP outstanding impacts the University's overall debt capacity.

Variable rate debt – Variable rate debt is a desirable component of a debt portfolio as it provides typically lower rates. The use of variable rate debt does expose the debt portfolio to interest rate fluctuations and often comes with liquidity needs. Therefore, the University will balance the mix of variable and fixed rate debt so that variable is between 20%-50% of the total debt portfolio and will include variable interest rate instruments and products when advantageous.

Derivatives –The use of derivative products can be appropriate and advantageous for the purposes of limiting interest rate exposure and reducing debt service costs. The use of swaps will be employed primarily to enhance the University's financial strategy and to manage variable rate exposure. Derivative products can help the University lock-in a favorable cost of capital for a future project or to ensure a specific level of cash flow savings for a refinancing. The University's strategic objectives would determine the appropriate approach.

The University will evaluate potential derivative instruments through evaluation of its variable rate allocation, market and interest rate conditions, and the compensation for undertaking counterparty exposure. The University will evaluate each transaction relative to counterparty, basis, and termination risk. No derivative transaction will be undertaken that is not fully understood by the University or that imposes inappropriate risk on the University.

Public Private Partnerships - Given limited debt capacity and substantial capital needs, opportunities for alternative and non-traditional transaction structures may be considered, including off- balance sheet financings. These transactions are generally more expensive than traditional debt structures. Because investors view them as inherently riskier transactions, the cost of capital can be higher than traditional University debt and the costs of structuring the transactions are high. Chief considerations in deciding whether to pursue a Public Private Partnership are whether a third party financing model can produce results that are: (1) faster; (2) better; or (3) cheaper. Non-traditional structures can be considered when the economic benefit and likely impact on the University's debt capacity and credit have been determined and the benefits of the potential transaction outweigh the costs. If it is determined that the use of third party financing or public private partnerships is closer to University debt than predicted, or if it is perceived to be University debt by University auditors, we will endeavor to use traditional financing methods. For this reason,

any public private partnership projects that occur on University-or Endowment-owned land must include the involvement of the University Treasurer. Our debt guidelines anticipate that rating agencies will consider any debt that is built on state-owned or university-owned land for purposes similar to that which is typically financed by special obligation debt to be virtually the same as debt of the University. Economic interest and control drive whether a project is considered to be debt of the University. If the university has an economic interest (i.e. gains the net operating income or participates in the income or losses) and control, then the project is considered by most financing professionals to be materially tied to the University. Ultimately, pursuing this type of financing is also a function of regulations—a project may be feasible but may not be allowed under existing regulations.

#### Maturity and Debt Service

The useful life of the capital project financed will be taken into consideration when determining the length of financing. No capital project will be financed for more than 120% of its useful life. Call features should be structured to provide the highest degree of flexibility relative to cost. Structure of debt service will take into consideration existing debt and future capital plans. In addition, the University's amortization of debt service may be spread along the full yield curve depending on market conditions.

#### Disclosures and Compliance

Annually, the University will review compliance with covenants and requirements under outstanding bond indentures. The University will continue to meet its ongoing disclosure requirements in accordance with SEC rule 15c2-12. The University will submit financial reports, statistical data, and any other material events as required under outstanding bond indentures. The University will comply with arbitrage requirements on invested bond funds. The University will comply with Internal Revenue Service rules related to private use and use of proceeds on tax-exempt debt.

#### Use of Benchmarks and Debt Ratios

In order to maintain an understanding of the University's standing in comparison to other like institutions, analysis using standard ratios and benchmarks must be made comparing the University to others in its peer group. This analysis can be used as an ongoing tool in determining trends, weaknesses and target strengths relating to the debt portfolio and the health of the institution. On a regular basis, the University will review its ratios and compare them to published benchmarks from the rating agencies and others in its peer group. The University uses the following key ratios to provide a quantitative assessment of debt affordability and debt capacity.

Debt Service to Operations: This ratio measures the University's debt service burden as a percentage of total university expenses. The target for this ratio is intended to maintain the University's long-term operating flexibility to finance existing requirements and new initiatives. Our current guideline of 4% is designed to preserve inter-generational equity. The Vice Chancellor for Finance and Administration has the ability to approve a higher level of debt service burden on a case-to-case basis. The measure is based on aggregate operating expenses as opposed to operating revenues because expenses typically are more stable and better reflect the operating base of the University. This ratio is

adjusted to reflect any non-amortizing or non-traditional debt structures that could result in significant single year fluctuations including the effect of debt refunding.

$$\frac{\text{Annual Debt Service}}{\text{Total Operating Expenses}}$$

Expendable Resources to Debt: This ratio indicates one of the most basic determinants of financial health by measuring the availability of liquid and expendable net assets to aggregate debt. The ratio measures the medium to long-term health of the University's balance sheet and debt capacity and is a critical consideration of universities with the highest credit quality. The ratios and limits are not intended to track to a specific rating, but rather to help the University maintain a competitive financial profile while funding for capital needs as they arise. Our current guideline of 100% is designed to ensure that the University is maintaining an appropriate level of financial resources, relative to our institutional peers. The Vice Chancellor for Finance and Administration has the ability to override this ratio, should it fall below the 100%, or 1.0 times threshold.

$$\frac{\text{Unrestricted Net Assets} + \text{Restricted Expendable Net Assets}}{\text{Aggregate Debt}}$$

#### Indirect Debt

The University understands that debt issued by affiliated foundations can have an effect on the University's bond rating. University management will take steps to be aware of, and participate in, debt discussions and new borrowings undertaken by those affiliated entities. As per Operating Guidelines for Associated Entities all debt that exceeds \$500K for major associated entities and \$100K for minor associated entities must be approved by the Vice Chancellor for Finance and Administration.

#### Centralized Lending and Blended Portfolio

The University has adopted a central loan program under which it provides funding for projects under the guidance of the Vice Chancellor for Finance and Administration and the University Treasurer. The benefits of this program include; (i) structuring of transactions on an aggregate, rather than by project, basis, (ii) continual access to capital for borrowers, (iii) predictable financial terms for borrowers, (iv) minimizing interest rate volatility, (v) permitting prepayment of loans at any time without penalty, and (vi) equity for borrowers through a blended rate.

The University charges a blended rate to its borrowers based on its cost of funding. This interest rate may change periodically to reflect changes in the University's average aggregate expected long-term cost of borrowing. The blended rate may also include a reserve for interest rate stabilization purposes.

Each borrower is responsible for the repayment of all funds borrowed from the central loan program, plus interest, regardless of the internal or external source of funds. The University provides for flexible financing terms in order to accommodate individual entities as determined by the project scope and repayment source. The Director of Strategic Debt Management is the primary contact for divisional and auxiliary loans.

# The University of North Carolina System Debt Capacity Study

University of North Carolina at Asheville  
Campus Report

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), University of North Carolina at Asheville (“**UNCA**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. UNCA has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, UNCA, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—UNCA has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, UNCA’s debt capacity reflects the amount of debt UNCA could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that UNCA intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- UNCA’s current debt profile, including project descriptions financed with, and the sources of repayment for, UNCA’s outstanding debt;
- UNCA’s current credit profile, along with recommendations for maintaining or improving UNCA’s credit rating; and
- A copy of any UNCA debt management policy currently in effect.

## Overview of UNCA

For the fall 2015 semester, UNCA had a headcount student population of approximately 3,891, including 3,858 undergraduate students and 33 graduate and doctoral students. During the 2015 academic year, UNCA employed approximately 300 full-time, part-time and temporary instructional faculty.

Over the past 10 years, UNCA’s enrollment has increased approximately 7%. UNCA expects modest enrollment growth over the Study Period. UNCA’s average age of plant (15.7 years) is higher than the median ratio for all Campuses (12.58 years) and may indicate the need for increased investment in campus infrastructure in the near term.

UNCA considered a number of elements in setting its growth factors. Given UNCA’s anticipated enrollment growth, and with expected increases between 4% and 5% in tuition, fee and auxiliary charges (which collectively account for nearly half of UNCA’s total revenues), UNCA expects growth in operating revenues and related expenses to exceed the inflation rate of 1.40%. UNCA has not altered the standard growth assumptions with respect to the other model components.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on UNCA's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to UNCA by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt UNCA expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate UNCA's current debt burden.

| 1                         | 2                             | 3                                 | 4            | 5                        | 6                | 7         | 8            | 9            | 10                |
|---------------------------|-------------------------------|-----------------------------------|--------------|--------------------------|------------------|-----------|--------------|--------------|-------------------|
| Obligated Resources       |                               |                                   |              |                          | Outstanding Debt |           |              |              |                   |
| Fiscal Year               | Available Funds<br>(Reported) | Add Back Net Impact<br>of GASB 68 | AF<br>Growth | Total Available<br>Funds | Fiscal Year      | Principal | Net Interest | Debt Service | Principal Balance |
| 2011                      | 32,046,589                    | -                                 |              | 32,046,589               | 2016             | 2,445,392 | 1,634,956    | 4,080,348    | 41,553,900        |
| 2012                      | 32,768,146                    | -                                 | 2.25%        | 32,768,146               | 2017             | 2,255,500 | 1,563,966    | 3,819,466    | 39,298,400        |
| 2013                      | 36,497,128                    | -                                 | 11.38%       | 36,497,128               | 2018             | 2,380,300 | 1,479,556    | 3,859,856    | 36,918,100        |
| 2014                      | 33,057,890                    | 5,148,140                         | 4.68%        | 38,206,030               | 2019             | 1,781,000 | 1,413,333    | 3,194,333    | 35,137,100        |
| 2015                      | 34,521,431                    | 4,312,744                         | 1.64%        | 38,834,175               | 2020             | 1,888,500 | 1,350,568    | 3,239,068    | 33,248,600        |
| 2016                      | 39,377,854                    | -                                 | 1.40%        | 39,377,854               | 2021             | 2,002,700 | 1,283,164    | 3,285,864    | 31,245,900        |
| 2017                      | 39,929,144                    | -                                 | 1.40%        | 39,929,144               | 2022             | 2,117,500 | 1,221,697    | 3,339,197    | 29,128,400        |
| 2018                      | 40,488,152                    | -                                 | 1.40%        | 40,488,152               | 2023             | 2,235,700 | 1,155,001    | 3,390,701    | 26,892,700        |
| 2019                      | 41,054,986                    | -                                 | 1.40%        | 41,054,986               | 2024             | 1,807,500 | 1,085,873    | 2,893,373    | 25,085,200        |
| 2020                      | 41,629,756                    | -                                 | 1.40%        | 41,629,756               | 2025             | 1,928,800 | 1,022,554    | 2,951,354    | 23,156,400        |
| <b>Operating Expenses</b> |                               |                                   |              |                          | 2026             | 2,064,600 | 961,411      | 3,026,011    | 21,091,800        |
| Fiscal Year               | Operating Exp.                | Growth                            |              |                          |                  |           |              |              |                   |
| 2011                      | 82,028,769                    |                                   |              |                          |                  |           |              |              |                   |
| 2012                      | 79,705,208                    | -2.83%                            |              |                          |                  |           |              |              |                   |
| 2013                      | 83,807,134                    | 5.15%                             |              |                          |                  |           |              |              |                   |
| 2014                      | 86,488,817                    | 3.20%                             |              |                          |                  |           |              |              |                   |
| 2015                      | 87,231,505                    | 0.86%                             |              |                          |                  |           |              |              |                   |
| 2016                      | 90,022,914                    | 3.20%                             |              |                          |                  |           |              |              |                   |
| 2017                      | 92,903,647                    | 3.20%                             |              |                          |                  |           |              |              |                   |
| 2018                      | 95,876,564                    | 3.20%                             |              |                          |                  |           |              |              |                   |
| 2019                      | 98,944,614                    | 3.20%                             |              |                          |                  |           |              |              |                   |
| 2020                      | 102,110,841                   | 3.20%                             |              |                          |                  |           |              |              |                   |
|                           |                               |                                   |              |                          | 2027             | 2,127,800 | 894,520      | 3,022,320    | 18,964,000        |
|                           |                               |                                   |              |                          | 2028             | 1,463,000 | 825,368      | 2,288,368    | 17,501,000        |
|                           |                               |                                   |              |                          | 2029             | 1,517,000 | 770,860      | 2,287,860    | 15,984,000        |
|                           |                               |                                   |              |                          | 2030             | 1,484,000 | 714,213      | 2,198,213    | 14,500,000        |
|                           |                               |                                   |              |                          | 2031             | 1,190,000 | 657,943      | 1,847,943    | 13,310,000        |
|                           |                               |                                   |              |                          | 2032             | 1,235,000 | 606,889      | 1,841,889    | 12,075,000        |
|                           |                               |                                   |              |                          | 2033             | 1,290,000 | 550,577      | 1,840,577    | 10,785,000        |
|                           |                               |                                   |              |                          | 2034             | 1,350,000 | 491,758      | 1,841,758    | 9,435,000         |
|                           |                               |                                   |              |                          | 2035             | 1,410,000 | 430,203      | 1,840,203    | 8,025,000         |
|                           |                               |                                   |              |                          | 2036             | 1,470,000 | 365,912      | 1,835,912    | 6,555,000         |
|                           |                               |                                   |              |                          | 2037             | 1,535,000 | 298,885      | 1,833,885    | 5,020,000         |
|                           |                               |                                   |              |                          | 2038             | 1,600,000 | 228,894      | 1,828,894    | 3,420,000         |
|                           |                               |                                   |              |                          | 2039             | 1,675,000 | 155,940      | 1,830,940    | 1,745,000         |
|                           |                               |                                   |              |                          | 2040             | 1,745,000 | 79,566       | 1,824,566    | -                 |



## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 11,588,638              | 4,450,748                         | 1,832,954                          | 9,362,902                             | 906,102   |        | -                              | 26,329,140           |
| 2012                 | 14,202,977              | 3,776,398                         | 1,913,351                          | 8,415,525                             | 906,102   | 4.08%  | -                              | 27,402,150           |
| 2013                 | 13,729,341              | 5,475,573                         | 2,033,839                          | 9,498,384                             | 2,002,267   | 4.86%  | -                              | 28,734,870           |
| 2014                 | 8,663,716               | 8,504,277                         | 2,229,102                          | 11,797,821                            | 3,982,167   | 12.62% | 5,148,140                      | 32,360,889           |
| 2015                 | 9,225,436               | 6,604,146                         | 2,117,611                          | 13,680,483                            | 1,190,714   | 7.38%  | 4,312,744                      | 34,749,707           |
| 2016                 | 13,727,715              | 6,696,604                         | 2,147,258                          | 12,953,222                            | -   | 1.40%  | -                              | 35,524,799           |
| 2017                 | 13,919,903              | 6,790,357                         | 2,177,320                          | 13,134,568                            | -   | 1.40%  | -                              | 36,022,147           |
| 2018                 | 14,114,782              | 6,885,422                         | 2,207,802                          | 13,318,452                            | -   | 1.40%  | -                              | 36,526,457           |
| 2019                 | 14,312,389              | 6,981,817                         | 2,238,711                          | 13,504,910                            | -   | 1.40%  | -                              | 37,037,827           |
| 2020                 | 14,512,762              | 7,079,563                         | 2,270,053                          | 13,693,979                            | -   | 1.40%  | -                              | 37,556,357           |

### 3. Proposed Debt Financings

While UNCA evaluates its capital investment needs on a regular basis, UNCA currently has no legislatively approved projects that it anticipates financing during the Study Period.

## 4. Financial Ratios

### Debt to Obligated Resources

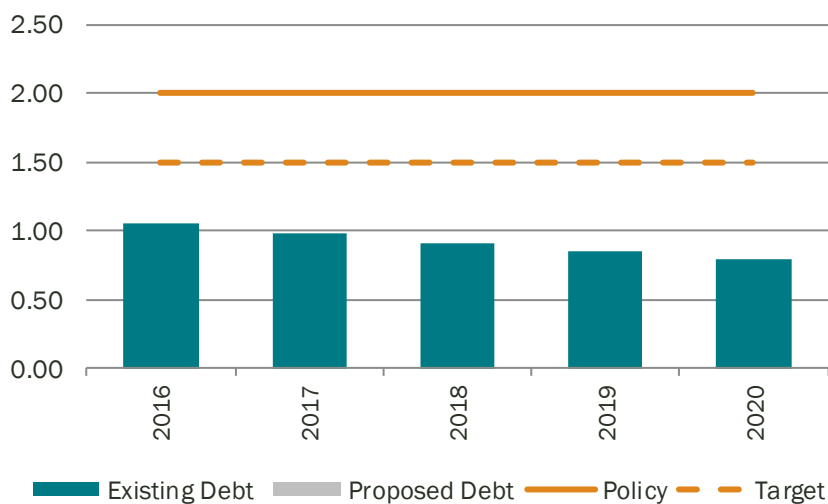
- **What does it measure?** UNCA's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.50
- Ceiling Ratio: Not to exceed 2.00
- Projected 2016 Ratio: 1.06
- Highest Study Period Ratio: 1.06 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 39,377,854          | 1.40%  | 41,553,900    | -             | 1.06             | n/a              | 1.06          |
| 2017                        | 39,929,144          | 1.40%  | 39,298,400    | -             | 0.98             | n/a              | 0.98          |
| 2018                        | 40,488,152          | 1.40%  | 36,918,100    | -             | 0.91             | n/a              | 0.91          |
| 2019                        | 41,054,986          | 1.40%  | 35,137,100    | -             | 0.86             | n/a              | 0.86          |
| 2020                        | 41,629,756          | 1.40%  | 33,248,600    | -             | 0.80             | n/a              | 0.80          |

### Debt to Obligated Resources



## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of UNCA's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 15%
- Floor Ratio: Not less than 10%
- Projected 2016 Ratio: 24%
- Lowest Study Period Ratio: 24% (2016)

### 5-Year Payout Ratio

| 1                   | 2                 | 3     |
|---------------------|-------------------|-------|
| 5 Year Payout Ratio |                   |       |
| Fiscal Year         | Principal Balance | Ratio |
| 2016                | 41,553,900        | 24%   |
| 2017                | 39,298,400        | 25%   |
| 2018                | 36,918,100        | 26%   |
| 2019                | 35,137,100        | 27%   |
| 2020                | 33,248,600        | 29%   |

### 5-Year Payout Ratio



Stronger  
Weaker

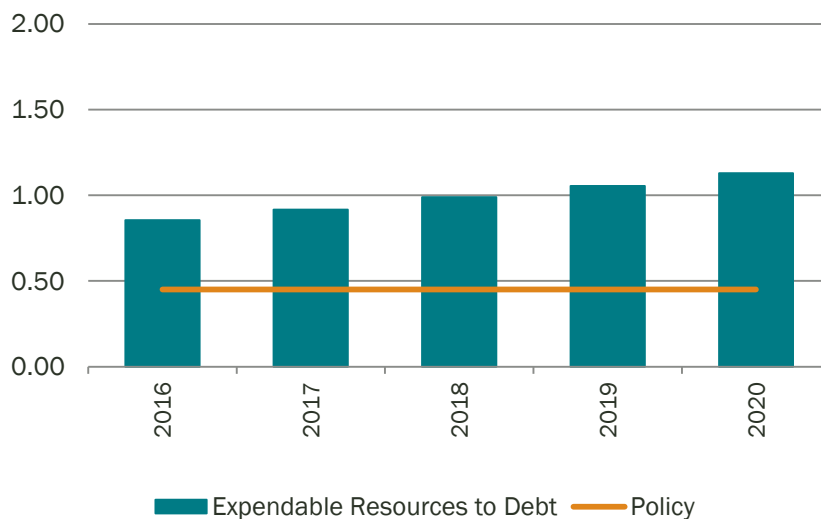
## Expendable Resources to Debt

- **What does it measure?** The number of times UNCA's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.45x
- Projected 2016 Ratio: 0.85x
- Lowest Study Period Ratio: 0.85x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 35,524,799           | 2.23%  | 41,553,900    | -             | 0.85          | 0.85                     |
| 2017                         | 36,022,147           | 1.40%  | 39,298,400    | -             | 0.92          | 0.92                     |
| 2018                         | 36,526,457           | 1.40%  | 36,918,100    | -             | 0.99          | 0.99                     |
| 2019                         | 37,037,827           | 1.40%  | 35,137,100    | -             | 1.05          | 1.05                     |
| 2020                         | 37,556,357           | 1.40%  | 33,248,600    | -             | 1.13          | 1.13                     |

## Expendable Resources to Debt



## Debt Service to Operating Expenses

- **What does it measure?** UNCA's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 5.80%
- Projected 2016 Ratio: 4.53%
- Highest Study Period Ratio: 4.53% (2016)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 90,022,914         | 3.20%  | 4,080,348   | -           | 4.53%            | n/a              | 4.53%         |
| 2017                               | 92,903,647         | 3.20%  | 3,819,466   | -           | 4.11%            | n/a              | 4.11%         |
| 2018                               | 95,876,564         | 3.20%  | 3,859,856   | -           | 4.03%            | n/a              | 4.03%         |
| 2019                               | 98,944,614         | 3.20%  | 3,194,333   | -           | 3.23%            | n/a              | 3.23%         |
| 2020                               | 102,110,841        | 3.20%  | 3,239,068   | -           | 3.17%            | n/a              | 3.17%         |

### Debt Service to Operating Expenses



Weaker  
↑  
↓  
Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, UNCA's debt capacity is based on the amount of debt UNCA could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, UNCA's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, UNCA's current estimated debt capacity is **\$37,201,807**. After taking into account any legislatively approved projects detailed in **Section 3** above, if UNCA issued no additional debt until the last year of the Study Period, then UNCA's debt capacity for 2020 is projected to increase to **\$50,010,911**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.06  | 2.00                                  | 37,201,807    |
| 2017          | 0.98  | 2.00                                  | 40,559,887    |
| 2018          | 0.91  | 2.00                                  | 44,058,203    |
| 2019          | 0.86  | 2.00                                  | 46,972,872    |
| 2020          | 0.80  | 2.00                                  | 50,010,911    |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of UNCA's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If UNCA were to use all of its calculated debt capacity during the Study Period, UNCA's credit ratings may face significant downward pressure.**
- Projecting the exact amount UNCA could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would

have limited debt capacity for an extended period of time.

- **Factor Interdependence**

- The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
- For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.

- **Distortions Across Rating Categories**

- Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
- Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

UNCA's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.



## University of North Carolina at Asheville

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series  | Description                             | Par Outstanding | Final Maturity | Use of Funds                                 | Refunding | Source of Repayment                                 |
|---------|---|-----------------|----------------|--|-----------|---|
| 2005A   | UNC System Pool Revenue Bonds           | 1,265,000       | 4/1/2020       | Dormitory and Dining Hall Projects           | 1997C     | Housing and Dining Revenues                         |
|         |   |                 |                | Dormitory and Dining Hall Projects           | 1997D     | Housing and Dining Revenues                         |
| 2010    | Taxable General Revenue Bonds (BABs)    | 25,485,000      | 6/1/2040       | Overlook Hall Construction                   |           | Housing and Dining Revenues                         |
|         |   |                 |                | Governor's Village Renovation                |           | Housing and Dining Revenues                         |
| 2010C   | UNC System Pool Revenue Bonds           | 4,585,000       | 10/1/2024      | New Residence Hall                           | 2002A     | Housing and Dining Revenues                         |
| 2012D   | General Revenue Refunding Bonds         | 4,446,000       | 6/1/2027       | New Residence Hall                           | 2002A     | Housing and Dining Revenues                         |
| 2013A   | General Revenue Bond                    | 4,474,000       | 4/1/2030       | Acquisition and Renovation of MAHEC Facility |           | Health Services Student Fee                         |
|         |   |                 |                | Campus Security Facilities Improvements      |           | Overhead Receipts and Endowment Administrative Fees |
| 2013B   | Taxable General Revenue Refunding Bonds | 2,444,000       | 4/1/2023       | Dormitory and Dining Hall Projects           | 2005A     | Housing and Dining Revenues                         |
|         |   |                 |                | Dormitory and Dining Hall Projects           | 2005A     | Housing and Dining Revenues                         |
| 2014    | General Revenue Bond                    | 999,000         | 6/1/2029       | Karl Strauss Track Building                  |           | Athletics Student Fee                               |
|         |   |                 |                | Student Recreation Center Improvements       |           | Athletics Student Fee                               |
| TD Note | Note Payable                            | 301,292         | 12/1/2015      | Equipment Financing                          |           | General Revenues                                    |
| Total   |   | 43,999,292      |                |  |           |   |

## 7. Credit Profile

The following page provides a snapshot of UNCA's current credit ratings, along with (1) a summary of various credit factors identified in UNCA's most recent rating report and (2) recommendations for maintaining and improving UNCA's credit ratings in the future.



# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains an A1 rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Strong operating and capital support from the State of North Carolina expected to continue
- Established niche as the designated liberal arts university in the UNC system aided by favorable location and demographics
- Strong student demand with successive years of robust net tuition growth and a significant draw of out of state and transfer students
- Fixed-rate debt structure and manageable debt service commitments relative to \$81 million of operating revenue

### Credit Challenges

- Recent years of stagnant state operating support pressuring revenue growth
- Multi-year trend of challenged operations with a three-year average operating deficit of 0.7% in FYs 2012-2014
- Restriction on out-of-state enrollment tempers ability to grow net tuition revenue compared to other regional public universities
- Relatively small size for the rating category, making the university more vulnerable to shifting demand and requiring close expense management

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

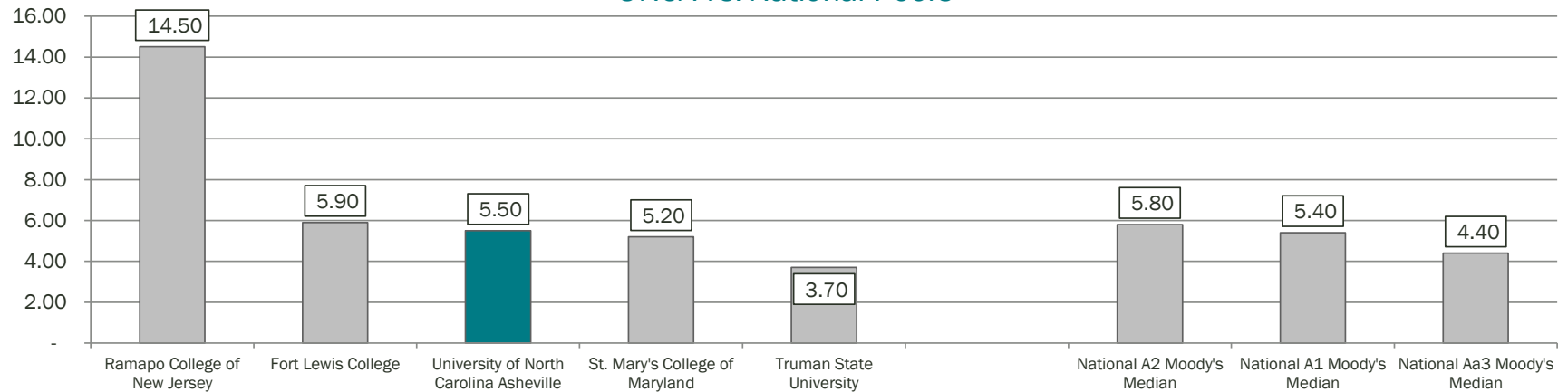
- Continue proactive management of operating cash flow margin, which has improved since FY2014.
- Continue to develop initiatives to highlight and strengthen the University's distinctive market position.

## 8. Peer Comparison

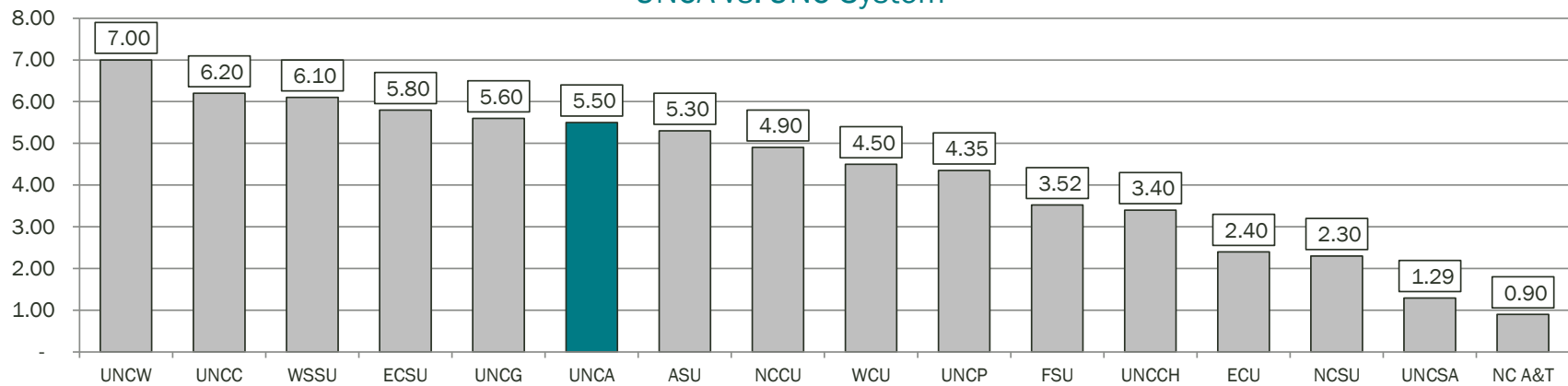
The following pages compare two measures of UNCA's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both UNCA and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

# Debt Service to Operating Expenses

**Debt Service to Operating Expenses (%)**  
UNCA vs. National Peers



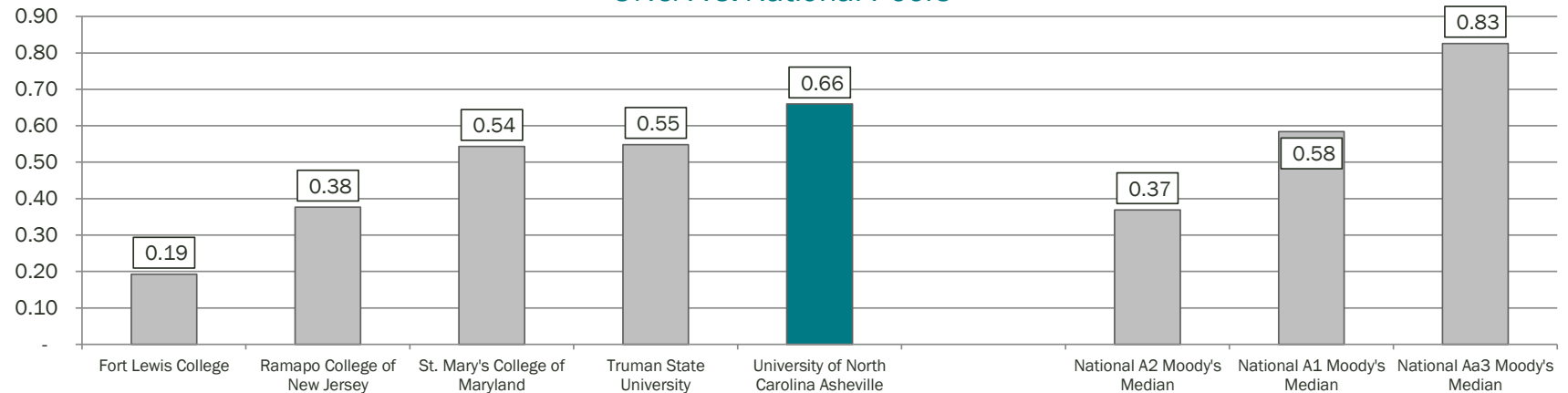
**Debt Service to Operating Expenses (%)**  
UNCA vs. UNC System



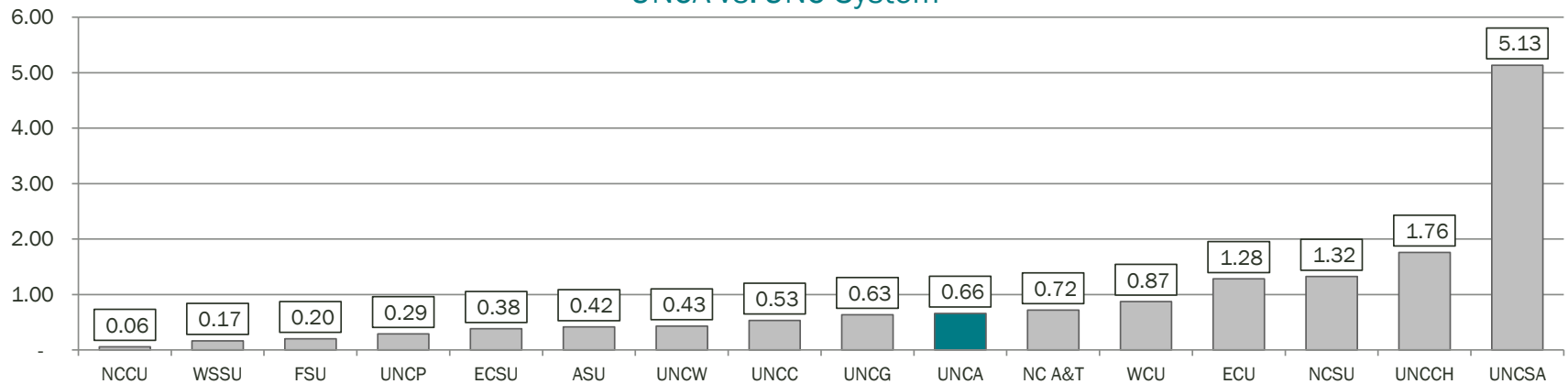
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

Expendable Financial Resources to Debt  
UNCA vs. National Peers



Expendable Financial Resources to Debt  
UNCA vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

UNCA does not currently have a debt policy.



# The University of North Carolina System Debt Capacity Study

The University of North Carolina at Chapel Hill  
Campus Report

## Table of Contents

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## 1. Executive Summary

### Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), The University of North Carolina at Chapel Hill (“**UNC**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. UNC has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, UNC, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—UNC has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, UNC’s debt capacity reflects the amount of debt UNC could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that UNC intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- UNC’s current debt profile, including project descriptions financed with, and the sources of repayment for, UNC’s outstanding debt;
- UNC’s current credit profile, along with recommendations for maintaining or improving UNC’s credit rating; and
- A copy of any UNC debt management policy currently in effect.

### Overview of UNC

For the fall 2015 semester, UNC had a headcount student population of approximately 29,084, including 18,415 undergraduate students and 10,669 graduate and doctoral students. During the 2015 academic year, UNC employed approximately 3,381 full-time instructional faculty.

Over the past 10 years, UNC’s enrollment has increased approximately 5%. UNC anticipates incurring approximately \$117.5 million in additional debt during the Study Period, as summarized in **Section 3** below.

UNC has made no changes to the financial model’s standard growth assumptions.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on UNC's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to UNC by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt UNC expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below overstate UNC's current debt burden.

| 1                         | 2                          | 3                              | 4         | 5                     | 6                | 7           | 8            | 9            | 10                |
|---------------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|-------------|--------------|--------------|-------------------|
| Obligated Resources       |                            |                                |           |                       | Outstanding Debt |             |              |              |                   |
| Fiscal Year               | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal   | Net Interest | Debt Service | Principal Balance |
| 2011                      | 1,618,357,000              | -                              |           | 1,618,357,000         | 2016             | 27,215,000  | 50,191,862   | 77,406,862   | 1,320,315,000     |
| 2012                      | 1,747,511,000              | -                              | 7.98%     | 1,747,511,000         | 2017             | 27,585,000  | 49,613,359   | 77,198,359   | 1,292,730,000     |
| 2013                      | 1,816,332,000              | -                              | 3.94%     | 1,816,332,000         | 2018             | 27,140,000  | 49,095,837   | 76,235,837   | 1,265,590,000     |
| 2014                      | 1,945,934,000              | -                              | 7.14%     | 1,945,934,000         | 2019             | 27,745,000  | 48,580,268   | 76,325,268   | 1,237,845,000     |
| 2015                      | 1,588,613,000              | 154,639,295                    | -10.42%   | 1,743,252,295         | 2020             | 27,270,000  | 48,005,970   | 75,275,970   | 1,210,575,000     |
| 2016                      | 1,767,657,827              | -                              | 1.40%     | 1,767,657,827         | 2021             | 27,045,000  | 47,398,770   | 74,443,770   | 1,183,530,000     |
| 2017                      | 1,792,405,037              | -                              | 1.40%     | 1,792,405,037         | 2022             | 28,715,000  | 46,755,906   | 75,470,906   | 1,154,815,000     |
| 2018                      | 1,817,498,707              | -                              | 1.40%     | 1,817,498,707         | 2023             | 28,800,000  | 45,888,557   | 74,688,557   | 1,126,015,000     |
| 2019                      | 1,842,943,689              | -                              | 1.40%     | 1,842,943,689         | 2024             | 29,930,000  | 44,792,685   | 74,722,685   | 1,096,085,000     |
| 2020                      | 1,868,744,901              | -                              | 1.40%     | 1,868,744,901         | 2025             | 31,110,000  | 43,643,366   | 74,753,366   | 1,064,975,000     |
| <b>Operating Expenses</b> |                            |                                |           |                       | 2026             | 34,250,000  | 42,394,485   | 76,644,485   | 1,030,725,000     |
| Fiscal Year               | Operating Exp.             | Growth                         |           |                       | 2027             | 36,275,000  | 40,924,385   | 77,199,385   | 994,450,000       |
| 2011                      | 2,432,439,775              |                                |           |                       | 2028             | 37,955,000  | 39,243,301   | 77,198,301   | 956,495,000       |
| 2012                      | 2,449,478,732              | 0.70%                          |           |                       | 2029             | 39,665,000  | 37,527,066   | 77,192,066   | 916,830,000       |
| 2013                      | 2,552,476,058              | 4.20%                          |           |                       | 2030             | 41,445,000  | 35,745,567   | 77,190,567   | 875,385,000       |
| 2014                      | 2,983,049,251              | 16.87%                         |           |                       | 2031             | 43,355,000  | 33,819,485   | 77,174,485   | 832,030,000       |
| 2015                      | 2,924,683,602              | -1.96%                         |           |                       | 2032             | 45,360,000  | 31,802,667   | 77,162,667   | 786,670,000       |
| 2016                      | 2,965,629,172              | 1.40%                          |           |                       | 2033             | 126,690,000 | 28,130,630   | 154,820,630  | 659,980,000       |
| 2017                      | 3,007,147,981              | 1.40%                          |           |                       | 2034             | 131,910,000 | 22,739,149   | 154,649,149  | 528,070,000       |
| 2018                      | 3,049,248,053              | 1.40%                          |           |                       | 2035             | 131,090,000 | 17,312,214   | 148,402,214  | 396,980,000       |
| 2019                      | 3,091,937,525              | 1.40%                          |           |                       | 2036             | 64,765,000  | 13,073,995   | 77,838,995   | 332,215,000       |
| 2020                      | 3,135,224,651              | 1.40%                          |           |                       | 2037             | 67,955,000  | 9,871,678    | 77,826,678   | 264,260,000       |
|                           |                            |                                |           |                       | 2038             | 10,995,000  | 8,018,035    | 19,013,035   | 253,265,000       |
|                           |                            |                                |           |                       | 2039             | 11,415,000  | 7,582,482    | 18,997,482   | 241,850,000       |
|                           |                            |                                |           |                       | 2040             | 11,850,000  | 7,130,312    | 18,980,312   | 230,000,000       |
|                           |                            |                                |           |                       | 2041             | -           | 6,900,000    | 6,900,000    | 230,000,000       |
|                           |                            |                                |           |                       | 2042             | 230,000,000 | 3,900,000    | 233,900,000  | -                 |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5  | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|--|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |  |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temporarily Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 851,253,912             | 1,007,536,130                     | 37,847,994                         | 278,740,386                                  | 42,957,442  |        | -                              | 2,132,420,980        |
| 2012                 | 896,091,856             | 990,908,366                       | 35,650,773                         | 269,855,640                                  | 20,261,135  | 1.87%  | -                              | 2,172,245,500        |
| 2013                 | 972,888,373             | 1,193,821,304                     | 40,074,656                         | 307,146,573                                  | 110,950,326   | 10.62% | -                              | 2,402,980,580        |
| 2014                 | 766,194,202             | 1,390,715,023                     | 46,701,200                         | 362,694,561                                  | 127,289,735   | 1.50%  | -                              | 2,439,015,251        |
| 2015                 | 753,406,878             | 1,453,007,591                     | 50,783,894                         | 401,177,179                                  | 149,572,848   | 9.20%  | 154,639,295                    | 2,663,441,989        |
| 2016                 | 920,758,819             | 1,473,349,697                     | 51,494,869                         | 406,793,660                                  | 151,666,868   | 1.40%  | -                              | 2,700,730,177        |
| 2017                 | 933,649,443             | 1,493,976,593                     | 52,215,797                         | 412,488,771                                  | 153,790,204   | 1.40%  | -                              | 2,738,540,399        |
| 2018                 | 946,720,535             | 1,514,892,265                     | 52,946,818                         | 418,263,614                                  | 155,943,267   | 1.40%  | -                              | 2,776,879,965        |
| 2019                 | 959,974,623             | 1,536,100,757                     | 53,688,073                         | 424,119,304                                  | 158,126,473   | 1.40%  | -                              | 2,815,756,284        |
| 2020                 | 973,414,267             | 1,557,606,168                     | 54,439,706                         | 430,056,974                                  | 160,340,243   | 1.40%  | -                              | 2,855,176,872        |

## 3. Proposed Debt Financings

The table below summarizes any legislatively approved projects that UNC expects to finance during the Study Period. Using the assumptions outlined in the table below, the model has developed a tailored, but conservative, debt service schedule for each proposed financing and incorporated each pro forma debt service schedule into its calculations of the financial ratios as detailed in **Section 4** below.

