FERRUM COLLEGE

FINANCIAL ANALYSIS, COMMENTS & SUGGESTIONS, AND REQUIRED COMMUNICATIONS

JUNE 30, 2017

BROWNEDWARDS
certified public accountants

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FINANCIAL ANALYSIS, COMMENTS & SUGGESTIONS, AND REQUIRED COMMUNICATIONS

June 30, 2017

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FINANCIAL ANALYSIS

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**INDEPENDENT AUDITOR'S REPORT ON
EXECUTIVE SUMMARY OF THE AUDIT OF THE
JUNE 30, 2017 FINANCIAL REPORT**

Board of Trustees and Management
Ferrum College
Ferrum, Virginia

We have audited the financial statements of Ferrum College as of and for the year ended June 30, 2017 and have issued our report thereon dated October 12, 2017. Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The accompanying supplemental information, Executive Summary of the Audit, is presented for purposes of additional analysis and is not a required part of the basic financial statements of Ferrum College. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Brown, Edwards & Company, L.L.P.
CERTIFIED PUBLIC ACCOUNTANTS

Roanoke, Virginia
October 12, 2017

Your Success is Our Focus
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EXECUTIVE SUMMARY OF THE AUDIT

AUDIT – FIVE THINGS TO KNOW

1. **Our engagement was to provide assurance that your financial statements are free from material misstatement**. We provide you with our comments, suggestions, ratios, benchmarks and trends but those are all derivatives to the fundamental reason you hired us – to provide independent assurance and issue an opinion on your financial statements.
2. **Our opinion on your financial statements is unmodified, or a "clean" opinion**. This is the most important thing to hear.
3. There was **one material weakness and no significant deficiencies noted** during our limited review of internal controls.
4. We had **no findings in our audit of your federal programs** (primarily the student financial aid programs).
5. **Management did an excellent job over the course of our audit and was very cooperative in all respects**.

HIGHLY SUMMARIZED FINANCIAL INFORMATION FOR YOU TO KNOW

- **Strong investment returns and a significant contribution receivable, netted with a negative operating margin,** resulted in an overall positive change in net assets of $8.1 million vs. $(2.2) million last year. The unrestricted **operating margin** was negative this year, totaling $(643,000), down from positive results in the prior year of $718,000.
- The contribution receivable from an estate was received at an opportune time, with the receipt of cash in September 2017. This gift will provide a much needed boost to operations in 2018, partially offsetting the decline in net tuition and fees from lower enrollment!
- **Student-driven revenues** *decreased* $1.0 million, reflecting a 69 student decrease in enrollment. **Financial aid increased $192,000. Net tuition per student** stayed relatively steady. The College's changes in these critical areas highlight the trend in the industry, *intense competition in higher education and the cost of increasing enrollment in terms of financial aid*.
- **Operating expenses** continue to be prudently managed in light of the enrollment decrease. The total *decrease* in expenses was $301,000, or (1.0)%.
- *Overall,* ***the College remains financially healthy as measured by the CFI*** *with the need to* ***a) reverse the downward trend in enrollment and increase student-driven revenue, b) consistently achieve operating margins above 3% of unrestricted operating revenues and, c) increase balance sheet wealth.***

1. **Cash and cash equivalents totaled $10.8 million at year end,** *decreasing* by $312,000. Operations continue to generate cash flow, $1.2 million, but this amount has continued to decline since 2014. Net cash used in financing activities, which includes contributions restricted for long-term investment, payments of annuity obligations and debt activity, totaled $148,000. Net cash used in investing activities, which includes physical plant additions and improvements and investment purchases and sales, totaled $1.3 million. The College's liquidity metrics are reasonable and reflect some flexibility should any unforeseen need arise.

2. **Investments *increased* by $4.3 million to $37.7 million at year end** with a total return of 15.3%, or $5.4 million, on average investments for the year. The total return compares favorably with returns at our other higher education clients. Over the past five years the total return has averaged 9.8%. The board-approved operational endowment draw for 2017 was not more than 5% and totaled $1.6 million. Gifts available for investment were slightly lower this year totaling $515,000. Note 4 of the financial report provides more detail about investment activity.

HIGHLY SUMMARIZED FINANCIAL INFORMATION FOR YOU TO KNOW (Continued)

3. **Land, buildings, and equipment, net totaled $56.0 million, with related debt totaling $27.3 million.** Land, building, and equipment additions totaled $2.0 million and depreciation totaled $2.4 million for the year. New debt additions totaled $282,000 and $9.3 million of existing debt was refinanced this year. Debt principal payments were $893,000. Note 5 of the financial report provides more detail about land, buildings, and equipment. Note 6 of the financial report provides more detail about debt.

4. **Total net assets *increased* by $8.1 million or by 9.1% on average net assets** primarily driven by the positive investment returns for the year and the $3.3 million estate receivable. Note 7 of the financial report provides more detail about net assets. **Net assets of the College's endowment,** including funds held in trust and trusts and annuities, totaled $51.1 million ($43,654 per FTE student; 1,170 average FTE students) for the academic year 2016-17 and $45.4 million ($36,682 per FTE student; 1,239 average FTE students) for the academic year 2015-16. Note 13 of the financial report provides more detail about the College's endowment.

5. **Other operating comments**:

   a. **Net tuition and fees** *decreased* $982,000 this year while **net tuition and fees per student** remained steady. **Tuition discounts** *increased* to 55.9% from 54.2% in the prior year.

   b. The **net margin on auxiliary services** was 25.7% down from 27.2% in the prior year. This is a healthy margin and serves to offset high discount rates to some extent.

   c. **Operating expenses** *decreased* by $301,000, or (1.0)% compared to the HEPI of 1.8% (June 30, 2016) and CPI of 1.6%.

   d. As with most small private institutions, the College is highly dependent on **student driven-revenue** which has averaged 89.0% over the 5 most recent years. The ideal target is less than 75% reflecting diversification of operating revenue streams.

EXECUTIVE SUMMARY OF THE AUDIT
(Continued)

HIGHLY SUMMARIZED FINANCIAL INFORMATION FOR YOU TO KNOW (Continued)

6. The **College's overall level of financial health** as measured by the **Composite Financial Index (CFI), as of year-end was within the advisable range and totaled 4.34** on a scale of 1-10. This essentially means that there are sufficient expendable financial reserves for the College to continue to direct resources toward becoming a stronger institution and moving to the next level over the long-term, and to ultimately meet its mission. Other notable observations in analyzing CFI:

   - **On the positive side**, by most measures, for its size, the College is in decent financial position. The core balance sheet strength remains good with reasonable capitalization (expendable net assets relative to operating size and debt) aided by the estate receivable. This gift, received in September 2017, boosted expendable net assets by $2.8 million. The return on overall institutional net worth over the past five years is positive at 4.95%.

   - **On the other side of the coin**, operations struggled this year and they are very dependent on student-driven revenue, at 88.7% of total operating revenue, common for a small private liberal arts institution. Nevertheless, that dependence makes the College very susceptible to enrollment fluctuations, as experienced in the current year, and going forward could create some real financial issues. The industry has changed dramatically since the Great Recession, and continues to do so – changing demographics, steeper discounting to secure students with lower yields per student. Institutions are competing for the pool of prospective students and using pricing as a key marketing tool, etc. Higher discounts also point to another industry dynamic, a growing financial aid need with students. For competitive reasons, this need must be met and the growing magnitude strains operations.

   - **Overall, the College continues to be reasonably financially healthy doing most things right.** The financial wherewithal exists for the institution to carry out strategic initiatives, and to implement future initiatives to better position the College for continued long term financial success, of course, all within reason. **To push the CFI score, and more importantly, the institution forward**, consider the following:

     1) **Improve enrollment and student-driven revenue** during a time that the competition is fierce and managing enrollment is one of the biggest challenges industry-wide. It is also imperative to improve **the operating margin** given the conflicting pressures to both revenue and operating costs. Given the significant drop in enrollment for 2017-18, it may be a difficult goal to achieve this coming year.
     2) The College should also consider additional revenue streams to supplement current operations, and also provide a cushion should enrollment continue its decline. Examples might include graduate, adult, online or other programs with appeal to growing or changing demographics. Also, more operating revenue from a larger endowment would aid in diversification.
     3) Finally, as previously noted, in the "new normal" of higher education, it is crucial to continue to grow balance sheet wealth for a stronger financial future and the endowment to support a greater need by students.

HIGHLY SUMMARIZED FINANCIAL INFORMATION FOR YOU TO KNOW (Continued)

7. To put the College's operating environment in the proper perspective, there is a fierce battle underway for long-term financial sustainability.

Last year, Brown Edwards introduced ***11 Warning Signs*** that could indicate significant financial difficulties could be on the near horizon. (They are not necessarily directed at your institution.) Those signs are discussed in the Financial Analysis section of this document, in the Trend Analysis section. **We encourage you to carefully review the Trend Analysis.**

8. Below is a summary of some of **the College's financial strengths and challenges:**

Financial Strengths

- A seasoned **management team and Board** focused on building on its past success while improving long-term financial sustainability.
- A **beautiful campus**, resulting from significant strategic investment.

- **Positive stream of cash flows provided by operations**.
- **Profitable auxiliary enterprises** (which aid in offsetting above average tuition discounts).
- **Reasonable balance sheet wealth**; **decent financial reserves** relative to operating size (measured in terms of operating expenses).