### UNC Proposed Debt Financings

| Year  | Use of Funds                                     | Borrowing Amount | Term     | Source of Repayment          |
|-------|--|------------------|----------|------------------------------|
| 2017  | Athletics Facility Improvements Phase I (CP)     | 3,000,000        | 30 Years | Athletics and Fundraising    |
| 2017  | Rizzo Center Phase III Acquisition (CP)          | 36,000,000       | 30 Years | Rizzo Center and Fundraising |
| 2017  | Utility Infrastructure (CP)                      | 10,000,000       | 30 Years | Energy Services Operations   |
| 2018  | Athletics Facility Improvements Phase I (New \$) | 7,000,000        | 30 Years | Athletics and Fundraising    |
| 2018  | Utility Infrastructure (New \$)                  | 50,000,000       | 30 Years | Energy Services Operations   |
| 2020  | Utility Infrastructure (CP)                      | 11,500,000       | 30 Years | Energy Services Operations   |
| Total |  | 117,500,000      |          |                              |

## 4. Financial Ratios

### Debt to Obligated Resources

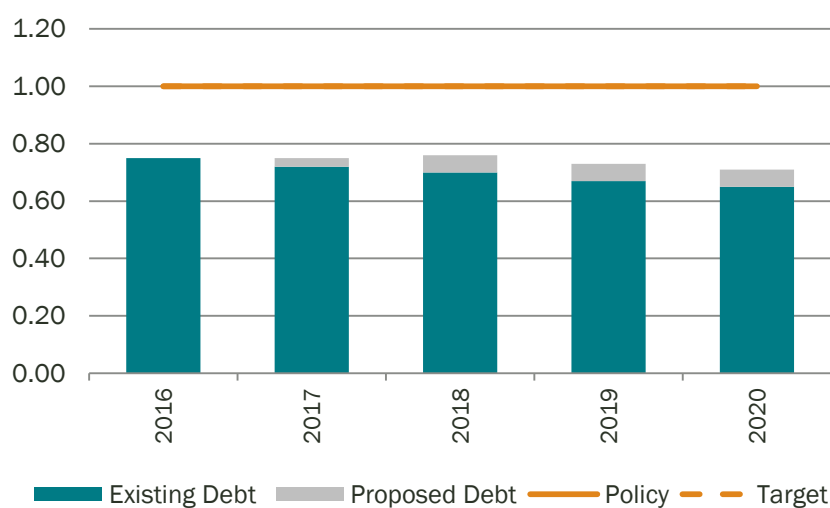
- **What does it measure?** UNC's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.00
- Ceiling Ratio: Not to exceed 1.00
- Projected 2016 Ratio: 0.75
- Highest Study Period Ratio: 0.75 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 1,767,657,827       | 1.40%  | 1,320,315,000 |               | 0.75             | n/a              | 0.75          |
| 2017                        | 1,792,405,037       | 1.40%  | 1,292,730,000 | 49,000,000    | 0.72             | 0.03             | 0.75          |
| 2018                        | 1,817,498,707       | 1.40%  | 1,265,590,000 | 106,000,000   | 0.70             | 0.06             | 0.75          |
| 2019                        | 1,842,943,689       | 1.40%  | 1,237,845,000 | 103,691,412   | 0.67             | 0.06             | 0.73          |
| 2020                        | 1,868,744,901       | 1.40%  | 1,210,575,000 | 112,818,646   | 0.65             | 0.06             | 0.71          |

### Debt to Obligated Resources



## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of UNC's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 10%
- Floor Ratio: Not less than 10%
- Projected 2016 Ratio: 10%
- Lowest Study Period Ratio: 10% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 1,320,315,000       | 10%   |   |
| 2017        | 1,341,730,000       | 10%   |   |
| 2018        | 1,371,590,000       | 11%   |   |
| 2019        | 1,341,536,412       | 11%   |   |
| 2020        | 1,323,393,646       | 11%   |   |

### 5-Year Payout Ratio



Stronger  
↑  
↓  
Weaker

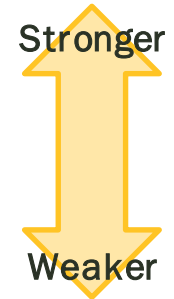
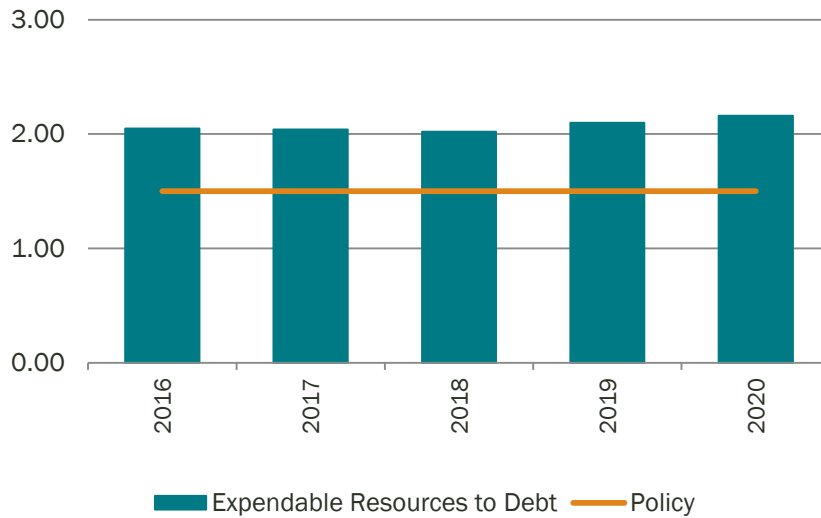
## Expendable Resources to Debt

- **What does it measure?** The number of times UNC's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 1.50x
- Projected 2016 Ratio: 2.05x
- Lowest Study Period Ratio: 2.02x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 2,700,730,177        | 1.40%  | 1,320,315,000 | -             | 2.05          | 2.05                     |
| 2017                         | 2,738,540,399        | 1.40%  | 1,292,730,000 | 49,000,000    | 2.12          | 2.04                     |
| 2018                         | 2,776,879,965        | 1.40%  | 1,265,590,000 | 106,000,000   | 2.19          | 2.02                     |
| 2019                         | 2,815,756,284        | 1.40%  | 1,237,845,000 | 103,691,412   | 2.27          | 2.10                     |
| 2020                         | 2,855,176,872        | 1.40%  | 1,210,575,000 | 112,818,646   | 2.36          | 2.16                     |

## Expendable Resources to Debt





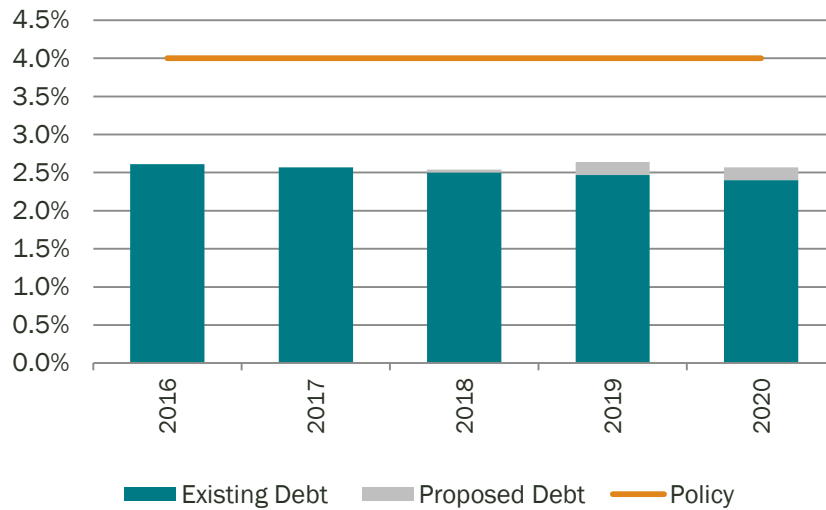
## Debt Service to Operating Expenses

- **What does it measure?** UNC's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 4.00%
- Projected 2016 Ratio: 2.61%
- Highest Study Period Ratio: 2.64% (2016)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 2,965,629,172      | 1.40%  | 77,406,862  | -           | 2.61%            | n/a              | 2.61%         |
| 2017                               | 3,007,147,981      | 1.40%  | 77,198,359  | -           | 2.57%            | n/a              | 2.57%         |
| 2018                               | 3,049,248,053      | 1.40%  | 76,235,837  | 1,362,200   | 2.50%            | 0.04%            | 2.54%         |
| 2019                               | 3,091,937,525      | 1.40%  | 76,325,268  | 5,255,388   | 2.47%            | 0.17%            | 2.64%         |
| 2020                               | 3,135,224,651      | 1.40%  | 75,275,970  | 5,255,388   | 2.40%            | 0.17%            | 2.57%         |

### Debt Service to Operating Expenses



Weaker  
↑  
↓  
Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, UNC's debt capacity is based on the amount of debt UNC could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, UNC's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, UNC's current estimated debt capacity is **\$445,908,707**. After taking into account any legislatively approved projects detailed in **Section 3** above, if UNC issued no additional debt until the last year of the Study Period, then UNC's debt capacity for 2020 is projected to increase to **\$545,351,255**.

| Debt Capacity |   |                                       |               |
|---------------|---|---------------------------------------|---------------|
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 0.75  | 1.00                                  | 447,342,827   |
| 2017          | 0.75  | 1.00                                  | 450,675,037   |
| 2018          | 0.75  | 1.00                                  | 445,908,707   |
| 2019          | 0.73  | 1.00                                  | 501,407,277   |
| 2020          | 0.71  | 1.00                                  | 545,351,255   |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of UNC's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities..
- Projecting the exact amount UNC could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - Factor Interdependence**
    - The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
    - For example, a university's **"strategic positioning"** score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.
  - Distortions Across Rating Categories**
    - Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes,

meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.

- Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

UNC's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## University of North Carolina at Chapel Hill

2016 Debt Capacity Study

## Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                            | Par Outstanding | Final Maturity | Use of Funds                        | Refunding | Source of Repayment       |
|--------|--|-----------------|----------------|-------------------------------------|-----------|---------------------------|
| 1997   | Utility System Revenue Refunding Bonds | 58,890,000      | 8/1/2021       | Utilities                           |           | Utilities Receipts        |
| 2001B  | General Revenue Bonds (VRDB)           | 24,630,000      | 12/1/2025      | Housing                             | 2000      | Housing Receipts          |
|        |  |                 |                | Athletic Facilities                 | 1998      | Athletics Receipts        |
|        |  |                 |                | Parking                             | 1997C     | Parking Receipts          |
|        |  |                 |                | Kenan Stadium                       | 1996      | Athletics Receipts        |
|        |  |                 |                | Dental School                       | 1995      | Dental Receipts           |
|        |  |                 |                | Carolina Inn                        | 1995      | Carolina Inn Receipts     |
|        |  |                 |                | Ambulatory/Care Clinic              | 1990      | Faculty Practice Receipts |
| 2001C  | General Revenue Bonds (VRDB)           | 24,630,000      | 12/1/2025      | Housing                             | 2000      | Housing Receipts          |
|        |  |                 |                | Athletic Facilities                 | 1998      | Athletics Receipts        |
|        |  |                 |                | Parking                             | 1997C     | Parking Receipts          |
|        |  |                 |                | Kenan Stadium                       | 1996      | Athletics Receipts        |
|        |  |                 |                | Dental School                       | 1995      | Dental Receipts           |
|        |  |                 |                | Carolina Inn                        | 1995      | Carolina Inn Receipts     |
|        |  |                 |                | Ambulatory/Care Clinic              | 1990      | Faculty Practice Receipts |
| 2005A  | General Revenue Refunding Bonds        | 133,610,000     | 12/1/2034      | Bioinformatics                      | 2001A     | F&A                       |
|        |  |                 |                | Biomolecular Research Bldg          | 2001A     | F&A                       |
|        |  |                 |                | Neurosciences                       | 2001A     | F&A                       |
|        |  |                 |                | 1700 Airport Rd.                    | 2001A     | F&A                       |
|        |  |                 |                | Dining                              | 2001A     | Dining Receipts           |
|        |  |                 |                | Carolina Inn                        | 2001A     | Carolina Inn Receipts     |
|        |  |                 |                | Student Union                       | 2000      | Student Debt Fee          |
|        |  |                 |                | Housing                             | 1997A     | Housing Receipts          |
|        |  |                 |                | Parking                             | 1997A     | Parking Receipts          |
|        |  |                 |                | Burnett Womack                      |           | F&A                       |
|        |  |                 |                | Carrington Hall (SON)               |           | F&A                       |
|        |  |                 |                | Cobb Parking Deck (NE Chiller Deck) |           | Parking Receipts          |
|        |  |                 |                | Cobb Residence Hall                 |           | Housing Receipts          |
|        |  |                 |                | Fields 3&4                          |           | Student Debt Fee          |
|        |  |                 |                | Genetic Medicine Building           |           | F&A                       |
|        |  |                 |                | Jackson Parking Deck                |           | Parking Receipts          |
|        |  |                 |                | Public Health (Hooker Bldg)         |           | F&A                       |
|        |  |                 |                | RamsHead (Dining)                   |           | Dining Receipts           |
|        |  |                 |                | Residence College                   |           | Housing Receipts          |
|        |  |                 |                | Chapman Hall                        |           | F&A                       |
|        |  |                 |                | Caudill Labs                        |           | F&A                       |
|        |  |                 |                | Student Family Housing              |           | Housing Receipts          |
|        |  |                 |                | Utility Infrastructure              |           | Utilities Receipts        |
| 2007   | General Revenue Bonds                  | 298,475,000     | 12/1/2036      | Camichael Residence Hall            |           | Housing Receipts          |
|        |  |                 |                | Food Service Facility (The Beach)   |           | Dining Receipts           |
|        |  |                 |                | Global Education                    |           | F&A                       |
|        |  |                 |                | Global Education (parking)          |           | Parking Receipts          |
|        |  |                 |                | Morrison Residence Hall             |           | Housing Receipts          |
|        |  |                 |                | Park and Ride Lot                   |           | Parking Receipts          |
|        |  |                 |                | Residence College                   |           | Housing Receipts          |
|        |  |                 |                | Old East Residence Hall             |           | Housing Receipts          |
|        |  |                 |                | Old West Residence Hall             |           | Housing Receipts          |
|        |  |                 |                | Rizzo Center                        |           | Rizzo Center Operations   |
|        |  |                 |                | Chapman Hall (Science Complex)      |           | F&A                       |
|        |  |                 |                | Caudill Labs (Science Complex)      |           | F&A                       |
|        |  |                 |                | Student Stores                      |           | Student Stores Receipts   |
|        |  |                 |                | Utility Infrastructure              |           | Utilities Receipts        |

## University of North Carolina at Chapel Hill

2016 Debt Capacity Study

## Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                          | Par Outstanding | Final Maturity | Use of Funds                      | Refunding | Source of Repayment      |
|--------|--------------------------------------|-----------------|----------------|-----------------------------------|-----------|--------------------------|
| 2009A  | General Revenue Bonds                | 78,430,000      | 12/1/2028      | Genome Sciences Building          |           | F&A                      |
|        |                                      |                 |                | Carmichael Auditorium             |           | Athletics Receipts       |
|        |                                      |                 |                | Carmichael Residence Hall         |           | Housing Receipts         |
|        |                                      |                 |                | Fetzer Gym                        |           | Athletics Receipts       |
|        |                                      |                 |                | Genetic Medicine Building         |           | F&A                      |
|        |                                      |                 |                | Lenoir Hall                       |           | Dining Receipts          |
|        |                                      |                 |                | Old East Residence Hall           |           | Housing Receipts         |
|        |                                      |                 |                | Old West Residence Hall           |           | Housing Receipts         |
|        |                                      |                 |                | Residence College                 |           | Housing Receipts         |
|        |                                      |                 |                | Rizzo Center                      |           | Rizzo Center Operations  |
|        |                                      |                 |                | Rosenau Hall                      |           | F&A                      |
|        |                                      |                 |                | Chapman Hall (Science Complex)    |           | F&A                      |
|        |                                      |                 |                | Caudill Labs (Science Complex)    |           | F&A                      |
|        |                                      |                 |                | Sitterson Hall (Science Complex)  |           | F&A                      |
|        |                                      |                 |                | Kenan Labs (Science Complex)      |           | F&A                      |
|        |                                      |                 |                | New Venable (Science Complex)     |           | F&A                      |
|        |                                      |                 |                | Murray Hall (Science Complex)     |           | F&A                      |
|        |                                      |                 |                | Sports Medicine (Stallings-Evans) |           | Fundraising              |
|        |                                      |                 |                | Student Union                     |           | Student Debt Fee         |
|        |                                      |                 |                | Utility Infrastructure            |           | Utilities Receipts       |
| 2009B  | Taxable General Revenue Bonds (BABs) | 112,805,000     | 12/1/2039      | Genome Sciences Building          |           | F&A                      |
|        |                                      |                 |                | Carmichael Auditorium             |           | Athletics Receipts       |
|        |                                      |                 |                | Fetzer Gym                        |           | Athletics Receipts       |
|        |                                      |                 |                | Kenan Stadium                     |           | Athletics Receipts       |
|        |                                      |                 |                | New Venable                       |           | F&A                      |
|        |                                      |                 |                | Murray Hall                       |           | F&A                      |
| 2012A  | General Revenue Bonds (FRN)          | 100,000,000     | 12/1/2041      | Utility Infrastructure            |           | Utilities Receipts       |
|        |                                      |                 |                | Genome Sciences Building          |           | F&A                      |
|        |                                      |                 |                | Bell Tower Chilled Water          |           | Utilities Receipts       |
|        |                                      |                 |                | Bell Tower Parking Deck           |           | Parking Receipts         |
|        |                                      |                 |                | Carmichael Auditorium             |           | Athletics Receipts       |
|        |                                      |                 |                | Craigie Deck Expansion            |           | Parking Receipts         |
|        |                                      |                 |                | Dental Sciences Building          |           | F&A                      |
|        |                                      |                 |                | Enterprise Resource Planning      |           | Unrestricted Trust Funds |
|        |                                      |                 |                | Fetzer Gym                        |           | Athletics Receipts       |
|        |                                      |                 |                | Lenoir Hall                       |           | Dining Receipts          |
|        |                                      |                 |                | Research Building at CN           |           | F&A                      |
|        |                                      |                 |                | New Venable                       |           | F&A                      |
|        |                                      |                 |                | Murray Hall                       |           | F&A                      |
|        |                                      |                 |                | Sports Medicine (Stallings-Evans) |           | Fundraising              |
|        |                                      |                 |                | Student Union                     |           | Student Debt Fee         |
|        |                                      |                 |                | Woollen Gym                       |           | Athletics Receipts       |
| 2012B  | General Revenue Bonds (FRN)          | 100,000,000     | 12/1/2041      | Utility Infrastructure            |           | Utilities Receipts       |
|        |                                      |                 |                | Genome Sciences Building          |           | F&A                      |
|        |                                      |                 |                | Bell Tower Chilled Water          |           | Utilities Receipts       |
|        |                                      |                 |                | Bell Tower Parking Deck           |           | Parking Receipts         |
|        |                                      |                 |                | Carmichael Auditorium             |           | Athletics Receipts       |
|        |                                      |                 |                | Craigie Deck Expansion            |           | Parking Receipts         |
|        |                                      |                 |                | Dental Sciences Building          |           | F&A                      |
|        |                                      |                 |                | Enterprise Resource Planning      |           | Unrestricted Trust Funds |
|        |                                      |                 |                | Fetzer Gym                        |           | Athletics Receipts       |
|        |                                      |                 |                | Lenoir Hall                       |           | Dining Receipts          |
|        |                                      |                 |                | Research Building at CN           |           | F&A                      |
|        |                                      |                 |                | New Venable                       |           | F&A                      |
|        |                                      |                 |                | Murray Hall                       |           | F&A                      |
|        |                                      |                 |                | Sports Medicine (Stallings-Evans) |           | Fundraising              |
|        |                                      |                 |                | Student Union                     |           | Student Debt Fee         |
|        |                                      |                 |                | Woollen Gym                       |           | Athletics Receipts       |
|        |                                      |                 |                | Utility Infrastructure            |           | Utilities Receipts       |

## University of North Carolina at Chapel Hill

2016 Debt Capacity Study

## Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                             | Par Outstanding | Final Maturity | Use of Funds                        | Refunding | Source of Repayment      |
|--------|---|-----------------|----------------|-------------------------------------|-----------|--------------------------|
| 2012C  | Taxable General Revenue Refunding Bonds | 120,460,000     | 10/1/2033      | Bioinformatics                      | 2001A     | F&A                      |
|        |   |                 |                | Biomolecular Research Bldg          | 2001A     | F&A                      |
|        |   |                 |                | Neurosciences                       | 2001A     | F&A                      |
|        |   |                 |                | 1700 Airport Rd.                    | 2001A     | F&A                      |
|        |   |                 |                | Dining                              | 2001A     | Dining Receipts          |
|        |   |                 |                | Carolina Inn                        | 2001A     | Carolina Inn Receipts    |
|        |   |                 |                | Administrative Office Building      | 2003      | F&A                      |
|        |   |                 |                | Carrington Hall                     | 2003      | F&A                      |
|        |   |                 |                | CAW Dorms                           | 2003      | Housing Receipts         |
|        |   |                 |                | Development Bldg (208 W. Franklin)  | 2003      | Unrestricted Trust Funds |
|        |   |                 |                | MKA Dorms                           | 2003      | Housing Receipts         |
|        |   |                 |                | RamsHead (Parking)                  | 2003      | Parking Receipts         |
|        |   |                 |                | RamsHead (Dining)                   | 2003      | Dining Receipts          |
|        |   |                 |                | RamsHead (SRC)                      | 2003      | Student Debt Fee         |
|        |   |                 |                | RamsHead (Utilities)                | 2003      | Utilities Receipts       |
|        |   |                 |                | Public Health (Hooker Bldg)         | 2003      | F&A                      |
|        |   |                 |                | Stone Center                        | 2003      | Unrestricted Trust Funds |
|        |   |                 |                | Kenan Stadium Phase II              |           | Foundation/Fundraising   |
| 2012D  | General Revenue Bonds (Bank)            | 30,000,000      | 6/1/2042       |                                     |           |                          |
| 2014   | Taxable General Revenue Refunding Bonds | 265,600,000     | 12/1/2034      | Bioinformatics                      | 2001A     | F&A                      |
|        |   |                 |                | Biomolecular Research Bldg          | 2001A     | F&A                      |
|        |   |                 |                | Neurosciences                       | 2001A     | F&A                      |
|        |   |                 |                | 1700 Airport Rd.                    | 2001A     | F&A                      |
|        |   |                 |                | Dining                              | 2001A     | Dining Receipts          |
|        |   |                 |                | Carolina Inn                        | 2001A     | Carolina Inn Receipts    |
|        |   |                 |                | Burnett Womack                      | 2005A     | F&A                      |
|        |   |                 |                | Carrington Hall (SON)               | 2005A     | F&A                      |
|        |   |                 |                | Caudill Labs (Science Complex)      | 2005A     | F&A                      |
|        |   |                 |                | Chapman Hall (Science Complex)      | 2005A     | F&A                      |
|        |   |                 |                | Cobb Parking Deck (NE Chiller Deck) | 2005A     | Parking Receipts         |
|        |   |                 |                | Cobb Residence Hall                 | 2005A     | Housing Receipts         |
|        |   |                 |                | Fields 3&4                          | 2005A     | Student Debt Fee         |
|        |   |                 |                | Genetic Medicine Building           | 2005A     | F&A                      |
|        |   |                 |                | Jackson Parking Deck                | 2005A     | Parking Receipts         |
|        |   |                 |                | NE Chiller Plant                    | 2005A     | Utilities Receipts       |
|        |   |                 |                | Public Health (Hooker Bldg)         | 2005A     | F&A                      |
|        |   |                 |                | RamsHead (Dining)                   | 2005A     | Dining Receipts          |
|        |   |                 |                | Utility Infrastructure              | 2005A     | Utilities Receipts       |
| Total  |   | 1,347,530,000   |                |                                     |           |                          |

## 7. Credit Profile

The following page provides a snapshot of UNC's current credit ratings, along with (1) a summary of various credit factors identified in UNC's most recent rating report and (2) recommendations for maintaining and improving UNC's credit ratings in the future.



## Credit Profile of the University – (General Revenue)

### Overview

- Moody's, Standard and Poor's, and Fitch all maintain triple-A ratings with stable outlooks on the University's general revenue bonds.

### Key Information Noted in Reports

#### Credit Strengths

- Reputation and momentum will continue to support growth in student interests and tuition revenue
- Ongoing research prowess with considerable scale as indicated by research expenses of \$714 million in fiscal 2015
- Increasing donor support with total gift revenue of \$170 million in fiscal 2015
- Clear commitment to efficient operations and revenue diversity will support sound operating performance

#### Credit Challenges

- Political limits on tuition pricing and financial aid policies underscore the importance of strong state operating support for maintaining credit quality
- Exposure to more volatile patient care revenue through the university's faculty practice plan and related hospitals
- Ongoing capital needs will continue to limit the growth of flexible reserves

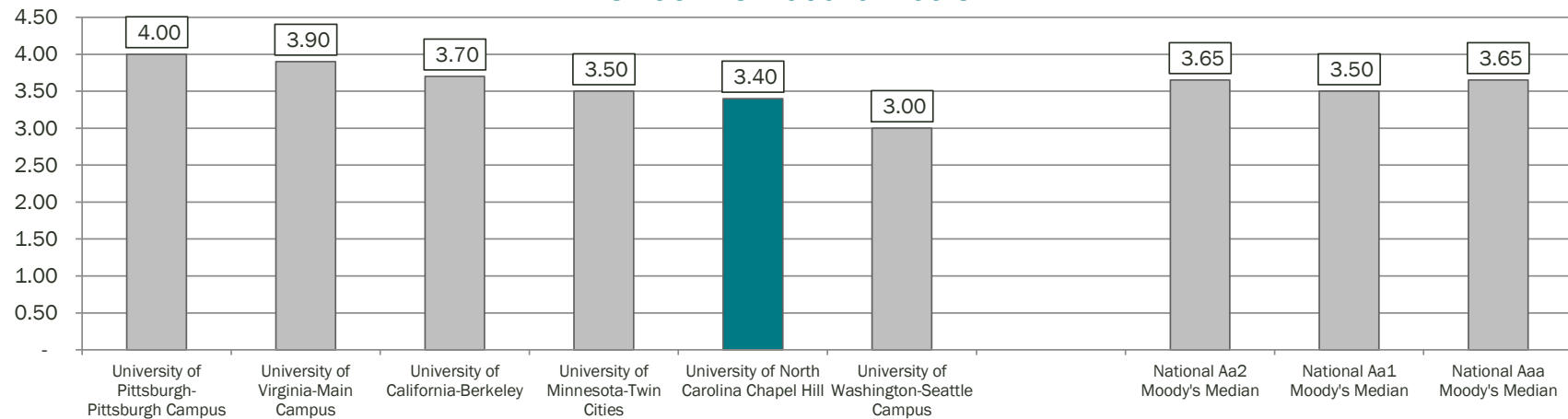
| Moody's              | S&P  | Fitch |
|----------------------|------|-------|
| Aaa                  | AAA  | AAA   |
| Aa1                  | AA+  | AA+   |
| Aa2                  | AA   | AA    |
| Aa3                  | AA-  | AA-   |
| A1                   | A+   | A+    |
| A2                   | A    | A     |
| A3                   | A-   | A-    |
| Baa1                 | BBB+ | BBB+  |
| Baa2                 | BBB  | BBB   |
| Baa3                 | BBB- | BBB-  |
| Non Investment Grade |      |       |

## 8. Peer Comparison

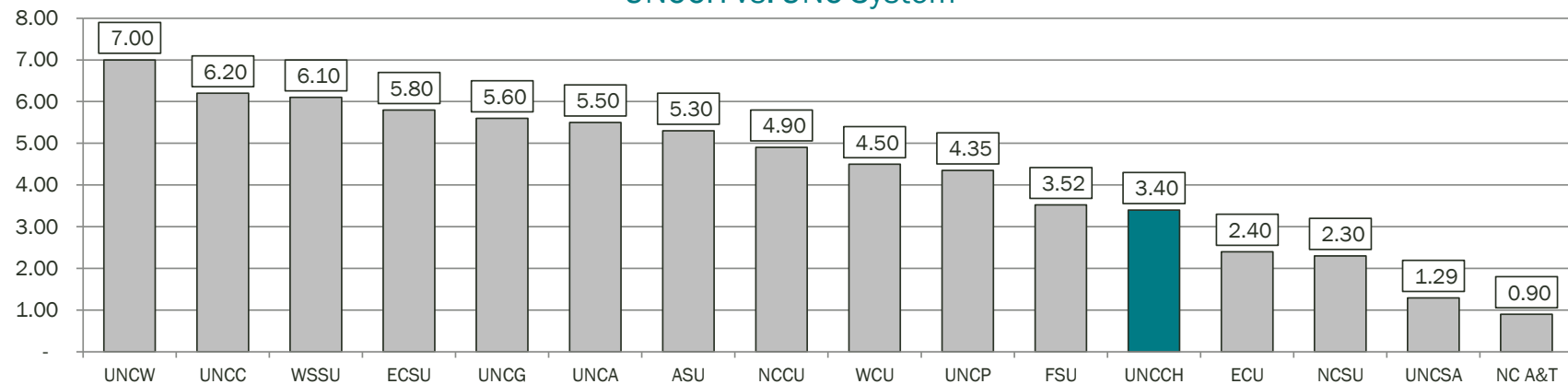
The following page compares two measures of UNC's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to the Campuses in the UNC System. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

# Debt Service to Operating Expenses (%)

**Debt Service to Operating Expenses (%)**  
UNCCH vs. National Peers



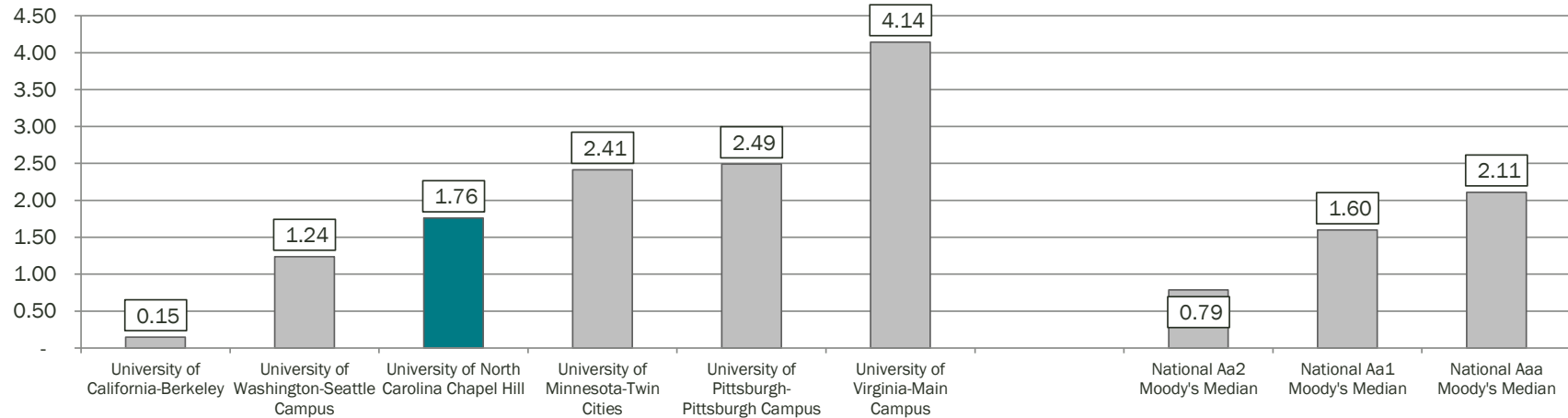
**Debt Service to Operating Expenses (%)**  
UNCCH vs. UNC System



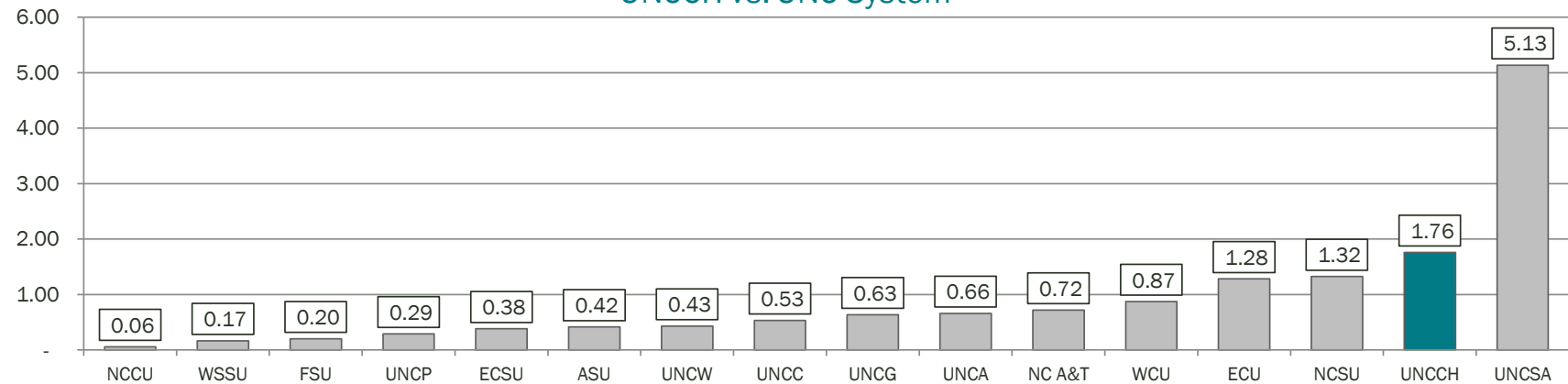
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

**Expendable Financial Resources to Debt**  
UNCCH vs. National Peers



**Expendable Financial Resources to Debt**  
UNCCH vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

UNC's current debt policy is included in the following pages.

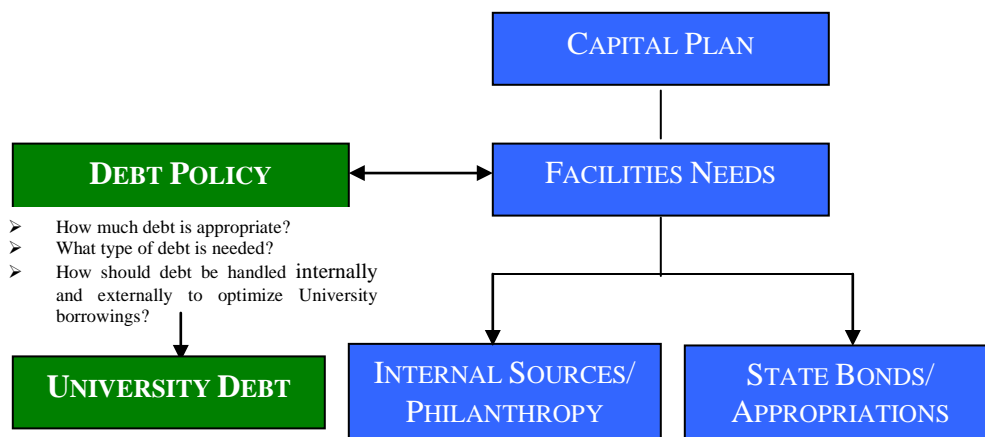
## PREFACE

### PURPOSE

The University of North Carolina at Chapel Hill's ("the University") strategic and capital planning is a long-term process that is continuously reevaluated. To support the funding of its capital plan, the University has and will utilize a mix of funding sources including State funds (bonds and appropriations), University bonds, internal reserves, and philanthropy.

To ensure the appropriate mix of funding sources is utilized, the University periodically reviews this debt policy. This policy is continuously used by management as a tool to evaluate the University's organizational and capital funding structure, the appropriate use of leverage, and internal lending mechanisms. Maintaining the debt policy is a long-term process.

FIGURE 1. DEBT POLICY FRAMEWORK



### CONTENTS

- I. INTRODUCTION
- II. DEBT STRATEGIES
  - 1. MISSION-BASED CAPITAL PLANNING
  - 2. CORE RATIOS
  - 3. DEBT INSTRUMENTS
  - 4. INTERNAL AND EXTERNAL DEBT REPAYMENT
- III. MANAGEMENT PRACTICES



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## I. INTRODUCTION

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### APPROACH

To fulfill its mission, the University will need to make ongoing strategic capital investments, driving capital decisions that impact the University's credit. Appropriate financial leverage serves a useful role and should be considered a long-term component of the University's balance sheet. Just as investments represent an integral component of the University's assets, debt is viewed to be a continuing component of the University's liabilities. Debt, especially tax-exempt debt, provides a low cost source of capital for the University to fund capital investments in order to achieve its mission and strategic objectives.

### University Mission

*"To serve all the people of the State, and indeed the nation, as a center for scholarship and creative endeavor. The University exists to teach students at all levels in an environment of research, free inquiry, and personal responsibility; to expand the body of knowledge; to improve the condition of human life through service and publication; and to enrich our culture."*

The debt objectives below, combined with management judgment, provide the framework by which decisions will be made regarding the use and management of debt. The debt policy and objectives are subject to re-evaluation and change over time.

### OBJECTIVES

1. Identify projects eligible for debt financing. Using debt to fund mission critical projects will ensure that debt capacity is optimally utilized to fulfill the University's mission. Projects that relate to the core mission will be given priority for debt financing; projects with associated revenues will receive priority consideration as well.
2. Maintain the University's favorable access to capital. Management's determination of the timing of capital projects will not be compromised by the University's access to capital sources, including debt. Management will utilize and issue debt in order to ensure timely access to capital.
3. Limit risk of the University's debt portfolio. The University will manage debt on a portfolio, rather than a transactional or project-specific, basis. The University's continuing objective to achieve the lowest cost of capital will be balanced with the goal of limiting exposure to market shifts.
4. Manage the University's credit to maintain the highest acceptable credit rating. Maintaining the highest acceptable credit rating will permit the University to continue to issue debt and finance capital projects at favorable interest rates while meeting its strategic objectives. The University will limit its overall debt to a level that will maintain an acceptable credit with the bond rating agencies; however, the attainment or maintenance of a specific rating is not an objective of this policy.



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## I. INTRODUCTION

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For the University to achieve the above objectives, it will adopt debt strategies and procedures relating to both the external and the internal management of debt and interest. It is intended for these strategies to be reviewed and reassessed periodically by management.

### *DEBT STRATEGIES*

1. **MISSION BASED CAPITAL PLANNING.** Provide framework with link to mission to evaluate and prioritize projects eligible for debt financing.
2. **CORE RATIOS.** Adopt a set of core financial ratios to guide capital planning and ensure central oversight of University-wide leverage levels.
3. **FINANCIAL INSTRUMENTS.** Provide the University with access to appropriate financing sources, including debt and liability management strategies debt based on borrowing and portfolio management needs.
4. **EXTERNAL AND INTERNAL DEBT REPAYMENT.** De-link external and internal debt repayment, including adoption of internal lending policies.

In addition to the debt strategies the University has adopted to support its objectives, the University will also incorporate debt management practices. These practices will be updated periodically and are intended to be resource for management in determining structuring, marketing, and administrative elements of the debt program.

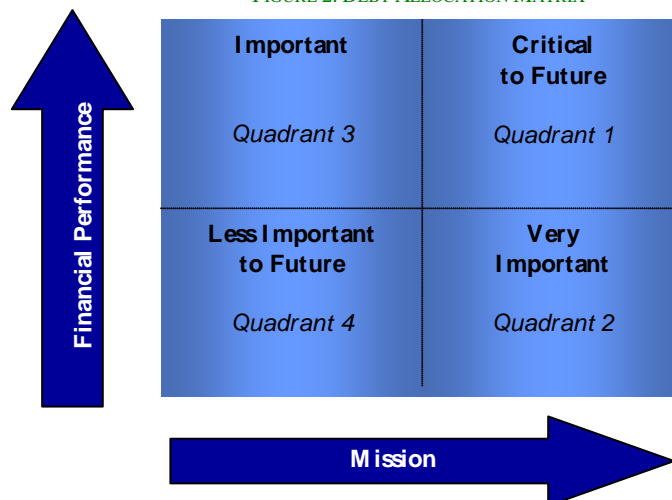




## II. DEBT STRATEGIES – 1. MISSION BASED CAPITAL PLANNING

Generally, the following guidelines, although not intended to be all-inclusive, will be considered in the prioritization of the use of debt.

FIGURE 2. DEBT ALLOCATION MATRIX



1. Only projects that relate to the mission of the University, directly or indirectly, will be considered for debt financing.
2. A project that has a related revenue stream or can create budgetary savings will receive priority consideration. Every project considered for financing must have a defined, supportable plan of costs approved by management.
3. In assessing the possible use of debt, all funding sources will be considered. Some combination of State appropriations/bonds, philanthropy, project-generating revenues, research facilities and administrative cost reimbursements, expendable reserves, and other sources are expected to fund a portion of the cost of a project. Debt is to be used prudently and strategically.
4. The University will consider alternative funding opportunities (e.g., joint ventures, real estate development, etc.) when appropriate and advantageous to the University. Opportunities and financing sources will be evaluated within the context of the Debt Policy.
5. Federal research projects will receive priority consideration for external debt financing due to partial reimbursement of operating expenses (including the interest component of applicable debt service) of research facilities.



## II. DEBT STRATEGIES – 2. CORE RATIOS

---

The University will establish guidelines for overall debt using a select number of financial ratios. These ratios will be derived from the financial statements, and should be consistent with some of the measures used by the marketplace. Following are the ratios and corresponding guidelines. They will be calculated and reported annually and when new debt is issued, and will be revised to reflect any changes in accounting standards.

### **BALANCE SHEET RATIO - EXPENDABLE RESOURCES TO DEBT (X COVERAGE)**

**POLICY LIMIT.** The Expendable Resources to Debt Ratio indicates one of the key determinants of near- to medium-term financial health by measuring the availability of intermediate-term funds to cover debt should the University be required to repay all its outstanding obligations. Although numerous balance sheet measures exist, this ratio is the most appropriate and utilized by the marketplace and credit analysts to evaluate leverage versus funds that could be expended by the University.

$$\frac{\text{UNRESTRICTED AND EXPENDABLE NET ASSETS}}{\text{TOTAL ADJUSTED UNIVERSITY DEBT}}^1$$

The target ratio is established to maintain the University's comparative debt coverage level among peer institutions and provide sufficient buffer against possible declines in coverage from decreases in quasi endowment and temporary investment pool balances. The ratio is also a key determinant of the University's credit rating. *The guideline for this ratio is to be no less than 1.5 times coverage.*

### **STATEMENT OF ACTIVITIES RATIO – DEBT TO OPERATIONS (%)**

**POLICY LIMIT.** This ratio measures the University's ability to repay debt service associated with all outstanding debt and the impact on the overall budget. The target for this ratio is intended to maintain the University's long-term operating flexibility to fund new initiatives.

$$\frac{\text{PRINCIPAL AND INTEREST ON NOTES AND BONDS}}{\text{TOTAL EXPENDITURES}}$$

The measure is based on aggregate expenses as opposed to revenues because expenses typically are more stable and better reflect the operating size of the University. Management recognizes that a growing expense base would make this ratio appear more attractive. *The guideline for this ratio is not to be greater than 4.0%. If more than 4.0% of the University's annual budget were committed to debt service expense, flexibility to devote resources to fund other objectives could be reduced.*

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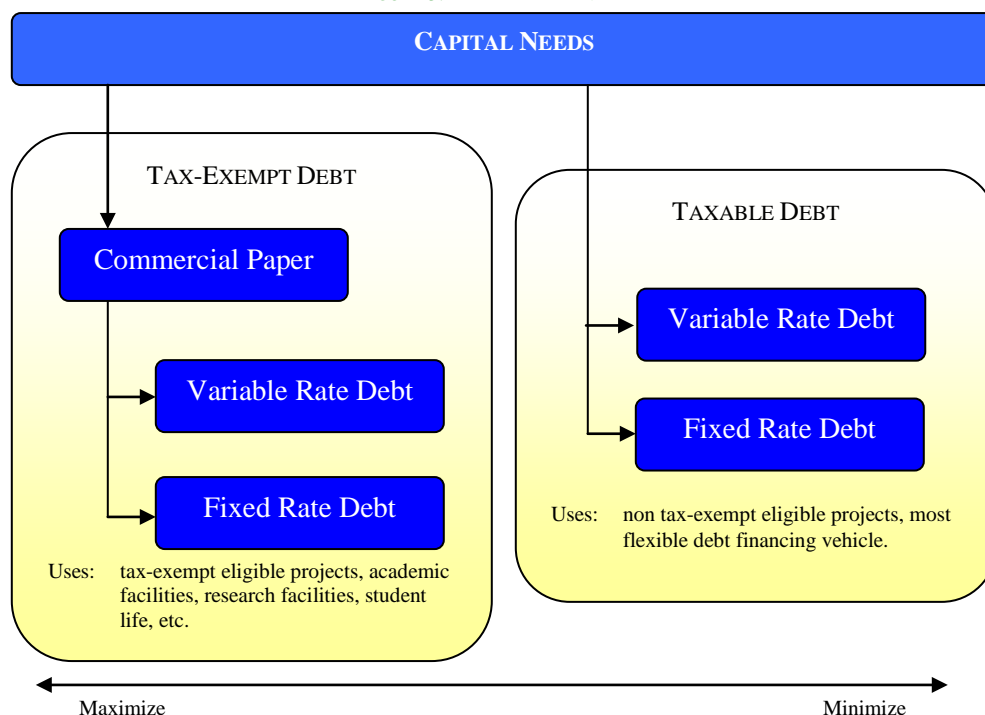
<sup>1</sup> Excludes EPA.