- ***Overall, the financial wherewithal to move institutional initiatives forward within reasonable limits.***

Financial Challenges

- Continuing to develop and carry out **strategic initiatives to position for long-term financial sustainability,** and appropriately managing all the **enterprise risks associated with a rapidly changing environment.**

- ***In addition to all the positive things the College is currently doing:***
  - **Reversing the downward enrollment trend and growing enrollment and student-driven revenue** to strategic levels, and improving the **operating margin back to profitable levels** at the advisable 2-4% of operating revenue given the conflicting pressures to both revenue and operating costs.
  - **Working toward diversifying operating revenue by developing new revenue streams**, such as graduate, adult, online or other programs with appeal to growing or changing demographics, **or with additional operating revenue from a larger endowment.**
  - **Growing expendable net assets and the endowment.** Additional expendable net assets will offer more financial flexibility in a very competitive environment. Further, some experts believe that **an adequate endowment should be at least 5x the annual operating budget**. Arithmetically, with an endowment of this size, 20-25% of the operating budget would be funded annually given a spending rate of 4-5%, respectively. Operationally, with this built-in annual safety net, smaller private institutions would have a leg up in their battle for financial sustainability. The College is currently at 1.54x, or $51.1 million. 5x equates to an endowment of $166.0 million, which may be too lofty of a goal. ***Perhaps a more reasonable strategic goal would be 3.00x, or about $100.0 million.***

INDEPENDENT AUDITOR'S REPORT ON FINANCIAL ANALYSIS

Board of Trustees and Management
Ferrum College
Ferrum, Virginia

We have prepared, from information derived from the financial statements of Ferrum College (the "College") for the years ended June 30, 2013 through 2017, the ratio and trend analysis. The analysis uses selected financial position and operating ratios developed by leading consultants to the higher education industry, a major credit rating agency, and the U.S. Department of Education. We have selected these ratios as a concise group of important indicators and trends that can be used, through analysis and informed decision making, to help facilitate the sustainability of small liberal arts colleges and universities.

The information provided herein is not audited and no assurance is provided for its accuracy as an indicator of financial strength or weakness. These financial ratios and analysis are not intended to be all inclusive. Consequently, this report should be read in conjunction with the financial statements of the College and other analysis. This analysis is intended solely for the use of Management and the governing body of Ferrum College and is not intended to be, and should not be, used by anyone other than the specified parties. We encourage Management and the Trustees to consider the information and trends in conjunction with the College's strategic plan. All strategic plans are different as the missions and goals of each college or university are different.

We would be pleased to meet with you and discuss how these indicators relate to specific events of the past few years and how planned events are likely to affect the indicators going forward. Using this information in this manner is considered by many to be an excellent tool for weaving desired financial goals into the non-financial goals of a college or university.

Brown, Edwards & Company, L.L.P.

CERTIFIED PUBLIC ACCOUNTANTS

Roanoke, Virginia
October 12, 2017

FERRUM COLLEGE

TREND ANALYSIS

INTRODUCTION TO THE TREND ANALYSIS

In order for an institution to understand its overall financial health and its financial strengths and challenges, it is helpful to analyze key financial ratios and compare its performance to industry benchmarks or analyze the events that lead to a positive or negative trend. In addition, using ratio and trend analysis to set financial goals in a strategic plan allows management and the governing body to determine if those goals are attainable and subsequently measure performance against those goals. The ultimate results, measured using the same ratio and trend analysis provides excellent material to evaluate decisions made.

The trends that follow mirror the industry pattern of significant capital expenditures that have been prevalent in higher education over the last several years. Institutions have been taking advantage of historically low interest rates to invest in strategic initiatives, many such initiatives focused on large capital projects and campus improvements, to "wow" prospective students in a very competitive environment. The trends will also reflect that institutions have re-engineered their operations for significant improvement; however, even though the general economy continues to be fundamentally sound, it is no longer a given that enrollments will increase as in the past. The same can be said of the financial markets. The "new normal" is that we are now living in a low-return environment with more volatility.

The Moody's and S&P median ratios throughout this analysis are for fiscal year 2016 as they are the most recent available. A year delay in benchmarks is inherent with most benchmarking data. Brown Edwards' group medians for 2017 are not available at this time; however, we expect certain medians and key ratios (such as the Composite Financial Index) to remain stable or trend slightly higher in 2017.

Last year, Brown Edwards introduced ***11 Warning Signs*** that could indicate significant financial difficulties on the near horizon. Most of the indicators that we have chosen to highlight in the trends section relate to the financial themes of those eleven warning signs and can be summarized as follows.

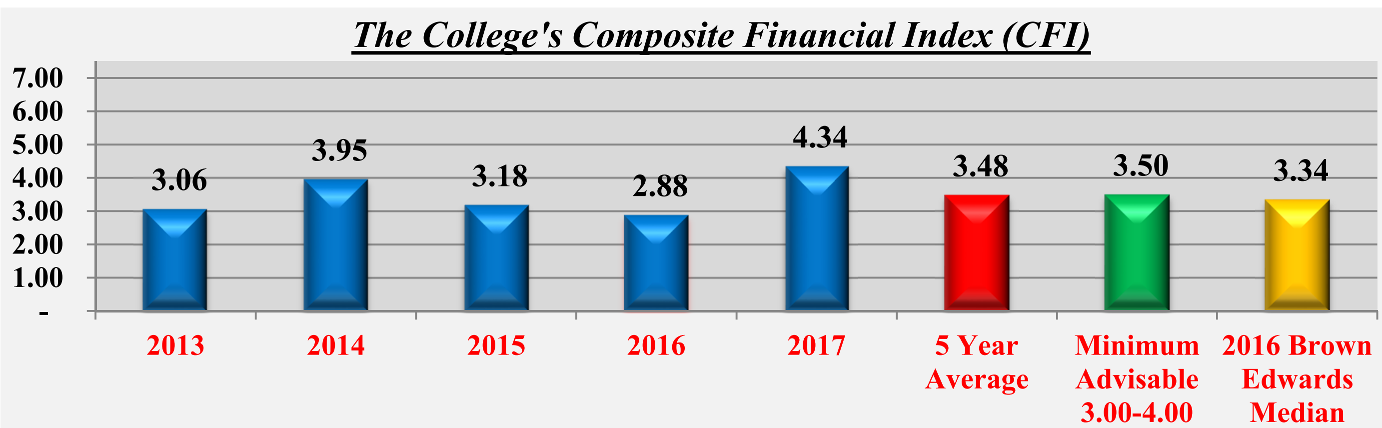
1. Financial scores ○ **Composite Financial Index (CFI) and return on total net assets ratio** ○ **ED composite score**	**2. Enrollment** ○ **Full time equivalents** ○ **Total net tuition and fees**
3. Student-driven revenue dependency ○ **Net tuition per student** ○ **Tuition discounting**	**4. Operating margin indicators** ○ **Net income ratio** ○ **Operating change and cash flow** ○ **Auxiliary services margin %**
5. Endowment size ○ **Endowment size relative to the operating budget** ○ **Investment total return**	**6. Strategic debt management for capital projects** ○ **Debt affordability and debt capacity measures**
7. Deferred maintenance	**8. Institutional giving** – ***not covered in analysis***
9. Liquidity	**10. Academic program review for profitability** – ***not covered in analysis***
11. Restricted assets being used in operations – ***not covered in analysis***	

Since the audit process does not specifically address all the warning signs, not all are included in the analysis. A summary analysis of the ***11 Warning Signs*** of financial distress follows this trends analysis.

Financial Scores – Composite Financial Index

Brown Edwards provides you with many ratios as a value-added derivative of the audit process, but we place a greater emphasis on the **Composite Financial Index (CFI)**. The CFI methodology presents a more complete picture of an institution's financial strengths and weaknesses over a long-term horizon versus other measures like ED's financial responsibility score. CFI is a combination of four financial metrics that **measures the overall financial health of the Institution** on a scale similar to a grade point average, 1.00 – 10.00. To fully grasp CFI, it is important to understand its components which are indicators of specific areas of financial strengths and weaknesses and can provide you with important insights as to where to focus your efforts for improvement and transformation. A more detailed discussion of CFI can be found at the end of this trend analysis.

The College's CFI trend is as follows:



Our Analysis & Comments on Your CFI

The College's CFI has fluctuated over the past 5 years, generally moving with the investment markets. Seventy percent of the CFI calculation is focused on expendable net assets, or accumulated wealth on the statement of financial position, that mainly consists of unspent appreciation on endowment investments and other unrestricted net assets. Fortunately for the College, its expendable net assets increased $7.6 million in 2017. All things considered, the CFI should be analyzed over a trend period, rather than one specific year, to truly assess the overall financial health of the College.

Overall, the College's current and average CFI depicts:

1. **A reasonably financially healthy institution, reasonably well-capitalized relative to its operating size, but could grow stronger with a higher level of expendable net assets.**
2. **The need to improve operations to generate adequate operating surpluses.**
3. **The College should continue directing its resources to becoming a stronger institution to better compete in the future by a)improving student-driven revenue by increasing enrollment, b) developing new revenue streams, and c) building more balance sheet wealth.**

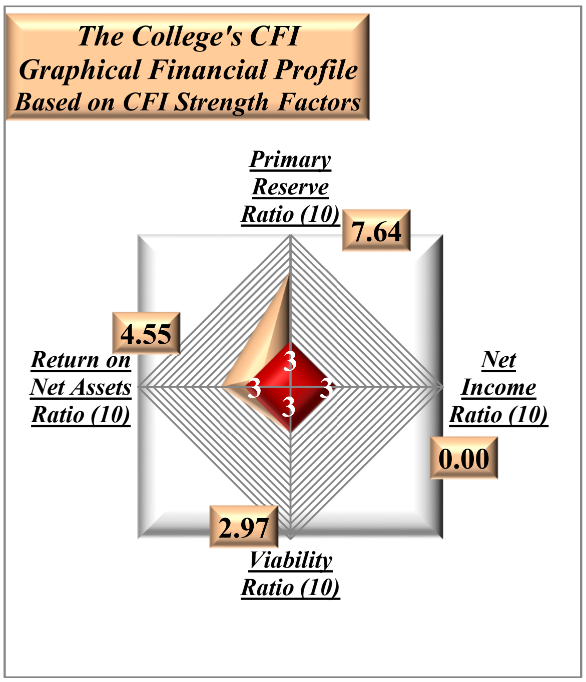
FERRUM COLLEGE

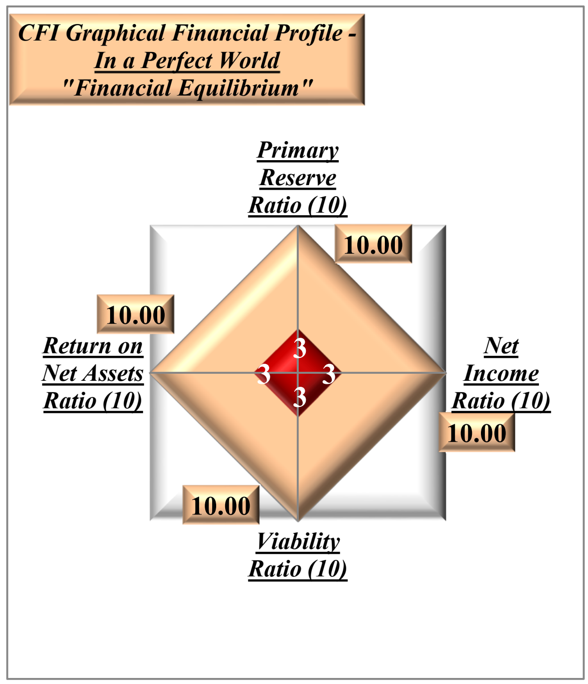
TREND ANALYSIS
(Continued)

Financial Scores – Composite Financial Index (Continued)

To further analyze underlying strengths and challenges, **view the CFI Graphical Financial Profile diamond** (dark red inner diamond is minimum strength of three; lighter outer diamond is maximum score of ten) and the College's underlying ratio scoring as below:

a. **Primary reserve ratio** – Financial reserves relative to operating size; ratio of 1.02 or about a 12 month financial reserve;
b. **Net income ratio** – The operating surplus has averaged 1.79% over the trend period, dragged below the minimum advisable because of the current year loss of (1.97)%; minimum advisable 2% - 4%;
c. **Viability ratio** – indicates debt levels are slightly above recommended levels based on current expendable net assets; ratio of 1.24 for 2017;
d. **Return on net assets ratio** – During the trend period averaging 4.95%; minimum advisable is 3-4% plus an inflationary factor.