## II. DEBT STRATEGIES – 3. DEBT INSTRUMENTS

Under the guidance of Treasury and Risk Management Services, the University will pool debt and in doing so, manage debt on a portfolio basis to minimize cost and manage volatility.

FIGURE 3. TAX-EXEMPT AND TAXABLE DEBT



### TAX-EXEMPT DEBT

The University recognizes the benefits associated with tax-exempt debt, and therefore will manage the tax-exempt portfolio to maximize the portion of tax-exempt debt outstanding under the Debt Policy.

### COMMERCIAL PAPER

The University recognizes that a commercial paper (CP) program can provide low-cost working capital and provide bridge financing for projects; however, as with other debt structures, the level of CP outstanding impacts the University's overall debt capacity.

Commercial paper can provide the University with interim financing for projects before gifts are received or in anticipation of an external bond issue. Project-related CP provides the Central Bank (see Debt Strategies 4 – External and Internal Debt Repayment) with an easily accessible low-cost source of funding to manage its cash balances and provide continuous access to capital to the divisions, regardless of whether an external financing is imminent. Project-related CP will be treated as any other form of debt and subject to the Debt Policy guidelines.

### TAXABLE DEBT

The University will manage its debt portfolio to minimize its taxable component. Unlike tax-exempt debt, taxable debt will not be considered a perpetual component of the University's liabilities. Taxable debt will be utilized to fund projects ineligible for tax-exempt financing or for those projects for which the University wants to preserve maximum operating flexibility; however, the University will manage its overall debt portfolio and total financing sources in order to minimize (or eliminate) the need for taxable debt. Periodically and when any new



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**II. DEBT STRATEGIES – 3. DEBT INSTRUMENTS**

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debt is issued, the University will determine its aggregate taxable needs and manage the taxable debt portfolio, if any based on the aggregate need and desired flexibility.

***INTEREST RATE SWAPS***

The use of swaps will be employed primarily to manage the University's variable rate exposure. The University will utilize a framework to evaluate potential derivative instruments through evaluation of its variable rate allocation, market and interest rate conditions, and the compensation for undertaking counterparty exposure. In addition, the University will incorporate the cost/benefit of any derivative instrument. Under no circumstances will a derivative transaction be utilized that is not fully understood by the University or that imposes inappropriate risk on the University.

***FIXED VERSUS VARIABLE ALLOCATION***

Due to the financing flexibility and typically low interest cost associated with variable-rate debt, it is desirable to maintain a portion of the University's aggregate debt on a floating-rate basis. However, variable-rate debt introduces volatility to the University's debt service obligations and typically requires liquidity support. The University will utilize variable-rate debt on a prudent basis after careful consideration of the cost/benefits of this interest rate mode.



## II. DEBT STRATEGIES – 4. EXTERNAL AND INTERNAL DEBT REPAYMENT

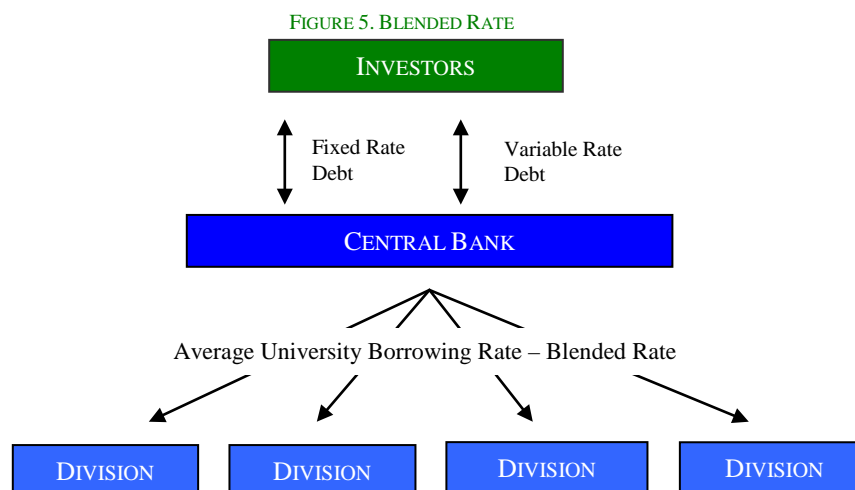
### *TREASURY AND RISK MANAGEMENT SERVICES (“TRMS”) AS A CENTRAL BANK*

Since it is acknowledged that debt will remain a perpetual component of the University’s capitalization, the Office of TRMS will execute transactions, provide funds and develop repayment schedules for individual units. In this regard, TRMS is viewed as a central bank for financing of projects for and across divisions. The University will pool all debt and act as a central source of funds that borrows from the markets and receives capital funds from other sources and makes funds available to the divisions to achieve their objectives.

As mentioned above, debt will remain a long-term component of the University’s balance sheet and division leaders will seek funding for projects from the central bank subject to the debt policy. Deans and Vice Chancellors are not concerned about the source of funds to finance their projects; they are interested in the access to capital, the project ranking criteria, the impact on the current budget, and the predictability of future payments. Therefore, it is desirable to decouple the source of financing (e.g., prevailing fixed or variable rates, synthetic debt, etc) from the use of funds to finance capital projects to the greatest extent possible. Project financing decisions will be made based on the Mission Based Capital Planning strategy continued in the Debt Policy, and not based on the timing of specific transactions.

### *SINGLE UNIVERSITY-WIDE INTEREST RATE – BLENDED RATE*

The University will charge a single interest rate for loaned proceeds regardless of use or source. The single University-wide rate will be adjusted periodically based on the University’s blended cost of capital on all external debt.



The blended interest rate will achieve the following objectives:

- Provide a consistent source of capital to divisions with a predictable and consistent cost of capital. A single interest rate for divisions will make year-to-year budgeting easier for the divisions, since the cost of capital is established at the beginning of the year and is somewhat insulated from changes in market interest rates.
- Align the interests of the University with the divisions. Since debt will be managed on a portfolio basis under debt policy guidelines, transactions will be structured to benefit the entire University, which will benefit the blended rate charged to all divisions.
- Timing of borrowing for projects will not impact the rate borne by the division. The University will time and pool debt issuance for multiple projects to achieve the most economic transactions.



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**II. DEBT STRATEGIES – 4. EXTERNAL AND INTERNAL DEBT REPAYMENT**

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The blended interest rate will be influenced by a number of factors:

- Any savings derived from refinancing of existing debt will lower the blended rate, benefiting all borrowers.
- For purposes of the University's variable rate debt, the blended rate will assume a variable rate based on a multi-year moving average of the University's external short-term borrowing cost.
- The University may elect to reserve funds collected in order to minimize year-to-year adjustments in the blended rate. The University's current blended rate is 5.03%.



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### III. MANAGEMENT PRACTICES

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#### *GENERAL REVENUE PLEDGE*

The University will utilize general revenue secured debt for all financing needs, unless for certain projects management desires to structure specific revenue pledges independent of general revenue projects. The general revenue pledge provides a strong, flexible security which captures the strengths of not only auxiliary and student related revenues, but of the University's research programs. General revenue bonds price better than corresponding auxiliary or indirect cost recovery bonds. In addition, on general revenue debt the University is not subject to operating or financial covenants and coverage levels imposed by the market and external constituents.

The University will use revenue-specific bonds for those projects that are subsidized externally or not funded by unrestricted current funds of the University. These bonds (e.g. EPA bonds) will be structured to accommodate requirements of the pledged revenue stream or management desires to keep a project independent from other general revenue funded projects.

#### *STRUCTURE (MATURITY, ETC.)*

The University will employ maturity structures that correspond with the life of the facilities financed, subject to System and State limitations. As market dynamics change, maturity structures should be reevaluated. Call features should be structured to provide the highest degree of flexibility relative to cost.

#### *METHODS OF SALE*

The University will consider any method of sale. Negotiated and competitive bond offerings will be considered on an individual transaction basis. For those transactions that represent a new or non-traditional pledge of University revenues, the University generally will consider negotiated methods of sale over competitive sales.

#### *REFUNDING TARGETS*

The University will continuously monitor its outstanding tax-exempt debt portfolio for refunding and/or restructuring opportunities.

For a stand-alone refunding, the University will enter into a transaction that produces at least 3-5% present value savings (based on refunded bonds), with this threshold higher for those transactions with a long escrow.

The University also will consider a refinancing if it relieves the University of certain limitations, covenants, payment obligations or reserve requirements that reduce flexibility. The University will also consider refinancing certain obligations within a new money offering even if savings levels are minimal in order to consolidate debt into the general revenue pledge, and/or reduce the administrative burden and cost of managing many small outstanding obligations.

#### *DISCLOSURE*

The University will continue to meet its ongoing disclosure requirements in accordance to SEC rule 15c2-12. The University will submit financial reports, statistical data, and any other material events as required under outstanding bond indentures. The University will attempt to provide all relevant investor information on its website.



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**III. MANAGEMENT PRACTICES**

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***ARBITRAGE***

Annually, the University will comply with arbitrage requirements on invested bond funds. The implementation of tax-exempt CP will reduce the University's ongoing investment of earnings restricted bond funds.

***BOND PROCEED INVESTMENT***

The University will continue to invest bond-funded construction funds, capitalized interest funds, and costs of issuance funds appropriately to achieve the highest return available under arbitrage limitations. When sizing bond transactions, the University will consider funding on either a net or gross basis.

***LIQUIDITY***

The University will provide liquidity support for variable rate debt and commercial paper by purchasing external support from a third-party or parties or from internal liquid reserves. While providing internal liquidity support is most economic, the University should not be constrained from investing funds long-term in order to maintain liquidity requirements. The University regularly will review its liquidity requirements and sources make any adjustments as necessary or desired.





# The University of North Carolina System Debt Capacity Study

The University of North Carolina at Charlotte  
Campus Report

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), The University of North Carolina at Charlotte (“**UNCC**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. UNCC has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, UNCC, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—UNCC has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, UNCC’s debt capacity reflects the amount of debt UNCC could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that UNCC intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- UNCC’s current debt profile, including project descriptions financed with, and the sources of repayment for, UNCC’s outstanding debt;
- UNCC’s current credit profile, along with recommendations for maintaining or improving UNCC’s credit rating; and
- A copy of any UNCC debt management policy currently in effect.

## Overview of UNCC

For the fall 2015 semester, UNCC had a headcount student population of approximately 27,983, including 22,732 undergraduate students and 5,251 graduate and doctoral students. During the 2015 academic year, UNCC employed approximately 1,480 full-time and part-time instructional faculty.

Over the past 10 years, UNCC’s enrollment has increased approximately 30%. UNCC expects modest enrollment growth over the Study Period. UNCC’s average age of plant (9.3 years) is lower than the median ratio for all Campuses (12.58 years). If an institution’s average age of plant is less than 14, then it generally indicates the institution is taking a sustainable approach to its deferred maintenance and reinvestment programs. UNCC anticipates incurring approximately \$20 million in additional debt during the Study Period, as summarized in **Section 3** below.

Rather than using the financial model’s standard growth assumption of 1.40%, UNCC has used its business intelligence tool, Future Perfect, to develop tailored projections for each factor over the course of the Study Period. Attached to this Campus Report as **Exhibit A** is a detailed list of assumptions used by Future Perfect to project UNCC’s obligated resources, operating expenses and expendable resources.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on UNCC's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to UNCC by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt UNCC expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate UNCC's current debt burden.

| 1                   | 2                          | 3                              | 4         | 5                     | 6                | 7          | 8            | 9            | 10                |
|---------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|------------|--------------|--------------|-------------------|
| Obligated Resources |                            |                                |           |                       | Outstanding Debt |            |              |              |                   |
| Fiscal Year         | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal  | Net Interest | Debt Service | Principal Balance |
| 2011                | 235,016,368                | -                              |           | 235,016,368           | 2016             | 14,740,000 | 22,349,294   | 37,089,294   | 513,620,000       |
| 2012                | 223,012,923                | -                              | -5.11%    | 223,012,923           | 2017             | 15,230,000 | 21,889,771   | 37,119,771   | 498,390,000       |
| 2013                | 273,168,360                | -                              | 22.49%    | 273,168,360           | 2018             | 15,965,000 | 21,376,594   | 37,341,594   | 482,425,000       |
| 2014                | 308,640,474                | -                              | 12.99%    | 308,640,474           | 2019             | 16,565,000 | 20,762,422   | 37,327,422   | 465,860,000       |
| 2015                | 324,531,381                |                                | 5.15%     | 324,531,381           | 2020             | 17,205,000 | 20,132,032   | 37,337,032   | 448,655,000       |
| 2016                | 306,945,000                | 31,764,816                     | 4.37%     | 338,709,816           | 2021             | 17,910,000 | 19,417,099   | 37,327,099   | 430,745,000       |
| 2017                | 380,235,000                |                                | 12.26%    | 380,235,000           | 2022             | 16,330,000 | 18,664,458   | 34,994,458   | 414,415,000       |
| 2018                | 421,012,000                |                                | 10.72%    | 421,012,000           | 2023             | 17,050,000 | 17,955,205   | 35,005,205   | 397,365,000       |
| 2019                | 443,969,000                |                                | 5.45%     | 443,969,000           | 2024             | 17,750,000 | 17,228,066   | 34,978,066   | 379,615,000       |
| 2020                | 491,602,000                |                                | 10.73%    | 491,602,000           | 2025             | 17,535,000 | 16,470,557   | 34,005,557   | 362,080,000       |
|                     |                            |                                |           |                       | 2026             | 16,850,000 | 15,725,690   | 32,575,690   | 345,230,000       |
|                     |                            |                                |           |                       | 2027             | 17,760,000 | 14,997,510   | 32,757,510   | 327,470,000       |
|                     |                            |                                |           |                       | 2028             | 17,910,000 | 14,309,272   | 32,219,272   | 309,560,000       |
|                     |                            |                                |           |                       | 2029             | 18,315,000 | 13,572,310   | 31,887,310   | 291,245,000       |
|                     |                            |                                |           |                       | 2030             | 19,080,000 | 12,818,835   | 31,898,835   | 272,165,000       |
|                     |                            |                                |           |                       | 2031             | 19,865,000 | 12,024,754   | 31,889,754   | 252,300,000       |
|                     |                            |                                |           |                       | 2032             | 20,690,000 | 11,195,550   | 31,885,550   | 231,610,000       |
|                     |                            |                                |           |                       | 2033             | 21,605,000 | 10,256,792   | 31,861,792   | 210,005,000       |
|                     |                            |                                |           |                       | 2034             | 22,515,000 | 9,347,452    | 31,862,452   | 187,490,000       |
|                     |                            |                                |           |                       | 2035             | 23,475,000 | 8,381,452    | 31,856,452   | 164,015,000       |
|                     |                            |                                |           |                       | 2036             | 23,490,000 | 7,362,089    | 30,852,089   | 140,525,000       |
|                     |                            |                                |           |                       | 2037             | 23,860,000 | 6,364,056    | 30,224,056   | 116,665,000       |
|                     |                            |                                |           |                       | 2038             | 21,500,000 | 5,344,878    | 26,844,878   | 95,165,000        |
|                     |                            |                                |           |                       | 2039             | 22,495,000 | 4,363,649    | 26,858,649   | 72,670,000        |
|                     |                            |                                |           |                       | 2040             | 20,040,000 | 3,358,796    | 23,398,796   | 52,630,000        |
|                     |                            |                                |           |                       | 2041             | 18,555,000 | 2,454,311    | 21,009,311   | 34,075,000        |
|                     |                            |                                |           |                       | 2042             | 10,825,000 | 1,586,576    | 12,411,576   | 23,250,000        |
|                     |                            |                                |           |                       | 2043             | 11,315,000 | 1,089,681    | 12,404,681   | 11,935,000        |
|                     |                            |                                |           |                       | 2044             | 7,650,000  | 569,975      | 8,219,975    | 4,285,000         |
|                     |                            |                                |           |                       | 2045             | 4,285,000  | 214,250      | 4,499,250    | -                 |

| Operating Expenses |                |        |
|--------------------|----------------|--------|
| Fiscal Year        | Operating Exp. | Growth |
| 2011               | 445,154,854    |        |
| 2012               | 442,766,093    | -0.54% |
| 2013               | 476,644,366    | 7.65%  |
| 2014               | 508,214,964    | 6.62%  |
| 2015               | 522,325,266    | 2.78%  |
| 2016               | 542,160,000    | 3.80%  |
| 2017               | 563,408,000    | 3.92%  |
| 2018               | 584,803,000    | 3.80%  |
| 2019               | 607,594,000    | 3.90%  |
| 2020               | 632,846,000    | 4.16%  |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 109,103,673             | 35,320,875                        | 14,774,049                         | 52,130,714                            | 14,446,220  |        | -                              | 196,883,091          |
| 2012                 | 154,163,393             | 28,661,421                        | 15,299,040                         | 53,877,847                            | 6,223,905   | 24.83% | -                              | 245,777,796          |
| 2013                 | 181,930,159             | 33,444,528                        | 17,279,800                         | 54,299,721                            | 13,005,261  | 11.46% | -                              | 273,948,947          |
| 2014                 | 181,239,349             | 43,232,066                        | 20,474,492                         | 66,822,395                            | 22,218,093  | 5.69%  | -                              | 289,550,209          |
| 2015                 | 161,240,735             | 46,295,365                        | 21,701,113                         | 74,075,976                            | 17,745,568  | 9.59%  | 31,764,816                     | 317,332,437          |
| 2016                 | 204,072,000             | 47,676,000                        | 22,004,929                         | 75,113,040                            | 17,994,006  | 11.77% | -                              | 330,871,962          |
| 2017                 | 247,492,000             | 48,708,000                        | 22,312,998                         | 76,164,622                            | 18,245,922  | 10.61% | -                              | 376,431,698          |
| 2018                 | 255,829,000             | 49,740,000                        | 22,625,380                         | 77,230,927                            | 18,501,365  | 0.65%  | -                              | 386,923,942          |
| 2019                 | 287,908,000             | 50,773,000                        | 22,942,135                         | 78,312,160                            | 18,760,384  | 6.66%  | -                              | 421,174,911          |
| 2020                 | 329,565,000             | 51,805,000                        | 23,263,325                         | 79,408,530                            | 19,023,029  | 10.41% | -                              | 465,018,825          |

## 3. Proposed Debt Financings

The table below summarizes any legislatively approved projects that UNCC expects to finance during the Study Period. Using the assumptions outlined in the table below, the model has developed a tailored, but conservative, debt service schedule for each proposed financing and incorporated each pro forma debt service schedule into its calculations of the financial ratios as detailed in **Section 4** below.

### UNCC Proposed Debt Financings

| Year  | Use of Funds   | Borrowing Amount | Term     | Source of Repayment |
|-------|----------------|------------------|----------|---------------------|
| 2016  | Elm Maple Pine | 20,000,000       | 30 Years | Housing Revenues    |
|       |                |                  |          |                     |
|       |                |                  |          |                     |
|       |                |                  |          |                     |
| Total |                | 20,000,000       |          |                     |

## 4. Financial Ratios

### Debt to Obligated Resources

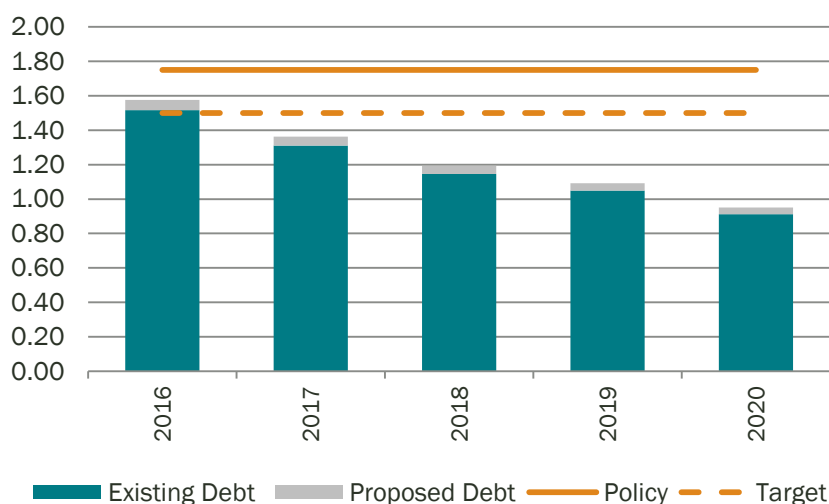
- **What does it measure?** UNCC's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.50
- Ceiling Ratio: Not to exceed 1.75
- Projected 2016 Ratio: 1.58
- Highest Study Period Ratio: 1.58 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 338,709,816         | 4.37%  | 513,620,000   | 20,000,000    | 1.52             | 0.06             | 1.58          |
| 2017                        | 380,235,000         | 12.26% | 498,390,000   | 20,000,000    | 1.31             | 0.05             | 1.36          |
| 2018                        | 421,012,000         | 10.72% | 482,425,000   | 19,576,663    | 1.15             | 0.05             | 1.19          |
| 2019                        | 443,969,000         | 5.45%  | 465,860,000   | 19,139,440    | 1.05             | 0.04             | 1.09          |
| 2020                        | 491,602,000         | 10.73% | 448,655,000   | 18,687,876    | 0.91             | 0.04             | 0.95          |

### Debt to Obligated Resources



## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of UNCC's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 15%
- Floor Ratio: Not less than 12%
- Projected 2016 Ratio: 15%
- Lowest Study Period Ratio: 15% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 533,620,000         | 15%   |   |
| 2017        | 518,390,000         | 16%   |   |
| 2018        | 502,001,663         | 17%   |   |
| 2019        | 484,999,440         | 17%   |   |
| 2020        | 467,342,876         | 18%   |   |

### 5-Year Payout Ratio



Stronger  
↑  
↓  
Weaker

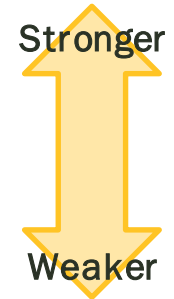
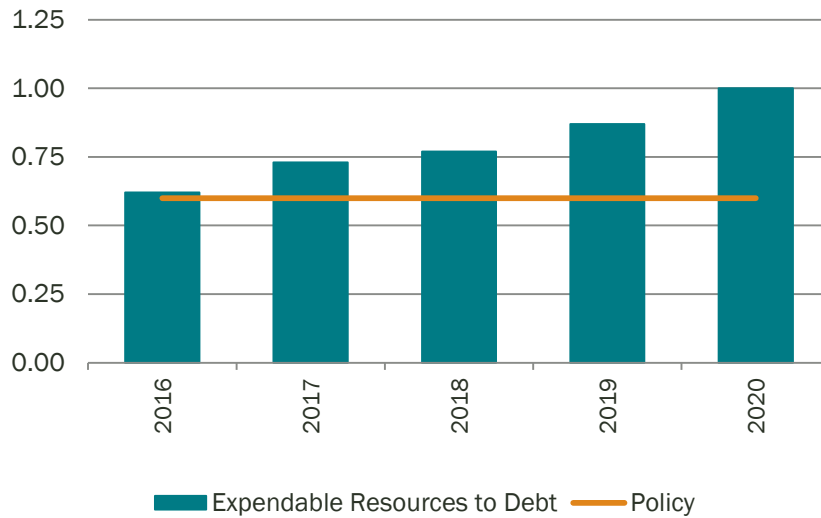
## Expendable Resources to Debt

- **What does it measure?** The number of times UNCC's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.60x
- Projected 2016 Ratio: 0.62x
- Lowest Study Period Ratio: 0.62x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 330,871,962          | 4.27%  | 513,620,000   | 20,000,000    | 0.64          | 0.62                     |
| 2017                         | 376,431,698          | 13.77% | 498,390,000   | 20,000,000    | 0.76          | 0.73                     |
| 2018                         | 386,923,942          | 2.79%  | 482,425,000   | 19,576,663    | 0.80          | 0.77                     |
| 2019                         | 421,174,911          | 8.85%  | 465,860,000   | 19,139,440    | 0.90          | 0.87                     |
| 2020                         | 465,018,825          | 10.41% | 448,655,000   | 18,687,876    | 1.04          | 1.00                     |

## Expendable Resources to Debt





## Debt Service to Operating Expenses

- **What does it measure?** UNCC's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 7.00%
- Projected 2016 Ratio: 6.84%
- Highest Study Period Ratio: 6.84% (2016)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 542,160,000        | 3.80%  | 37,089,294  | -           | 6.84%            | n/a              | 6.84%         |
| 2017                               | 563,408,000        | 3.92%  | 37,119,771  | 656,000     | 6.59%            | 0.12%            | 6.70%         |
| 2018                               | 584,803,000        | 3.80%  | 37,341,594  | 1,079,337   | 6.39%            | 0.18%            | 6.57%         |
| 2019                               | 607,594,000        | 3.90%  | 37,327,422  | 1,079,337   | 6.14%            | 0.18%            | 6.32%         |
| 2020                               | 632,846,000        | 4.16%  | 37,337,032  | 1,079,337   | 5.90%            | 0.17%            | 6.07%         |

### Debt Service to Operating Expenses



Weaker  
↑  
↓  
Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, UNCC's debt capacity is based on the amount of debt UNCC could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, UNCC's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, UNCC's current estimated debt capacity is **\$59,122,178**. After taking into account any legislatively approved projects detailed in **Section 3** above, if UNCC issued no additional debt until the last year of the Study Period, then UNCC's debt capacity for 2020 is projected to increase to **\$392,960,624**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.58  | 1.75                                  | 59,122,178    |
| 2017          | 1.36  | 1.75                                  | 147,021,250   |
| 2018          | 1.19  | 1.75                                  | 234,769,337   |
| 2019          | 1.09  | 1.75                                  | 291,946,310   |
| 2020          | 0.95  | 1.75                                  | 392,960,624   |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of UNCC's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If UNCC were to use all of its calculated debt capacity during the Study Period, UNCC's credit ratings may face significant downward pressure.**
- Projecting the exact amount UNCC could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.

- If “debt capacity” were linked to those national median ratios, many Campuses would have limited debt capacity for an extended period of time.
- **Factor Interdependence**
  - The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
  - For example, a university’s “**strategic positioning**” score, which accounts for 10% of its overall score under Moody’s criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.
- **Distortions Across Rating Categories**
  - Because quantitative ratios account for only a portion of an issuer’s final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
  - Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

UNCC's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## University of North Carolina at Charlotte

2016 Debt Capacity Study

## Summary of Debt Outstanding as of FYE June 30, 2015

| Series  | Description                                | Par Outstanding | Final Maturity | Use of Funds   | Refunding     | Source of Repayment  |
|---------|--|-----------------|----------------|--|---------------|--|
| 2005A   | UNC System Pool Revenue Bonds              | \$8,185,000     | 4/1/2021       | SAC Refinancing  | SAC           | Debt Fee   |
| 2006A   | General Revenue Bonds                      | \$515,000       | 10/1/2016      | Parking Deck G   |               | Parking Revenues   |
| 2007A   | Taxable General Revenue Bonds              | \$10,510,000    | 4/1/2023       | Student Union  |               | Debt Fee   |
| 2009A   | General Revenue Bonds                      | 2,895,000       | 4/1/2017       | Parking Deck H<br>Housing Phase 9  |               | Parking Revenues<br>Housing Rentals  |
| 2009B   | UNC System Pool Revenue Bonds              | \$4,880,000     | 10/1/2020      | Partial Refund of Phase 7 Apartments   |               | Housing Rentals  |
| 2009B   | Taxable General Revenue BABs               | 49,770,000      | 4/1/2039       | Parking Deck H<br>Housing Phase 9  |               | Parking Revenues<br>Housing Rentals  |
| 2010B-1 | UNC System Pool Revenue Bonds              | 17,270,000      | 10/1/2026      | Housing Phase 7<br>1st Partial Refunding of Phase 8<br>Parking   | 1998B<br>2002 | Housing Rentals<br>Housing Rentals<br>Parking Revenues   |
| 2010    | Taxable General Revenue BABs               | \$37,010,000    | 4/1/2040       | Football Stadium   |               | Debt Fee   |
| 2012A   | General Revenue Bonds                      | 94,800,000      | 4/1/2041       | Portal Building<br>South Village Dining<br>Regional Utility Plant<br>Refi-Sprinkler Loan<br>Parking Deck I<br>Parking Deck J<br>Residence Hall Phase 10<br>Residence Hall Phase 11<br>2012 Sprinkler Project<br>Final Refi of Phase 8 2002-A bonds | 2002A         | Overhead Receipts<br>Dining Revenues<br>Overhead Receipts<br>Housing Rentals<br>Parking Revenues<br>Parking Revenues<br>Housing Rentals<br>Housing Rentals<br>Housing Rentals<br>Housing Rentals |
| 2012B   | Taxable General Revenue Bonds              | 35,090,000      | 4/1/2041       | Portal Building<br>South Village Dining<br>Regional Utility Plant  |               | Overhead Receipts<br>Dining Revenues<br>Overhead Receipts  |
| 2013A   | General Revenue Bonds                      | 43,330,000      | 4/1/2043       | Residence Hall Phase 12<br>Refinancing of 2003-A Pooled Bonds  | 2003A         | Housing Rentals<br>Debt Fee  |
| 2013B   | Taxable General Revenue Bonds              | 35,480,000      | 4/1/2043       | Campus Infrastructure<br>Parking   | 2004A         | Debt Fee<br>Parking Revenues   |
| 2014    | General Revenue Bonds                      | 58,745,000      | 4/1/2044       | Housing Phase 13<br>Oak Hall Renovations<br>Holshouser Hall Renovations  |               | Housing Rentals<br>Housing Rentals<br>Housing Rentals  |
| 2015    | General Revenue Bonds                      | 116,150,000     | 4/1/2045       | Residence Hall Phase 14<br>CID 2<br>Parking Deck G<br>Student Union  | 2006<br>2007B | Housing Rentals<br>Debt Fee<br>Parking Revenues<br>Debt Fee  |
| 2015    | Taxable Refunding Limited Obligation Bonds | \$13,730,000    | 3/1/2035       | Student Housing Project  | 2005          |  |

## 7. Credit Profile

The following page provides a snapshot of UNCC's current credit ratings, along with (1) a summary of various credit factors identified in UNCC's most recent rating report and (2) recommendations for maintaining and improving UNCC's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains a Aa3 rating on the University's general revenue bonds. The outlook is stable.
- Standard and Poor's maintains an A+ rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Established market position in vibrant metropolitan area as an urban institution with large and growing enrollment
- Consistent record of annual surpluses and ample debt service coverage
- Historically strong capital and operating support from the Aaa-rated State of North Carolina
- Fixed rate debt with rapid principal amortization

### Credit Challenges

- Aggressive capital plan with rapidly rising debt and weakening leverage
- Ambitious enrollment growth plan given highly competitive student market
- Focus on affordability, with recent flat tuition, limits net tuition revenue growth
- Fierce competition for grants and awards constrains long-term aspiration to become a premier urban-based research institution

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

- Continue to develop initiatives to highlight and strengthen the University's distinctive market position.
- Continue to seek strategies to limit new debt in the near term while addressing critical infrastructure needs, in accordance with the University's existing debt policy and in service of the University's other strategic initiatives.

## 8. Peer Comparison

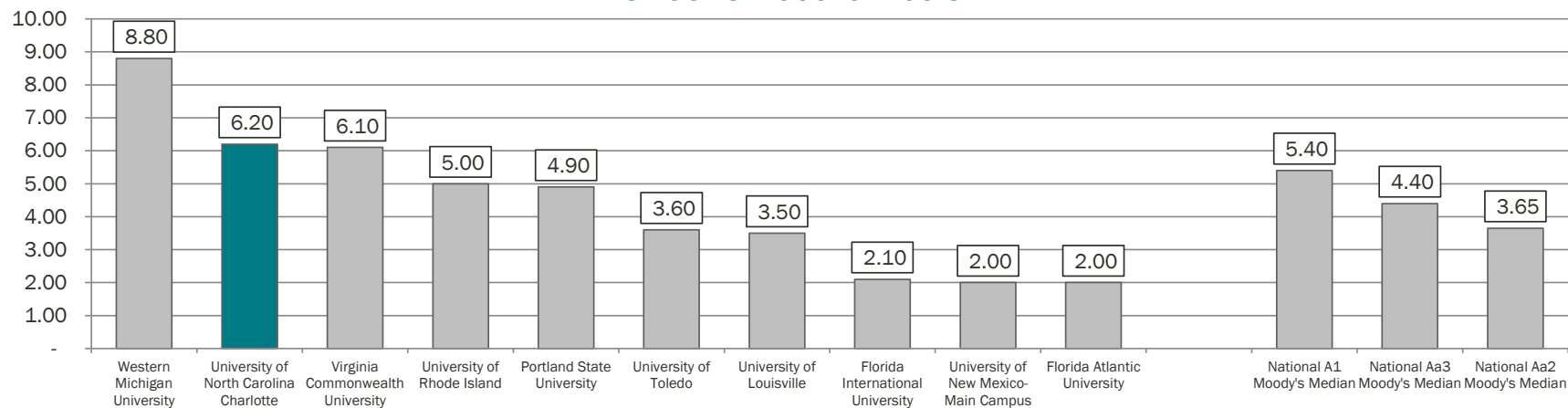
The following page compares two measures of UNCC's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to the Campuses in the UNC System. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.



# Debt Service to Operating Expenses (%)

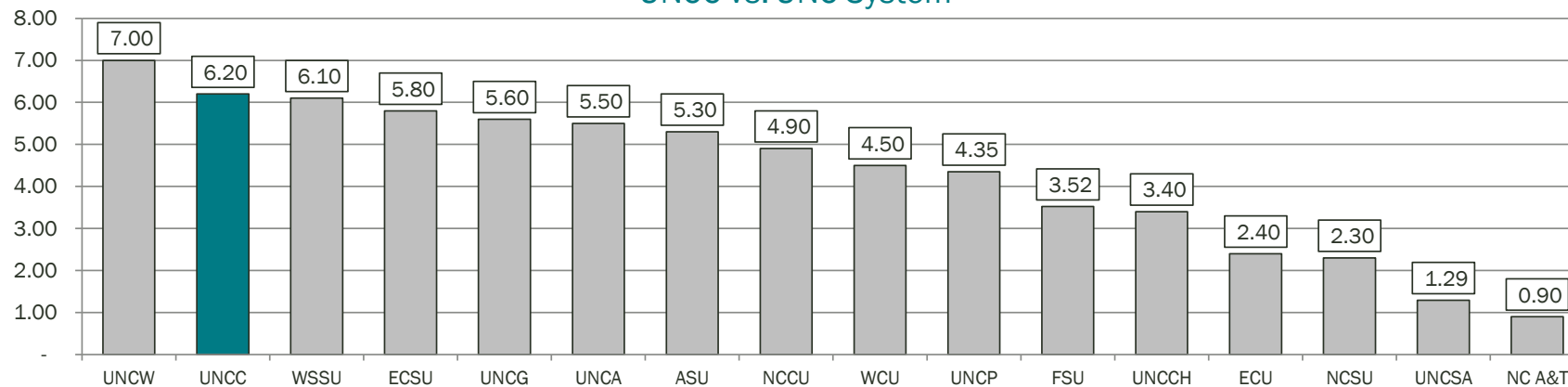
## Debt Service to Operating Expenses (%)

### UNCC vs. National Peers



## Debt Service to Operating Expenses (%)

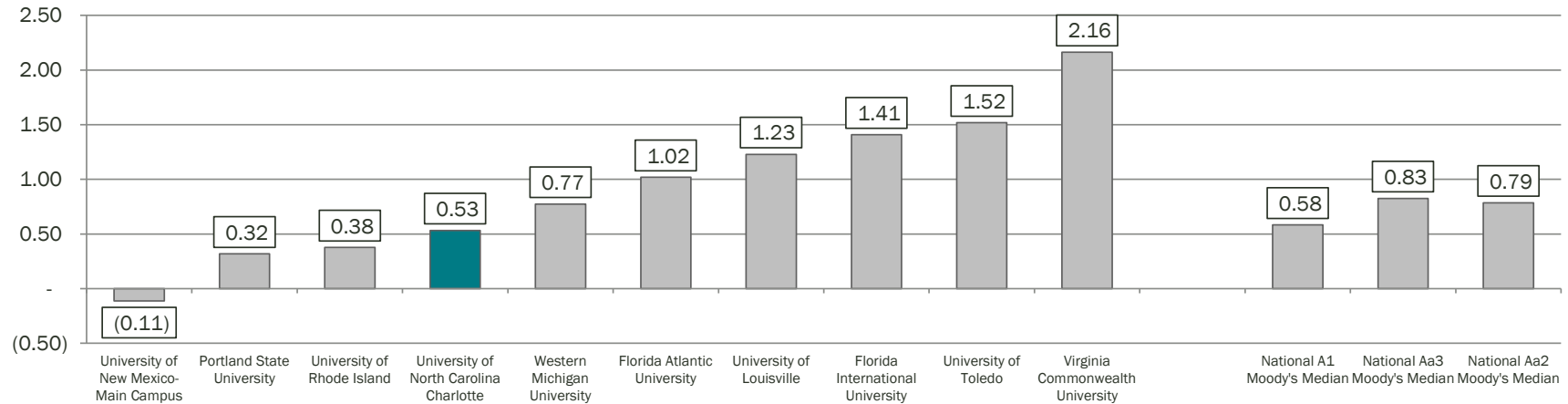
### UNCC vs. UNC System



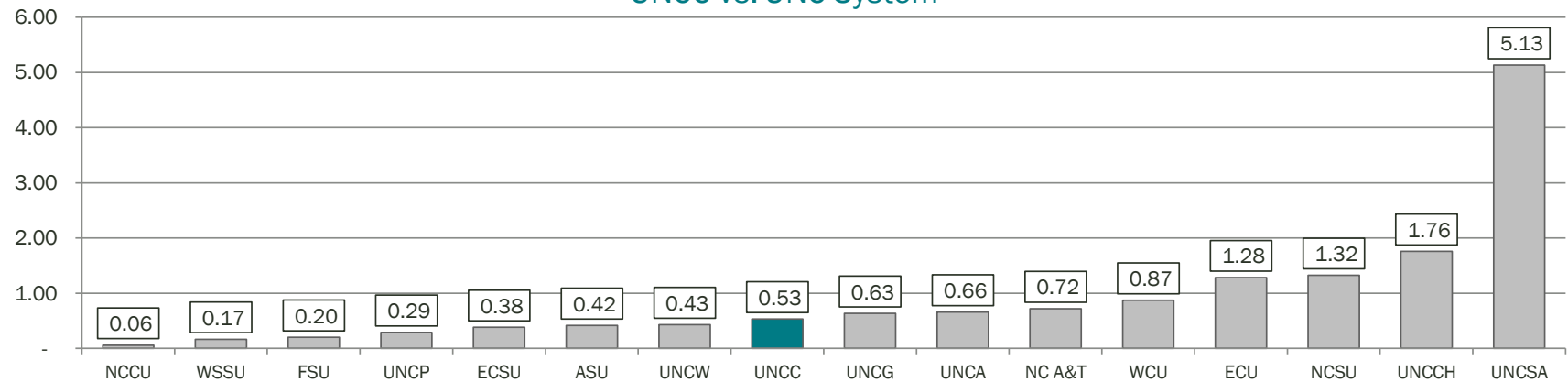
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

**Expendable Financial Resources to Debt**  
UNCC vs. National Peers



**Expendable Financial Resources to Debt**  
UNCC vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

UNCC's current debt policy is included in the following pages.

## **University Policy 601.18, Debt Policy**

### **Executive Summary:**

This Policy outlines the University philosophy on debt, establishes the framework for approving, managing, and reporting debt and provides debt management guidelines.

### **I. Policy Statement**

The mission of The University of North Carolina at Charlotte (University) is supported by the development and implementation of the long-term strategic plan. The strategic plan establishes University-wide priorities and programmatic objectives. The University develops a capital plan to support these priorities and objectives.

The University's use of debt plays a critical role in ensuring adequate and cost effective funding for the capital plan. By linking the objectives of its Debt Policy to its strategic objectives, the University ultimately increases the likelihood of achieving its mission.

This Debt Policy is intended to be a dynamic document that will evolve over time to meet the changing needs of the University.

#### **A. Scope**

This Debt Policy applies to the University and affiliated entities and covers all forms of debt including long-term, short-term, fixed-rate, and variable-rate debt. It also covers other forms of financing including both on-balance sheet and off-balance sheet structures, such as leases, and other structured products used with the intent of funding capital projects.

The use of derivatives is not covered under this policy. When the use of derivatives is being considered a separate Interest Rate Risk Management policy will be drafted.

#### **B. Objectives**

The objectives of this policy are to:

- (i) Outline the University's philosophy on debt
- (ii) Establish a control framework for approving and managing debt
- (iii) Define reporting guidelines
- (iv) Establish debt management guidelines

This Debt Policy formalizes the link between the University's Strategic Plan and the issuance of debt. Debt is a limited resource that must be managed strategically in order to best support University priorities.