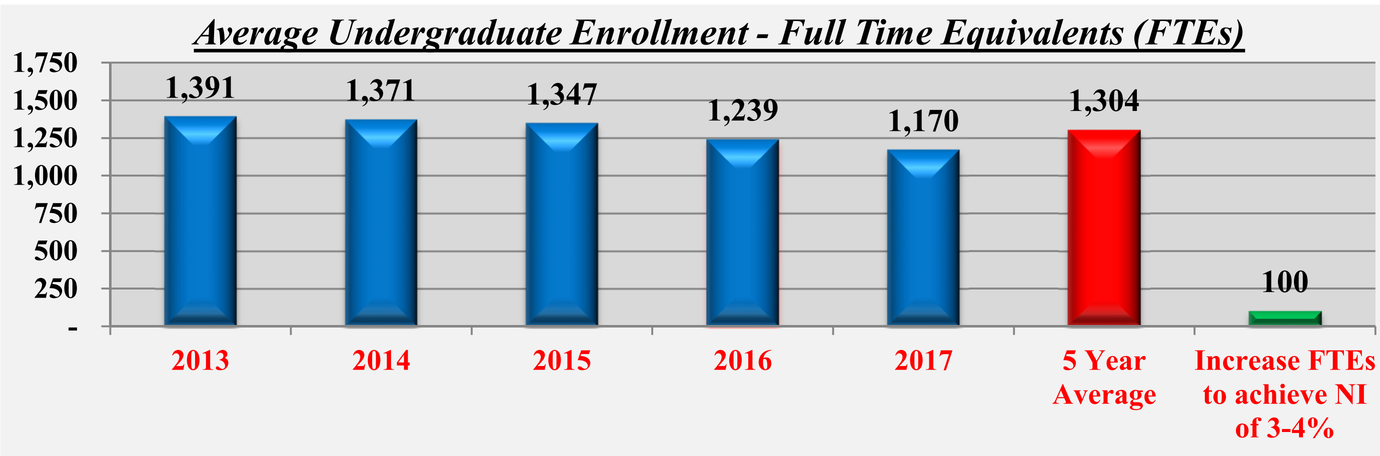


FERRUM COLLEGE

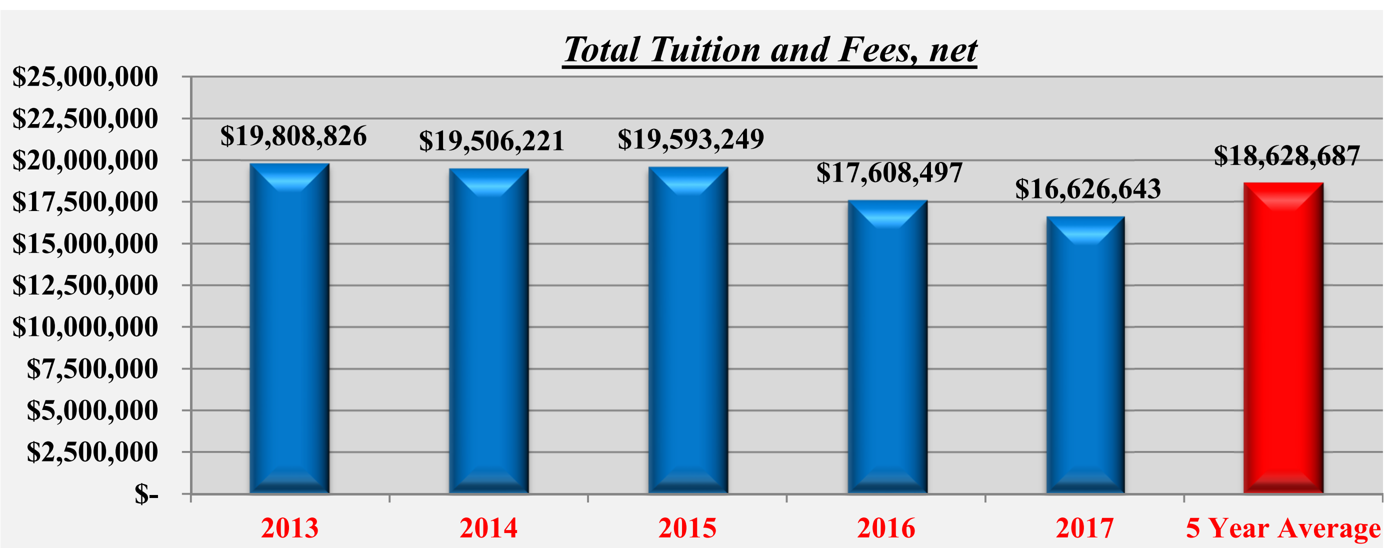
TREND ANALYSIS
(Continued)

Enrollment

As with most small private colleges and universities **enrollment and student-driven revenue** are vital to the College. It is one of the most significant challenges facing the industry for a variety of reasons. Given the College's reliance on student-driven revenues, maintaining enrollment is critical.



Enrollment's impact on total tuition and fees, net of tuition discounts is reflected below. Also, as discussed further below, the declining contribution to revenue on a net tuition per student basis is illustrated.

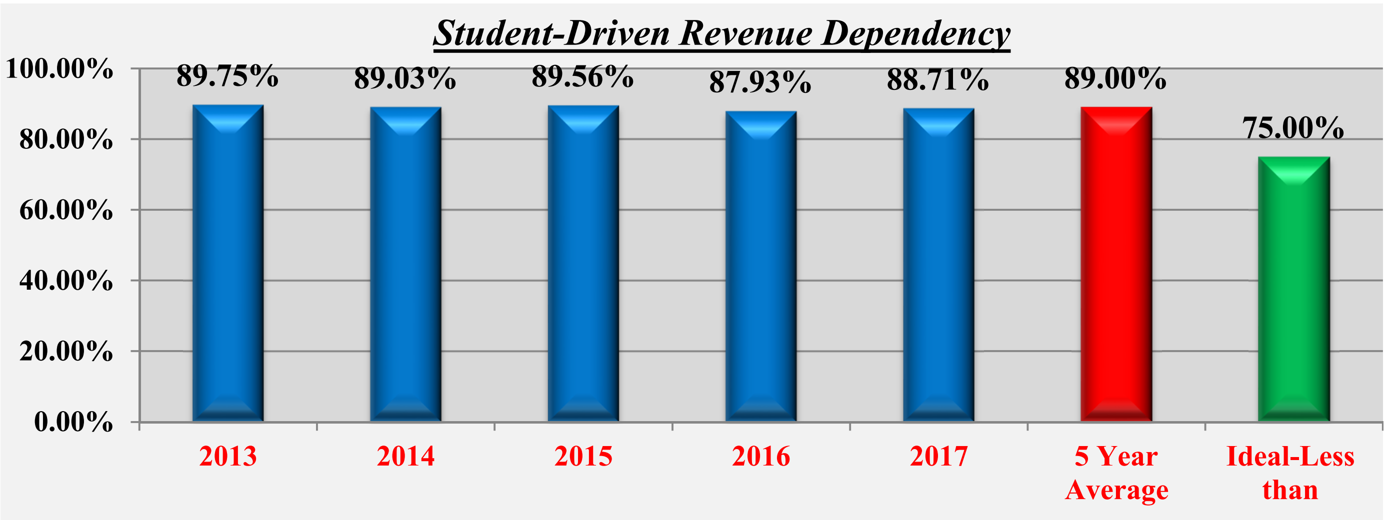


FERRUM COLLEGE

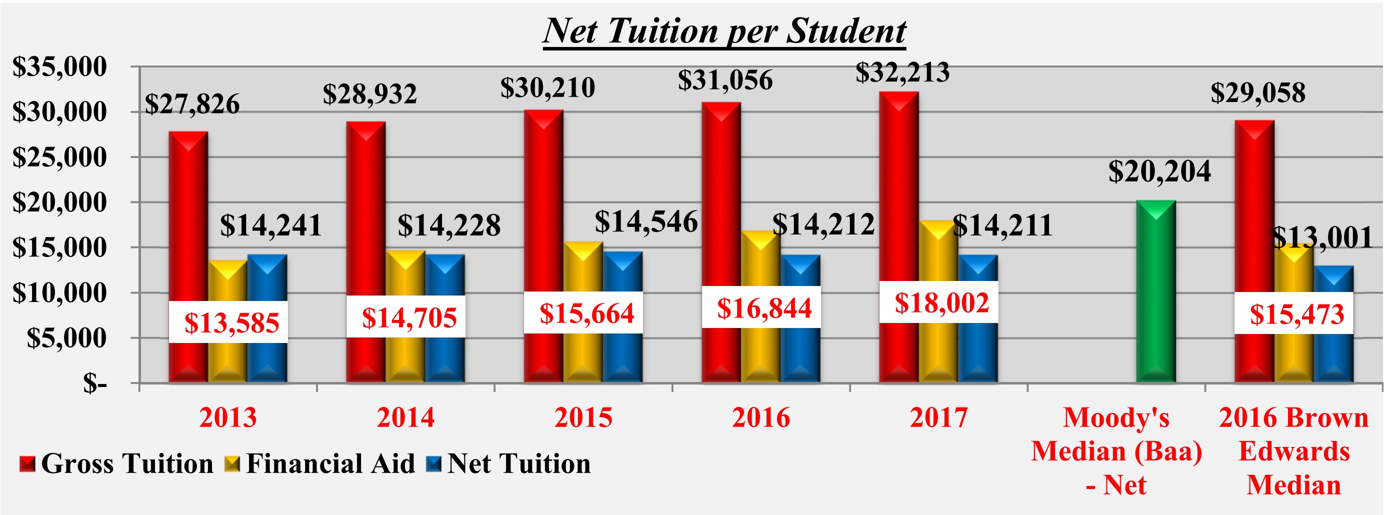
TREND ANALYSIS
(Continued)

Student-Driven Revenue Dependency

Enrollment and the resulting student-driven revenue are the lifeblood of most small private colleges and universities. However, institutions that receive a high percentage of their revenue from net tuition and fees and auxiliary services, and in particular those with more than 75%, are highly sensitive to changes in enrollment patterns. Of course major fluctuations in this revenue stream dramatically impact just about every other financial aspect of an institution. This ratio tracks the degree of dependency on student-driven revenue and measures student-driven revenue (net tuition and fees and auxiliary services revenue) as a percent of total unrestricted operating revenue.