The policy establishes a control framework to ensure that appropriate discipline is in place regarding capital rationing, reporting requirements, debt portfolio composition, debt servicing, and debt authorization. It establishes guidelines to ensure that existing and proposed debt

issues are consistent with financial resources to maintain an optimal amount of leverage, a strong financial profile, and a strategically optimal credit rating.

Under this policy, debt is being managed to achieve the following goals:

- (i) Maintaining access to financial markets: capital, money, and bank markets.
- (ii) Managing the University's credit rating to meet its strategic objectives while maintaining the highest acceptable creditworthiness and most favorable relative cost of capital and borrowing terms;
- (iii) Optimizing the University's debt mix (i.e., short-term and long-term, fixed-rate and floating-rate) for the University's debt portfolio;
- (iv) Managing the structure and maturity profile of debt to meet liquidity objectives and make funds available to support future capital projects and strategic initiatives;
- (v) Coordinating debt management decisions with asset management decisions to optimize overall funding and portfolio management strategies.

The University may use debt to accomplish critical priorities by more prudently using debt financing to accelerate the initiation or completion of certain projects, where appropriate. As part of its review of each project, the University evaluates all funding sources to determine the optimal funding structure to achieve the lowest cost of capital.

## **II. Roles and Responsibilities; Compliance**

The Office of the Vice Chancellor for Business Affairs ("VCBA") is responsible for implementing this policy and for all debt financing activities. The policy and any subsequent, material changes to the policy must be approved by the Chancellor after consultation with the University's Board of Trustees ("BOT".) The approved policy provides the framework under which debt management decisions are made.

The exposure limits listed in the policy are monitored on a regular basis by Treasury Services. The office of the VCBA reports regularly to the Chancellor and the BOT on the University's debt position and plans.

## **III. Procedures**

### **A. Debt Affordability and Capacity**

In assessing its current debt levels and when planning for additional debt, the University takes into account both its debt affordability and debt capacity. Debt affordability focuses on the University's ability to service its debt through its operating budget and identified revenue streams and is driven by strength in income and cash flows. Debt capacity focuses on the University's financial leverage in terms of debt funding as a percentage of the University's total capital.

The University considers many factors in assessing its debt affordability and debt capacity including its strategic plan, market position, and alternative sources of funding. The University

uses four key quantitative ratios to inform its assessments with respect to debt affordability and debt capacity.

The ratios described below are not intended to track a specific rating, but rather to help the University maintain a competitive financial profile and funding for facilities needs and reserves.

This Debt Policy is shared with external credit analysts and other parties to provide them with background on the University's philosophy on debt and management's assessment of debt capacity and affordability.

## **1. Debt Affordability Measures**

### ***a. Debt Burden Percentage***

This ratio measures the University's debt service burden as a percentage of total university expenses. The target for this ratio is intended to maintain the University's long-term operating flexibility to finance existing requirements and new initiatives.

$$\frac{\text{ANNUAL DEBT SERVICE}}{\text{TOTAL OPERATING EXPENSES}} \leq 6.0\%$$

The measure is based on aggregate operating expenses as opposed to operating revenues because expenses typically are more stable (e.g. revenues may be subject to one-time operating gifts, investment return fluctuations, variability of State funding, etc.) and better reflect the operating base of the University. This ratio is adjusted to reflect any non-amortizing or non-traditional debt structures that could result in significant single year fluctuations including the effect of debt refundings.

### ***b. Average Debt Service Coverage Ratio***

This ratio measures the University's ability to cover debt service requirements from adjusted net operating income. This calculation is a three-year average of income compared to actual debt services on capital debt. The target established is intended to ensure that operating revenues are sufficient to meet debt service requirements and that debt service does not consume too large a portion of income.

$$\frac{\text{THREE YEARS ANNUAL OPERATING SURPLUS (DEFICIT) + NON-OPERATING REVENUE} + \text{DEPRECIATION}}{\text{THREE YEARS ANNUAL DEBT SERVICE}} > 2X$$

This ratio is adjusted to reflect any non-amortizing or non-traditional debt structures that could result in significant single year fluctuations including the effect of debt refundings.

## **2. Debt Capacity Measures**

### ***a. Average Viability Ratio***

This ratio indicates one of the most basic determinants of financial health by measuring the three year average availability of liquid and expendable net assets to the three year average aggregate debt. The ratio measures the medium to long-term health of the University's balance sheet and debt capacity and is a critical consideration of universities with the highest credit quality.

Many factors influence the viability ratio, affecting both the assets (e.g., investment performance, philanthropy) and liabilities (e.g., timing of bond issues), and therefore the ratio is best examined in the context of changing market conditions so that it accurately reflects relative financial strength.

$$\frac{\text{THREE YEARS UNRESTRICTED NET ASSETS} + \text{RESTRICTED EXPENDABLE NET ASSETS}}{\text{THREE YEARS AGGREGATE DEBT}} \geq .6x$$

#### *b. Debt Capitalization Ratio*

This ratio measures the percentage of University capital that comes from debt. A university that relies too heavily on debt capital may risk being over-leveraged and potentially reduce its access to capital markets. Conversely, a university that does not strategically utilize debt as a source of capital may not be optimizing its funding mix, thereby sacrificing access to low-cost funding to invest in mission objectives.

$$\frac{\text{AGGREGATE DEBT}}{\text{TOTAL NET ASSETS + AGGREGATE DEBT}} \leq 35\%$$

Both the Viability and Debt Capitalization Ratios include any component unit (University-related foundation) balances as disclosed in the University's financial statements.

## **B. Financing Sources**

The University recognizes that there are numerous types of financing structures and funding sources available, each with specific benefits, risks, and costs. All potential funding sources are reviewed by management within the context of this Debt Policy and the overall portfolio to ensure that any financial product or structure is consistent with the University's objectives. Regardless of what financing structure(s) are utilized, due-diligence review must be performed for each transaction, including (i) quantification of potential risks and benefits; and (ii) analysis of the impact on University creditworthiness and debt affordability and capacity.

### *1. Tax-Exempt Debt*

The University recognizes that tax-exempt debt is a significant component of the University's capitalization due in part to its substantial cost benefits; therefore, tax-exempt debt is managed as a portfolio of obligations designed to meet long-term financial objectives rather than as a series of discrete financings tied to specific projects. The University manages the debt portfolio to maximize its utilization of tax-exempt debt relative to taxable debt whenever possible. In all circumstances, however, individual projects continue to be identified and tracked to ensure compliance with all tax and reimbursement regulations.

For tax-exempt debt, the University considers maximizing the external maturity of any tax-exempt bond issue, subject to prevailing market conditions and opportunities and other considerations, including applicable regulations.

## *2. Taxable Debt*

---

In instances where certain of the University's capital projects do not qualify for tax-exempt debt, the use of taxable debt may be considered. The taxable debt market offers certain advantages in terms of liquidity and marketing efficiency; such advantages will be considered when evaluating the costs and benefits of a taxable debt issuance.

## *3. Commercial Paper*

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Commercial paper provides the University with interim financing for projects in anticipation of philanthropy or planned issuance of long-term debt. The use of commercial paper also provides greater flexibility on the timing and structuring of individual bond transactions. This flexibility also makes commercial paper appropriate for financing equipment and short-term operating needs. The University recognizes that the amount of commercial paper is limited by this Debt Policy ratios, the University's variable-rate debt allocation limit, and the University's available liquidity support.

## *4. University-issued vs. State-Issued Debt*

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In determining the most cost effective means of issuing debt, the University evaluates the merits of issuing debt directly vs. participating in debt pools through the UNC System Board of Governors. On a regular basis, the University performs a cost/benefit analysis between these two options and takes into consideration the comparative funding costs, flexibility in market timing, and bond ratings of each alternative. The University also takes into consideration the future administrative flexibility of each issue such as the ability to call and/or refund issues at a later date, as well as the administrative flexibility to structure and manage the debt in a manner that the University believes to be appropriate and in the University's best interest.

## *5. Other Financing Sources*

---

Given limited debt capacity and substantial capital needs, opportunities for alternative and non-traditional transaction structures may be considered. The University recognizes these types of transactions often can be more expensive than traditional University debt structures; therefore, the benefits of any potential transaction must outweigh any potential costs.

All structures may be considered only when the economic benefit and the likely impact on the University's debt capacity and credit have been determined. Specifically, for any third-party or developer-based financing, management ensures the full credit impact of the structure is evaluated and quantified.

# **C. Portfolio Management of Debt**

The University considers its debt portfolio holistically to optimize the portfolio of debt for the entire University rather than on a project-by-project basis while taking into account the University's cash and investment portfolio (see Appendix A). Therefore, management makes



decisions regarding project prioritization, debt portfolio optimization, and financing structures within the context of the overall needs and circumstances of the University.

### 1. Variable-Rate Debt

The University recognizes that a degree of exposure to variable interest rates within the University's debt portfolio might be desirable in order to:

- (i) take advantage of repayment/restructuring flexibility;
- (ii) benefit from historically lower average interest costs;
- (iii) provide a "match" between debt service requirements and the projected cash flows from the University's assets; and
- (iv) diversify its pool of potential investors.

Management monitors overall interest rate exposure, analyzes and quantifies potential risks, including interest rate, liquidity and rollover risks, and coordinates appropriate fixed/variable allocation strategies. The portfolio allocation to variable-rate debt may be managed or adjusted through (i) the issuance or redemption of debt in the conventional debt market (e.g. new issues and refundings) and (ii) the use of interest rate derivative products including swaps.

The amount of variable-rate debt outstanding (adjusted for any derivatives) shall not exceed 10% of the University's outstanding debt. This limit is based on the University's desire to: (i) limit annual variances in its interest payments; (ii) provide sufficient structuring flexibility to management; (iii) keep the University's variable-rate allocation within acceptable external parameters; and (iv) utilize variable-rate debt (including derivatives) to optimize debt portfolio allocation and minimize costs.

$$\frac{\text{VARIABLE-RATE DEBT (INCLUDING SYNTHETIC DEBT)}}{\text{TOTAL DEBT OUTSTANDING}} \leq 10\%$$

### 2. Refinancing Outstanding Debt

The University monitors its debt portfolio on a continual basis to assure portfolio management objectives are being met and to identify opportunities to lower its cost of funding, primarily through refinancing outstanding debt. The University of North Carolina General Administration prefers a savings of 2% for refinancing current outstanding debt. Savings requirements in excess of 2% may be required from time to time by the Vice Chancellor for Business Affairs.

The University monitors the prices and yields of its outstanding debt and attempts to identify potential refunding candidates by examining refunding rates and calculating the net present value of any refunding savings after taking into account all transaction costs. The University may choose to pursue refundings for economic and/or legal reasons. The University reserves the right to not partially refund an issue.

### 3. Liquidity Requirements

If the University's portfolio includes variable-rate debt and commercial paper, liquidity support is required in the event of the bonds or paper being put back to the University by investors. Generally, the University can purchase liquidity support externally from a

bank in the form of a standby bond purchase agreement or line of credit. In addition, the University may consider using its own capital in lieu of or to supplement external liquidity facilities. Alternatively, it may utilize variable-rate structures that do not require liquidity support (e.g. auction-rate products.)

Just as the University manages its debt on a portfolio basis, it also manages its liquidity needs by considering its entire asset and debt portfolio, rather than managing liquidity solely on an issue-specific basis. This approach permits institution-wide evaluation of desired liquidity requirements and exposure, minimizes administrative burden, and reduces total liquidity costs.

A balanced approach may be used to provide liquidity support to enhance credit for variable-rate debt, through a combination of external bank liquidity, auction market or derivative structures. Using a variety of approaches limits dependence on an individual type or source of credit; it also allows for exposure to different types of investors. The University must balance liquidity requirements with its investment objectives and its cost and renewal risk of third-party liquidity providers.

Further, a portfolio-approach to liquidity can enhance investment flexibility, reduce administrative requirements, lower total interest costs, and reduce the need for external bank liquidity.

#### *4. Overall Exposure*

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The University recognizes that it may be exposed to interest rate, third-party credit, and other potential risks in areas other than direct University debt (e.g., counterparty exposure in the investment portfolio, etc.) and, therefore, exposures are considered on a comprehensive University-wide basis.

### **D. Strategic Debt Allocation**

Recognizing that financial resources are not sufficient to fund all capital projects, management must allocate debt strategically, continuing to explore alternate sources of funding for projects. External support, philanthropy, and direct State investment remain critical to the University's facilities investment plan.

Management allocates the use of debt financing internally within the University to reflect the prioritization of debt resources among all uses, including plant and equipment financing, academic projects, and projects with institutional impact. Generally, the University favors debt financing for those projects critical to the attainment of its strategic goals and those projects with identified revenue streams for the repayment of debt service and incremental operating costs.

Each capital project is analyzed at its inception to ensure that capital is used in the most effective manner and in the best interests of the University. There is an initial institutional review of each project, prior to its inclusion in the capital plan, to determine if debt leveraging would be desirable even if not requested by the project sponsor.

As part of this initial institutional review, the University also will assess, based on the project's business plan, the sufficiency of revenues to support any internal loans. If the University determines that collateral is necessary, it may require the entity to segregate unrestricted funds for this purpose.

## **E. Debt Administration and Other Matters**

The issuance of tax-exempt debt generally requires the aid and assistance of several outside parties:

- Use of a financial advisor is recommended with a competitive selection process at least once every five years.
- Bond counsel appointments are competitively determined at least once every five years.
- The selection of underwriters is recommended for each debt issuance using a competitive process. Co-managers are recommended for issuances of \$30 million or more and will be selected from the same group of underwriters responding to the competitive bid process.

Debt issuance can be “sized” to include capitalized interest and borrowing costs up to 5% of the debt issuance.

Reimbursement resolutions will be prepared for each debt issuance.

## **F. Approval Process**

All debt issued is by the authority granted to the UNC System Board of Governors under [N.C.G.S. § 116D, Article 3](#). All debt issue is approved by the UNC Charlotte Board of Trustees and then by the UNC System Board of Governors.

When the University participates in bond programs that are administered by the State, including State tax supported debt, such bonds are issued by the State Treasurer, who also possesses the authority to price such bonds.

**Revision History:** Initially approved February 2, 2015

**Authority:** Chancellor

**Responsible Office:** Business Affairs

**References:**

- [N.C.G.S. § 116D, Article 3](#)
- [Appendix A: Central Loan Program Management Proposal Overview](#)

**Appendix A to  
University Policy 601.18, Debt Policy  
Central Loan Program Management Proposal - Overview**

Each division is responsible for the repayment of all funds borrowed from the central loan program, plus interest and certain fees established in the University's internal lending policies, regardless of the internal or external source of funds.

Loan structures with standard financial terms are offered to divisional borrowers. The University may provide for flexible financing terms in order to accommodate individual divisions if it is determined to be in the University's best interest. The Director of Treasury Services clearly articulates the policies and procedures for the assumption and repayment of debt to all borrowers. The Director of Treasury Services is the University's loan officer for divisional borrowers.

*De-linking External and Internal Debt Structures*

The University has adopted a central loan program under which it provides funding for projects across colleges and units under the guidance of the VCBA. In this regard, the University has established a pool of financing resources, including debt, for a central source of capital.

The benefits of this program include:

- (i) Enabling the structuring of transactions in the best economic interests of the University that otherwise wouldn't be possible on a project-specific basis;
- (ii) providing continual access to capital for borrowers and permitting the University to fund capital needs on a portfolio basis rather than on a project-specific basis;
- (iii) funding specific projects with predictable financial terms,
- (iv) achieving the lowest average internal borrowing costs while minimizing volatility in interest rates,
- (v) permitting prepayment of internal loans at any time without penalty, and
- (vi) achieving equity for borrowers through a blended rate.

The central loan program can access funds from a variety of sources to originate loans to divisions. The University manages its funding sources on a portfolio basis, and therefore payments from colleges and units are not tied directly to a particular source of funds. (Note: Due to federal tax and reimbursement requirements, actual debt service for certain projects still must be tracked.)

*Blended Interest Rate*

The University charges a blended interest rate to its colleges and units based on its cost of funding. In some instances, at the discretion of the Director of Treasury Services, the type and useful life of the project being financed may affect the appropriate term and interest rate of any loan.

This blended interest rate may change periodically to reflect changes in the University's average aggregate expected long-term cost of borrowing. The blended interest rate may also include a reserve for interest rate stabilization purposes.

In addition to charging borrowers interest, the central loan program collects amounts to pay for costs of administering the debt portfolio. These costs are clearly articulated to divisions, and are passed on to borrowers in the form of a rate surcharge and an upfront fee for loan origination. These charges may be reviewed and adjusted from time-to-time.

## Exhibit A – Future Perfect Assumptions

Below is a detailed list of assumptions used by UNCC's business intelligence tool, Future Perfect, to model UNCC's obligated resources, operating expenses and expendable resources during the Study Period.



| SRECNP  | Model variables  | Current Assumptions  |
|---|--|--|
| <b>Operating Revenues and Expenses</b>            |  |  |
| <b>Operating revenues</b>                         |  |  |
| Net tuition and fees                              |  |  |
| Student tuition & fees                            | Changes with annual tuition or fee growth rates and enrollment growth *              | Enrollment target of 27,886 by FY20; Tuition increase of .6% to 3.7% FY16 and FY17, 3% FY18+; Fees increase 6.5% FY16, 0% to 8% FY17, 5% FY18+                                   |
| less tuition discount                             | Changes with annual discount rate and tuition revenue                                | Discount rate of 38% - inclusive of all tuition and student types  |
| Government grants and contracts                   |  |  |
| Federal grants                                    | Changes with annual growth rates and ICR's *   | Revenue increase of 0% FY16+   |
| State and local grants                            | Changes with annual growth rates and ICR's *   | Revenue increase of 0% FY16+   |
| Nongovernmental grants                            | Changes with annual growth rates and ICR's *   | Revenue increase of 0% FY16+   |
| Sales and services                                |  |  |
| Auxiliary enterprises:                            |  |  |
| Residential life                                  | Changes with annual growth rates, occupancy, beds going on/offline *                 | Housing revenue increase of 0% to 4.5% FY16, 4% FY17+; occupancy of 95%; beds going on/offline based off of Capital Plan   |
| Dining  | Changes with annual growth rate and residents growth *                               | Dining revenue increase of 0% FY16, 0% to 3% FY17+; resident growth based off of Housing occupancy factor and beds going on/offline  |
| Parking   | Changes with annual growth rate *  | Revenue increase of 0% FY16+   |
| Other auxiliary services                          | Changes with annual growth rate *  | Revenue increase of 0% FY16+   |
| Educational activities:                           |  |  |
| Total   | Changes with annual growth rates *   | Revenue increase of 0% FY16+   |
| Other revenues                                    | Changes with annual growth rate *  | Revenue increase of 0% FY16+   |
| <b>Operating expenses</b>                         |  |  |
| Salaries and Benefits                             |  |  |
| Salaries  | Changes with salary growth rates and employee FTE's (which change with enrollment) * | Salary increase rate of 2% FY16+; FTE changes based off students to employee ratios: Students to Faculty EPA FT 19.5, Students to Staff SPA FT 15.4, Students to Staff EPA 164.2 |
| Benefits  | Changes with either salaries and an effective rate or an annual growth rate *        | Effective rates of .7% to 11.6% FY16+; annual growth rates of 0% to 7% FY16+   |
| Non-personnel Expense                             |  |  |
| Supplies and Materials                            | Changes with annual growth rate *  | Expense increase of 0 to 5% FY16+  |
| Services  | Changes with annual growth rate *  | Expense increase of 0 to 5% FY16+  |
| Utilities   | Changes with annual growth rate *  | Expense increase of 6% FY16, 5% FY17+  |
| Scholarships and fellowships                      | Calculated as % of institutional aid treated as scholarship expense                  | 43.2% of total institutional aid   |
| Depreciation                                      | Calculated as % of previous year's gross PP&E, per asset class                       | Depreciation rate of 0% to 6.1% FY16+  |
| Amortization                                      | Calculated as % of total issuance or discount/premium costs per bond series          | Level payment based off of term life   |
| <b>Nonoperating revenues (expenses)</b>           |  |  |
| <b>Net nonoperating revenues (expenses)</b>       |  |  |
| State appropriations                              | Changes with annual growth rate and future estimated non-capital appropriations *    | \$8.6M onetime increase in FY17, revenue increase of 2% FY18+  |
| Noncapital grants (Student Financial Aid & Other) | Changes with annual growth rate *  | Revenue increase of 0% FY16+   |
| Gifts   | Discrete values via Planning tab   | \$11M onetime increase FY17, revenue increase of 0% FY18+  |
| Investment income                                 | Calculated with investment balances and investment rates *                           | Return rates of .5% to 5% FY16+, endowment utilization rate of 5.1%  |
| Interest and fees on debt                         | Bond schedules provided. Discrete changes via Planning tab                           | Bond Schedules provided  |
| Other nonoperating revenue (expense)              |  |  |
| Other non-operating gain (loss)                   | Changes with annual growth rate *  | Loss increase of 0% FY16+  |
| BABs subsidy                                      | % of interest of respective bond series  | 35% of interest payments FY16+   |
| <b>Other revenues, expenses, gains or losses</b>  |  |  |
| <b>Total other revenues</b>                       |  |  |
| Capital appropriations                            | Discrete values via Planning tab   | From capital plan  |
| Capital grants                                    | Discrete values via Planning tab   | Revenue growth of 0% FY16, no capital grants FY17+   |
| Capital gifts                                     | Discrete values via Planning tab   | \$1M onetime increase FY16, revenue growth of 0% FY17+   |

\* May also contain discrete changes via Planning tab

# The University of North Carolina System Debt Capacity Study

University of North Carolina at Greensboro  
Campus Report

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), University of North Carolina at Greensboro (“**UNCG**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. UNCG has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, UNCG, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—UNCG has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, UNCG’s debt capacity reflects the amount of debt UNCG could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that UNCG intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- UNCG’s current debt profile, including project descriptions financed with, and the sources of repayment for, UNCG’s outstanding debt;
- UNCG’s current credit profile, along with recommendations for maintaining or improving UNCG’s credit rating; and
- A copy of any UNCG debt management policy currently in effect.

## Overview of UNCG

For the fall 2015 semester, UNCG had a headcount student population of approximately 19,393, including 16,091 undergraduate students and 3,302 graduate and doctoral students. UNCG employs approximately 960 full-time, part-time and temporary instructional faculty.

Over the past 10 years, UNCG’s enrollment has increased approximately 15%. UNCG expects modest enrollment growth over the Study Period. UNCG’s average age of plant (11.3 years) is lower than the median ratio for all Campuses (12.58 years) and generally reflects a sustainable approach to its deferred maintenance and reinvestment programs.

UNCG does not anticipate significant additional borrowings during the Study Period.

UNCG has made no changes to the financial model’s standard growth assumptions.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on UNCG's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to UNCG by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt UNCG expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate UNCG's current debt burden.

| 1                   | 2                          | 3                              | 4         | 5                     | 6                | 7          | 8            | 9            | 10                |
|---------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|------------|--------------|--------------|-------------------|
| Obligated Resources |                            |                                |           |                       | Outstanding Debt |            |              |              |                   |
| Fiscal Year         | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal  | Net Interest | Debt Service | Principal Balance |
| 2011                | 129,024,418                | -                              |           | 129,024,418           | 2016             | 9,938,000  | 14,050,236   | 23,988,236   | 295,726,000       |
| 2012                | 136,916,527                | -                              | 6.12%     | 136,916,527           | 2017             | 11,895,000 | 13,701,468   | 25,596,468   | 283,831,000       |
| 2013                | 148,730,815                | -                              | 8.63%     | 148,730,815           | 2018             | 11,520,000 | 13,242,380   | 24,762,380   | 272,311,000       |
| 2014                | 158,204,999                | -                              | 6.37%     | 158,204,999           | 2019             | 11,691,000 | 12,789,005   | 24,480,005   | 260,620,000       |
| 2015                | 132,651,462                | 26,952,014                     | 0.88%     | 159,603,476           | 2020             | 12,206,000 | 12,277,088   | 24,483,088   | 248,414,000       |
| 2016                | 161,837,925                | -                              | 1.40%     | 161,837,925           | 2021             | 12,780,000 | 11,707,958   | 24,487,958   | 235,634,000       |
| 2017                | 164,103,656                | -                              | 1.40%     | 164,103,656           | 2022             | 13,319,000 | 11,157,945   | 24,476,945   | 222,315,000       |
| 2018                | 166,401,107                | -                              | 1.40%     | 166,401,107           | 2023             | 13,931,000 | 10,547,488   | 24,478,488   | 208,384,000       |
| 2019                | 168,730,722                | -                              | 1.40%     | 168,730,722           | 2024             | 13,106,000 | 9,907,433    | 23,013,433   | 195,278,000       |
| 2020                | 171,092,952                | -                              | 1.40%     | 171,092,952           | 2025             | 13,755,000 | 9,261,290    | 23,016,290   | 181,523,000       |
| Operating Expenses  |                            |                                |           |                       | 2026             | 14,373,000 | 8,623,271    | 22,996,271   | 167,150,000       |
| Fiscal Year         | Operating Exp.             | Growth                         |           |                       | 2027             | 12,755,000 | 7,954,756    | 20,709,756   | 154,395,000       |
| 2011                | 367,837,215                |                                |           |                       | 2028             | 12,970,000 | 7,379,213    | 20,349,213   | 141,425,000       |
| 2012                | 354,618,778                | -3.59%                         |           |                       | 2029             | 13,610,000 | 6,734,388    | 20,344,388   | 127,815,000       |
| 2013                | 366,090,459                | 3.23%                          |           |                       | 2030             | 13,060,000 | 6,060,738    | 19,120,738   | 114,755,000       |
| 2014                | 365,213,917                | -0.24%                         |           |                       | 2031             | 13,690,000 | 5,434,288    | 19,124,288   | 101,065,000       |
| 2015                | 350,207,094                | -4.11%                         |           |                       | 2032             | 14,335,000 | 4,788,200    | 19,123,200   | 86,730,000        |
| 2016                | 355,109,993                | 1.40%                          |           |                       | 2033             | 15,035,000 | 4,095,450    | 19,130,450   | 71,695,000        |
| 2017                | 360,081,533                | 1.40%                          |           |                       | 2034             | 15,775,000 | 3,343,700    | 19,118,700   | 55,920,000        |
| 2018                | 365,122,675                | 1.40%                          |           |                       | 2035             | 14,450,000 | 2,621,800    | 17,071,800   | 41,470,000        |
| 2019                | 370,234,392                | 1.40%                          |           |                       | 2036             | 15,145,000 | 1,926,500    | 17,071,500   | 26,325,000        |
| 2020                | 375,417,674                | 1.40%                          |           |                       | 2037             | 10,030,000 | 1,197,750    | 11,227,750   | 16,295,000        |
|                     |                            |                                |           |                       | 2038             | 7,965,000  | 750,350      | 8,715,350    | 8,330,000         |
|                     |                            |                                |           |                       | 2039             | 8,330,000  | 383,500      | 8,713,500    | -                 |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 75,665,271              | 106,809,952                       | -                                  | -                                     | 4,884,372   |        | -                              | 177,590,851          |
| 2012                 | 75,635,325              | 99,284,725                        | -                                  | -                                     | 5,579,863   | -4.65% | -                              | 169,340,187          |
| 2013                 | 85,193,065              | 111,022,683                       | -                                  | -                                     | 2,600,716   | 14.33% | -                              | 193,615,032          |
| 2014                 | 80,944,569              | 132,976,324                       | -                                  | -                                     | -   | 10.49% | -                              | 213,920,893          |
| 2015                 | 70,602,615              | 129,017,041                       | -                                  | -                                     | -   | 5.91%  | 26,952,014                     | 226,571,670          |
| 2016                 | 98,920,394              | 130,823,280                       | -                                  | -                                     | -   | 1.40%  | -                              | 229,743,673          |
| 2017                 | 100,305,279             | 132,654,805                       | -                                  | -                                     | -   | 1.40%  | -                              | 232,960,085          |
| 2018                 | 101,709,553             | 134,511,973                       | -                                  | -                                     | -   | 1.40%  | -                              | 236,221,526          |
| 2019                 | 103,133,487             | 136,395,140                       | -                                  | -                                     | -   | 1.40%  | -                              | 239,528,627          |
| 2020                 | 104,577,356             | 138,304,672                       | -                                  | -                                     | -   | 1.40%  | -                              | 242,882,028          |

## 3. Proposed Debt Financings

While UNCG evaluates its capital investment needs on a regular basis, UNCG currently has no legislatively approved projects that it anticipates financing during the Study Period.

## 4. Financial Ratios

### Debt to Obligated Resources

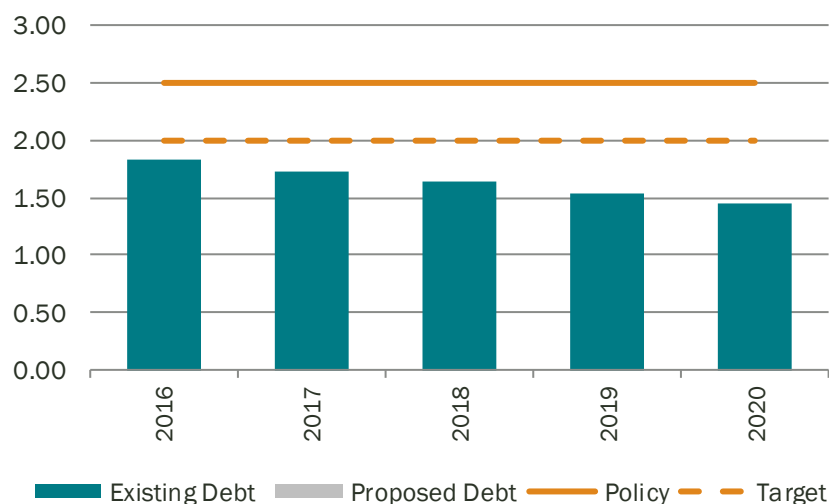
- **What does it measure?** UNCG's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 2.00
- Ceiling Ratio: Not to exceed 2.50
- Projected 2016 Ratio: 1.83
- Highest Study Period Ratio: 1.83 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 161,837,925         | 1.40%  | 295,726,000   | -             | 1.83             | n/a              | 1.83          |
| 2017                        | 164,103,656         | 1.40%  | 283,831,000   | -             | 1.73             | n/a              | 1.73          |
| 2018                        | 166,401,107         | 1.40%  | 272,311,000   | -             | 1.64             | n/a              | 1.64          |
| 2019                        | 168,730,722         | 1.40%  | 260,620,000   | -             | 1.54             | n/a              | 1.54          |
| 2020                        | 171,092,952         | 1.40%  | 248,414,000   | -             | 1.45             | n/a              | 1.45          |

### Debt to Obligated Resources



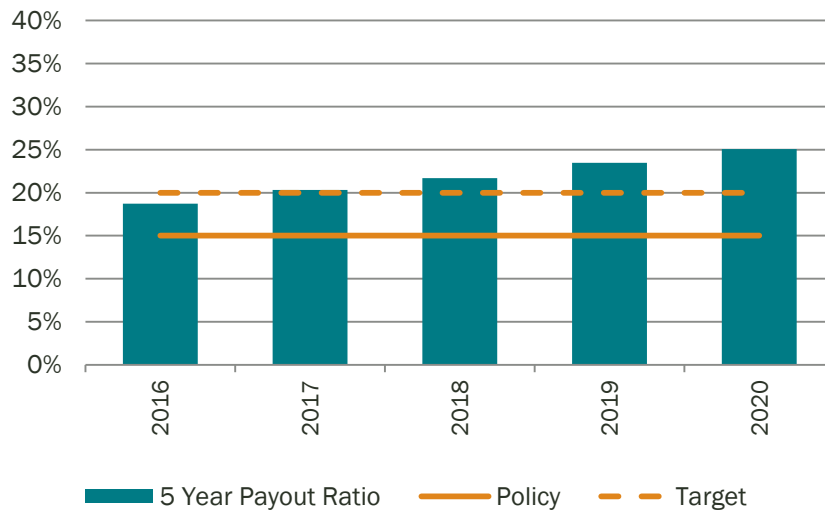
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of UNCG's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 20%
- Floor Ratio: Not less than 15%
- Projected 2016 Ratio: 19%
- Lowest Study Period Ratio: 19% (2016)

### 5-Year Payout Ratio

| 1                   | 2                 | 3     |
|---------------------|-------------------|-------|
| 5 Year Payout Ratio |                   |       |
| Fiscal Year         | Principal Balance | Ratio |
| 2016                | 295,726,000       | 19%   |
| 2017                | 283,831,000       | 20%   |
| 2018                | 272,311,000       | 22%   |
| 2019                | 260,620,000       | 23%   |
| 2020                | 248,414,000       | 25%   |

### 5-Year Payout Ratio



Stronger  
Weaker

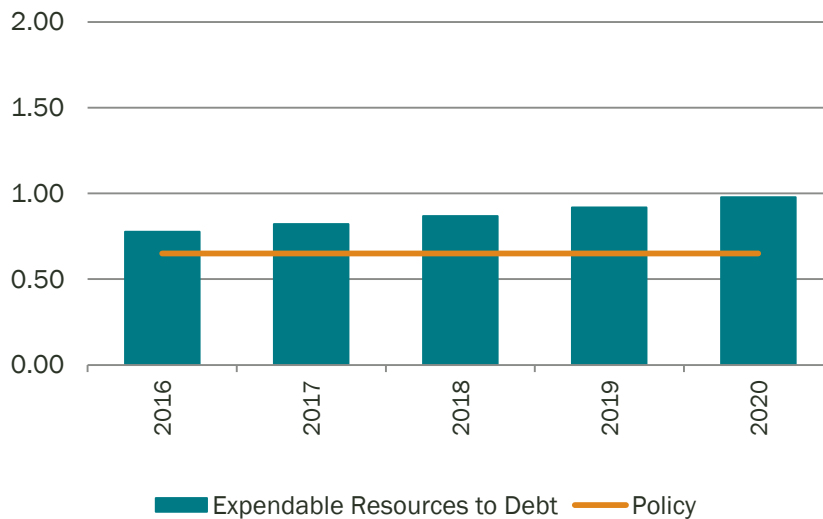
## Expendable Resources to Debt

- **What does it measure?** The number of times UNCG's liquid and expendable net assets cover its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.65x
- Projected 2016 Ratio: 0.78x
- Lowest Study Period Ratio: 0.78x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 229,743,673          | 1.40%  | 295,726,000   | -             | 0.78          | 0.78                     |
| 2017                         | 232,960,085          | 1.40%  | 283,831,000   | -             | 0.82          | 0.82                     |
| 2018                         | 236,221,526          | 1.40%  | 272,311,000   | -             | 0.87          | 0.87                     |
| 2019                         | 239,528,627          | 1.40%  | 260,620,000   | -             | 0.92          | 0.92                     |
| 2020                         | 242,882,028          | 1.40%  | 248,414,000   | -             | 0.98          | 0.98                     |

## Expendable Resources to Debt



Stronger

Weaker

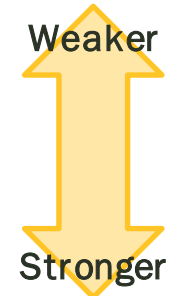
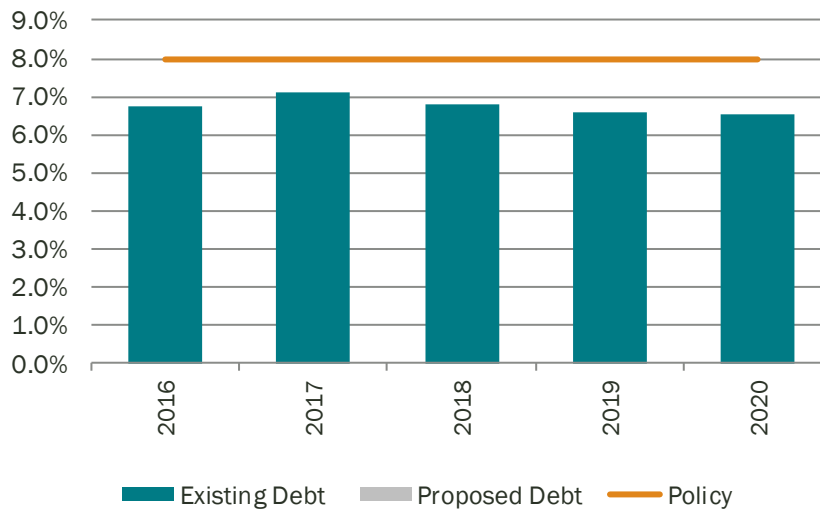
## Debt Service to Operating Expenses

- **What does it measure?** UNCG's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 8.00%
- Projected 2016 Ratio: 6.76%
- Highest Study Period Ratio: 7.11% (2017)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 355,109,993        | 1.40%  | 23,988,236  | -           | 6.76%            | n/a              | 6.76%         |
| 2017                               | 360,081,533        | 1.40%  | 25,596,468  | -           | 7.11%            | n/a              | 7.11%         |
| 2018                               | 365,122,675        | 1.40%  | 24,762,380  | -           | 6.78%            | n/a              | 6.78%         |
| 2019                               | 370,234,392        | 1.40%  | 24,480,005  | -           | 6.61%            | n/a              | 6.61%         |
| 2020                               | 375,417,674        | 1.40%  | 24,483,088  | -           | 6.52%            | n/a              | 6.52%         |

### Debt Service to Operating Expenses



## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, UNCG's debt capacity is based on the amount of debt UNCG could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, UNCG's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, UNCG's current estimated debt capacity is **\$108,868,812**. After taking into account any legislatively approved projects detailed in **Section 3** above, if UNCG issued no additional debt until the last year of the Study Period, then UNCG's debt capacity for 2020 is projected to increase to **\$179,318,381**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.83  | 2.50                                  | 108,868,812   |
| 2017          | 1.73  | 2.50                                  | 126,428,139   |
| 2018          | 1.64  | 2.50                                  | 143,691,767   |
| 2019          | 1.54  | 2.50                                  | 161,206,806   |
| 2020          | 1.45  | 2.50                                  | 179,318,381   |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of UNCG's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If UNCG were to use all of its calculated debt capacity during the Study Period, UNCG's credit ratings may face significant downward pressure.**
- Projecting the exact amount UNCG could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would



have limited debt capacity for an extended period of time.

- **Factor Interdependence**

- The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
- For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.

- **Distortions Across Rating Categories**

- Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
- Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

UNCG's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## University of North Carolina at Greensboro

2016 Debt Capacity Study

## Summary of Debt Outstanding as of FYE June 30, 2015

| Series  | Description                                 | Par Outstanding | Final Maturity | Use of Funds   | Refunding  | Source of Repayment  |
|---------|---|-----------------|----------------|--|--|--|
| 2005A   | UNC System Pool Revenue Bonds               | 4,535,000       | 4/1/2020       | Baseball Stadium<br>Phillips-Hawkins Renvovation<br>Residence Hall Wiring<br>Walker/Mclver Parking Decks   | 1997B<br>1997C<br>1997D<br>2000G                                     | Student Facilities<br>Housing System<br>Housing System<br>Parking System   |
| 2009A   | General Revenue Bonds                       | 25,175,000      | 4/1/2034       | Spring Garden Apts<br>Spring Garden Apts Parking Deck  |  | Housing System<br>Parking System   |
| 2009B   | General Revenue & Refunding Bonds           | 660,000         | 4/1/2016       | Residence Hall Improvement   | 1997F  | Housing System   |
| 2010B-2 | UNC System Pool Revenue Bonds               | 17,185,000      | 4/1/2026       | EUC Addition and Renovation<br>Soccer Stadium<br>Student Recreation Center<br>Oakland Parking Deck<br>EUC Addition - Dining Facilities   | 2001A<br>2001B<br>2001B<br>2001B<br>2001B                            | Student Facilities<br>Student Facilities<br>Student Facilities<br>Parking System<br>Dining System  |
| 2011    | General Revenue & Refunding Bonds           | 76,755,000      | 4/1/2036       | Highrise Roofs<br>Quad Renovations<br>Dining Hall Renovations  | 2002A  | Housing System<br>Housing System<br>Dining System  |
| 2012A   | General Revenue and Revenue Refunding Bonds | 47,835,000      | 4/1/2037       | Track<br><br>Softball Stadium<br>Residence Hall Bath HVAC<br>Jefferson Suites Residence Hall<br>Moore/Strong Renovation<br>Jefferson Suites Dining<br>Dining Hall Roof<br>Campus Police Building | 2004C<br><br>2004C<br>2002A<br><br>2004C<br>2004C<br>2004C           | Student Facilities<br><br>Student Facilities<br>Housing System<br>Housing System<br>Housing System<br>Dining System<br>Dining System<br>Auxiliary Administration |
| 2014    | General Revenue Bonds                       | 123,410,000     | 4/1/2039       | Student Recreation Center<br>Spartan Village Phase I   |  | Student Facilities<br>Housing System   |
| 2015    | General Revenue Refunding Bond              | 10,109,000      | 4/1/2026       | Baseball Stadium<br><br>Phillips-Hawkins Renvovation<br><br>Residence Hall Wiring<br><br>Walker/Mclver Parking Decks   | 2005A<br>2012B<br>2005A<br>2012B<br>2005A<br>2012B<br>2005A<br>2012B | Student Facilities<br><br>Housing System<br><br>Housing System<br><br>Parking System   |
| Total   |   | 305,664,000     |                |  |  |  |

## 7. Credit Profile

The following page provides a snapshot of UNCG's current credit ratings, along with (1) a summary of various credit factors identified in UNCG's most recent rating report and (2) recommendations for maintaining and improving UNCG's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains a Aa3 rating on the University's general revenue bonds. The outlook is stable.
- Standard and Poor's maintains an A+ rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Healthy operating and capital support from the Aaa-rated State of North Carolina
- Strategic, central location in a major urban center supports ongoing student demand and tuition revenue growth
- Consistently healthy operations and prudent financial management, reflected by a 15% cash flow margin and 2.9 times debt service coverage in FY 2015

### Credit Challenges

- High exposure to shifting conditions in North Carolina, with 40% of revenue from state appropriations and more than 90% of enrollment from in-state students
- Elevated 0.9 times debt to operating revenue, with relatively stagnant annual change in revenue
- Moderate liquidity profile compared to peers with 124 days cash on hand

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

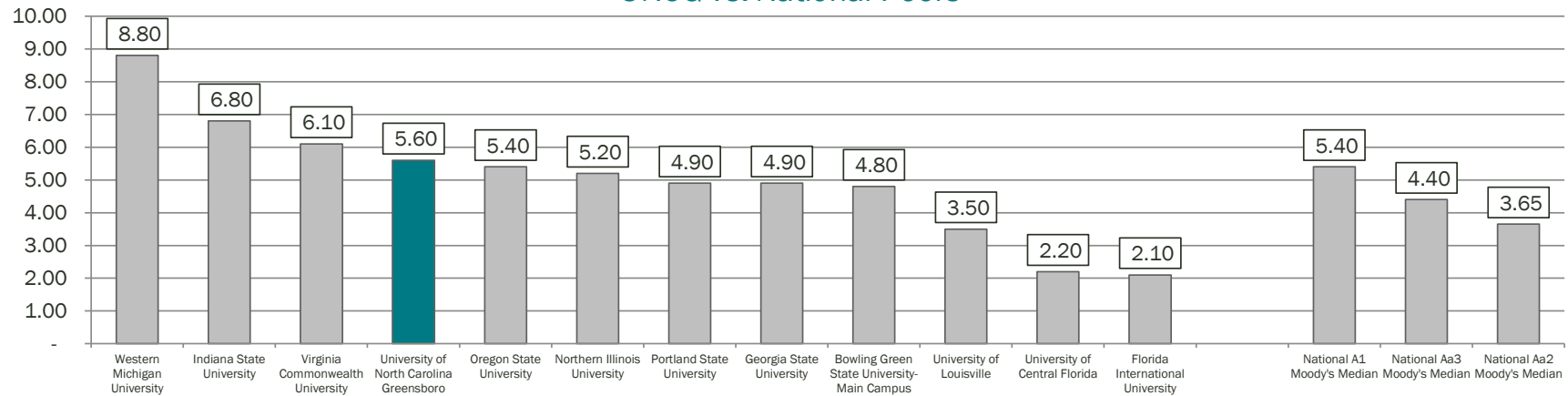
- Pursue strategies, working within the existing statutory framework relating to reversions, to increase liquidity through growth in cash reserves.
- Continue to seek strategies to limit new debt in the near term while addressing critical infrastructure needs, in accordance with the University's existing debt policy and in service of the University's other strategic initiatives.