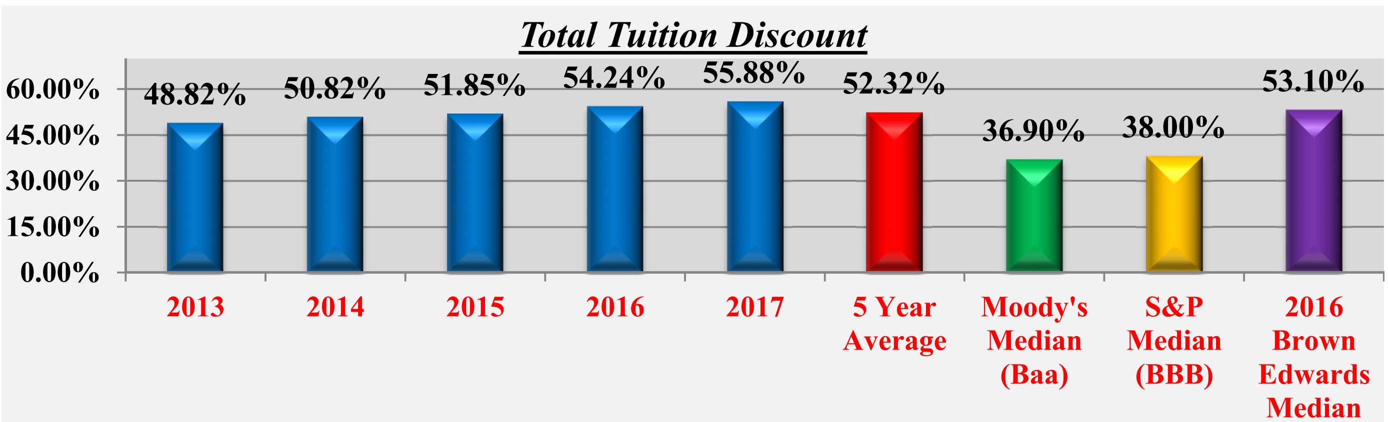


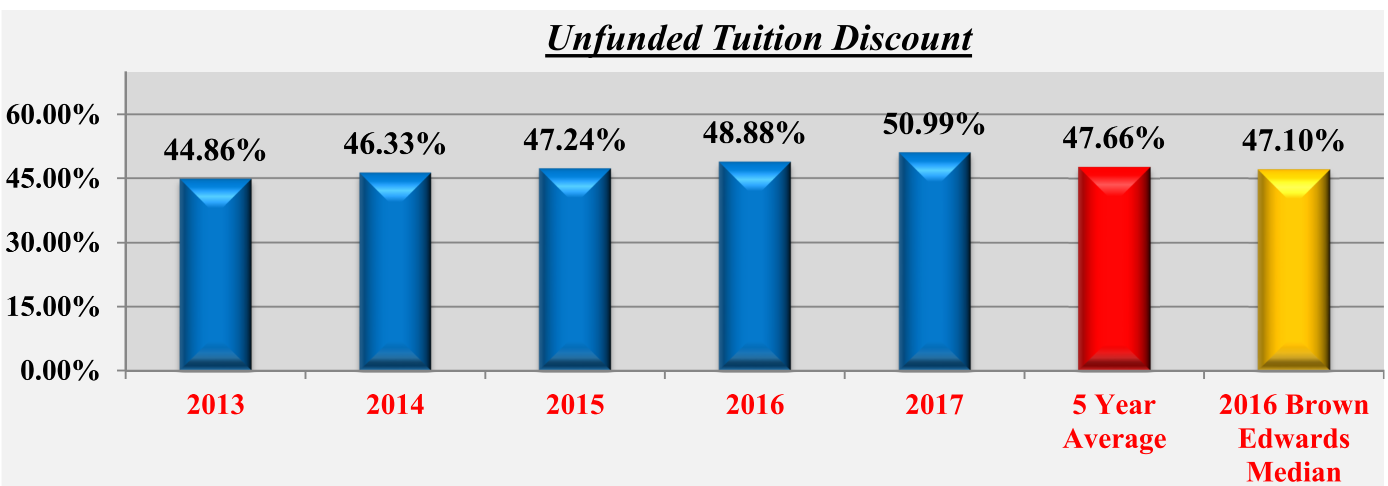
Another important student-driven revenue indicator is to determine how much tuition revenue is generated on a per-student basis. *With the rising cost of financial aid, most small institutions are struggling to maintain net tuition and fees.* Ideally, this metric is growing to offset rising operating expenses and to fund key strategic initiatives. The **Net Tuition per Student Ratio** compares tuition and fee revenue, net of tuition discounts, to total undergraduate enrollment and indicates the average tuition paid per student. The College's trend is as follows:



Student-Driven Revenue Dependency (Continued)

The impact of the rising cost to maintain and grow enrollment in the form of tuition discounting is reflected below. The **total tuition discount** represents total financial aid as a percent of gross tuition and fees. The **unfunded tuition discount** (the amount underwritten from the operating budget) represents undergraduate financial aid ***not*** funded by the endowment or external sources as a percent of gross tuition and fees.



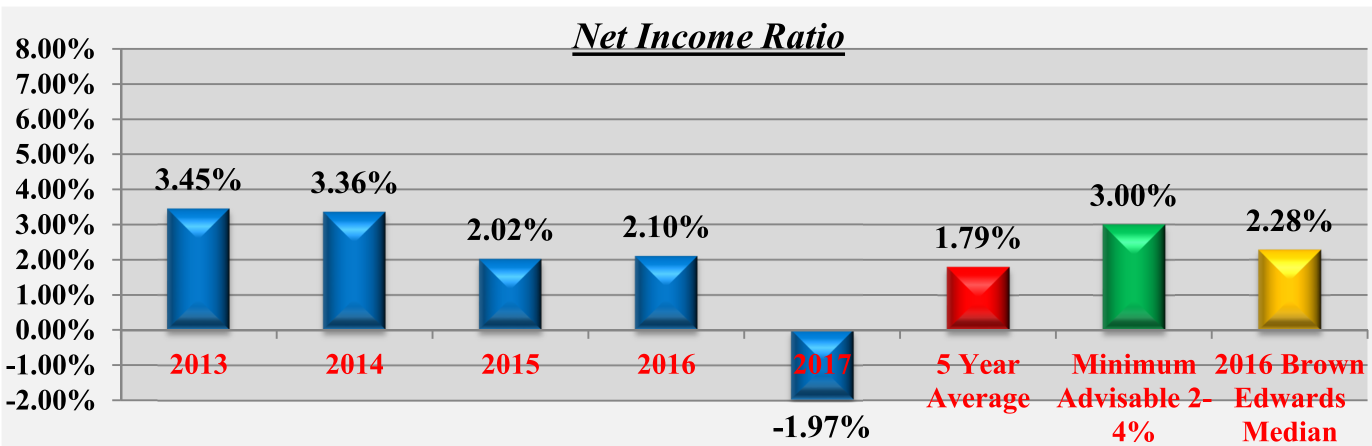


Our Analysis & Comments on Your Enrollment and Student-Driven Revenue Dependency

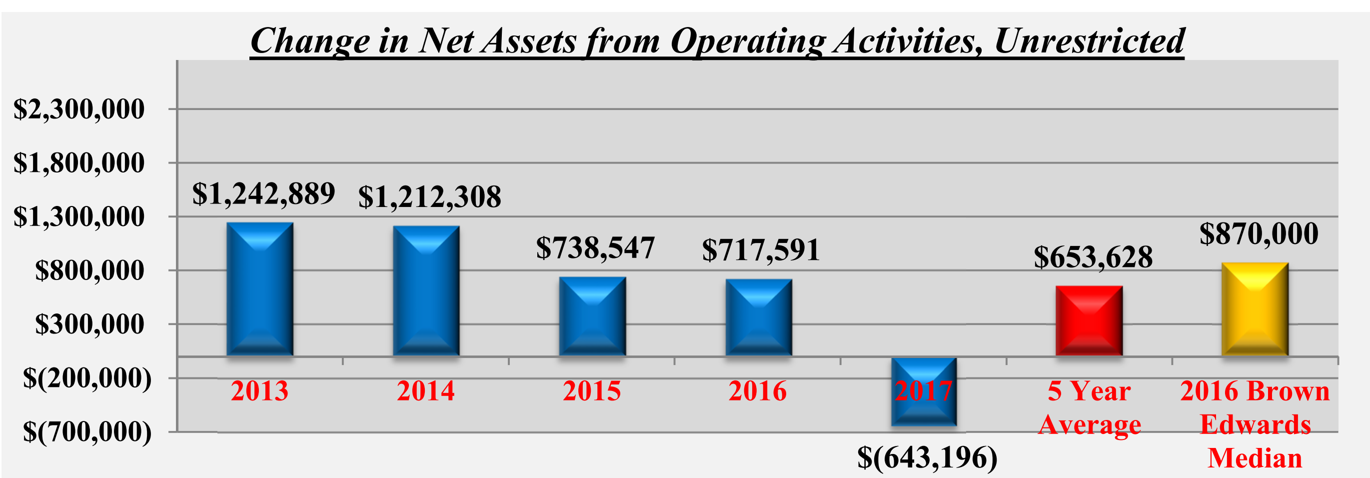
The College is currently experiencing what is prevalent in the industry, declining enrollments and rising tuition discounts. Because the College's student-driven revenue dependency is so high, declines in enrollment have a significant impact. Total net tuition and fees dropped approximately $1.0 million, net tuition per student remained flat, and the total discount rate and the unfunded portion of the discount rate increased. Enrollment is the key challenge the College must overcome, with another significant enrollment decline again in fall 2017. These graphs also highlight the need to diversify operating revenues and develop other revenue streams that can augment traditional tuition and fees. **Nonetheless, all the tuition related metrics reflect the extremely competitive environment, the "new normal" since the Great Recession and the ongoing battle in the industry for financial sustainability.**