## 8. Peer Comparison

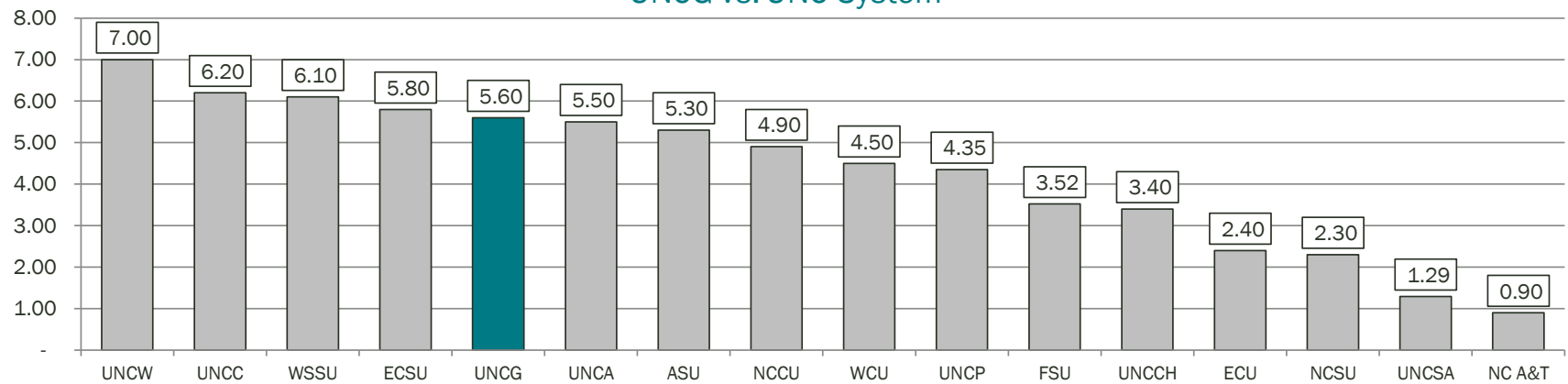
The following pages compare two measures of UNCG's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both UNCG and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

# Debt Service to Operating Expenses (%)

**Debt Service to Operating Expenses (%)**  
UNCG vs. National Peers



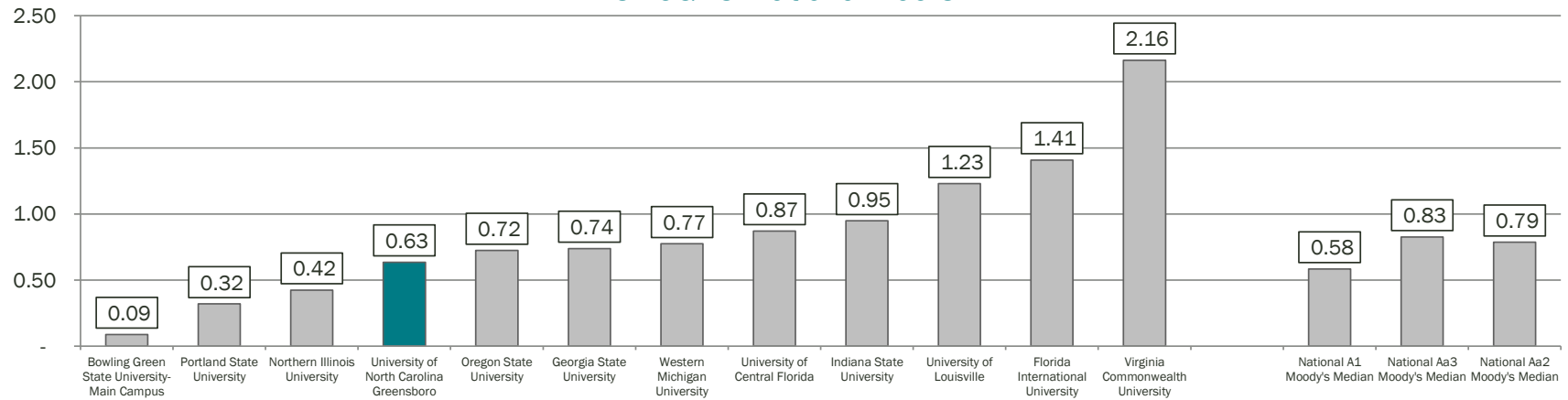
**Debt Service to Operating Expenses (%)**  
UNCG vs. UNC System



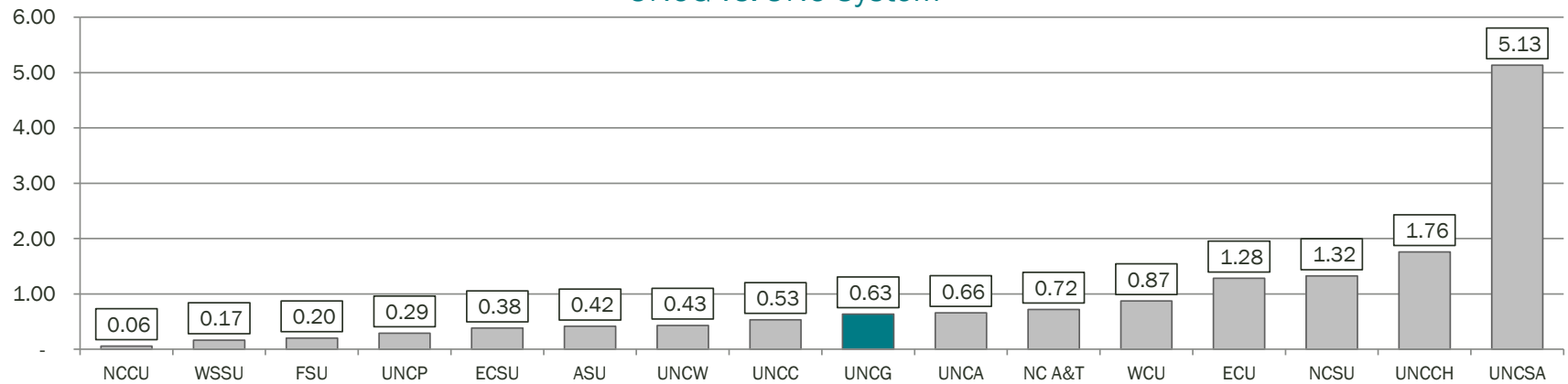
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

**Expendable Financial Resources to Debt**  
UNCG vs. National Peers



**Expendable Financial Resources to Debt**  
UNCG vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.



## 9. Debt Management Policies

UNCG's current debt policy is included in the following pages.

# Financial Services Policy 13 – Debt Policy

## A. Objectives:

1. Prudent utilization of debt to provide a low cost source of capital to fund capital projects and other strategic initiatives in order to achieve the University's mission and strategic objectives.
2. Management of the University's overall debt level in order to provide appropriate access to capital and to maintain a credit rating deemed acceptable by the Board. The minimum acceptable underlying rating for a University issue is the single "A" category by the major rating agencies.
3. Management of the University debt portfolio by balancing the goal of attaining the lowest cost of capital with the goal of minimizing interest rate risk.
4. Management of outstanding debt over time to achieve a low cost of capital and to take advantage of interest rate cycles and refunding opportunities.
5. Assure projects financed have a feasible plan of repayment.

## B. Legal Authority for Financings

University financings will conform to the authority granted by North Carolina and Federal laws.

### 1. General Revenue Bonds

The Board of Governors of the University of North Carolina is authorized under Chapter 116 of the General Statutes of North Carolina as amended, to issue, subject to the approval of the Director of Budget, at one time or from time to time, special obligation bonds of the Board, for the purpose of paying all or any part of the cost of acquiring, constructing or providing one or more capital facilities at UNCG or refunding any bonds issued under any provision of any Article of Chapter 116 for the benefit of UNCG.

### 2. Energy Savings Performance Contracts

UNCG has the power, pursuant to Chapter 142, Article 8 of the General Statutes of North Carolina, to enter into installment financing contracts to finance the purchase of personal property, including equipment for energy savings projects. For energy savings projects, approval is required by the Office of State Budget and Management, the State Treasurer, the State Energy Office, and the Council of State.

### 3. Interest Rate Swaps

Interest rate swaps and other derivative products are authorized under Chapter 159 of the General Statutes of North Carolina. In general, interest rate swaps are utilized to reduce the cost and/or risk of existing or planned University debt. By using swaps in a prudent manner, the University can take advantage of market opportunities to reduce debt service cost and/or interest rate risk. The use of swaps must be tied directly to University debt instruments. Swaps may not be utilized for speculative purposes.

### C. Assignment of Responsibilities

1. The University takes a comprehensive team approach relative to managing debt. The "Debt Management Team" consists of the Vice Chancellor for Business Affairs (VC – Business Affairs), the Associate Vice Chancellor for Finance (AVC – Finance), the Director of Financial Planning & Budgets (Budget Director), the University Controller (Controller), the Bond Legal Counsel (Bond Counsel), and the Financial Advisor.
2. The VC – Business Affairs participates in the executive level capital planning for all University Facilities. For Self-liquidating Capital Projects, the VC – Business Affairs coordinates through the Associate Vice Chancellor for Facilities, the development and periodic updating of the self-liquidating capital projects multi-year plan, which is the basis for defining the debt needs.
3. The AVC – Finance works closely with the VC – Business Affairs and the Budget Director in the selection of the primary advisors on debt. These primary advisors are the Bond Counsel and the Financial Advisor, who are engaged for a period of years, upon approval by the Vice President for Finance of the University of North Carolina. It is the AVC – Finance's role to work with the Financial Advisor and assess debt capacity based on the current outstanding debt and any planned issues, including the multi-year Self-Liquidating Capital Projects plan. If it is determined that the University will reach its debt capacity from issuing debt on the proposed projects, then priorities and timing will be addressed with the VC – Business Affairs and the project owners to best meet the overall needs of the University. During the year, the Associate Vice Chancellor for Finance meets periodically with the Financial Advisor and/or Bond Counsel other members of the Management Team to discuss debt needs, opportunities and options, including any upcoming debt issues and/or refundings. If action is warranted, the entire team is pulled together to decide upon the merits and, if justified, to define a plan to accomplish the debt issuance, refunding, swap, liquidation or other initiative.
4. It is the Budget Director's primary role to assemble the project description and required financial and statistical information, review the official statements and to do the reporting required by the SEC (NRMSIR).
5. It is the role of the Financial Advisor and Bond Counsel to recommend the approach and financing instrument to best meet the needs of the University and to coordinate the RFP and selection of financial institutions and/or underwriters. The Bond Counsel secures the most favorable terms and covenants, and coordinates the preparation of legal documents with input and review by the Debt Management Team. The Financial Advisor coordinates the preparation of the details of the financing and insurance or other credit enhancements. The Financial Advisor also coordinates review and rating by the appropriate rating agencies.
6. It is the Controller's primary role to coordinate receipt and distribution of proceeds, payments to fiscal agents, allocations of debt service payments to project owners, arbitrage calculations and reporting, and financial reporting.

### D. Debt Management Strategies

1. Fixed versus variable rate allocation

The University will assess prevailing market interest rates and the current debt mix to determine whether to issue fixed or variable rate debt. Variable rate debt can provide a lower cost of capital, but introduces additional risks. To limit this risk, variable rate debt will be no more than 40% of the overall debt outstanding.

Variable rate exposure may be achieved directly through debt issuance or indirectly by entering into an interest rate swap contract.

## 2. Methods of Sale

The University will consider various methods of sale. Negotiated and competitive sales will be considered on an individual transaction basis. Issue size and complexity will be factors in determining which method of sale to pursue. A retail sales approach may be implemented if deemed appropriate for the particular transaction.

## 3. Purchase of Insurance or Credit Enhancement

The University will evaluate insurance and credit enhancement opportunities and utilize them if they are deemed cost effective.

## 4. Refunding Targets

The University will monitor its debt portfolio for refunding and/or restructuring opportunities. Advance refunding transactions must weigh the current opportunity against possible future refunding opportunities. In general, for a stand-alone refunding, the University will enter into a transaction that produces greater than 3% net present value savings, with this threshold higher for those transactions with a long escrow, such as advance refundings. The savings threshold can be less for refundings combined with new issues or other refundings, or for business reasons such as freeing up a reserve fund.

## 5. Selection of Underwriters and Participants on the Selling Team

The University will utilize a request for proposal process to select senior and co-managing underwriters for University debt issuance. The University will reserve the right to utilize a competitive process for any debt issue.

## 6. Efficiency of Issuance

The University will combine capital projects within a reasonable time horizon into a single issuance to save costs, to the extent that it is feasible. For small issues even after combining, the University of North Carolina bond pool will be utilized if the timing meets UNCG's needs and it is cost effective and efficient for UNCG. For larger issues, the bond pool will be utilized if significant cost savings can be realized as well as being efficient and timely for UNCG. Stand alone issues will be utilized when in the best interest of UNCG upon approval of the Vice President for Finance.

## 7. Integrity of Revenue Streams

The revenue system (housing & dining, or parking, or student fees, etc.) for each self-liquidating capital project must stand on its own bottom line, supported by a revenue stream that can fully liquidate the debt

over the amortization period in a fiscally sound manner. Debt service costs will be allocated to the capital project owners in proportion to the projects participation in the borrowing.

8. Debt Service Leveling and Reserve for Variable Rate Debt Fluctuations

The University will allocate debt service costs on capital projects funded with variable rate debt to the capital project owners on a fixed rate basis, effective at the time of issue, over the course of the amortization period. The differences between the allocation and the actual debt service will be placed in a reserve and returned to the project owners at the end of the amortization period. This is effectively an internal hedge to protect business operations from wide fluctuation in variable rates over the life of the debt with a leveling factor. Interest income will be allocated to the reserve.

E. Debt Compliance and Reporting

1. Continuing Disclosure Compliance

The University will meet the ongoing disclosure requirements in accordance with SEC Rule 15c2-12 (NRMSIR). The University will submit all reporting required with respect to outstanding bonds or certificates of participation to which such Rule is applicable.

2. Arbitrage Rebate Compliance

The University will comply with arbitrage requirements on invested tax-exempt bond proceeds. Arbitrage calculations will be performed as needed.

# The University of North Carolina System Debt Capacity Study

University of North Carolina at Pembroke  
Campus Report

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), University of North Carolina at Pembroke (“**UNCP**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. UNCP has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, UNCP, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—UNCP has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, UNCP’s debt capacity reflects the amount of debt UNCP could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that UNCP intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- UNCP’s current debt profile, including project descriptions financed with, and the sources of repayment for, UNCP’s outstanding debt;
- UNCP’s current credit profile, along with recommendations for maintaining or improving UNCP’s credit rating; and
- A copy of any UNCP debt management policy currently in effect.

## Overview of UNCP

For the fall 2015 semester, UNCP had a headcount student population of approximately 6,441, including 5,680 undergraduate students and 761 graduate and doctoral students. During the 2015 academic year, UNCP employed approximately 450 full-time, part-time and temporary instructional faculty.

Over the past 10 years, UNCP’s enrollment has increased approximately 11%. UNCP expects modest enrollment growth over the Study Period. UNCP’s average age of plant (12.2 years) is lower than the median ratio for all Campuses (12.58 years). If an institution’s average age of plant is less than 14, then it generally indicates the institution is taking a sustainable approach to its deferred maintenance and reinvestment programs.

Since June 30, 2015, UNCP has issued \$3,620,000 in new money debt to address various campus infrastructure needs, including a Student Health Center.

UNCP does not anticipate significant additional borrowings during the Study Period. UNCP has made no changes to the financial model’s standard growth assumptions.



## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on UNCP's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to UNCP by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt UNCP expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate UNCP's current debt burden.

| 1                   | 2                          | 3                              | 4         | 5                     | 6                | 7         | 8            | 9            | 10                |
|---------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|-----------|--------------|--------------|-------------------|
| Obligated Resources |                            |                                |           |                       | Outstanding Debt |           |              |              |                   |
| Fiscal Year         | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal | Net Interest | Debt Service | Principal Balance |
| 2011                | 37,488,513                 | -                              |           | 37,488,513            | 2016             | 2,015,000 | 2,503,188    | 4,518,188    | 50,435,000        |
| 2012                | 38,623,593                 | -                              | 3.03%     | 38,623,593            | 2017             | 2,030,000 | 2,430,981    | 4,460,981    | 48,405,000        |
| 2013                | 37,348,755                 | -                              | -3.30%    | 37,348,755            | 2018             | 2,120,000 | 2,353,378    | 4,473,378    | 46,285,000        |
| 2014                | 37,193,989                 | -                              | -0.41%    | 37,193,989            | 2019             | 2,055,000 | 2,268,582    | 4,323,582    | 44,230,000        |
| 2015                | 26,674,316                 | 8,326,473                      | -5.90%    | 35,000,789            | 2020             | 1,890,000 | 2,186,021    | 4,076,021    | 42,340,000        |
| 2016                | 35,490,800                 | -                              | 1.40%     | 35,490,800            | 2021             | 1,975,000 | 2,108,100    | 4,083,100    | 40,365,000        |
| 2017                | 35,987,672                 | -                              | 1.40%     | 35,987,672            | 2022             | 1,985,000 | 2,025,993    | 4,010,993    | 38,380,000        |
| 2018                | 36,491,499                 | -                              | 1.40%     | 36,491,499            | 2023             | 2,080,000 | 1,938,643    | 4,018,643    | 36,300,000        |
| 2019                | 37,002,380                 | -                              | 1.40%     | 37,002,380            | 2024             | 2,095,000 | 1,846,129    | 3,941,129    | 34,205,000        |
| 2020                | 37,520,413                 | -                              | 1.40%     | 37,520,413            | 2025             | 2,020,000 | 1,753,160    | 3,773,160    | 32,185,000        |
|                     |                            |                                |           |                       | 2026             | 2,115,000 | 1,658,431    | 3,773,431    | 30,070,000        |
|                     |                            |                                |           |                       | 2027             | 2,325,000 | 1,559,600    | 3,884,600    | 27,745,000        |
|                     |                            |                                |           |                       | 2028             | 2,495,000 | 1,454,948    | 3,949,948    | 25,250,000        |
|                     |                            |                                |           |                       | 2029             | 2,275,000 | 1,338,995    | 3,613,995    | 22,975,000        |
|                     |                            |                                |           |                       | 2030             | 2,610,000 | 1,233,546    | 3,843,546    | 20,365,000        |
|                     |                            |                                |           |                       | 2031             | 2,750,000 | 1,112,960    | 3,862,960    | 17,615,000        |
|                     |                            |                                |           |                       | 2032             | 2,880,000 | 985,548      | 3,865,548    | 14,735,000        |
|                     |                            |                                |           |                       | 2033             | 2,140,000 | 865,483      | 3,005,483    | 12,595,000        |
|                     |                            |                                |           |                       | 2034             | 2,230,000 | 753,120      | 2,983,120    | 10,365,000        |
|                     |                            |                                |           |                       | 2035             | 1,615,000 | 636,030      | 2,251,030    | 8,750,000         |
|                     |                            |                                |           |                       | 2036             | 1,685,000 | 544,805      | 2,229,805    | 7,065,000         |
|                     |                            |                                |           |                       | 2037             | 1,760,000 | 449,439      | 2,209,439    | 5,305,000         |
|                     |                            |                                |           |                       | 2038             | 975,000   | 349,825      | 1,324,825    | 4,330,000         |
|                     |                            |                                |           |                       | 2039             | 1,015,000 | 285,738      | 1,300,738    | 3,315,000         |
|                     |                            |                                |           |                       | 2040             | 1,060,000 | 219,022      | 1,279,022    | 2,255,000         |
|                     |                            |                                |           |                       | 2041             | 1,105,000 | 149,349      | 1,254,349    | 1,150,000         |
|                     |                            |                                |           |                       | 2042             | 1,150,000 | 76,165       | 1,226,165    | -                 |

| Operating Expenses |                |        |
|--------------------|----------------|--------|
| Fiscal Year        | Operating Exp. | Growth |
| 2011               | 113,458,649    |        |
| 2012               | 109,573,451    | -3.42% |
| 2013               | 112,090,440    | 2.30%  |
| 2014               | 110,163,671    | -1.72% |
| 2015               | 113,351,360    | 2.89%  |
| 2016               | 114,938,279    | 1.40%  |
| 2017               | 116,547,415    | 1.40%  |
| 2018               | 118,179,079    | 1.40%  |
| 2019               | 119,833,586    | 1.40%  |
| 2020               | 121,511,256    | 1.40%  |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                                 | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|-----------------------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources <sup>3</sup> |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year                       | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                              | 13,888,997              | 3,265,551                         | -                                  | -                                     | -   |        | -                              | 17,154,548           |
| 2012                              | 17,433,700              | 3,059,112                         | -                                  | -                                     | 260,446   | 17.94% | -                              | 20,232,366           |
| 2013                              | 14,978,932              | 11,296,536                        | -                                  | -                                     | 704,925   | 26.38% | -                              | 25,570,542           |
| 2014                              | 13,380,928              | 15,899,562                        | -                                  | -                                     | 3,309,839   | 1.56%  | -                              | 25,970,652           |
| 2015                              | 3,065,037               | 15,801,611                        | -                                  | -                                     | 3,665,378   | -9.41% | 8,326,473                      | 23,527,744           |
| 2016                              | 11,550,991              | 16,022,833                        | -                                  | -                                     | 3,716,693   | 1.40%  | -                              | 23,857,132           |
| 2017                              | 11,712,705              | 16,247,153                        | -                                  | -                                     | 3,768,727   | 1.40%  | -                              | 24,191,132           |
| 2018                              | 11,876,683              | 16,474,613                        | -                                  | -                                     | 3,821,489   | 1.40%  | -                              | 24,529,808           |
| 2019                              | 12,042,957              | 16,705,258                        | -                                  | -                                     | 3,874,990   | 1.40%  | -                              | 24,873,225           |
| 2020                              | 12,211,558              | 16,939,132                        | -                                  | -                                     | 3,929,240   | 1.40%  | -                              | 25,221,450           |

## 3. Proposed Debt Financings

While UNCP evaluates its capital investment needs on a regular basis, UNCP currently has no legislatively approved projects that it anticipates financing during the Study Period.

## 4. Financial Ratios

### Debt to Obligated Resources

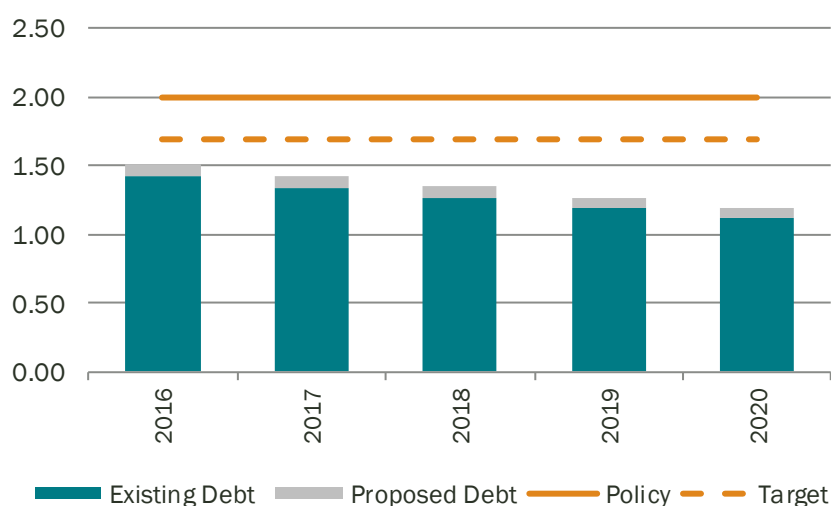
- **What does it measure?** UNCP's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.70
- Ceiling Ratio: Not to exceed 2.00
- Projected 2016 Ratio: 1.52
- Highest Study Period Ratio: 1.52 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 35,490,800          | 1.40%  | 50,435,000    | 3,420,000     | 1.42             | 0.10             | 1.52          |
| 2017                        | 35,987,672          | 1.40%  | 48,405,000    | 3,175,000     | 1.35             | 0.09             | 1.43          |
| 2018                        | 36,491,499          | 1.40%  | 46,285,000    | 2,925,000     | 1.27             | 0.08             | 1.35          |
| 2019                        | 37,002,380          | 1.40%  | 44,230,000    | 2,670,000     | 1.20             | 0.07             | 1.27          |
| 2020                        | 37,520,413          | 1.40%  | 42,340,000    | 2,405,000     | 1.13             | 0.06             | 1.19          |

### Debt to Obligated Resources



↑ Weaker  
↓ Stronger

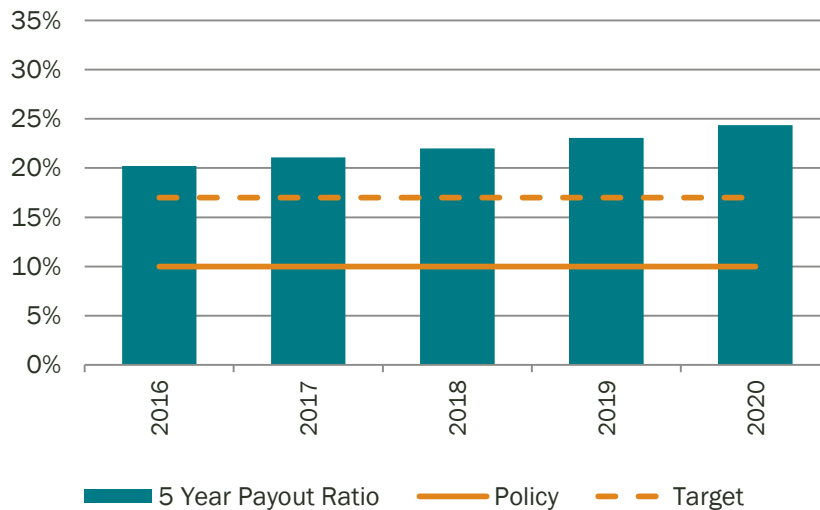
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of UNCP's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 17%
- Floor Ratio: Not less than 10%
- Projected 2016 Ratio: 20%
- Lowest Study Period Ratio: 20% (2016)

### 5-Year Payout Ratio

| 1                   | 2                 | 3     |
|---------------------|-------------------|-------|
| 5 Year Payout Ratio |                   |       |
| Fiscal Year         | Principal Balance | Ratio |
| 2016                | 53,855,000        | 20%   |
| 2017                | 51,580,000        | 21%   |
| 2018                | 49,210,000        | 22%   |
| 2019                | 46,900,000        | 23%   |
| 2020                | 44,745,000        | 24%   |

### 5-Year Payout Ratio



Stronger  
Weaker

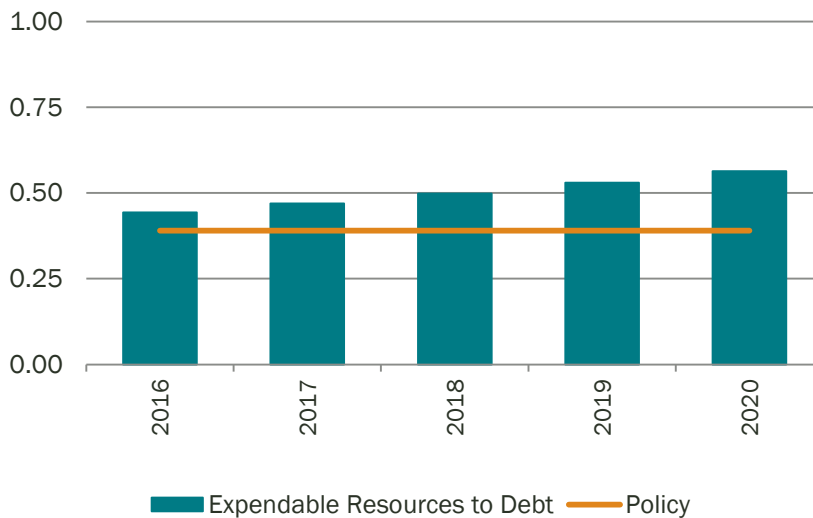
## Expendable Resources to Debt

- **What does it measure?** The number of times UNCP's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.39x
- Projected 2016 Ratio: 0.44x
- Lowest Study Period Ratio: 0.44x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 23,857,132           | 1.40%  | 50,435,000    | 3,420,000     | 0.47          | 0.44                     |
| 2017                         | 24,191,132           | 1.40%  | 48,405,000    | 3,175,000     | 0.50          | 0.47                     |
| 2018                         | 24,529,808           | 1.40%  | 46,285,000    | 2,925,000     | 0.53          | 0.50                     |
| 2019                         | 24,873,225           | 1.40%  | 44,230,000    | 2,670,000     | 0.56          | 0.53                     |
| 2020                         | 25,221,450           | 1.40%  | 42,340,000    | 2,405,000     | 0.60          | 0.56                     |

## Expendable Resources to Debt



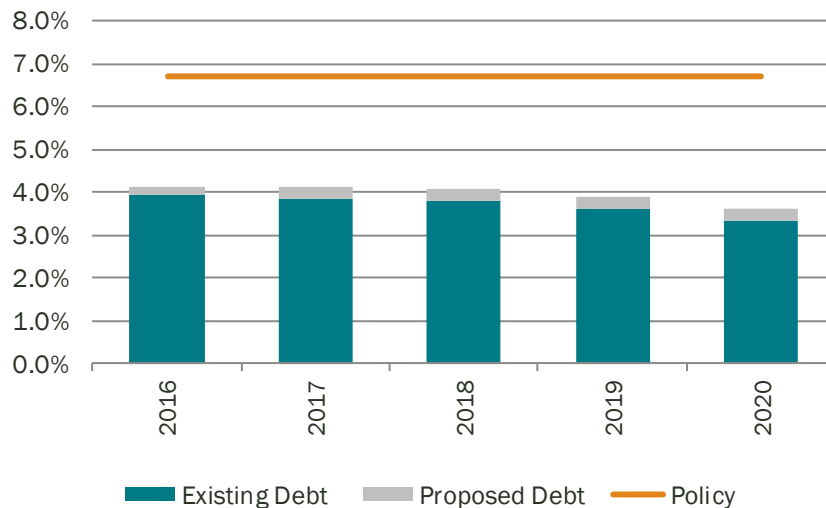
## Debt Service to Operating Expenses

- **What does it measure?** UNCP's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 6.70%
- Projected 2016 Ratio: 4.15%
- Highest Study Period Ratio: 4.15% (2016)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 114,938,279        | 1.40%  | 4,518,188   | 247,907     | 3.93%            | 0.22%            | 4.15%         |
| 2017                               | 116,547,415        | 1.40%  | 4,460,981   | 343,154     | 3.83%            | 0.29%            | 4.12%         |
| 2018                               | 118,179,079        | 1.40%  | 4,473,378   | 341,123     | 3.79%            | 0.29%            | 4.07%         |
| 2019                               | 119,833,586        | 1.40%  | 4,323,582   | 338,948     | 3.61%            | 0.28%            | 3.89%         |
| 2020                               | 121,511,256        | 1.40%  | 4,076,021   | 341,629     | 3.35%            | 0.28%            | 3.64%         |

### Debt Service to Operating Expenses



↑ Weaker  
↓ Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, UNCP's debt capacity is based on the amount of debt UNCP could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, UNCP's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, UNCP's current estimated debt capacity is **\$17,126,601**. After taking into account any legislatively approved projects detailed in **Section 3** above, if UNCP issued no additional debt until the last year of the Study Period, then UNCP's debt capacity for 2020 is projected to increase to **\$30,295,827**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.52  | 2.00                                  | 17,126,601    |
| 2017          | 1.43  | 2.00                                  | 20,395,343    |
| 2018          | 1.35  | 2.00                                  | 23,772,998    |
| 2019          | 1.27  | 2.00                                  | 27,104,760    |
| 2020          | 1.19  | 2.00                                  | 30,295,827    |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of UNCP's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If UNCP were to use all of its calculated debt capacity during the Study Period, UNCP's credit ratings may face significant downward pressure.**
- Projecting the exact amount UNCP could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would

have limited debt capacity for an extended period of time.

- **Factor Interdependence**

- The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
- For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.

- **Distortions Across Rating Categories**

- Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
- Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.



## 6. Debt Profile

UNCP's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## University of North Carolina at Pembroke

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                      | Par Outstanding | Final Maturity | Use of Funds  | Refunding | Source of Repayment  |
|--------|----------------------------------|-----------------|----------------|---|-----------|--|
| 2001A  | Student Housing Revenue Bonds    | 9,190,000       | 7/1/2031       | Courtyard Project   |           | Housing Lease Revenues   |
| 2003B  | UNC System Pool Revenue Bonds    | 1,410,000       | 4/1/2028       | Auxiliary Services Building<br>Recreational Facilities<br>University Center Renovations |           | Auxiliary Revenues<br>Auxiliary Revenues<br>Auxiliary Revenues |
| 2004   | Certificates of Participation    | 6,245,000       | 3/1/2034       | University Village Apartments   |           | Housing Lease Revenues   |
| 2006   | Certificates of Participation    | 11,825,000      | 3/1/2037       | Oak Hall  |           | Housing Lease Revenues   |
| 2006B  | UNC System Pool Revenue Bonds    | 1,825,000       | 10/1/2026      | Dining System<br>Recreational Facilities<br>University Center Expansion                 |           | Auxiliary Revenues<br>Auxiliary Revenues<br>Auxiliary Revenues |
| 2008A  | UNC System Pool Revenue Bonds    | 1,750,000       | 10/1/2033      | Athletic Fieldhouse   |           | Auxiliary Revenues   |
| 2010A  | Limited Obligation Bonds         | 870,000         | 3/1/2017       | Cypress Hall  |           | Housing Lease Revenues   |
| 2010B  | Taxable Limited Obligation Bonds | 18,435,000      | 3/1/2042       | Cypress Hall  |           | Housing Lease Revenues   |
| 2012   | Promissory Note                  | 900,000         |                |   |           |  |
| Total  |                                  | 52,450,000      |                |   |           |  |

### Summary of New Money Debt Issued During FYE June 30, 2016

| Series      | Description     | Par Outstanding | Final Maturity | Use of Funds                     | Refunding | Source of Repayment |
|-------------|-----------------|-----------------|----------------|----------------------------------|-----------|---------------------|
| Series 2015 | Promissory Note | 3,620,000       | 4/1/2025       | Student Health Services Building |           | Auxiliary Revenues  |
| Total       |                 | 3,620,000       |                |                                  |           |                     |

## 7. Credit Profile

The following page provides a snapshot of UNCP's current credit ratings, along with (1) a summary of various credit factors identified in UNCP's most recent rating report and (2) recommendations for maintaining and improving UNCP's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Standard and Poor's maintains an A- issuer credit rating for the University of North Carolina at Pembroke. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Historically strong, albeit recently reduced, state operating and capital support from North Carolina
- Average maximum annual debt service (MADS) burden of 4.1% compared to fiscal 2013 operating expenses with limited additional debt plans

### Credit Challenges

- Modest demand profile with historical enrollment fluctuations -- Enrollment, however, has stabilized recently
- Adequate financial resources for the rating category with adjusted fiscal 2013 unrestricted net assets equal to approximately 13% of operating expenses and 31% of outstanding debt
- Operating performance that is generally negative on a full-accrual basis, albeit positive on a cash basis.

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

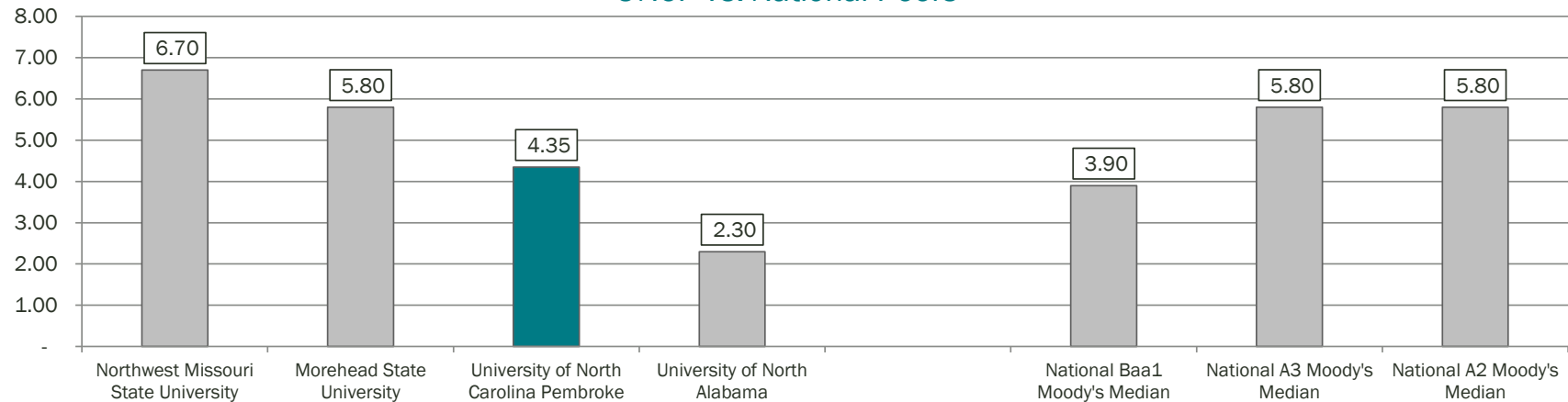
- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.
- Continue to develop and implement strategies and policies to meet the University's unique challenges, including strategies to stabilize and improve enrollment and revenue.

## 8. Peer Comparison

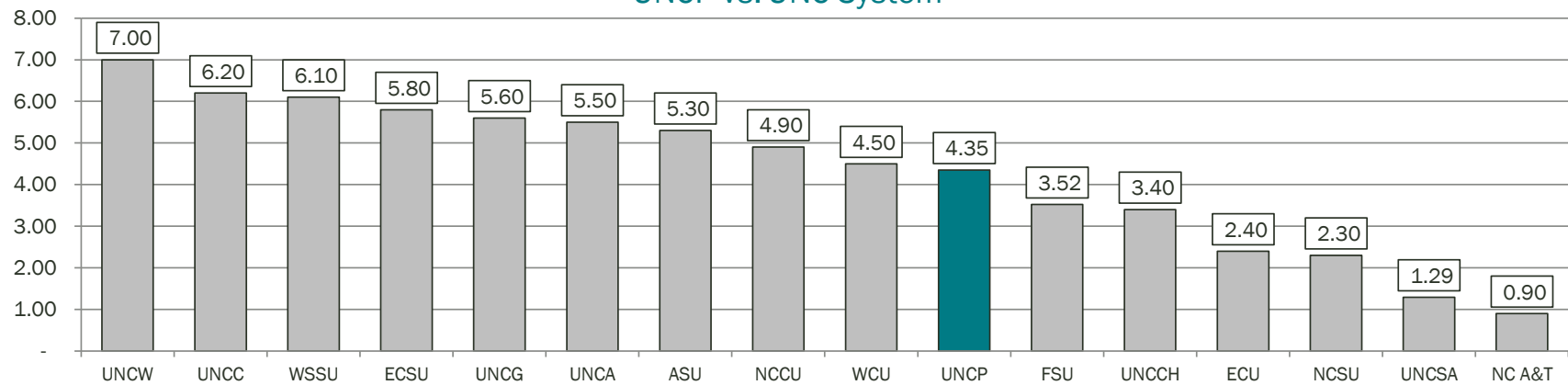
The following pages compare two measures of UNCP's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both UNCP and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

## Debt Service to Operating Expenses (%)

**Debt Service to Operating Expenses (%)**  
UNCP vs. National Peers



**Debt Service to Operating Expenses (%)**  
UNCP vs. UNC System

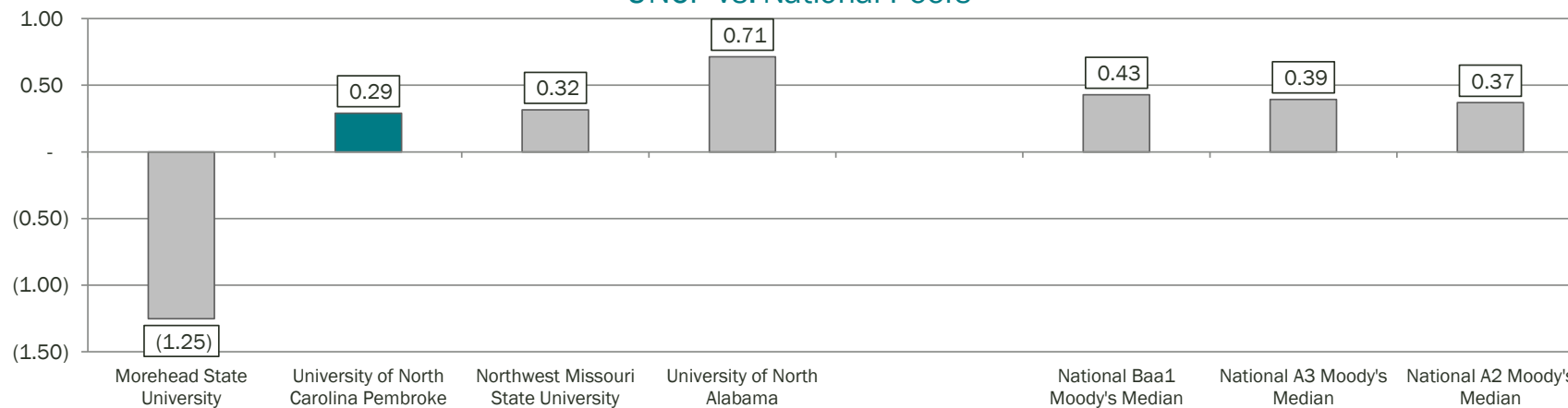


\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

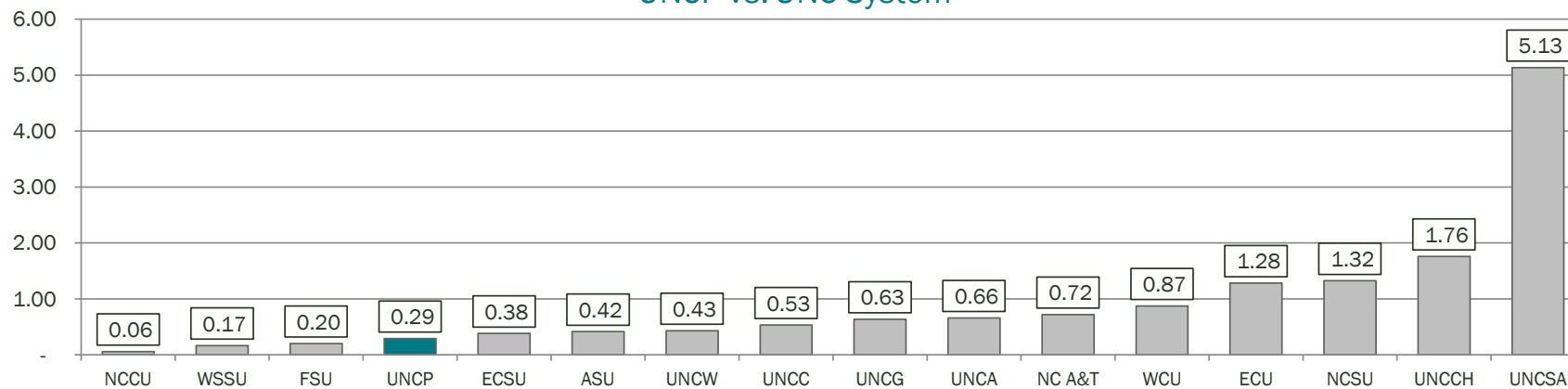
## Expendable Financial Resources to Debt

### UNCP vs. National Peers



## Expendable Financial Resources to Debt

### UNCP vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

UNCP does not currently have a debt policy.