<u>Operating Margin Indicators</u>

The **Net Income Ratio**, included in the CFI calculations, was developed to measure whether **operating results indicate an institution is functioning within its available resources**. It is calculated as the operating indicator or change in unrestricted net assets divided by total unrestricted operating revenue. It indicates whether unrestricted activities resulted in a surplus or deficit. A positive ratio indicates a surplus and the larger the surplus, the stronger the financial performance for the year. A negative ratio indicates a loss for the year. A small deficit can be manageable particularly by a financially strong institution. However, large, recurring deficits are almost always a bad sign. A target rate of 2 to 4 percent is a reasonable and minimum advisable goal, but could be modified based on strategic initiatives in play. Below is the College's net income ratio trend:



The sister to the net income ratio is the **Change in Net Assets from Operating Activities, Unrestricted**. It tells the same story as the net income ratio, but does so numerically. This operating measure is the closest measure on the financial report to an institution's operating budget. It includes depreciation and interest expense whereas many institutions' operating budgets do not. The College's change during the trend period is reflected below:

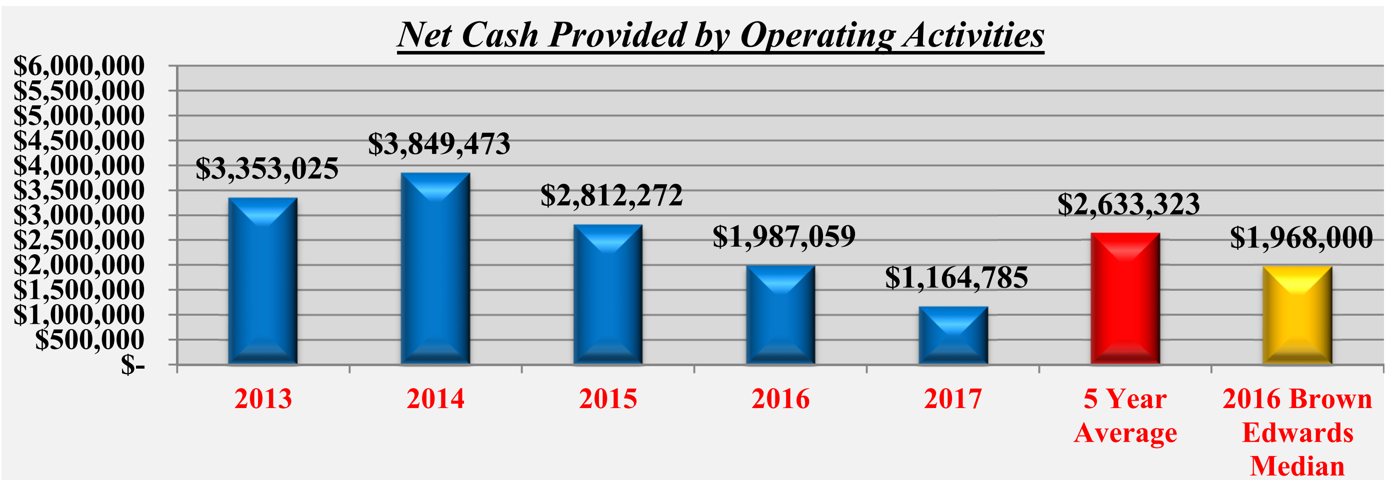


FERRUM COLLEGE

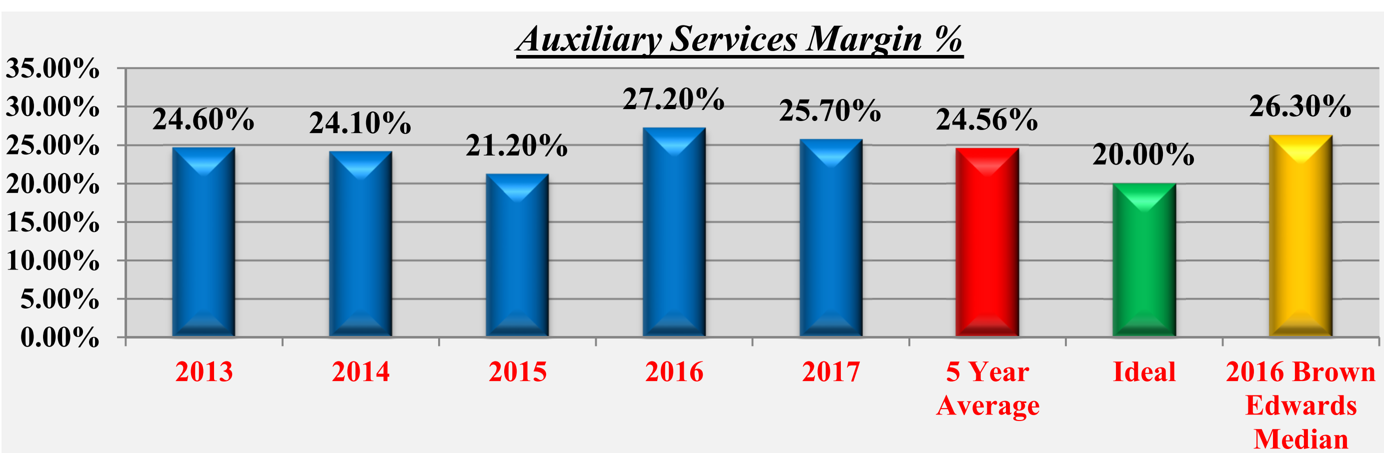
TREND ANALYSIS
(Continued)

Operating Margin Indicators (Continued)

Net Cash Provided by Operating Activities is another operational measure focused on cash. We all understand the critical concept that "cash is king". Many small private institutions have historically struggled to achieve positive cash flow from operating activities. However, in more recent years as a result of significant reengineering of operations necessary due to the many pressures on small private colleges and universities, many have improved significantly. Note that accounting practice for determining cash provided or used in operating activities eliminates the operational endowment draw and only includes cash yield of investments. The College's trend for cash provided by or used in operations is as follows:



Another key operating margin indicator is the **Auxiliary Services Margin Percent**. Auxiliary services for dorms, cafeteria and similar type student services provided are a significant source of student-driven revenues. The minimum advisable margin is 20.0%. The College's auxiliary services margin percent over the trend period is as follows:



FERRUM COLLEGE

TREND ANALYSIS
(Continued)

Operating Margin Indicators (Continued)

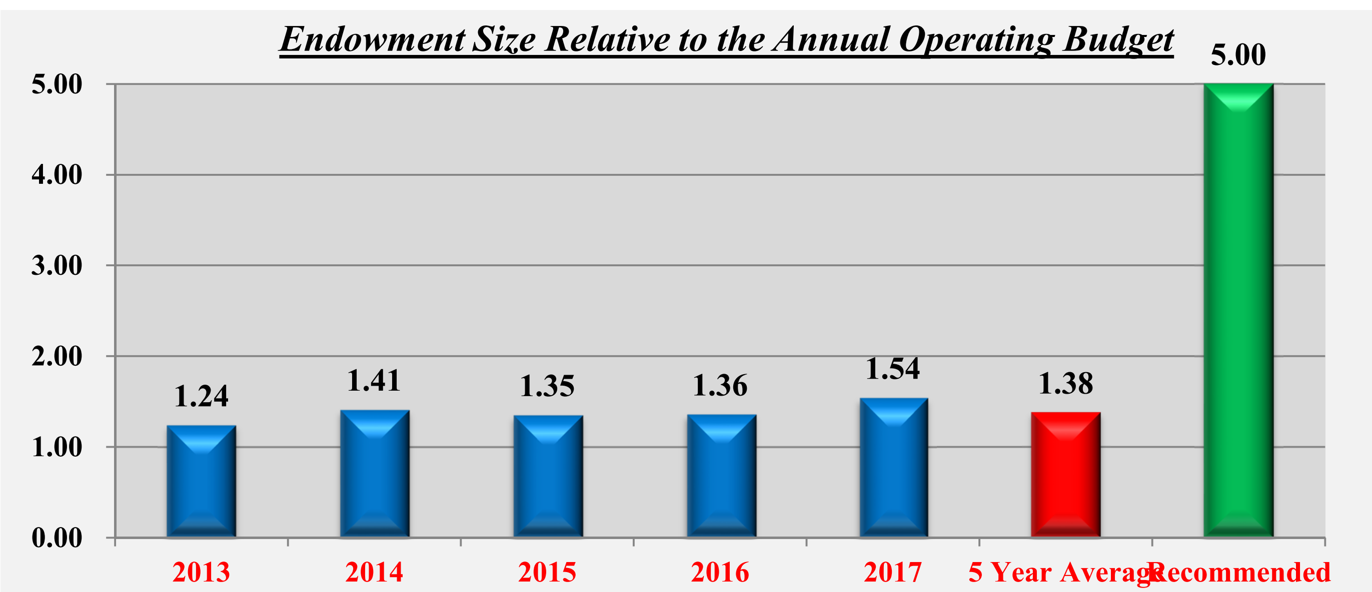
Our Analysis and Comments on Your Operating Margin Indicators

During the trend period, the College's operations had produced positive surpluses until this year, where the downward trend continued, resulting in a loss. The biggest reason for the declining trend and loss this year is fewer students. In the three most recent years, the impact of enrollment declines can be clearly seen in most measures. Surpluses are now negative, and cash provided by operations is smaller. Stabilizing and increasing enrollment should be the top priority of the College and would positively impact these graphs and ratios.

Endowment Size

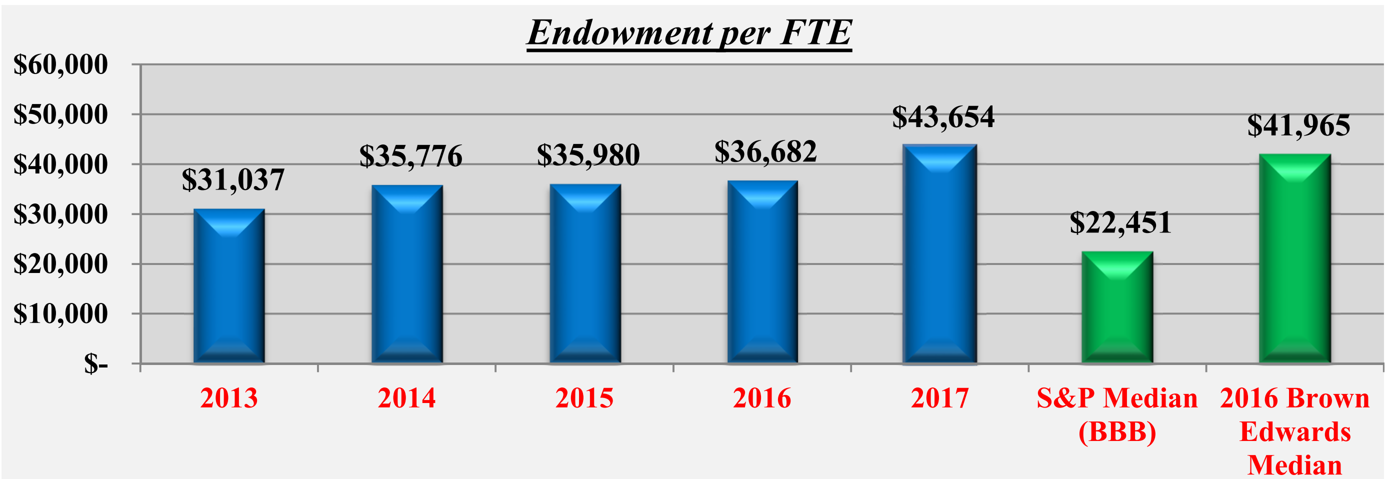
A private institution's endowment can offer a significant revenue stream other than student-driven revenue and aid in diversifying operating revenues. However, some colleges and universities rely too heavily on their endowment to fund operations and many times the endowments are not large enough to withstand these unsustainable draws. Endowments are meant to remain in perpetuity and be intergenerational. That is, they are not only meant to aid in funding an institution and its students currently but also for generations to come.

Nonetheless, if the endowment is large enough, it can provide another strong operating revenue stream, become a critical source of continuing revenue and take significant budgeting pressure off an institution. Some experts believe that **an adequate endowment should be at least five times the annual operating budget**. Arithmetically, with an endowment of this size 20-25% of the operating budget would be funded annually given a spending rate of 4-5%, respectively. Operationally, with this built-in annual safety net, smaller private institutions would have a leg up in their battle for financial sustainability. Below is the College's endowment size versus its operating budget over the trend period:



<u>Endowment Size</u> (Continued)

The **Endowment per Student Ratio** compares the market value of the endowment funds to the student enrollment (FTEs). This ratio is one indicator of the institution's overall accumulated financial wealth and is as follows for the College over the trend period:

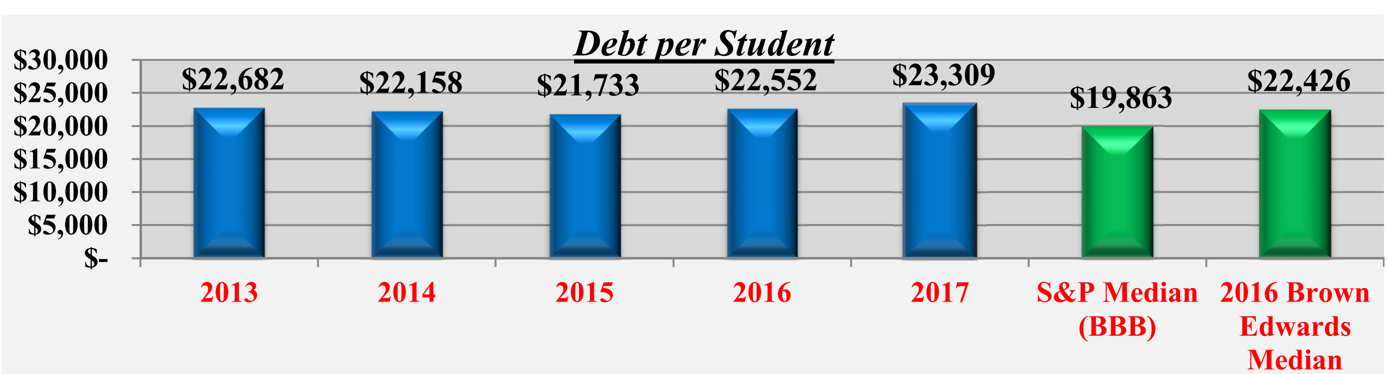


Our Analysis & Comments on Your Endowment Size

Endowment size highlights another area for improvement at the College. The College has been able to consistently produce positive results with its current endowment. Growing its size can provide an enhanced revenue stream and provide a financial cushion should circumstances arise that would require it. **Going forward under the new normal, it will require a larger endowment to aid in funding a higher level of student financial need.**

<u>Strategically Managing Debt</u>

Debt is a critical component of the resources available to an institution to fund capital projects. If used strategically and under a program designed to maximize the use of debt to achieve institutional goals, taking on additional debt increases the likelihood of an institution meeting its mission. However, it is extremely important to fully understand that not all capital projects lead to greater enrollment and they will certainly increase operating costs. In addition, the debt service can potentially reduce financial flexibility. Below is the College's **debt per student** trend:



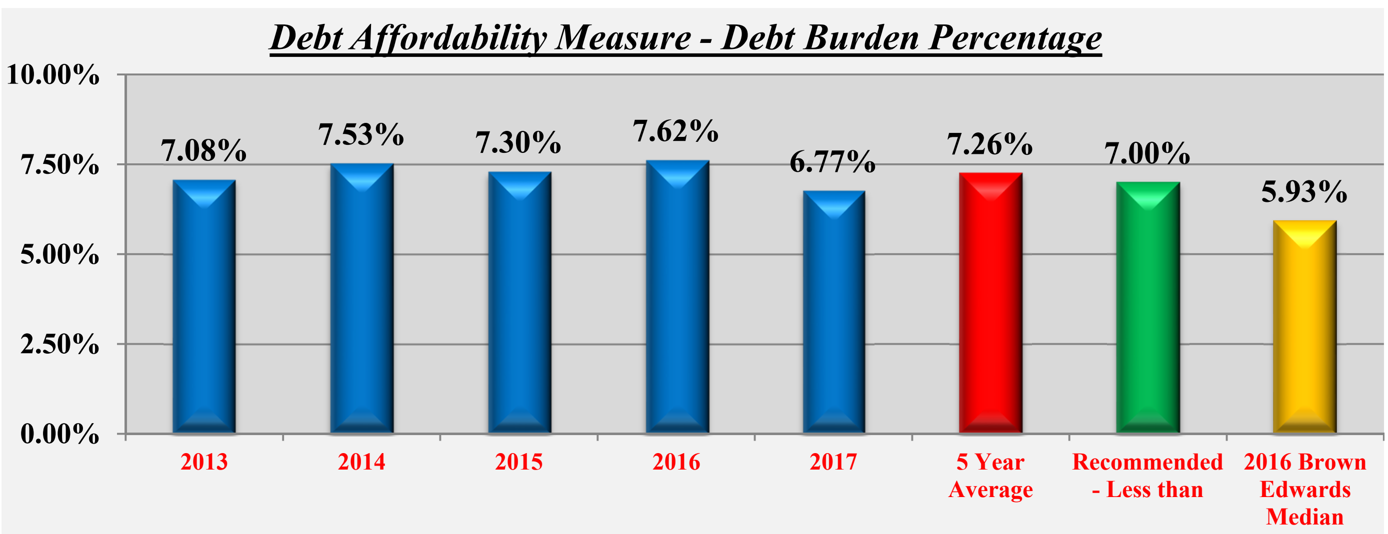
Strategically Managing Debt (Continued)

Critical to strategically managing debt is monitoring key components of ***a sound debt policy*** such as debt affordability and debt capacity measures. Most small private institutions should focus primarily on debt affordability, rather than debt capacity. **Debt affordability** highlights the concept that the institution's operating budget usually is the constraint limiting the incurrence of additional debt. This is in contrast to **debt capacity** which focuses solely on the institution's balance sheet; debt funding as a percentage of total capital. An organization should consider many factors in assessing its debt affordability and debt capacity including its strategic plan, market position, and alternative sources of funding. A couple of key ratios to provide a quantitative assessment of debt affordability and debt capacity are discussed and illustrated below.

Debt Affordability Measures

Debt Burden Percentage

This ratio measures the College's debt service burden (principal and interest) as a percentage of total operating expenses (which typically is a relatively stable base) less depreciation plus principal. The target for this ratio is intended to maintain long-term operating flexibility to finance existing requirements and new initiatives.



Debt Service Coverage Ratio

This ratio measures the College's ability to cover debt service requirements with revenues available for operations. 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. ***A high ratio is considered advantageous while a very low ratio or decreasing trend signifies financial difficulty.*** There are several ways to calculate this ratio.

The **Strategic Financial Analysis debt service coverage ratio** is calculated by **using the change in unrestricted net assets, operating** plus depreciation and interest divided by debt service (principal and interest). The **Moody's ratio** is similar except that Moody's makes various adjustments to the operating indicator that they feel are appropriate, such as smoothing the operational endowment draw by substituting in the place of the actual operational endowment draw 5% of the prior three years investment balance.