# The University of North Carolina System Debt Capacity Study

University of North Carolina at Wilmington  
Campus Report

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), University of North Carolina at Wilmington (“**UNCW**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. UNCW has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, UNCW, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—UNCW has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, UNCW’s debt capacity reflects the amount of debt UNCW could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that UNCW intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- UNCW’s current debt profile, including project descriptions financed with, and the sources of repayment for, UNCW’s outstanding debt;
- UNCW’s current credit profile, along with recommendations for maintaining or improving UNCW’s credit rating; and
- A copy of any UNCW debt management policy currently in effect.

## Overview of UNCW

For the fall 2015 semester, UNCW had a headcount student population of approximately 14,900, including approximately 13,230 undergraduate students and 1,680 graduate and doctoral students. UNCW employs approximately 885 full-time, part-time and temporary instructional faculty.

Over the past 10 years, UNCW’s enrollment has increased approximately 23%. UNCW expects modest enrollment growth over the Study Period. UNCW’s average age of plant (11.72 years) is lower than the median ratio for all Campuses (12.58 years), generally reflecting a sustainable approach to its deferred maintenance and reinvestment programs.

UNCW does not anticipate significant additional borrowings during the Study Period.

UNCW has made no changes to the financial model’s standard growth assumptions.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on UNCW's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to UNCW by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt UNCW expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below overstate UNCW's current debt burden.

| 1                         | 2                          | 3                              | 4         | 5                     | 6                | 7          | 8            | 9            | 10                |
|---------------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|------------|--------------|--------------|-------------------|
| Obligated Resources       |                            |                                |           |                       | Outstanding Debt |            |              |              |                   |
| Fiscal Year               | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal  | Net Interest | Debt Service | Principal Balance |
| 2011                      | 135,205,824                | -                              |           | 135,205,824           | 2016             | 7,370,698  | 9,680,718    | 17,051,415   | 210,974,127       |
| 2012                      | 145,170,511                | -                              | 7.37%     | 145,170,511           | 2017             | 7,970,796  | 9,229,490    | 17,200,286   | 203,003,331       |
| 2013                      | 154,714,685                | -                              | 6.57%     | 154,714,685           | 2018             | 8,429,038  | 8,890,190    | 17,319,228   | 194,574,293       |
| 2014                      | 169,927,162                | -                              | 9.83%     | 169,927,162           | 2019             | 8,840,713  | 8,511,786    | 17,352,499   | 185,733,580       |
| 2015                      | 171,253,177                | 18,655,440                     | 11.76%    | 189,908,617           | 2020             | 8,743,277  | 8,166,114    | 16,909,391   | 176,990,303       |
| 2016                      | 192,567,338                | -                              | 1.40%     | 192,567,338           | 2021             | 9,246,760  | 7,816,443    | 17,063,203   | 167,743,544       |
| 2017                      | 195,263,280                | -                              | 1.40%     | 195,263,280           | 2022             | 9,651,194  | 7,408,242    | 17,059,435   | 158,092,350       |
| 2018                      | 197,996,966                | -                              | 1.40%     | 197,996,966           | 2023             | 10,016,611 | 6,997,553    | 17,014,165   | 148,075,739       |
| 2019                      | 200,768,924                | -                              | 1.40%     | 200,768,924           | 2024             | 9,563,046  | 6,584,941    | 16,147,987   | 138,512,693       |
| 2020                      | 203,579,689                | -                              | 1.40%     | 203,579,689           | 2025             | 9,950,534  | 6,184,545    | 16,135,078   | 128,562,159       |
| <b>Operating Expenses</b> |                            |                                |           |                       | 2026             | 10,452,159 | 5,761,964    | 16,214,123   | 118,110,000       |
| Fiscal Year               | Operating Exp.             | Growth                         |           |                       |                  |            |              |              |                   |
| 2011                      | 254,607,858                |                                |           |                       |                  |            |              |              |                   |
| 2012                      | 252,024,129                | -1.01%                         |           |                       |                  |            |              |              |                   |
| 2013                      | 267,913,557                | 6.30%                          |           |                       |                  |            |              |              |                   |
| 2014                      | 273,027,510                | 1.91%                          |           |                       |                  |            |              |              |                   |
| 2015                      | 277,216,966                | 1.53%                          |           |                       |                  |            |              |              |                   |
| 2016                      | 281,098,004                | 1.40%                          |           |                       |                  |            |              |              |                   |
| 2017                      | 285,033,376                | 1.40%                          |           |                       |                  |            |              |              |                   |
| 2018                      | 289,023,843                | 1.40%                          |           |                       |                  |            |              |              |                   |
| 2019                      | 293,070,177                | 1.40%                          |           |                       |                  |            |              |              |                   |
| 2020                      | 297,173,159                | 1.40%                          |           |                       |                  |            |              |              |                   |
|                           |                            |                                |           |                       | 2027             | 9,700,000  | 5,325,646    | 15,025,646   | 108,410,000       |
|                           |                            |                                |           |                       | 2028             | 9,870,000  | 4,968,015    | 14,838,015   | 98,540,000        |
|                           |                            |                                |           |                       | 2029             | 8,330,000  | 4,526,331    | 12,856,331   | 90,210,000        |
|                           |                            |                                |           |                       | 2030             | 8,755,000  | 4,120,542    | 12,875,542   | 81,455,000        |
|                           |                            |                                |           |                       | 2031             | 9,110,000  | 3,748,806    | 12,858,806   | 72,345,000        |
|                           |                            |                                |           |                       | 2032             | 9,535,000  | 3,326,826    | 12,861,826   | 62,810,000        |
|                           |                            |                                |           |                       | 2033             | 9,965,000  | 2,884,576    | 12,849,576   | 52,845,000        |
|                           |                            |                                |           |                       | 2034             | 10,420,000 | 2,430,043    | 12,850,043   | 42,425,000        |
|                           |                            |                                |           |                       | 2035             | 10,145,000 | 1,948,978    | 12,093,978   | 32,280,000        |
|                           |                            |                                |           |                       | 2036             | 10,610,000 | 1,464,093    | 12,074,093   | 21,670,000        |
|                           |                            |                                |           |                       | 2037             | 9,170,000  | 956,358      | 10,126,358   | 12,500,000        |
|                           |                            |                                |           |                       | 2038             | 6,845,000  | 521,605      | 7,366,605    | 5,655,000         |
|                           |                            |                                |           |                       | 2039             | 2,765,000  | 204,059      | 2,969,059    | 2,890,000         |
|                           |                            |                                |           |                       | 2040             | 2,890,000  | 80,592       | 2,970,592    | -                 |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 52,691,496              | 15,518,651                        | 1,234,459                          | 1,451,221                             | 1,912,289   |        | -                              | 68,983,538           |
| 2012                 | 59,963,981              | 13,841,797                        | 1,366,975                          | 918,946                               | -   | 10.30% | -                              | 76,091,699           |
| 2013                 | 83,087,026              | 27,596,752                        | 1,679,843                          | 1,113,956                             | 3,154,183   | 44.99% | -                              | 110,323,394          |
| 2014                 | 82,066,755              | 38,085,095                        | 817,894                            | 2,231,760                             | 8,372,658   | 4.08%  | -                              | 114,828,846          |
| 2015                 | 89,064,289              | 34,838,427                        | 874,725                            | 2,320,336                             | 3,807,417   | 23.62% | 18,655,440                     | 141,945,800          |
| 2016                 | 109,227,805             | 35,326,165                        | 886,971                            | 2,352,821                             | 3,860,721   | 1.40%  | -                              | 143,933,041          |
| 2017                 | 110,756,994             | 35,820,731                        | 899,389                            | 2,385,760                             | 3,914,771   | 1.40%  | -                              | 145,948,104          |
| 2018                 | 112,307,592             | 36,322,222                        | 911,980                            | 2,419,161                             | 3,969,578   | 1.40%  | -                              | 147,991,377          |
| 2019                 | 113,879,899             | 36,830,733                        | 924,748                            | 2,453,029                             | 4,025,152   | 1.40%  | -                              | 150,063,257          |
| 2020                 | 115,474,217             | 37,346,363                        | 937,694                            | 2,487,371                             | 4,081,504   | 1.40%  | -                              | 152,164,142          |

## 3. Proposed Debt Financings

While UNCW evaluates its capital investment needs on a regular basis, UNCW currently has no legislatively approved projects that it anticipates financing during the Study Period.

## 4. Financial Ratios

### Debt to Obligated Resources

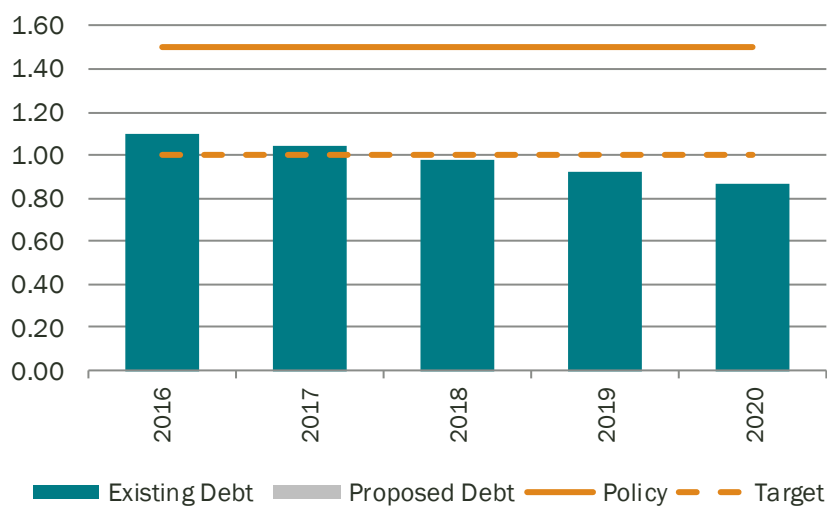
- **What does it measure?** UNCW's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.00
- Ceiling Ratio: Not to exceed 1.50
- Projected 2016 Ratio: 1.10
- Highest Study Period Ratio: 1.10 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 192,567,338         | 1.40%  | 210,974,127   | -             | 1.10             | n/a              | 1.10          |
| 2017                        | 195,263,280         | 1.40%  | 203,003,331   | -             | 1.04             | n/a              | 1.04          |
| 2018                        | 197,996,966         | 1.40%  | 194,574,293   | -             | 0.98             | n/a              | 0.98          |
| 2019                        | 200,768,924         | 1.40%  | 185,733,580   | -             | 0.93             | n/a              | 0.93          |
| 2020                        | 203,579,689         | 1.40%  | 176,990,303   | -             | 0.87             | n/a              | 0.87          |

### Debt to Obligated Resources



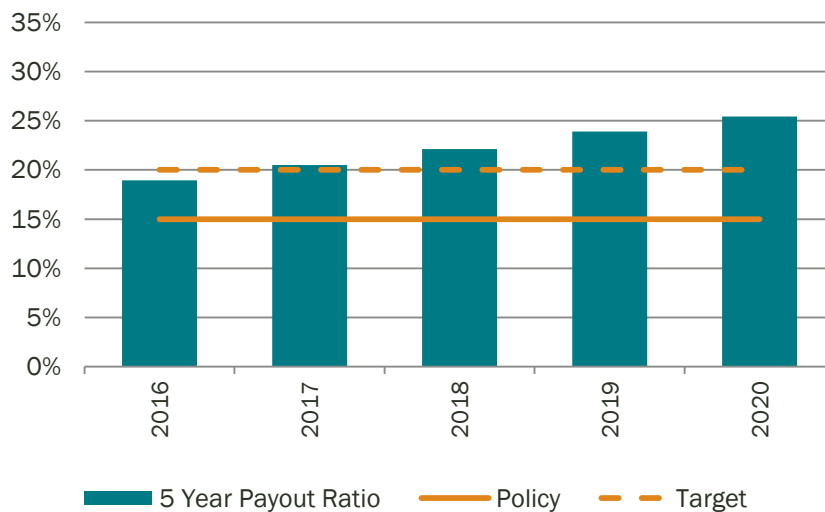
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of UNCW's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 20%
- Floor Ratio: Not less than 15%
- Projected 2016 Ratio: 19%
- Lowest Study Period Ratio: 19% (2016)

### 5-Year Payout Ratio

| 1                   | 2                 | 3     |
|---------------------|-------------------|-------|
| 5 Year Payout Ratio |                   |       |
| Fiscal Year         | Principal Balance | Ratio |
| 2016                | 210,974,127       | 19%   |
| 2017                | 203,003,331       | 20%   |
| 2018                | 194,574,293       | 22%   |
| 2019                | 185,733,580       | 24%   |
| 2020                | 176,990,303       | 25%   |

### 5-Year Payout Ratio



Stronger  
Weaker

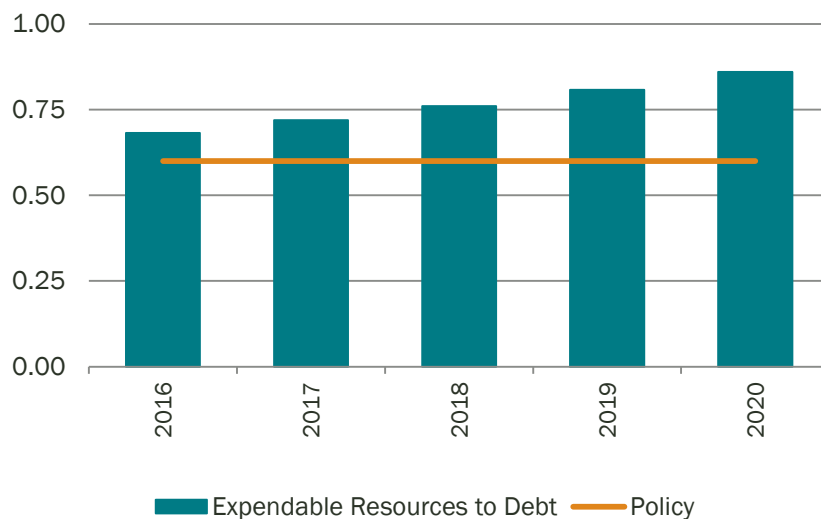
## Expendable Resources to Debt

- **What does it measure?** The number of times UNCW's liquid and expendable net assets cover its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.60x
- Projected 2016 Ratio: 0.68x
- Lowest Study Period Ratio: 0.68x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 143,933,041          | 1.40%  | 210,974,127   | -             | 0.68          | 0.68                     |
| 2017                         | 145,948,104          | 1.40%  | 203,003,331   | -             | 0.72          | 0.72                     |
| 2018                         | 147,991,377          | 1.40%  | 194,574,293   | -             | 0.76          | 0.76                     |
| 2019                         | 150,063,257          | 1.40%  | 185,733,580   | -             | 0.81          | 0.81                     |
| 2020                         | 152,164,142          | 1.40%  | 176,990,303   | -             | 0.86          | 0.86                     |

## Expendable Resources to Debt





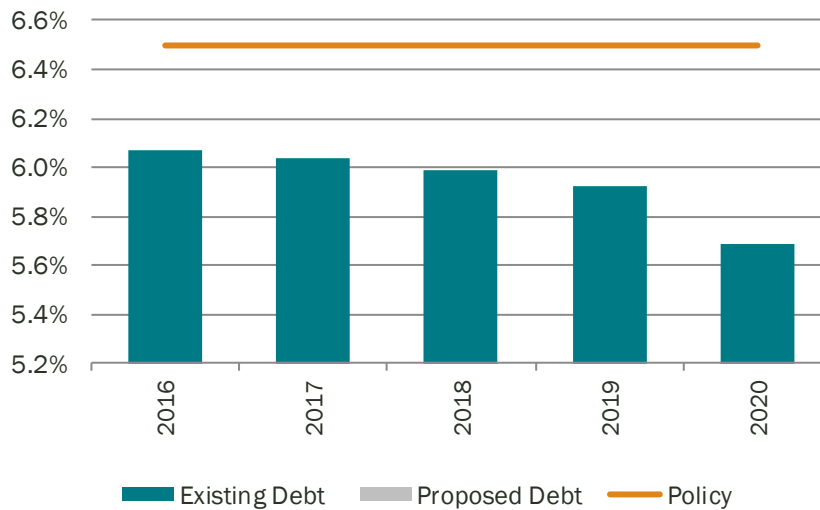
## Debt Service to Operating Expenses

- **What does it measure?** UNCW's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 6.50%
- Projected 2016 Ratio: 6.07%
- Highest Study Period Ratio: 6.07% (2016)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 281,098,004        | 1.40%  | 17,051,415  | -           | 6.07%            | n/a              | 6.07%         |
| 2017                               | 285,033,376        | 1.40%  | 17,200,286  | -           | 6.03%            | n/a              | 6.03%         |
| 2018                               | 289,023,843        | 1.40%  | 17,319,228  | -           | 5.99%            | n/a              | 5.99%         |
| 2019                               | 293,070,177        | 1.40%  | 17,352,499  | -           | 5.92%            | n/a              | 5.92%         |
| 2020                               | 297,173,159        | 1.40%  | 16,909,391  | -           | 5.69%            | n/a              | 5.69%         |

### Debt Service to Operating Expenses



↑ Weaker  
↓ Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, UNCW's debt capacity is based on the amount of debt UNCW could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, UNCW's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, UNCW's current estimated debt capacity is **\$77,876,880**. After taking into account any legislatively approved projects detailed in **Section 3** above, if UNCW issued no additional debt until the last year of the Study Period, then UNCW's debt capacity for 2020 is projected to increase to **\$128,379,230**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.10  | 1.50                                  | 77,876,880    |
| 2017          | 1.04  | 1.50                                  | 89,891,590    |
| 2018          | 0.98  | 1.50                                  | 102,421,156   |
| 2019          | 0.93  | 1.50                                  | 115,419,806   |
| 2020          | 0.87  | 1.50                                  | 128,379,230   |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of UNCW's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If UNCW were to use all of its calculated debt capacity during the Study Period, UNCW's credit ratings may face significant downward pressure.**
- Projecting the exact amount UNCW could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would

have limited debt capacity for an extended period of time.

- **Factor Interdependence**

- The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
- For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.

- **Distortions Across Rating Categories**

- Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
- Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

UNCW's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## University of North Carolina at Wilmington

2016 Debt Capacity Study

## Summary of Debt Outstanding as of FYE June 30, 2015

| Series    | Description                                  | Par Outstanding | Final Maturity | Use of Funds   | Refunding      | Source of Repayment   |
|-----------|--|-----------------|----------------|--|----------------|---|
| 2005A     | UNC System Pool Revenue Bonds                | 4,270,000       | 4/1/2019       | Student Dorms<br>Student Recreation Center   | 1997J<br>1998  | Housing Rents<br>Rec Center Debt Fee  |
| 2006A     | UNC System Pool Revenue Bonds                | 13,590,000      | 10/1/2033      | Student Union<br>Parking<br>Wagoner Dining Hall<br>Westside Student Health Center<br>Student Forms |                | Union Debt Fee<br>Parking Fees<br>Dining Revenues<br>Westside Debt Fee<br>Housing Rents |
| 2008      | Certificates of Participation                | 58,420,000      | 6/1/2038       | Seahawk Crossing<br><br>Parking Deck   |                | Net Revenues of Seahawk Crossing,<br>Dorm & Dining Revenues<br>Parking Fees             |
| 2010      | Taxable General Revenue Bonds (BABs)         | 14,255,000      | 1/1/2040       | MARBIONC Facility  |                | General Revenues  |
| 2010C     | UNC System Pool Revenue Bonds                | 25,730,000      | 10/1/2026      | Student Recreation Center<br>Student Recreation Center   | 2002A<br>2003A | Rec Center Debt Fee<br>Rec Center Debt Fee  |
| 2010D     | UNC System Taxable Pool Revenue Bonds (BABs) | 20,660,000      | 10/1/2039      | Student Recreation Center  |                | Rec Center Debt Fee   |
| 2011      | Schwartz & Wagner Renovation Projects        | 7,037,038       | 3/1/2026       | Student Dorm Renovations<br>Wagoner Dining Hall Renovation   |                | Housing Rents<br>Dining Revenues  |
| 2012      | General Revenue Refunding Bond               | 11,655,000      | 1/1/2028       | Student Union  | 2003A          | Union Debt Fee  |
| 2015      | Refunding Limited Obligation Bonds           | 59,550,000      | 6/1/2037       | Seahawk Crossing<br><br>Parking Deck   | 2005<br>2006   | Net Revenues of Seahawk Crossing,<br>Dorm & Dining Revenues<br>Parking Fees             |
| BB&T Note | Oleander One, LLC                            | 1,091,409       | 11/1/2016      | Commuter Parking Lot   |                | Parking Fees  |
| BB&T Note | College Station, LLC                         | 2,086,377       | 11/1/2016      | Osher Life Long Learning Center  |                | Dining Revenues   |
| Total     |  | 218,344,824     |                |  |                |   |

\*UNCW recently redeemed \$1,390,000 of the outstanding 2005A UNC System Pool Revenue Bonds issued on its behalf. Because this Campus Report is based on the University's outstanding debt as of June 30, 2015, that redemption is not reflected in the table above or in the financial ratios summarized in **Section 4**.

\*\*The 2008 Certificates of Participation and 2015 Limited Obligation Bonds are obligations of the UNCW Corporation, and the BB&T notes payable are obligations of the UNCW Corporation II. Both corporations are associated entities of UNCW whose financials are blended into UNCW's statements.

\*\*\*UNCW intends to refinance the BB&T notes payable in advance of the notes' November 2016 balloon maturities. The aggregate debt service schedules in **Section 2** reflect these anticipated refinancings, which contemplate level debt service through fiscal 2026.

## 7. Credit Profile

The following page provides a snapshot of UNCW's current credit ratings, along with (1) a summary of various credit factors identified in UNCW's most recent rating report and (2) recommendations for maintaining and improving UNCW's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains an A1 rating on the University's general revenue bonds. The outlook is positive.

## Key Information Noted in Reports

### Credit Strengths

- Established student demand with a desirable location in coastal North Carolina with strong marine sciences programs
- Consistently healthy operations with a 3% three-year average operating margin in FYs 2012- 2014
- Historically strong capital and operating support from the Aaa-rated State of North Carolina
- Fixed-rate debt structure that is amortizing

### Credit Challenges

- Thinner resource coverage of debt, with 0.6 times expendable financial resources to debt
- High debt to operating revenue
- Recent years of stagnant growth in state operating funding resulting in greater reliance on student charges relative to prior years
- Restriction on out-of-state enrollment tempers ability to grow net tuition revenue compared to other regional public universities

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

- Continue to develop initiatives to highlight and strengthen the University's distinctive market position.
- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.

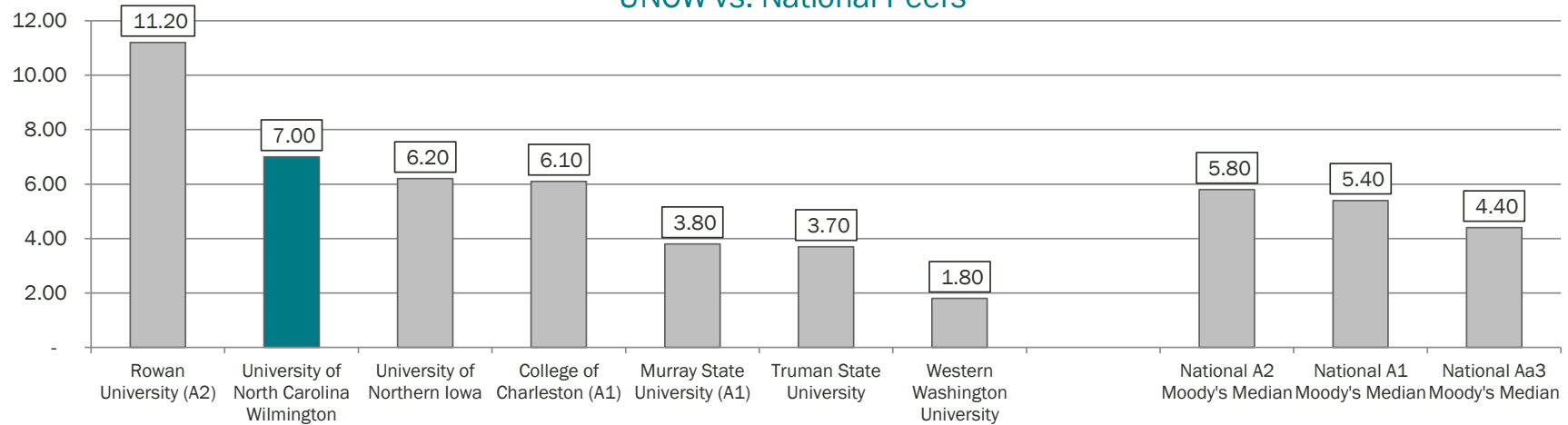
## 8. Peer Comparison

The following pages compare two measures of UNCW's debt burden--**expendable resources to debt** and **debt service to operating expenses**--to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both UNCW and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

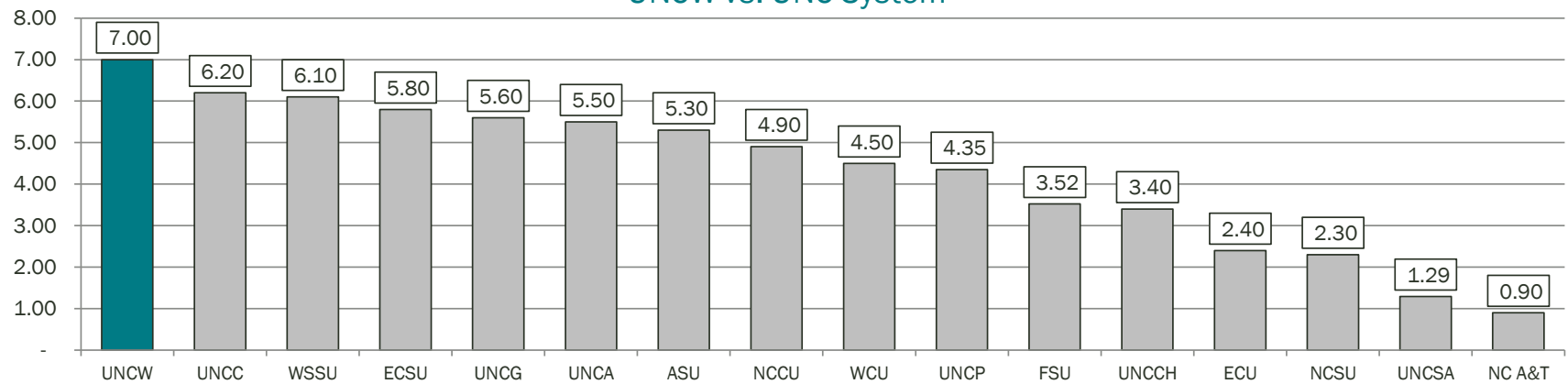


# Debt Service to Operating Expenses (%)

**Debt Service to Operating Expenses (%)**  
UNCW vs. National Peers



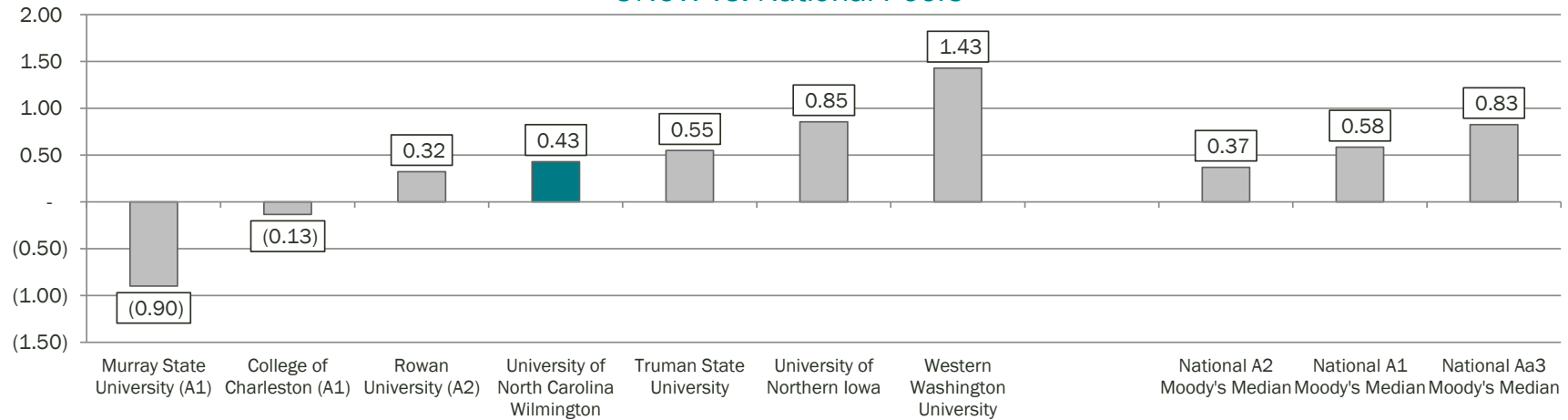
**Debt Service to Operating Expenses (%)**  
UNCW vs. UNC System



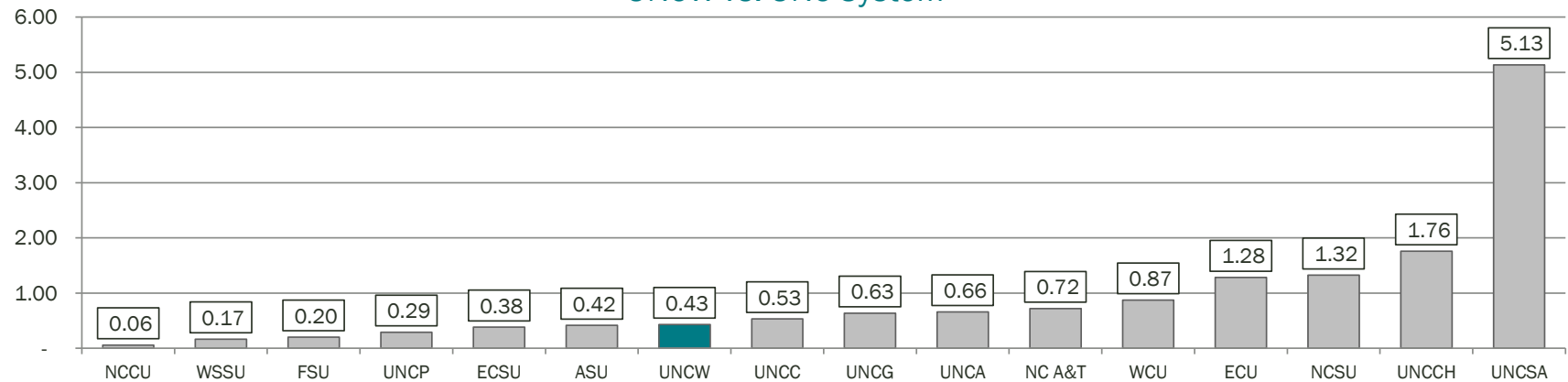
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

**Expendable Financial Resources to Debt**  
UNCW vs. National Peers



**Expendable Financial Resources to Debt**  
UNCW vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

UNCW does not currently have a debt policy.

# The University of North Carolina System Debt Capacity Study

University of North Carolina School of the Arts  
Campus Report

## Table of Contents

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), University of North Carolina School of the Arts (“**UNCSA**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. UNCSA has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, UNCSA, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—UNCSA has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, UNCSA’s debt capacity reflects the amount of debt UNCSA could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that UNCSA intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- UNCSA’s current debt profile, including project descriptions financed with, and the sources of repayment for, UNCSA’s outstanding debt;
- UNCSA’s current credit profile, along with recommendations for maintaining or improving UNCSA’s credit rating; and
- A copy of any UNCSA debt management policy currently in effect.

## Overview of UNCSA

For the fall 2015 semester, UNCSA had a headcount student population of 1240, including 270 High school students, 856 undergraduate students and 114 graduate students. During the 2015 academic year, UNCSA employed approximately 186 full-time, part-time and temporary instructional faculty.

Over the past 10 years, UNCSA’s enrollment has increased approximately 15%. UNCSA expects modest enrollment growth over the Study Period. UNCSA’s average age of plant (13.69 years) is higher than the median ratio for all Campuses (12.58 years). An average age of plant of less than 14 generally indicates the institution is taking a sustainable approach to its deferred maintenance and reinvestment programs.

UNCSA does not anticipate significant additional borrowings during the Study Period.

UNCSA has made no changes to the financial model’s standard growth assumptions.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on UNCSA's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to UNCSA by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt UNCSA expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below overstate UNCSA's current debt burden.

| 1                   | 2                          | 3                              | 4         | 5                     | 6                | 7         | 8            | 9            | 10                |
|---------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|-----------|--------------|--------------|-------------------|
| Obligated Resources |                            |                                |           |                       | Outstanding Debt |           |              |              |                   |
| Fiscal Year         | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal | Net Interest | Debt Service | Principal Balance |
| 2011                | 14,343,362                 | -                              |           | 14,343,362            | 2016             | 295,000   | 197,252      | 492,252      | 6,010,000         |
| 2012                | 16,171,412                 | -                              | 12.74%    | 16,171,412            | 2017             | 299,000   | 193,365      | 492,365      | 5,711,000         |
| 2013                | 18,586,292                 | -                              | 14.93%    | 18,586,292            | 2018             | 308,000   | 184,424      | 492,424      | 5,403,000         |
| 2014                | 19,063,524                 | -                              | 2.57%     | 19,063,524            | 2019             | 1,222,000 | 175,215      | 1,397,215    | 4,181,000         |
| 2015                | 20,568,158                 | 3,853,287                      | 28.11%    | 24,421,445            | 2020             | 327,000   | 145,374      | 472,374      | 3,854,000         |
| 2016                | 24,763,345                 | -                              | 1.40%     | 24,763,345            | 2021             | 336,000   | 115,235      | 451,235      | 3,518,000         |
| 2017                | 25,110,032                 | -                              | 1.40%     | 25,110,032            | 2022             | 346,000   | 105,188      | 451,188      | 3,172,000         |
| 2018                | 25,461,572                 | -                              | 1.40%     | 25,461,572            | 2023             | 357,000   | 94,843       | 451,843      | 2,815,000         |
| 2019                | 25,818,034                 | -                              | 1.40%     | 25,818,034            | 2024             | 368,000   | 84,169       | 452,169      | 2,447,000         |
| 2020                | 26,179,487                 | -                              | 1.40%     | 26,179,487            | 2025             | 378,000   | 73,165       | 451,165      | 2,069,000         |
|                     |                            |                                |           |                       | 2026             | 390,000   | 61,863       | 451,863      | 1,679,000         |
|                     |                            |                                |           |                       | 2027             | 401,000   | 50,202       | 451,202      | 1,278,000         |
|                     |                            |                                |           |                       | 2028             | 413,000   | 38,212       | 451,212      | 865,000           |
|                     |                            |                                |           |                       | 2029             | 426,000   | 25,864       | 451,864      | 439,000           |
|                     |                            |                                |           |                       | 2030             | 439,000   | 13,126       | 452,126      | -                 |
|                     |                            |                                |           |                       | 2031             |           |              | -            | -                 |
|                     |                            |                                |           |                       | 2032             |           |              | -            | -                 |
|                     |                            |                                |           |                       | 2033             |           |              | -            | -                 |
|                     |                            |                                |           |                       | 2034             |           |              | -            | -                 |
|                     |                            |                                |           |                       | 2035             |           |              | -            | -                 |
|                     |                            |                                |           |                       | 2036             |           |              | -            | -                 |
|                     |                            |                                |           |                       | 2037             |           |              | -            | -                 |
|                     |                            |                                |           |                       | 2038             |           |              | -            | -                 |
|                     |                            |                                |           |                       | 2039             |           |              | -            | -                 |
|                     |                            |                                |           |                       | 2040             |           |              | -            | -                 |

| Operating Expenses |                |        |
|--------------------|----------------|--------|
| Fiscal Year        | Operating Exp. | Growth |
| 2011               | 48,668,476     |        |
| 2012               | 47,573,757     | -2.25% |
| 2013               | 48,187,758     | 1.29%  |
| 2014               | 53,617,684     | 11.27% |
| 2015               | 58,920,287     | 9.89%  |
| 2016               | 59,745,171     | 1.40%  |
| 2017               | 60,581,603     | 1.40%  |
| 2018               | 61,429,746     | 1.40%  |
| 2019               | 62,289,762     | 1.40%  |
| 2020               | 63,161,819     | 1.40%  |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 9,898,191               | 4,038,339                         | (559,119)                          | 3,143,961                             | 1,005,845   |        | -                              | 15,515,526           |
| 2012                 | 11,951,657              | 3,353,207                         | 88,942                             | 3,669,877                             | 77,300  | 22.37% | -                              | 18,986,383           |
| 2013                 | 12,847,500              | 4,949,455                         | 335,295                            | 5,432,325                             | 246,511   | 22.81% | -                              | 23,318,063           |
| 2014                 | 11,779,653              | 7,064,252                         | 510,524                            | 8,138,594                             | -   | 17.90% | -                              | 27,493,023           |
| 2015                 | 12,224,133              | 9,018,787                         | 566,484                            | 11,781,428                            | 1,217,161   | 31.77% | 3,853,287                      | 36,226,958           |
| 2016                 | 16,302,504              | 9,145,050                         | 574,415                            | 11,946,368                            | 1,234,201   | 1.40%  | -                              | 36,734,136           |
| 2017                 | 16,530,739              | 9,273,080                         | 582,457                            | 12,113,617                            | 1,251,480   | 1.40%  | -                              | 37,248,414           |
| 2018                 | 16,762,170              | 9,402,904                         | 590,611                            | 12,283,208                            | 1,269,001   | 1.40%  | -                              | 37,769,891           |
| 2019                 | 16,996,840              | 9,534,544                         | 598,880                            | 12,455,173                            | 1,286,767   | 1.40%  | -                              | 38,298,670           |
| 2020                 | 17,234,796              | 9,668,028                         | 607,264                            | 12,629,545                            | 1,304,781   | 1.40%  | -                              | 38,834,851           |

## 3. Proposed Debt Financings

While UNCSA evaluates its capital investment needs on a regular basis, UNCSA currently has no legislatively approved projects that it anticipates financing during the Study Period.



## 4. Financial Ratios

### Debt to Obligated Resources

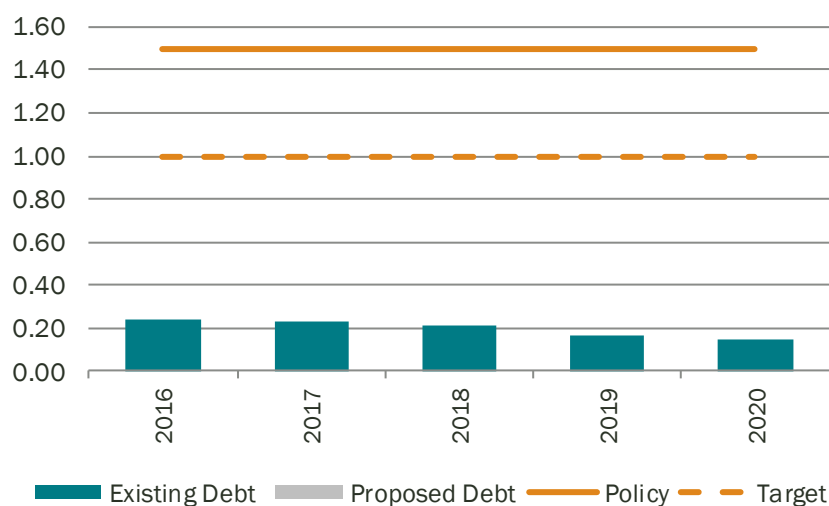
- **What does it measure?** UNCSA's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.00
- Ceiling Ratio: Not to exceed 1.50
- Projected 2016 Ratio: 0.24
- Highest Study Period Ratio: 0.24 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 24,763,345          | 1.40%  | 6,010,000     | -             | 0.24             | n/a              | 0.24          |
| 2017                        | 25,110,032          | 1.40%  | 5,711,000     | -             | 0.23             | n/a              | 0.23          |
| 2018                        | 25,461,572          | 1.40%  | 5,403,000     | -             | 0.21             | n/a              | 0.21          |
| 2019                        | 25,818,034          | 1.40%  | 4,181,000     | -             | 0.16             | n/a              | 0.16          |
| 2020                        | 26,179,487          | 1.40%  | 3,854,000     | -             | 0.15             | n/a              | 0.15          |

### Debt to Obligated Resources



## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of UNCSA's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 25%
- Floor Ratio: Not less than 12%
- Projected 2016 Ratio: 39%
- Lowest Study Period Ratio: 39% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 6,010,000           | 39%   |   |
| 2017        | 5,711,000           | 41%   |   |
| 2018        | 5,403,000           | 44%   |   |
| 2019        | 4,181,000           | 48%   |   |
| 2020        | 3,854,000           | 41%   |   |

### 5-Year Payout Ratio



Stronger  
Weaker

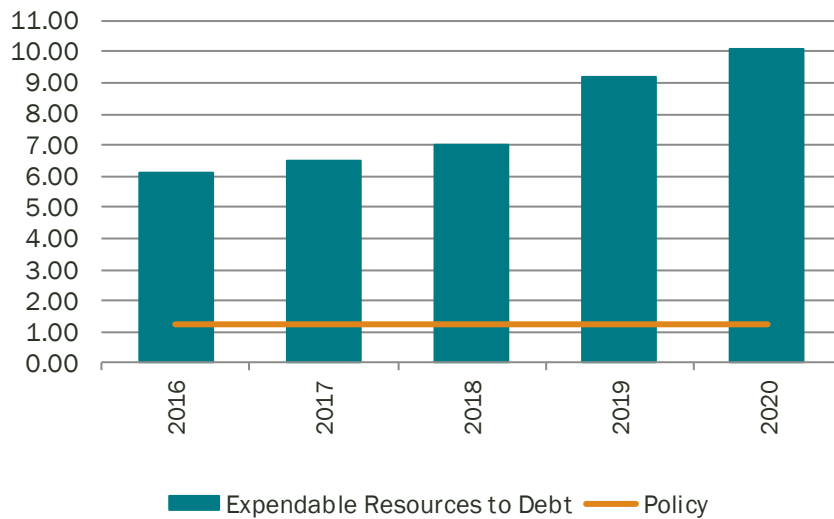
## Expendable Resources to Debt

- **What does it measure?** The number of times UNCSA's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 1.25x
- Projected 2016 Ratio: 6.11x
- Lowest Study Period Ratio: 6.11x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 36,734,136           | 1.40%  | 6,010,000     | -             | 6.11          | 6.11                     |
| 2017                         | 37,248,414           | 1.40%  | 5,711,000     | -             | 6.52          | 6.52                     |
| 2018                         | 37,769,891           | 1.40%  | 5,403,000     | -             | 6.99          | 6.99                     |
| 2019                         | 38,298,670           | 1.40%  | 4,181,000     | -             | 9.16          | 9.16                     |
| 2020                         | 38,834,851           | 1.40%  | 3,854,000     | -             | 10.08         | 10.08                    |

## Expendable Resources to Debt



Stronger  
Weaker

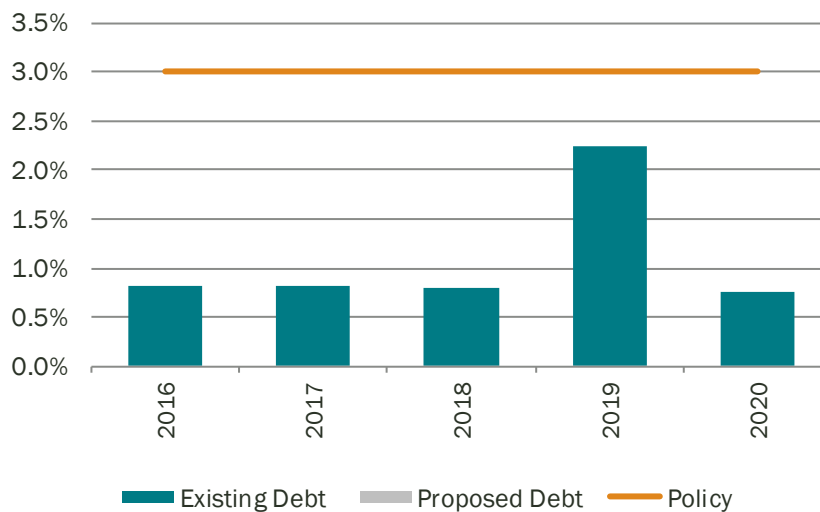
## Debt Service to Operating Expenses

- **What does it measure?** UNCOSA's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 3.00%
- Projected 2016 Ratio: 0.82%
- Highest Study Period Ratio: 2.24% (2019)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 59,745,171         | 1.40%  | 492,252     | -           | 0.82%            | n/a              | 0.82%         |
| 2017                               | 60,581,603         | 1.40%  | 492,365     | -           | 0.81%            | n/a              | 0.81%         |
| 2018                               | 61,429,746         | 1.40%  | 492,424     | -           | 0.80%            | n/a              | 0.80%         |
| 2019                               | 62,289,762         | 1.40%  | 1,397,215   | -           | 2.24%            | n/a              | 2.24%         |
| 2020                               | 63,161,819         | 1.40%  | 472,374     | -           | 0.75%            | n/a              | 0.75%         |

### Debt Service to Operating Expenses



\*After June 30, 2015, UNCOSA prepaid all of its obligations with respect to the 1998 UNC System Pool Revenue Bonds issued on its behalf, which were scheduled to mature in 2019. That prepayment is not reflected in the table above.

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, UNCSA's debt capacity is based on the amount of debt UNCSA could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, UNCSA's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, UNCSA's current estimated debt capacity is **\$31,135,018**. After taking into account any legislatively approved projects detailed in **Section 3** above, if UNCSA issued no additional debt until the last year of the Study Period, then UNCSA's debt capacity for 2020 is projected to increase to **\$35,415,230**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 0.24  | 1.50                                  | 31,135,018    |
| 2017          | 0.23  | 1.50                                  | 31,954,048    |
| 2018          | 0.21  | 1.50                                  | 32,789,359    |
| 2019          | 0.16  | 1.50                                  | 34,546,052    |
| 2020          | 0.15  | 1.50                                  | 35,415,230    |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of UNCSA's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If UNCSA were to use all of its calculated debt capacity during the Study Period, UNCSA's credit ratings may face significant downward pressure.**
- Projecting the exact amount UNCSA could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would

have limited debt capacity for an extended period of time.

- **Factor Interdependence**

- The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
- For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.

- **Distortions Across Rating Categories**

- Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
- Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

UNCSA's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## University of North Carolina School of the Arts

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                   | Par Outstanding | Final Maturity | Use of Funds            | Refunding | Source of Repayment |
|--------|-------------------------------|-----------------|----------------|-------------------------|-----------|---------------------|
| 1998B  | UNC System Pool Revenue Bonds | 905,000         | 10/1/2018      | Student Center Project  |           | Facility Debt Fee   |
| 2015   | Certificates of Participation | 5,400,000       | 6/1/2030       | Student Housing Project | 2005      | Student Fees        |
| Total  |                               | 6,305,000       |                |                         |           |                     |



---

## 7. Credit Profile

The following page provides a snapshot of UNCSA's historical key credit metrics, along with (1) a summary of various observations and (2) recommendations for maintaining and improving UNCSA's credit profile in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- The University currently has no public rating on its debt outstanding. Below is a historical trend analysis of UNCSCA's credit ratios:

|   | UNC School of the Arts |       |       |       | Moody's National Medians |       |
|---|------------------------|-------|-------|-------|--------------------------|-------|
|   | 2012                   | 2013  | 2014  | 2015  | 2015                     |       |
| Senior Most Rating                                | N/A                    | N/A   | N/A   | N/A   | A2                       | A3    |
| <b>RATIOS</b>                                     |                        |       |       |       |                          |       |
| Expendable financial resources-to-operations (x)  | 0.42                   | 0.51  | 0.54  | 0.58  | -                        | -     |
| Total Financial Resources-to-Operations (x)       | 1.25                   | 1.37  | 1.37  | 1.42  | -                        | -     |
| Expendable financial resources-to-direct debt (x) | 2.29                   | 3.00  | 3.79  | 5.13  | 0.37                     | 0.39  |
| Total cash & investments-to-direct debt (x)       | 2.06                   | 2.48  | 3.07  | 3.79  | -                        | -     |
| Debt service to operations (%)                    | 1.96                   | 1.88  | 1.66  | 1.29  | 5.80                     | 5.80  |
| <b>METRICS</b>                                    |                        |       |       |       |                          |       |
| Total Cash & Investments (\$, in millions)        | 17.04                  | 19.33 | 22.29 | 23.90 | -                        | -     |
| Total Financial Resources (\$, in millions)       | 55.67                  | 62.32 | 69.60 | 78.50 | -                        | -     |
| Expendable Financial Resources (\$, in millions)  | 18.99                  | 23.32 | 27.49 | 32.37 | 15.00                    | 13.00 |
| Total Direct Debt (\$, in millions)               | 8.28                   | 7.78  | 7.26  | 6.31  | 52.00                    | 54.00 |

## Credit Strengths and Challenges

### Credit Strengths

- Strong operating and capital support from the State of North Carolina
- Financial metrics trending in a positive direction

### Credit Challenges

- Small enrollment size

## Observations

- Since 2012, UNCSCA's key credit ratios have strengthened.
- Due to the University's low leverage (only \$7 million of debt vs. median levels of \$52 to \$54 million for A2 and A3 rated public institutions), the credit ratios are strong.
  - Given its relatively small size, however, UNCSCA's key credit ratios are more sensitive to changes in any single underlying factor, meaning its ratios may deteriorate quickly if either enrollment or revenues decline.

## Recommendations

- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.

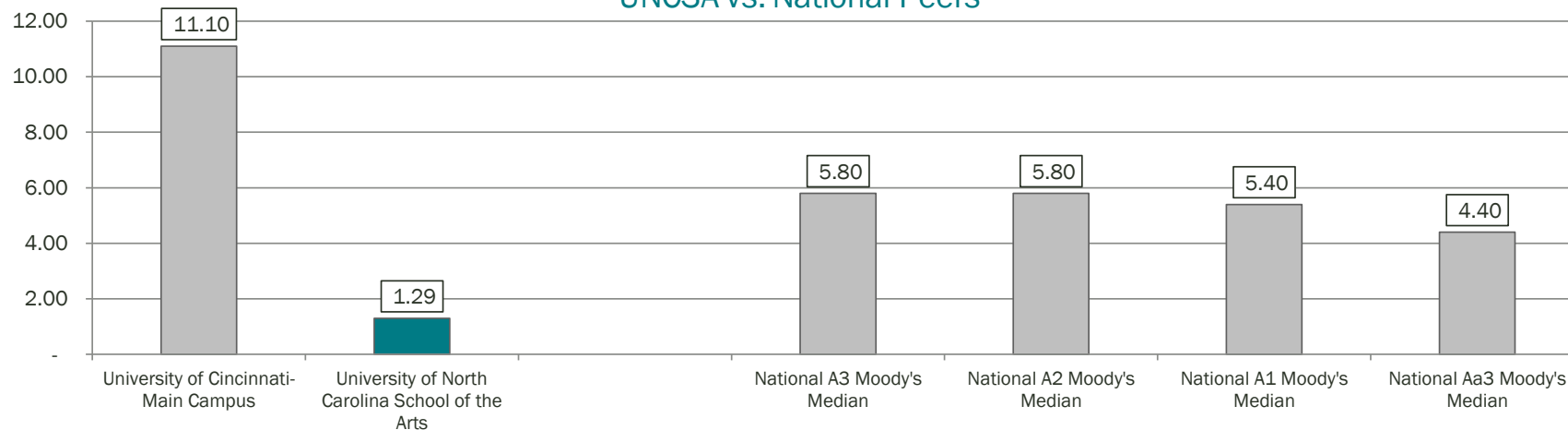
## 8. Peer Comparison

The following pages compare two measures of UNCSA's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both UNCSA and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

## Debt Service to Operating Expenses (%)

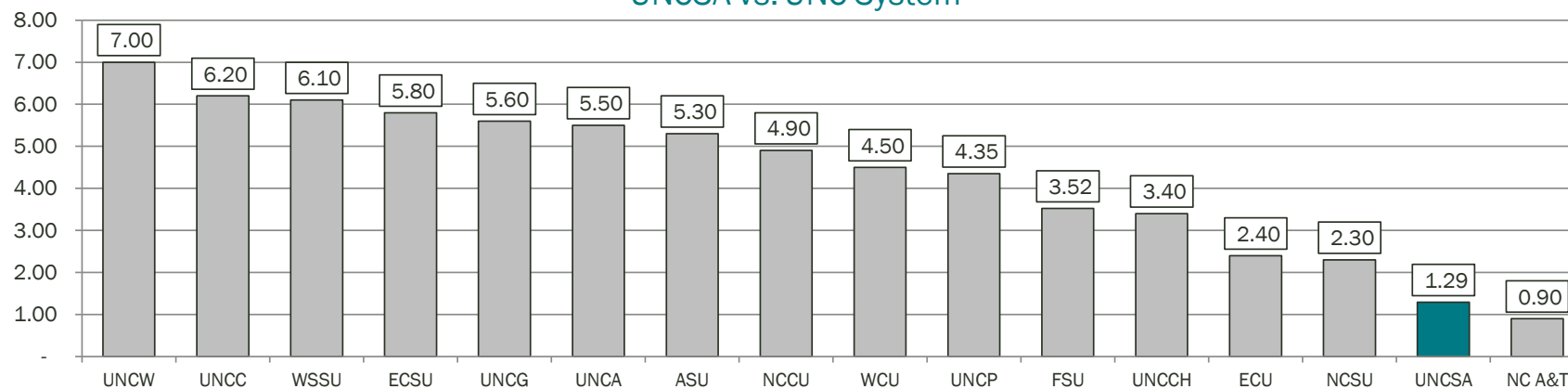
### Debt Service to Operating Expenses (%)

#### UNCSA vs. National Peers



### Debt Service to Operating Expenses (%)

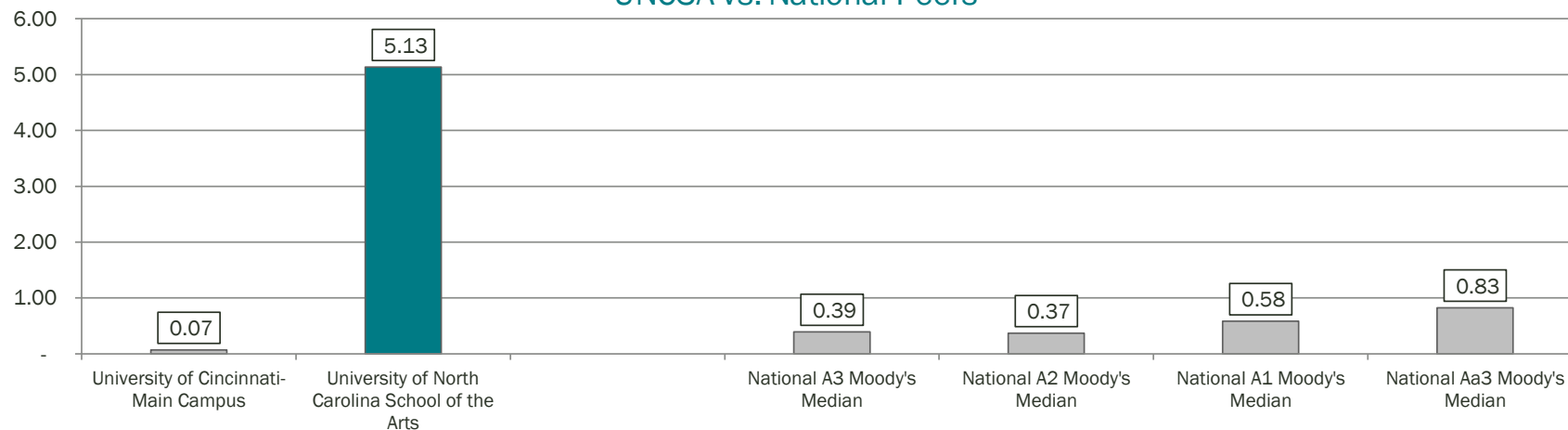
#### UNCSA vs. UNC System



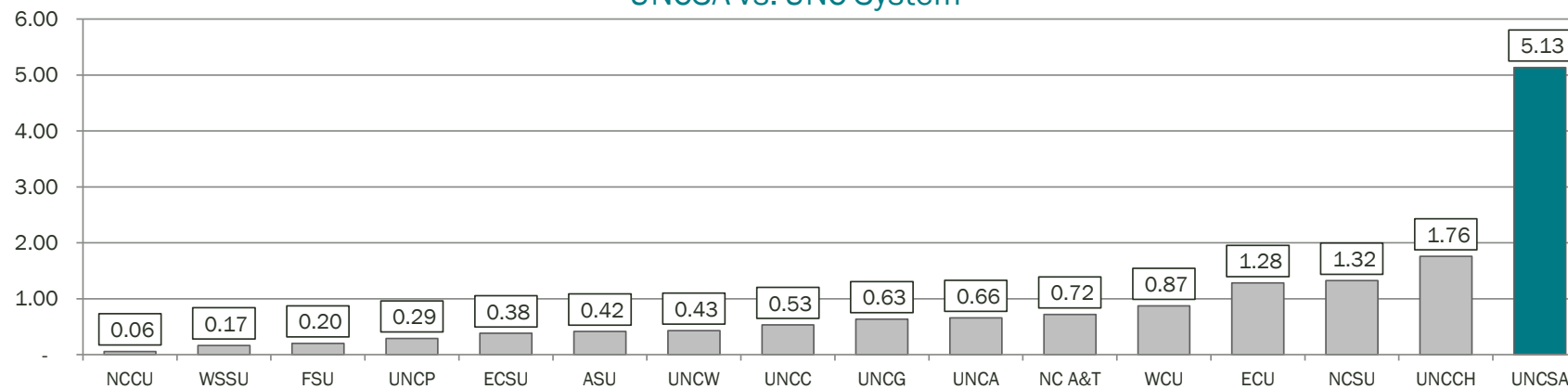
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

**Expendable Financial Resources to Debt**  
UNCSA vs. National Peers



**Expendable Financial Resources to Debt**  
UNCSA vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

UNCSA does not currently have a debt policy.

# The University of North Carolina System Debt Capacity Study

Western Carolina University  
Campus Report

## Table of Contents

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| 8. Peer Comparison           | 16 |
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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), Western Carolina University (“**WCU**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. WCU has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, WCU, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—WCU has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, WCU’s debt capacity reflects the amount of debt WCU could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that WCU intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- WCU’s current debt profile, including project descriptions financed with, and the sources of repayment for, WCU’s outstanding debt;
- WCU’s current credit profile, along with recommendations for maintaining or improving WCU’s credit rating; and
- A copy of any WCU debt management policy currently in effect.

## Overview of WCU

For the fall 2015 semester, WCU had a headcount student population of approximately 10,340, including 8,821 undergraduate students and 1,519 graduate and doctoral students. During the 2015 academic year, WCU employed approximately 690 full-time, part-time and temporary instructional faculty.

Over the past 10 years, WCU’s enrollment has increased approximately 17%. WCU expects modest enrollment growth over the Study Period. WCU’s average age of plant (14.63 years) is higher than the median ratio for all Campuses (12.58 years) but will likely decrease as the result of recent investments.

Since June 30, 2015, WCU has issued \$18,610,000 in new money debt to renovate the Brown Building, which houses food services and dining, residential living administration offices, campus student group offices and room for student support activities and student support units.

WCU does not anticipate significant additional borrowings during the Study Period.

WCU has made no changes to the financial model’s standard growth assumptions.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on WCU's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to WCU by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt WCU expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate WCU's current debt burden.

| 1                         | 2                          | 3                              | 4         | 5                     | 6                | 7         | 8            | 9            | 10                |
|---------------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|-----------|--------------|--------------|-------------------|
| Obligated Resources       |                            |                                |           |                       | Outstanding Debt |           |              |              |                   |
| Fiscal Year               | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal | Net Interest | Debt Service | Principal Balance |
| 2011                      | 86,826,244                 | -                              |           | 86,826,244            | 2016             | 3,625,000 | 4,766,019    | 8,391,019    | 102,625,000       |
| 2012                      | 86,510,740                 | -                              | -0.36%    | 86,510,740            | 2017             | 3,805,000 | 4,617,594    | 8,422,594    | 98,820,000        |
| 2013                      | 92,995,849                 | -                              | 7.50%     | 92,995,849            | 2018             | 3,940,000 | 4,463,519    | 8,403,519    | 94,880,000        |
| 2014                      | 95,239,071                 | -                              | 2.41%     | 95,239,071            | 2019             | 4,125,000 | 4,295,269    | 8,420,269    | 90,755,000        |
| 2015                      | 94,028,817                 | 13,498,574                     | 12.90%    | 107,527,391           | 2020             | 4,310,000 | 4,111,944    | 8,421,944    | 86,445,000        |
| 2016                      | 109,032,774                | -                              | 1.40%     | 109,032,774           | 2021             | 4,480,000 | 3,940,203    | 8,420,203    | 81,965,000        |
| 2017                      | 110,559,233                | -                              | 1.40%     | 110,559,233           | 2022             | 4,660,000 | 3,761,531    | 8,421,531    | 77,305,000        |
| 2018                      | 112,107,063                | -                              | 1.40%     | 112,107,063           | 2023             | 4,855,000 | 3,559,881    | 8,414,881    | 72,450,000        |
| 2019                      | 113,676,561                | -                              | 1.40%     | 113,676,561           | 2024             | 5,070,000 | 3,340,431    | 8,410,431    | 67,380,000        |
| 2020                      | 115,268,033                | -                              | 1.40%     | 115,268,033           | 2025             | 5,295,000 | 3,122,456    | 8,417,456    | 62,085,000        |
| <b>Operating Expenses</b> |                            |                                |           |                       | 2026             | 5,565,000 | 2,889,509    | 8,454,509    | 56,520,000        |
| Fiscal Year               | Operating Exp.             | Growth                         |           |                       |                  |           |              |              |                   |
| 2011                      | 172,784,503                |                                |           |                       |                  |           |              |              |                   |
| 2012                      | 176,779,590                | 2.31%                          |           |                       |                  |           |              |              |                   |
| 2013                      | 188,457,923                | 6.61%                          |           |                       |                  |           |              |              |                   |
| 2014                      | 194,683,028                | 3.30%                          |           |                       |                  |           |              |              |                   |
| 2015                      | 204,282,358                | 4.93%                          |           |                       |                  |           |              |              |                   |
| 2016                      | 207,142,311                | 1.40%                          |           |                       |                  |           |              |              |                   |
| 2017                      | 210,042,303                | 1.40%                          |           |                       |                  |           |              |              |                   |
| 2018                      | 212,982,895                | 1.40%                          |           |                       |                  |           |              |              |                   |
| 2019                      | 215,964,656                | 1.40%                          |           |                       |                  |           |              |              |                   |
| 2020                      | 218,988,161                | 1.40%                          |           |                       |                  |           |              |              |                   |
|                           |                            |                                |           |                       | 2027             | 5,465,000 | 2,643,156    | 8,108,156    | 51,055,000        |
|                           |                            |                                |           |                       | 2028             | 5,115,000 | 2,414,113    | 7,529,113    | 45,940,000        |
|                           |                            |                                |           |                       | 2029             | 4,460,000 | 2,183,896    | 6,643,896    | 41,480,000        |
|                           |                            |                                |           |                       | 2030             | 4,670,000 | 1,973,770    | 6,643,770    | 36,810,000        |
|                           |                            |                                |           |                       | 2031             | 4,890,000 | 1,752,098    | 6,642,098    | 31,920,000        |
|                           |                            |                                |           |                       | 2032             | 5,130,000 | 1,519,039    | 6,649,039    | 26,790,000        |
|                           |                            |                                |           |                       | 2033             | 4,740,000 | 1,273,029    | 6,013,029    | 22,050,000        |
|                           |                            |                                |           |                       | 2034             | 4,270,000 | 1,036,425    | 5,306,425    | 17,780,000        |
|                           |                            |                                |           |                       | 2035             | 2,945,000 | 863,175      | 3,808,175    | 14,835,000        |
|                           |                            |                                |           |                       | 2036             | 3,090,000 | 719,706      | 3,809,706    | 11,745,000        |
|                           |                            |                                |           |                       | 2037             | 3,240,000 | 569,175      | 3,809,175    | 8,505,000         |
|                           |                            |                                |           |                       | 2038             | 3,395,000 | 410,475      | 3,805,475    | 5,110,000         |
|                           |                            |                                |           |                       | 2039             | 3,565,000 | 244,175      | 3,809,175    | 1,545,000         |
|                           |                            |                                |           |                       | 2040             | 755,000   | 69,525       | 824,525      | 790,000           |
|                           |                            |                                |           |                       | 2041             | 790,000   | 35,550       | 825,550      | -                 |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 44,995,629              | 21,219,696                        | 2,106,508                          | -                                     | -   |        | -                              | 68,321,833           |
| 2012                 | 52,027,289              | 22,623,916                        | 2,790,287                          | -                                     | 1,666,821   | 10.91% | -                              | 75,774,671           |
| 2013                 | 57,685,982              | 28,995,469                        | -                                  | -                                     | 2,244,124   | 11.43% | -                              | 84,437,326           |
| 2014                 | 65,576,701              | 37,970,993                        | -                                  | -                                     | 5,572,267   | 16.03% | -                              | 97,975,427           |
| 2015                 | 61,189,878              | 38,491,125                        | -                                  | -                                     | 5,607,353   | 9.80%  | 13,498,574                     | 107,572,224          |
| 2016                 | 75,734,091              | 39,030,001                        | -                                  | -                                     | 5,685,856   | 1.40%  | -                              | 109,078,235          |
| 2017                 | 76,794,368              | 39,576,421                        | -                                  | -                                     | 5,765,458   | 1.40%  | -                              | 110,605,330          |
| 2018                 | 77,869,489              | 40,130,490                        | -                                  | -                                     | 5,846,174   | 1.40%  | -                              | 112,153,805          |
| 2019                 | 78,959,662              | 40,692,317                        | -                                  | -                                     | 5,928,021   | 1.40%  | -                              | 113,723,958          |
| 2020                 | 80,065,097              | 41,262,010                        | -                                  | -                                     | 6,011,013   | 1.40%  | -                              | 115,316,094          |

## 3. Proposed Debt Financings

While WCU evaluates its capital investment needs on a regular basis, WCU currently has no legislatively approved projects that it anticipates financing during the Study Period.

## 4. Financial Ratios

### Debt to Obligated Resources

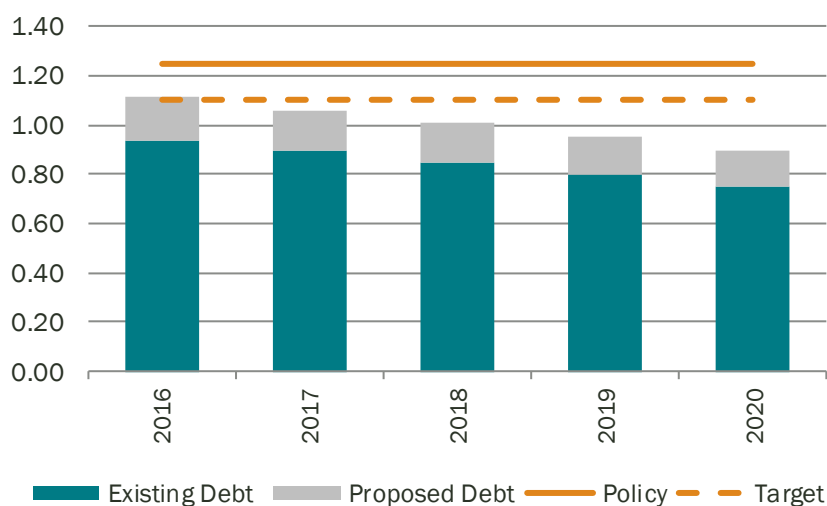
- **What does it measure?** WCU's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 1.10
- Ceiling Ratio: Not to exceed 1.25
- Projected 2016 Ratio: 1.11
- Highest Study Period Ratio: 1.11 (2016)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 109,032,774         | 1.40%  | 102,625,000   | 18,610,000    | 0.94             | 0.17             | 1.11          |
| 2017                        | 110,559,233         | 1.40%  | 98,820,000    | 18,285,000    | 0.89             | 0.17             | 1.06          |
| 2018                        | 112,107,063         | 1.40%  | 94,880,000    | 17,950,000    | 0.85             | 0.16             | 1.01          |
| 2019                        | 113,676,561         | 1.40%  | 90,755,000    | 17,605,000    | 0.80             | 0.15             | 0.95          |
| 2020                        | 115,268,033         | 1.40%  | 86,445,000    | 17,250,000    | 0.75             | 0.15             | 0.90          |

### Debt to Obligated Resources



## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of WCU's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 25%
- Floor Ratio: Not less than 15%
- Projected 2016 Ratio: 17%
- Lowest Study Period Ratio: 17% (2016)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 121,235,000         | 17%   |   |
| 2017        | 117,105,000         | 18%   |   |
| 2018        | 112,830,000         | 20%   |   |
| 2019        | 108,360,000         | 22%   |   |
| 2020        | 103,695,000         | 23%   |   |

### 5-Year Payout Ratio



Stronger  
↑  
↓  
Weaker

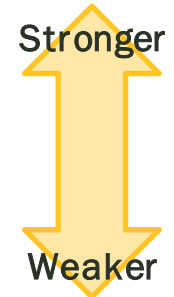
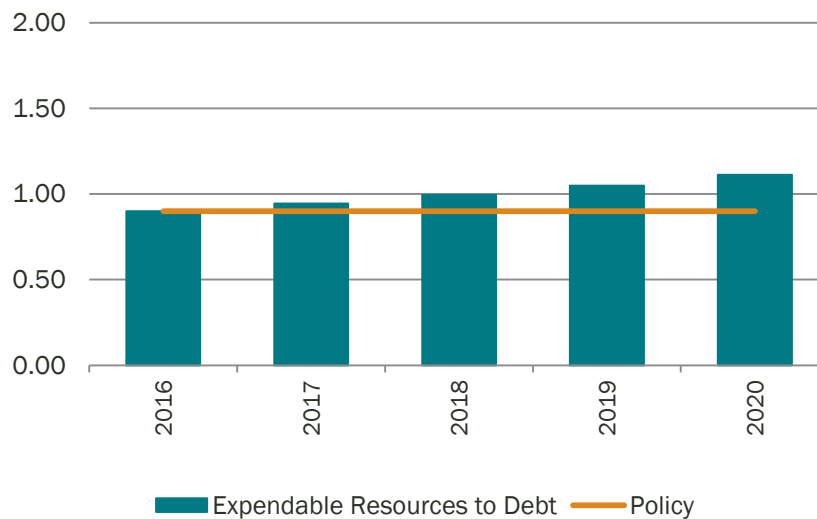
## Expendable Resources to Debt

- **What does it measure?** The number of times WCU's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.90x
- Projected 2016 Ratio: 0.90x
- Lowest Study Period Ratio: 0.90x (2016)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 109,078,235          | 1.40%  | 102,625,000   | 18,610,000    | 1.06          | 0.90                     |
| 2017                         | 110,605,330          | 1.40%  | 98,820,000    | 18,285,000    | 1.12          | 0.94                     |
| 2018                         | 112,153,805          | 1.40%  | 94,880,000    | 17,950,000    | 1.18          | 0.99                     |
| 2019                         | 113,723,958          | 1.40%  | 90,755,000    | 17,605,000    | 1.25          | 1.05                     |
| 2020                         | 115,316,094          | 1.40%  | 86,445,000    | 17,250,000    | 1.33          | 1.11                     |

## Expendable Resources to Debt



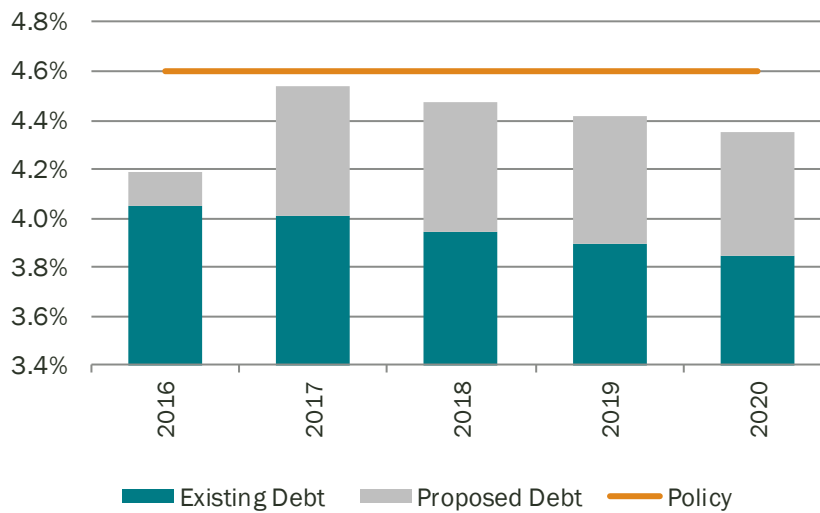
## Debt Service to Operating Expenses

- **What does it measure?** WCU's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 4.60%
- Projected 2016 Ratio: 4.19%
- Highest Study Period Ratio: 4.54% (2017)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 207,142,311        | 1.40%  | 8,391,019   | 292,240     | 4.05%            | 0.14%            | 4.19%         |
| 2017                               | 210,042,303        | 1.40%  | 8,422,594   | 1,117,144   | 4.01%            | 0.53%            | 4.54%         |
| 2018                               | 212,982,895        | 1.40%  | 8,403,519   | 1,117,244   | 3.95%            | 0.52%            | 4.47%         |
| 2019                               | 215,964,656        | 1.40%  | 8,420,269   | 1,117,044   | 3.90%            | 0.52%            | 4.42%         |
| 2020                               | 218,988,161        | 1.40%  | 8,421,944   | 1,114,769   | 3.85%            | 0.51%            | 4.35%         |

### Debt Service to Operating Expenses



Weaker  
↑  
↓  
Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, WCU's debt capacity is based on the amount of debt WCU could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, WCU's current debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, WCU's current estimated debt capacity is **\$15,055,968**. After taking into account any legislatively approved projects detailed in **Section 3** above, if WCU issued no additional debt until the last year of the Study Period, then WCU's debt capacity for 2020 is projected to increase to **\$40,390,042**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 1.11  | 1.25                                  | 15,055,968    |
| 2017          | 1.06  | 1.25                                  | 21,094,042    |
| 2018          | 1.01  | 1.25                                  | 27,303,828    |
| 2019          | 0.95  | 1.25                                  | 33,735,702    |
| 2020          | 0.90  | 1.25                                  | 40,390,042    |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of WCU's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- If WCU were to use all of its calculated debt capacity during the Study Period, WCU's credit ratings may face significant downward pressure.**
- Projecting the exact amount WCU could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would



have limited debt capacity for an extended period of time.

- **Factor Interdependence**

- The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
- For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.

- **Distortions Across Rating Categories**

- Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
- Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

WCU's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## Western Carolina University

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series | Description                        | Par Outstanding | Final Maturity | Use of Funds  | Refunding      | Source of Repayment                              |
|--------|------------------------------------|-----------------|----------------|---|----------------|--|
| 2003A  | UNC System Pool Revenue Bonds      | 2,435,000       | 4/1/2028       | Athletic Facilities<br>Student Recreation Center                              |                | Student Fees<br>Student Fees                     |
| 2006A  | UNC System Pool Revenue Bonds      | 8,140,000       | 10/1/2026      | Student Center<br>Athletic Facilities   | 2000<br>2002A  | Student Fees<br>Student Fees                     |
| 2008   | Certificates of Participation      | 41,350,000      | 6/1/2032       | Student Housing Projects  |                | Housing Revenues                                 |
| 2008A  | UNC System Pool Revenue Bonds      | 18,640,000      | 10/1/2033      | Student Recreation Center<br>Dining Hall Facility                             | BoA Loan       | Student Fees<br>Student Fees                     |
| 2011B  | UNC System Pool Revenue Bonds      | 18,895,000      | 4/1/2021       | Student Housing - Harrill<br>Athletic Facilities<br>Student Recreation Center | 2003A<br>2003A | Housing Revenues<br>Student Fees<br>Student Fees |
| 2013   | Refunding Limited Obligation Bonds | 8,755,000       | 6/1/2039       | Student Housing Projects  |                | Housing Revenues                                 |
| 2015   | Refunding Limited Obligation Bonds | 8,035,000       | 6/1/2033       | Student Housing Projects  |                | Housing Revenues                                 |
| Total  |                                    | 106,250,000     |                |   |                |  |

### Summary of New Money Debt Issued During FYE June 30, 2016

| Series | Description           | Par Outstanding | Final Maturity | Use of Funds     | Refunding | Source of Repayment |
|--------|-----------------------|-----------------|----------------|------------------|-----------|---------------------|
| 2015A  | General Revenue Bonds | 18,610,000      | 10/1/2045      | Brown Renovation |           | Student Fees        |
| Total  |                       | 18,610,000      |                |                  |           |                     |

## 7. Credit Profile

The following page provides a snapshot of WCU's current credit ratings, along with (1) a summary of various credit factors identified in WCU's most recent rating report and (2) recommendations for maintaining and improving WCU's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains a Aa3 rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Consistently positive operating performance
- Strong financial support from the State of North Carolina (Aaa stable)
- Stable student demand

### Credit Challenges

- Relatively small size
- Narrow geographic reach compared to similarly rated peers
- Elevated leverage
- Highly competitive student market.

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

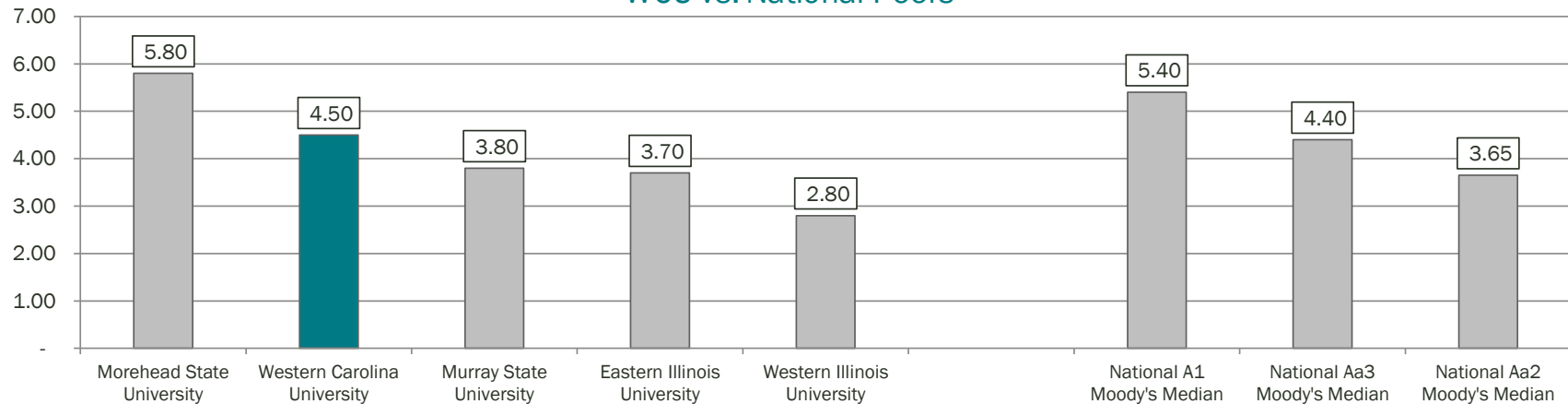
- In light of the University's (1) relatively small size for its current rating category and (2) its projected capital investment needs in the coming years, evaluate whether it may be in the University's best interests to seek a strategic downgrade.
- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.

## 8. Peer Comparison

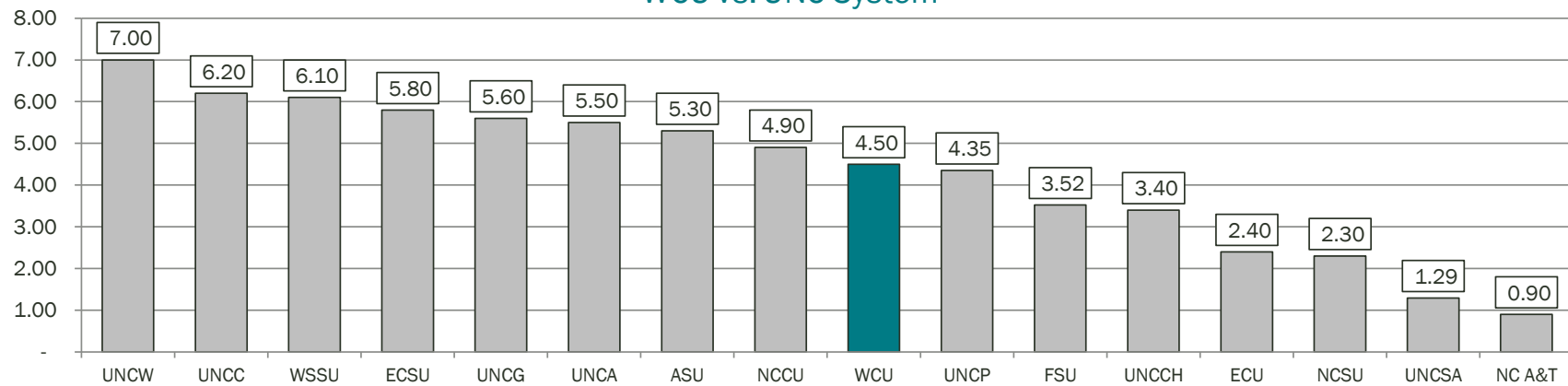
The following pages compare two measures of WCU's debt burden—**expendable resources to debt** and **debt service to operating expenses**—to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both WCU and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

## Debt Service to Operating Expenses (%)

**Debt Service to Operating Expenses (%)**  
WCU vs. National Peers



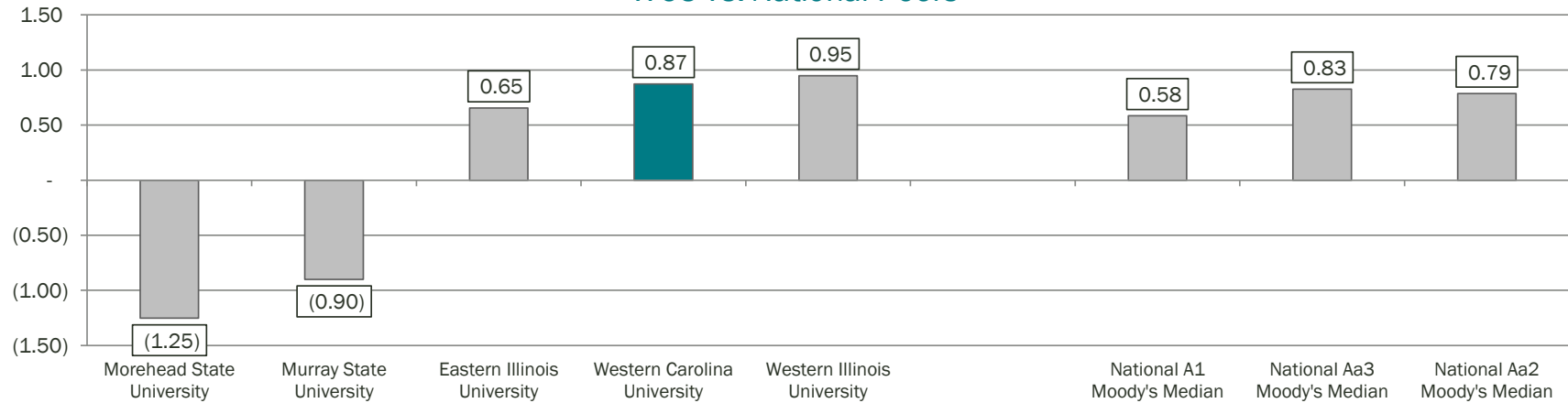
**Debt Service to Operating Expenses (%)**  
WCU vs. UNC System



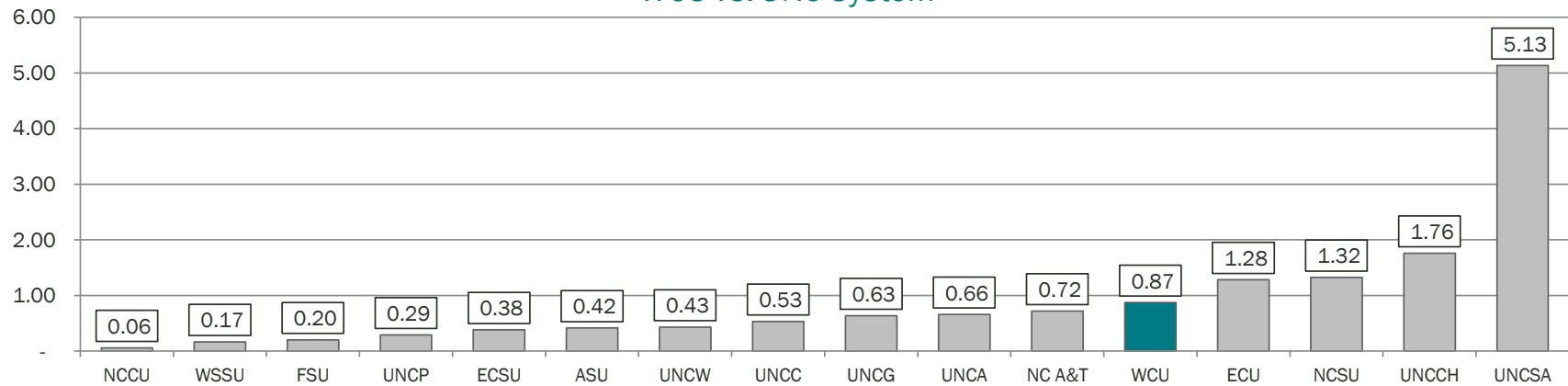
\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

**Expendable Financial Resources to Debt**  
WCU vs. National Peers



**Expendable Financial Resources to Debt**  
WCU vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.



## 9. Debt Management Policies

WCU does not currently have a debt policy.

# The University of North Carolina System Debt Capacity Study

Winston Salem State University  
Campus Report

## Table of Contents

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# 1. Executive Summary

## Overview of the Campus Report

Pursuant to Article 5 of Chapter 116D of the North Carolina General Statutes (the “**Act**”), Winston Salem State University (“**WSSU**”) has submitted this report (this “**Campus Report**”) as part of the annual debt capacity study (the “**Study**”) undertaken by The University of North Carolina (the “**University**”) in accordance with the Act. Each defined term used but not defined in this Campus Report has the meaning given to such term in the Study.

This Campus Report details the historical and projected financial information incorporated into the financial model developed in connection with the Study. WSSU has used the model to calculate and project the following four financial ratios:

- Debt to Obligated Resources
- Five-Year Payout Ratio
- Expendable Resources to Debt
- Debt Service to Operating Expenses

See **Appendix A** to the Study for more information on the ratios and related definitions.

To produce a tailored, meaningful model, WSSU, in consultation with General Administration, has set its own policies for each model ratio. For the two statutorily-required ratios—**debt to obligated resources** and the **five-year payout ratio**—WSSU has set both a target policy and a floor or ceiling policy, as applicable.

For the purposes of the Study, WSSU’s debt capacity reflects the amount of debt WSSU could issue during the Study Period without exceeding its ceiling ratio for **debt to obligated resources**, after taking into account debt the General Assembly has previously approved that WSSU intends to issue during the Study Period. Details regarding each approved project are provided in Section 3.

This Campus Report also includes the following information required by the Act:

- WSSU’s current debt profile, including project descriptions financed with, and the sources of repayment for, WSSU’s outstanding debt;
- WSSU’s current credit profile, along with recommendations for maintaining or improving WSSU’s credit rating; and
- A copy of any WSSU debt management policy currently in effect.

## Overview of WSSU

For the fall 2015 semester, WSSU had a headcount student population of approximately 5,107, including 4,686 undergraduate students and 421 graduate and doctoral students. During the 2015 academic year, WSSU employed approximately 350 full-time, part-time and temporary instructional faculty.

Over the past 10 years, WSSU’s enrollment has decreased approximately 10%. WSSU expects enrollment to remain relatively stable over the Study Period. WSSU’s average age of plant (11.99 years) is lower than the median ratio for all Campuses (12.58 years). If an institution’s average age of plant is less than 14, then it generally indicates the institution is taking a sustainable approach to its deferred maintenance and reinvestment programs.

WSSU anticipates incurring approximately \$43.3 million in additional debt during the Study Period, as summarized in **Section 3** below.

WSSU has made no changes to the financial model’s standard growth assumptions.

## 2. Campus Data

### Notes

- Obligated Resources equals Available Funds plus an adjustment for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.
- Outstanding debt service is based on WSSU's outstanding debt **as of June 30, 2015**, excluding state appropriated debt (such as energy savings contracts). Debt service is net of any interest subsidies owed to WSSU by the federal government (discounted by an assumed 7.2% sequestration rate) and uses reasonable unhedged variable rate assumptions.
- New money debt issued **after June 30, 2015**, together with any legislatively approved debt WSSU expects to issue during the Study Period, **are included** in the model as "proposed debt service" and are taken into account in the projected financial ratios shown in this Campus Report.
- Repayments, redemptions or refundings that have occurred **after June 30, 2015** are not included in the model, meaning the debt service schedules reflected below may overstate WSSU's current debt burden.

| 1                   | 2                          | 3                              | 4         | 5                     | 6                | 7         | 8            | 9            | 10                |
|---------------------|----------------------------|--------------------------------|-----------|-----------------------|------------------|-----------|--------------|--------------|-------------------|
| Obligated Resources |                            |                                |           |                       | Outstanding Debt |           |              |              |                   |
| Fiscal Year         | Available Funds (Reported) | Add Back Net Impact of GASB 68 | AF Growth | Total Available Funds | Fiscal Year      | Principal | Net Interest | Debt Service | Principal Balance |
| 2011                | 30,417,497                 | -                              |           | 30,417,497            | 2016             | 3,365,000 | 3,948,909    | 7,313,909    | 82,155,000        |
| 2012                | 29,617,895                 | -                              | -2.63%    | 29,617,895            | 2017             | 3,495,000 | 3,821,168    | 7,316,168    | 78,660,000        |
| 2013                | 29,168,864                 | -                              | -1.52%    | 29,168,864            | 2018             | 2,600,000 | 3,679,187    | 6,279,187    | 76,060,000        |
| 2014                | 38,707,855                 | -                              | 32.70%    | 38,707,855            | 2019             | 2,710,000 | 3,572,990    | 6,282,990    | 73,350,000        |
| 2015                | 24,595,285                 | 11,579,683                     | -6.54%    | 36,174,968            | 2020             | 2,835,000 | 3,453,887    | 6,288,887    | 70,515,000        |
| 2016                | 36,681,418                 | -                              | 1.40%     | 36,681,418            | 2021             | 2,970,000 | 3,328,828    | 6,298,828    | 67,545,000        |
| 2017                | 37,194,957                 | -                              | 1.40%     | 37,194,957            | 2022             | 3,100,000 | 3,196,853    | 6,296,853    | 64,445,000        |
| 2018                | 37,715,687                 | -                              | 1.40%     | 37,715,687            | 2023             | 3,255,000 | 3,048,147    | 6,303,147    | 61,190,000        |
| 2019                | 38,243,706                 | -                              | 1.40%     | 38,243,706            | 2024             | 3,430,000 | 2,890,117    | 6,320,117    | 57,760,000        |
| 2020                | 38,779,118                 | -                              | 1.40%     | 38,779,118            | 2025             | 3,605,000 | 2,734,896    | 6,339,896    | 54,155,000        |
|                     |                            |                                |           |                       | 2026             | 3,790,000 | 2,561,197    | 6,351,197    | 50,365,000        |
|                     |                            |                                |           |                       | 2027             | 3,975,000 | 2,384,431    | 6,359,431    | 46,390,000        |
|                     |                            |                                |           |                       | 2028             | 4,185,000 | 2,205,863    | 6,390,863    | 42,205,000        |
|                     |                            |                                |           |                       | 2029             | 4,385,000 | 2,017,606    | 6,402,606    | 37,820,000        |
|                     |                            |                                |           |                       | 2030             | 4,590,000 | 1,803,877    | 6,393,877    | 33,230,000        |
|                     |                            |                                |           |                       | 2031             | 4,805,000 | 1,591,848    | 6,396,848    | 28,425,000        |
|                     |                            |                                |           |                       | 2032             | 4,790,000 | 1,369,825    | 6,159,825    | 23,635,000        |
|                     |                            |                                |           |                       | 2033             | 5,015,000 | 1,148,813    | 6,163,813    | 18,620,000        |
|                     |                            |                                |           |                       | 2034             | 5,250,000 | 903,688      | 6,153,688    | 13,370,000        |
|                     |                            |                                |           |                       | 2035             | 3,860,000 | 657,425      | 4,517,425    | 9,510,000         |
|                     |                            |                                |           |                       | 2036             | 3,505,000 | 473,181      | 3,978,181    | 6,005,000         |
|                     |                            |                                |           |                       | 2037             | 1,240,000 | 307,756      | 1,547,756    | 4,765,000         |
|                     |                            |                                |           |                       | 2038             | 700,000   | 244,206      | 944,206      | 4,065,000         |
|                     |                            |                                |           |                       | 2039             | 735,000   | 208,331      | 943,331      | 3,330,000         |
|                     |                            |                                |           |                       | 2040             | 770,000   | 170,663      | 940,663      | 2,560,000         |
|                     |                            |                                |           |                       | 2041             | 810,000   | 131,200      | 941,200      | 1,750,000         |
|                     |                            |                                |           |                       | 2042             | 855,000   | 89,688       | 944,688      | 895,000           |
|                     |                            |                                |           |                       | 2043             | 895,000   | 45,869       | 940,869      | -                 |

| Operating Expenses |                |        |
|--------------------|----------------|--------|
| Fiscal Year        | Operating Exp. | Growth |
| 2011               | 144,502,760    |        |
| 2012               | 138,195,313    | -4.36% |
| 2013               | 142,378,656    | 3.03%  |
| 2014               | 138,228,632    | -2.91% |
| 2015               | 133,136,951    | -3.68% |
| 2016               | 135,000,869    | 1.40%  |
| 2017               | 136,890,881    | 1.40%  |
| 2018               | 138,807,353    | 1.40%  |
| 2019               | 140,750,656    | 1.40%  |
| 2020               | 142,721,165    | 1.40%  |

## Notes

- Expendable Resources equals Unrestricted Net Assets plus Restricted, Expendable Net Assets plus Foundation Unrestricted Net Assets plus Foundation Temporarily Restricted Net Assets minus Restricted, Expendable Net Assets Restricted for Capital Projects.
- Unrestricted Net Assets has been adjusted for any noncash charge relating to the implementation of GASB 68 in fiscal year 2015.

| 1                    | 2                       | 3                                 | 4                                  | 5                                     | 6   | 7      | 8                              | 9                    |
|----------------------|-------------------------|-----------------------------------|------------------------------------|---------------------------------------|---|--------|--------------------------------|----------------------|
| Expendable Resources |                         |                                   |                                    |                                       |   |        |                                |                      |
| Fiscal Year          | Unrestricted Net Assets | Restricted, Expendable Net Assets | Foundation Unrestricted Net Assets | Foundation Temp Restricted Net Assets | Less: Restricted, Expendable Net Assets Restricted for Capital Projects | Growth | Add Back Net Impact of GASB 68 | Expendable Resources |
| 2011                 | 6,279,101               | 13,600,336                        | 889,015                            | 5,537,678                             | 4,194,752   |        | -                              | 22,111,378           |
| 2012                 | 7,697,880               | 9,450,550                         | 1,216,345                          | 5,826,839                             | 61,124  | 9.13%  | -                              | 24,130,489           |
| 2013                 | 6,747,229               | 13,274,841                        | 1,787,594                          | 9,120,084                             | 2,477,541   | 17.91% | -                              | 28,452,206           |
| 2014                 | 1,302,897               | 12,471,527                        | 1,521,865                          | 10,343,572                            | -   | -9.88% | -                              | 25,639,861           |
| 2015                 | (8,366,880)             | 16,493,922                        | 691,722                            | 11,603,010                            | 2,895,367   | 13.52% | 11,579,683                     | 29,106,090           |
| 2016                 | 3,257,782               | 16,724,837                        | 701,406                            | 11,765,452                            | 2,935,902   | 1.40%  | -                              | 29,513,576           |
| 2017                 | 3,303,391               | 16,958,984                        | 711,226                            | 11,930,168                            | 2,977,004   | 1.40%  | -                              | 29,926,766           |
| 2018                 | 3,349,639               | 17,196,410                        | 721,183                            | 12,097,191                            | 3,018,682   | 1.40%  | -                              | 30,345,740           |
| 2019                 | 3,396,534               | 17,437,160                        | 731,280                            | 12,266,552                            | 3,060,944   | 1.40%  | -                              | 30,770,581           |
| 2020                 | 3,444,085               | 17,681,280                        | 741,517                            | 12,438,283                            | 3,103,797   | 1.40%  | -                              | 31,201,369           |

## 3. Proposed Debt Financings

The table below summarizes any legislatively approved projects that WSSU expects to finance during the Study Period. Using the assumptions outlined in the table below, the model has developed a tailored, but conservative, debt service schedule for each proposed financing and incorporated each pro forma debt service schedule into its calculations of the financial ratios as detailed in **Section 4** below.

### WSSU Proposed Debt Financings

| Year  | Use of Funds   | Borrowing Amount | Term     | Source of Repayment |
|-------|--|------------------|----------|---------------------|
| 2016  | Residence Hall - Freshman Living Learning                    | 20,800,000       | 30 Years | Housing Revenues    |
| 2017  | Restore the Core II - Hauser Hall Renovation for Music       | 6,000,000        | 30 Years | Debt Service Fee    |
| 2017  | Restore the Core II - Physical Plant Renovation for Art & VS | 9,000,000        | 30 Years | Debt Service Fee    |
| 2017  | Bowman Gray Stadium and Civitan Park Purchase                | 7,500,000        | 30 Years | Debt Service Fee    |
| Total |  | 43,300,000       |          |                     |

## 4. Financial Ratios

### Debt to Obligated Resources

- **What does it measure?** WSSU's aggregate outstanding debt as compared to its obligated resources—the funds legally available to service its debt.
- **How is it calculated?** Aggregate debt divided by obligated resources\*
- Target Ratio: 2.00
- Ceiling Ratio: Not to exceed 3.00
- Projected 2016 Ratio: 2.81
- Highest Study Period Ratio: 3.27 (2017)

\*Available Funds, which is the concept commonly used to capture a Campus's obligated resources in its loan and bond documentation, has been used in the model as a proxy for obligated resources. For most Campuses, the two concepts are identical, though Available Funds may include additional deductions for certain specifically pledged revenues, making it a conservative measure of a Campus's obligated resources.

### Debt to Obligated Resources

| 1                           | 2                   | 3      | 4             | 5             | 6                | 7                | 8             |
|-----------------------------|---------------------|--------|---------------|---------------|------------------|------------------|---------------|
| Debt to Obligated Resources |                     |        |               |               |                  |                  |               |
| Fiscal Year                 | Obligated Resources | Growth | Existing Debt | Proposed Debt | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                        | 36,681,418          | 1.40%  | 82,155,000    | 20,800,000    | 2.24             | 0.57             | 2.81          |
| 2017                        | 37,194,957          | 1.40%  | 78,660,000    | 42,915,297    | 2.11             | 1.15             | 3.27          |
| 2018                        | 37,715,687          | 1.40%  | 76,060,000    | 42,099,906    | 2.02             | 1.12             | 3.13          |
| 2019                        | 38,243,706          | 1.40%  | 73,350,000    | 41,253,694    | 1.92             | 1.08             | 3.00          |
| 2020                        | 38,779,118          | 1.40%  | 70,515,000    | 40,375,495    | 1.82             | 1.04             | 2.86          |

### Debt to Obligated Resources



↑ Weaker  
↓ Stronger

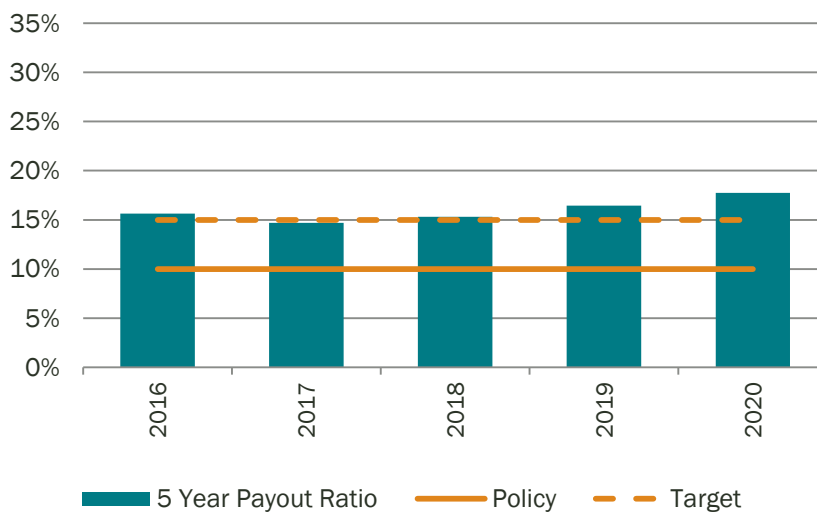
## 5-Year Payout Ratio Overview

- **What does it measure?** The percentage of WSSU's debt scheduled to be retired in the next five years.
- **How is it calculated?** Aggregate principal to be paid in the next five years divided by aggregate debt
- Target Ratio: 15%
- Floor Ratio: Not less than 10%
- Projected 2016 Ratio: 16%
- Lowest Study Period Ratio: 15% (2017)

### 5-Year Payout Ratio

|             | 1                   | 2     | 3 |
|-------------|---------------------|-------|---|
|             | 5 Year Payout Ratio |       |   |
| Fiscal Year | Principal Balance   | Ratio |   |
| 2016        | 102,955,000         | 16%   |   |
| 2017        | 121,575,297         | 15%   |   |
| 2018        | 118,159,906         | 15%   |   |
| 2019        | 114,603,694         | 16%   |   |
| 2020        | 110,890,495         | 18%   |   |

### 5-Year Payout Ratio





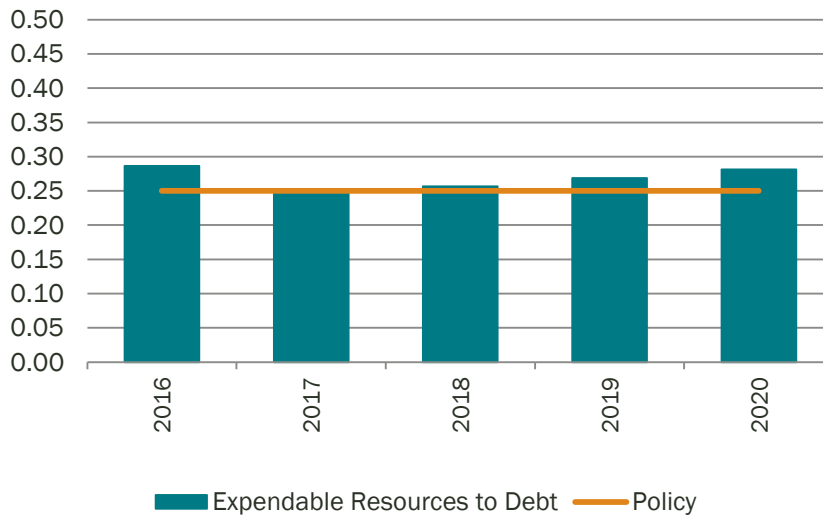
## Expendable Resources to Debt

- **What does it measure?** The number of times WSSU's liquid and expendable net assets covers its aggregate debt.
- **How is it calculated?** The sum of (1) Adjusted Unrestricted Net Assets and (2) Restricted Expendable Net Assets divided by aggregate debt
- Floor Ratio: Not less than 0.25x
- Projected 2016 Ratio: 0.29x
- Lowest Study Period Ratio: 0.25x (2017)

## Expendable Resources to Debt

| 1                            | 2                    | 3      | 4             | 5             | 6             | 7                        |
|------------------------------|----------------------|--------|---------------|---------------|---------------|--------------------------|
| Expendable Resources to Debt |                      |        |               |               |               |                          |
| Fiscal Year                  | Expendable Resources | Growth | Existing Bal. | Proposed Bal. | Existing Debt | Existing & Proposed Debt |
| 2016                         | 29,513,576           | 1.40%  | 82,155,000    | 20,800,000    | 0.36          | 0.29                     |
| 2017                         | 29,926,766           | 1.40%  | 78,660,000    | 42,915,297    | 0.38          | 0.25                     |
| 2018                         | 30,345,740           | 1.40%  | 76,060,000    | 42,099,906    | 0.40          | 0.26                     |
| 2019                         | 30,770,581           | 1.40%  | 73,350,000    | 41,253,694    | 0.42          | 0.27                     |
| 2020                         | 31,201,369           | 1.40%  | 70,515,000    | 40,375,495    | 0.44          | 0.28                     |

## Expendable Resources to Debt



Stronger  
Weaker

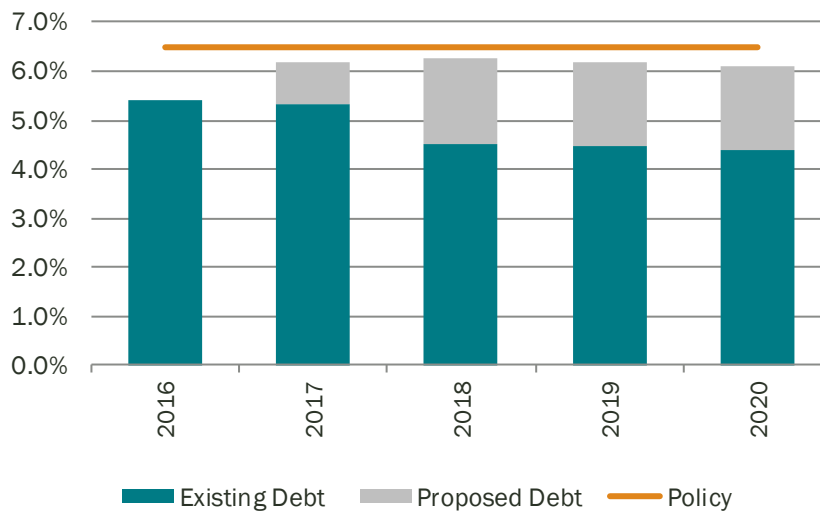
## Debt Service to Operating Expenses

- **What does it measure?** WSSU's debt service burden as a percentage of its total expenses, which is used as the denominator because it is typically more stable than revenues.
- **How is it calculated?** Annual debt service divided by annual operating expenses
- Policy Ratio: Not to exceed 6.50%
- Projected 2016 Ratio: 5.42%
- Highest Study Period Ratio: 6.28% (2017)

### Debt Service to Operating Expenses

| 1                                  | 2                  | 3      | 4           | 5           | 6                | 7                | 8             |
|------------------------------------|--------------------|--------|-------------|-------------|------------------|------------------|---------------|
| Debt Service to Operating Expenses |                    |        |             |             |                  |                  |               |
| Fiscal Year                        | Operating Expenses | Growth | Existing DS | Proposed DS | Ratio - Existing | Ratio - Proposed | Ratio - Total |
| 2016                               | 135,000,869        | 1.40%  | 7,313,909   | -           | 5.42%            | n/a              | 5.42%         |
| 2017                               | 136,890,881        | 1.40%  | 7,316,168   | 1,170,943   | 5.34%            | 0.86%            | 6.20%         |
| 2018                               | 138,807,353        | 1.40%  | 6,279,187   | 2,437,589   | 4.52%            | 1.76%            | 6.28%         |
| 2019                               | 140,750,656        | 1.40%  | 6,282,990   | 2,437,589   | 4.46%            | 1.73%            | 6.20%         |
| 2020                               | 142,721,165        | 1.40%  | 6,288,887   | 2,437,589   | 4.41%            | 1.71%            | 6.11%         |

### Debt Service to Operating Expenses



Weaker  
↑  
↓  
Stronger

## 5. Debt Capacity Calculation

### Debt Capacity Calculation

- For the purposes of this Campus Report and the Study, WSSU's debt capacity is based on the amount of debt WSSU could issue during the Study Period (after taking into account any legislatively approved projects detailed in **Section 3** above) without exceeding its ceiling ratio for **debt to obligated resources**.
- As presented below, WSSU's 2017 debt capacity equals **the lowest constraint on its debt capacity** in any single year during the Study Period.
- Based solely on the **debt to obligated resources** ratio, WSSU has no current estimated debt capacity. After taking into account any legislatively approved projects detailed in **Section 3** above, if WSSU issued no additional debt until the last year of the Study Period, then WSSU's debt capacity for 2020 is projected to increase to **\$5,446,860**.

| 1             | 2   | 3                                     | 4             |
|---------------|---|---------------------------------------|---------------|
| Debt Capacity |   |                                       |               |
| Fiscal Year   | Debt to Obligated Resources (Current Ratio) | Debt to Obligated Resources (Ceiling) | Debt Capacity |
| 2016          | 2.81  | 3.00                                  | 7,089,253     |
| 2017          | 3.27  | 3.00                                  | (9,990,425)   |
| 2018          | 3.13  | 3.00                                  | (5,012,846)   |
| 2019          | 3.00  | 3.00                                  | 127,425       |
| 2020          | 2.86  | 3.00                                  | 5,446,860     |

### Limitations on Debt Capacity and Credit Rating Implications

- The debt capacity calculation shown above provides a general indication of WSSU's ability to absorb debt on its balance sheet during the Study Period and may help identify trends and issues over time.
- "Debt capacity" does not** necessarily equate to **"debt affordability,"** which takes into account a number of quantitative and qualitative factors, including project revenues and expenses, cost of funds and competing strategic priorities.
- Projecting the exact amount WSSU could issue during the Study Period without negatively impacting its credit rating is difficult for a number of reasons.
  - Use of Multiple Factors**
    - Any single financial ratio makes up only a fraction of the "scorecard" used by rating agencies to guide their credit analysis.
    - Under Moody's approach, for example, the **financial leverage ratio** accounts for only **10%** of an issuer's overall score.
  - The State's Impact**
    - In assessing each Campus's credit rating, rating agencies also consider the State's credit rating and demographic trends, the health of its pension system, the level of support it has historically provided to the Campus, and any legislation or policies affecting Campus operations.
    - Historically, each Campus's credit rating has been bolstered by the State's strong support and overall financial health. As a result, many Campuses "underperform" relative to the national median ratios for their rating category.
    - If "debt capacity" were linked to those national median ratios, many Campuses would have limited debt capacity for an extended period of time.

- **Factor Interdependence**
  - The quantitative and qualitative factors interact with one another in ways that are difficult to predict.
  - For example, a university's "**strategic positioning**" score, which accounts for 10% of its overall score under Moody's criteria, could deteriorate if a university either (1) issued excessive debt or (2) failed to reinvest in its campus to address its deferred maintenance obligations.
- **Distortions Across Rating Categories**
  - Because quantitative ratios account for only a portion of an issuer's final rating, the national median for any single ratio is not perfectly correlated to rating outcomes, meaning the median ratio for a lower rating category may be more stringent than the median ratio for a higher rating category. For the highest and lowest rating categories, the correlation between any single ratio and rating outcomes becomes even weaker.
  - Tying capacity directly to ratings may also distort strategic objectives. For example, a Campus may be penalized for improving its rating, as it may suddenly lose all of its debt capacity because it must now comply with a much more stringent ratio.

## 6. Debt Profile

WSSU's detailed debt profile, including a brief description of each financed project and the source of repayment for each outstanding debt obligation, is reflected in the table on the following page.

## Winston-Salem State University

2016 Debt Capacity Study

### Summary of Debt Outstanding as of FYE June 30, 2015

| Series       | Description                        | Par Outstanding   | Final Maturity | Use of Funds  | Refunding    | Source of Repayment  |
|--------------|------------------------------------|-------------------|----------------|---|--------------|--|
| 2006         | Certificates of Participation      | 15,835,000        | 6/1/2036       | Foundation Heights Residence Hall   |              | Housing Revenues   |
| 2008A        | UNC System Pool Revenue Bonds      | 6,225,000         | 10/1/2033      | Brown Hall Renovations<br>Civitan Park Athletic Upgrade   |              | Housing Revenues<br>Student Debt Service Fee   |
| 2013         | General Revenue Bonds              | 33,720,000        | 4/1/2043       | Housing Renovations<br>Martin-Shexnider Residence Hall<br>Wilson Hall<br>Student Success Center<br>North Campus Project<br>Donald Reaves Center | 2002<br>1998 | Housing Revenues<br>Housing Revenues<br>Housing Revenues<br>Student Debt Service Fee<br>Student Debt Service Fee<br>Student Debt Service Fee |
| 2014         | Refunding Limited Obligation Bonds | 27,140,000        | 6/1/2036       | Rams Commons<br>Hairston Gleason Residence Hall   | 2004         | Housing Revenues<br>Housing Revenues   |
| <b>Total</b> |                                    | <b>82,920,000</b> |                |   |              |  |

## 7. Credit Profile

The following page provides a snapshot of WSSU's current credit ratings, along with (1) a summary of various credit factors identified in WSSU's most recent rating report and (2) recommendations for maintaining and improving WSSU's credit ratings in the future.

# Credit Profile of the University – (General Revenue)

## Overview

- Moody's maintains an A3 rating on the University's general revenue bonds. The outlook is stable.
- Standard and Poor's maintains an A- rating on the University's general revenue bonds. The outlook is stable.

## Key Information Noted in Reports

### Credit Strengths

- Healthy operating and capital support from State of North Carolina; state funding represents 52% of FY 2015 operating revenue
- Metropolitan location and low-cost tuition pricing supports ongoing student demand
- Very good strategic positioning aided by state support that includes capital investment and fiscal oversight

### Credit Challenges

- Very thin \$8 million in unrestricted monthly liquidity, which provides only 24 days cash on hand in FY 2015
- Increasing pro-forma debt, with debt to operating revenue moving to >1.0x
- High geographic concentration, with over 90% of students in-state, creates exposure to shifting conditions within North Carolina
- Near break even operating performance provides narrow cushion to increasing debt service commitments

| Moody's | S&P  | Fitch |
|---------|------|-------|
| Aaa     | AAA  | AAA   |
| Aa1     | AA+  | AA+   |
| Aa2     | AA   | AA    |
| Aa3     | AA-  | AA-   |
| A1      | A+   | A+    |
| A2      | A    | A     |
| A3      | A-   | A-    |
| Baa1    | BBB+ | BBB+  |
| Baa2    | BBB  | BBB   |
| Baa3    | BBB- | BBB-  |

Non Investment Grade

## Recommendations & Observations

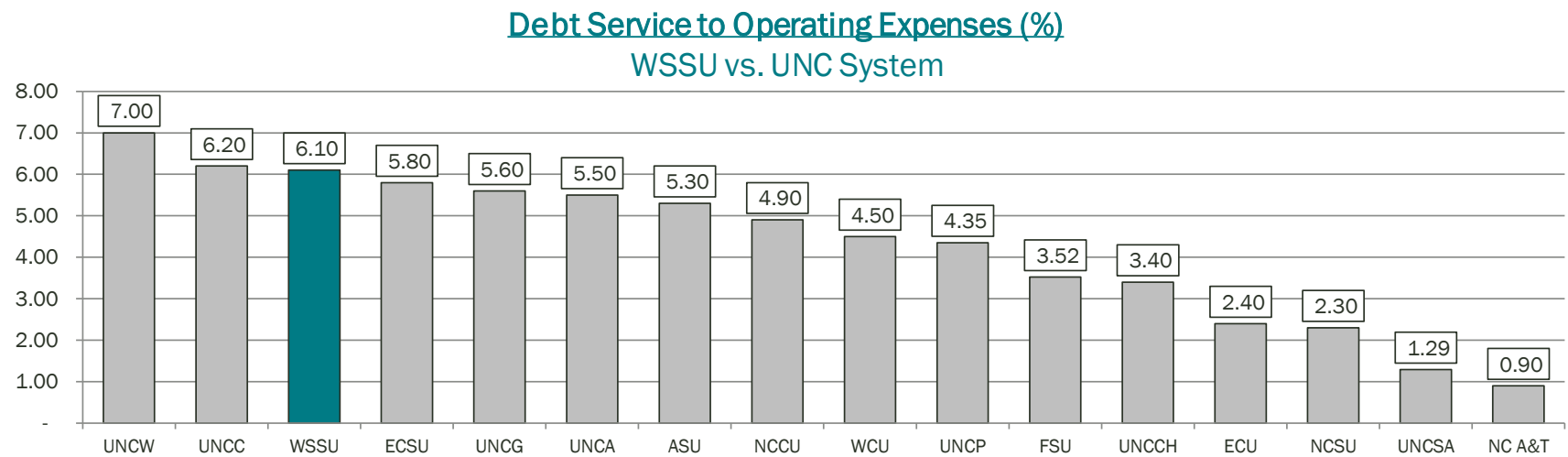
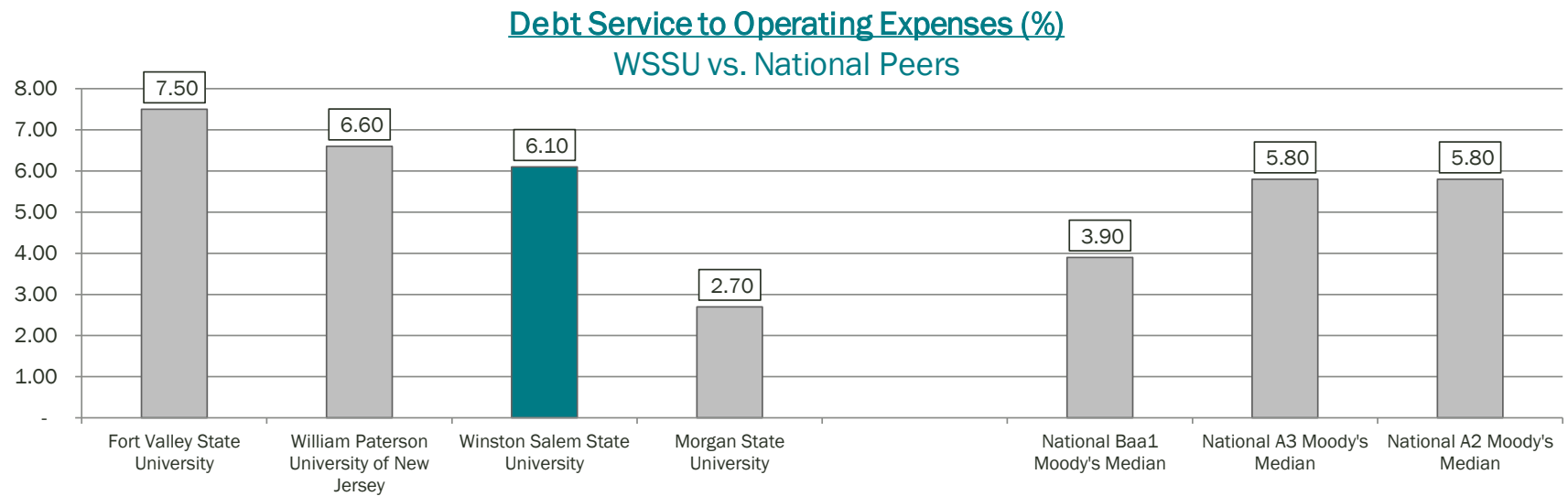
- Develop a formal debt policy to prioritize capital improvement needs in light of limited resources, including specific criteria for approving new debt financings when key financial ratios may indicate limited debt capacity.
- Continue to develop and implement strategies and policies to meet the University's unique challenges, including strategies to stabilize and improve enrollment and revenue.



## 8. Peer Comparison

The following pages compare two measures of WSSU's debt burden--**expendable resources to debt** and **debt service to operating expenses**--to selected peers, to median ratios for similarly rated institutions, and to the Campuses in the UNC System. The peer comparisons are based on Moody's data for both WSSU and its peers **as of June 30, 2015**, which is the most recent data available. The ratios for any Campus not rated by Moody's have been calculated using Moody's methodology. Note that Moody's methodology differs slightly from the assumptions used in the financial model developed for this Study.

## Debt Service to Operating Expenses (%)

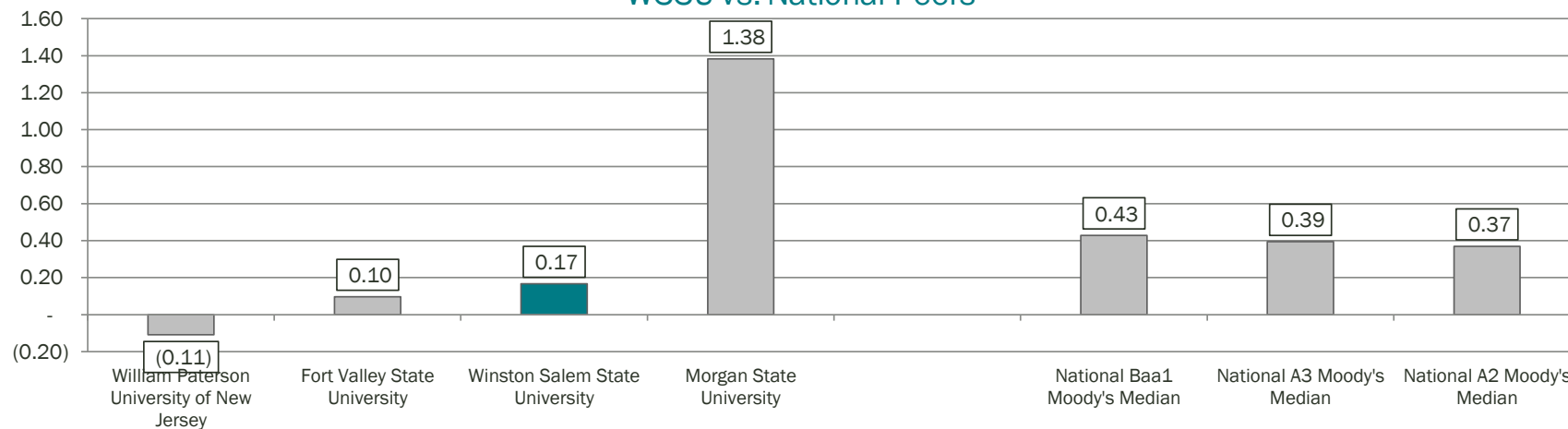


\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

# Expendable Financial Resources to Debt

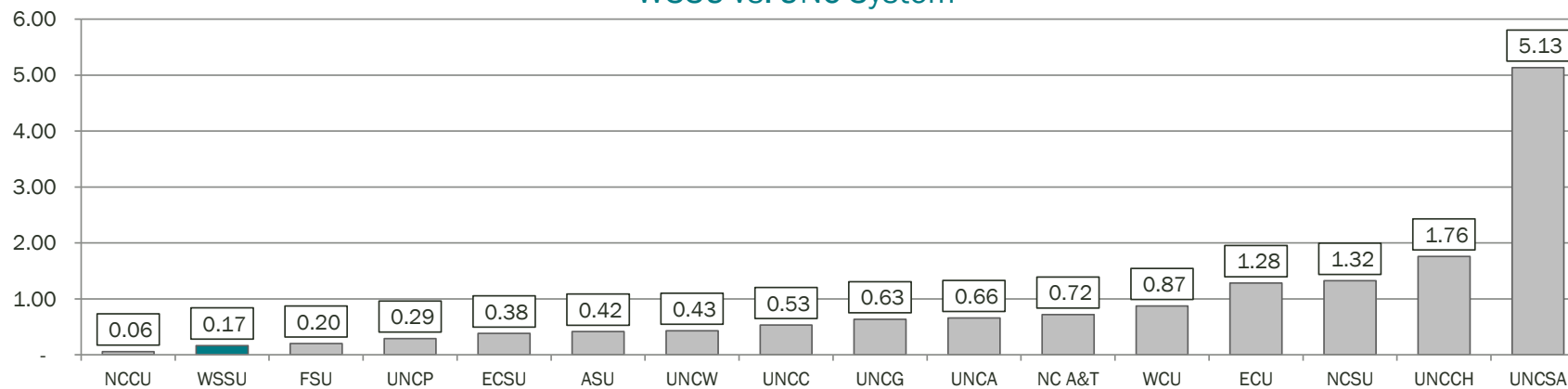
## Expendable Financial Resources to Debt

### WSSU vs. National Peers



## Expendable Financial Resources to Debt

### WSSU vs. UNC System



\*Peer comparisons reflect Moody's data for the Campus and its peers as of **June 30, 2015**. Moody's methodology differs slightly from the assumptions used in the financial model developed for the Study.

## 9. Debt Management Policies

WSSU does not currently have a debt policy.