FERRUM COLLEGE

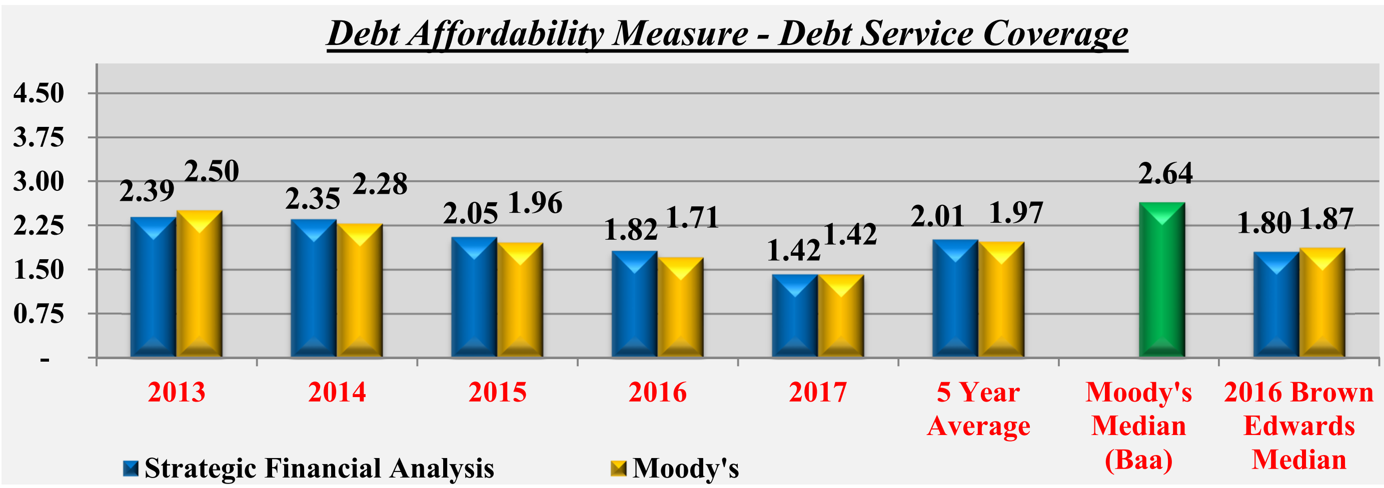
TREND ANALYSIS
(Continued)

Strategically Managing Debt (Continued)

Debt Affordability Measures (Continued)

Debt Service Coverage Ratio (Continued)

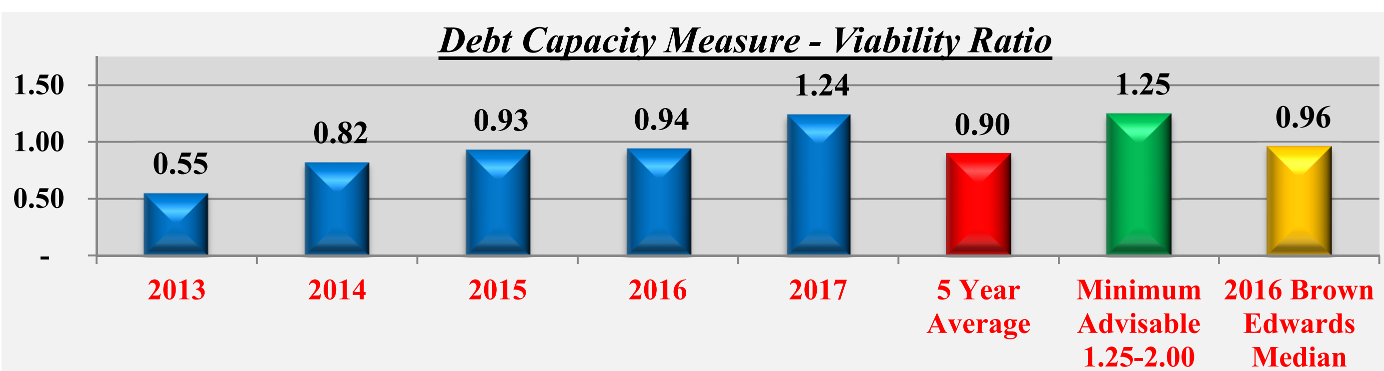
The College's trend is as follows:



Debt Capacity Measures

Viability Ratio

This ratio, which is a core ratio in the CFI composite score, indicates one of the most basic determinants of financial health by measuring the medium to long-term health of the institution's balance sheet and debt capacity. Its purpose is to assess the availability of expendable net assets (unrestricted and temporarily restricted less plant assets net of related long-term debt) to cover debt should the institution need to settle its obligations as of the balance sheet date. The College's trend is as follows:



Strategically Managing Debt (Continued)

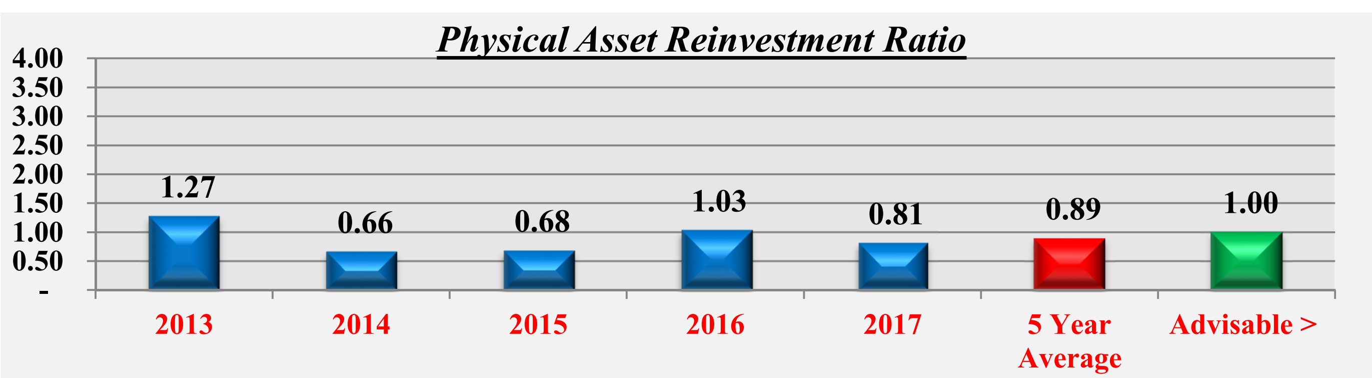
Our Analysis & Comments on Strategically Managing Debt

The College's debt measurements moved in contradictory ways in the current year. The viability ratio improved as the expendable net assets of the college improved as noted earlier, and the debt burden ratio improved as overall debt service declined from the refinancing in the current year. The debt service coverage, however, declined due to the operational loss in the current year. ***The ratios indicate that the College, as compared to benchmarking medians and recommended targets, is nearing the upper end of its ability to service debt annually. Debt capacity measures indicate that the College is just outside of recommended debt levels.*** The College is currently generating sufficient resources necessary to cover principal and interest payments on its debt. Obviously, continuing to generate such resources is crucial. A difficult bear financial market would further pressure all these measures and move them negatively by decreasing expendable net assets.

Deferred Maintenance

Deferred maintenance continues to be a major concern in the industry. Over the last ten years, many institutions have elected to allow deferred maintenance to increase to deal with other more pressing issues. However, it is still the "elephant in the room". Besides deterioration, inefficient infrastructure, environmentally unfriendly and possibly unsafe facilities, aesthetics can negatively influence prospective students and donors. Putting off major projects will inevitably lead to crisis. Ideally, all institutions should have a comprehensive list of deferred maintenance and a plan to reduce it over time. *The cost for such projects should be linked to the operating budget along with the related funding as necessary. (New facilities and equipment should be included in the capital budget.) In addition, and again, ideally, at least 40% of deferred maintenance should be funded.* Below are a couple of metrics that could indicate a growing deferred maintenance concern, the need for technological improvements or necessary campus improvements.

The **Physical Asset Reinvestment Ratio** compares capital expenditures to depreciation expense. Theoretically, depreciation is an amount that can be spent each year without impacting the operating margin; an amount allocated for major maintenance. This is one metric to gauge progress being made toward deferred maintenance but it also factors in new capital projects. During a time of major capital projects, the ratio will be very high. During a normalized period, if the institution is keeping up with deferred maintenance, it is expected that this ratio would be at least 1.00. The College's trend is as follows:

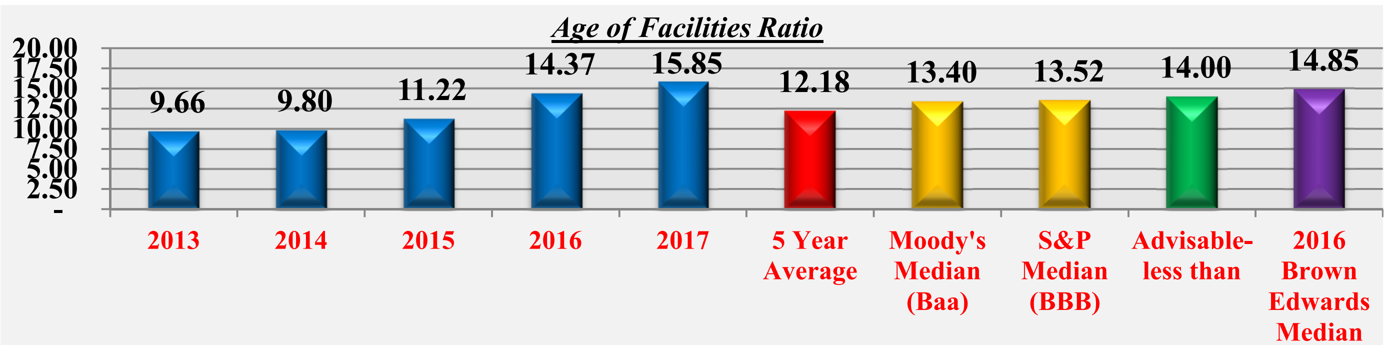


FERRUM COLLEGE

TREND ANALYSIS
(Continued)

Deferred Maintenance (Continued)

Another metric that can aid in evaluating whether deferred maintenance is being managed is the **Age of Facilities Ratio**. This ratio compares accumulated depreciation to depreciation expense and measures the average age of the physical plant assets in years. A high ratio can indicate that there is significant deferred maintenance or the need to modernize, renovate or restore its campus facilities. A low ratio is preferable as it indicates recent investment in physical assets. The College's trend is as follows:

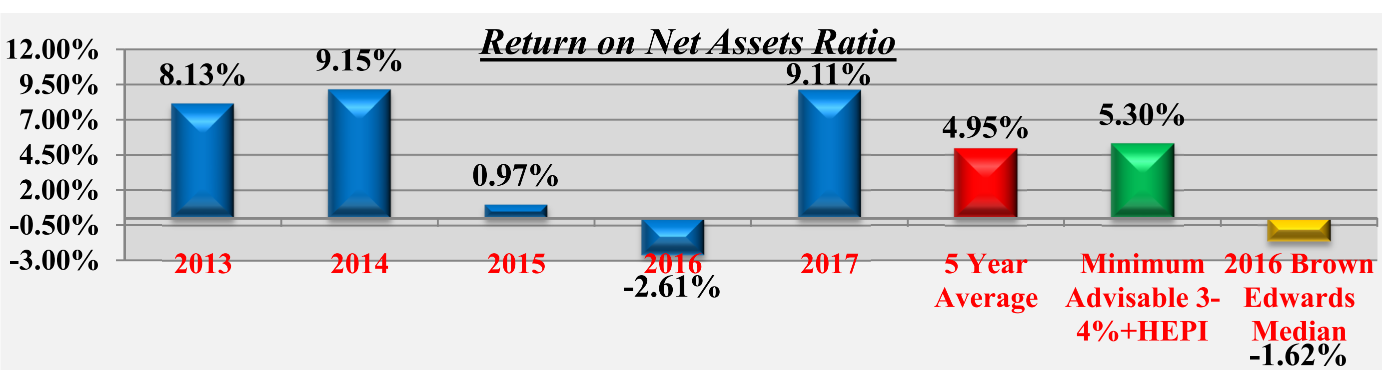


Our Analysis & Comments on Deferred Maintenance

Over the past several years, the College has updated and modernized much of its campus. While there has been and continues to be campus improvements, activity has slowed somewhat, as reflected in the physical asset reinvestment ratio. The age of facilities ratio jumped last year when useful lives of buildings were extended. Developing a list of deferred maintenance items and a method to address the issues will allow the College to properly plan and fund these projects**.**

Return on Net Assets Ratio

The **Return on Net Assets Ratio**, another of the CFI core ratios, compares the change in net assets to average net assets during the year. **The ratio determines whether the institution is financially better off by measuring total economic return versus only operating return. It measures the institution's performance in generating net assets compared to the capital base used to produce those net assets.** A decline in this ratio may be appropriate and even warranted if it reflects a strategy to better fulfill the institution's mission. On the other hand, an improving trend in this ratio indicates that the institution is increasing its net assets and able to set aside financial resources to strengthen its future financial flexibility. An increasing trend indicates that more funds are being made available for the future. A target rate of return should be approximately 3 to 4 percent plus the actual inflation index (CPI or HEPI). Brown Edwards typically uses HEPI.



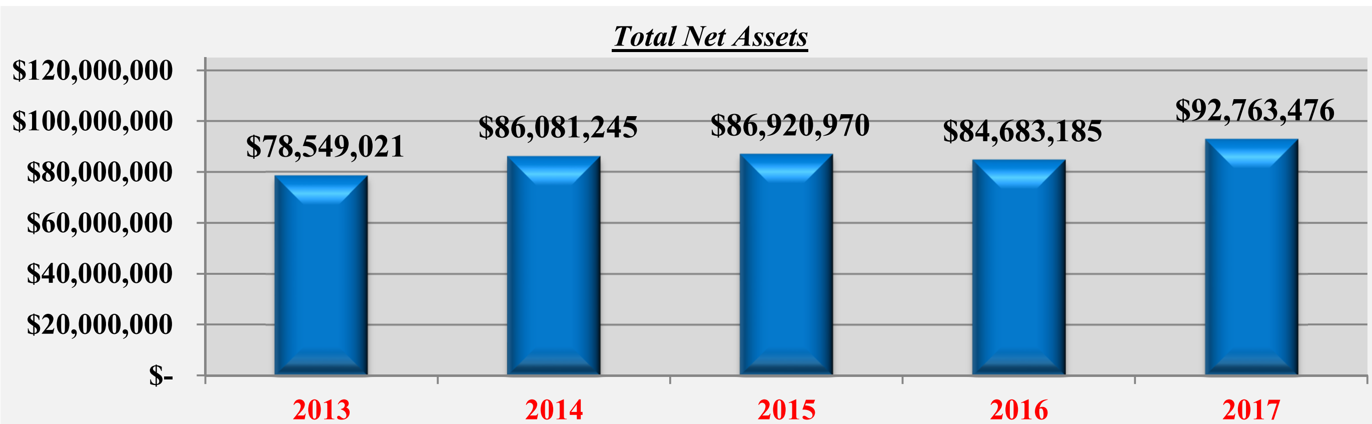
FERRUM COLLEGE

TREND ANALYSIS
(Continued)

Return on Net Assets Ratio (Continued)

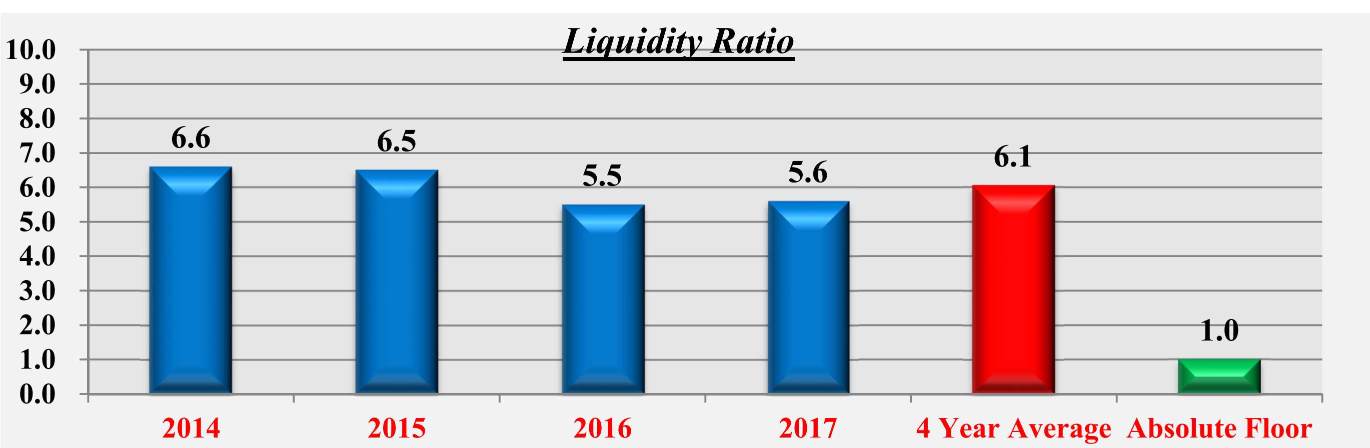
Our Analysis and Comments on Your Return on Net Assets Ratio

This indicator rebounded in the current year, primarily due to economic and financial market conditions. Long-term sustainability of this ratio is necessary to build expendable net assets and improve short-term strength and liquidity. A strong measure over an extended time period is a desired goal. It is also a way for the College to organically build financial reserves over time.



Liquidity

During the last economic downturn, liquidity gained renewed focus and perhaps is not as underestimated as it was before the Great Recession. Liquidity can mean different things to different people. The authors of **Strategic Financial Analysis in Higher Education** developed the **liquidity ratio** to assess liquidity. This ratio is calculated by dividing liquidity sources by liquidity uses. **Liquidity sources** are all cash and operating funds available for operating expenses, including highly liquid amounts held in long-term pools. **Liquidity uses** are operating expenses converted to a cash basis by adjusting for depreciation expense, any other significant non-cash expenses and accrual adjustments. Liquidity uses are converted to a 30 day horizon by dividing by 365 and multiplying the result by 30. Since not having sufficient liquidity could be catastrophic, the absolute floor of the ratio is 1.0x. Of course too much liquidity could mean forgone investment returns. The College's liquidity ratio trends follows:



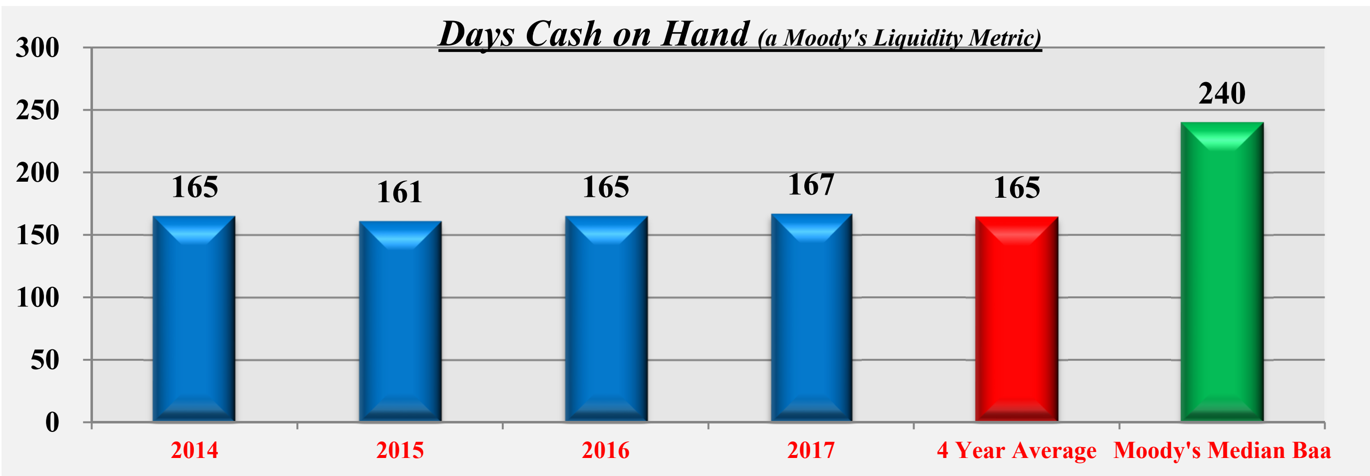
FERRUM COLLEGE

TREND ANALYSIS
(Continued)

Liquidity (Continued)

Moody's also developed **days cash on hand** as calculated below to assess liquidity:

1) Determine liquidity, which includes: a) all cash and operating funds available for operating expenses, including highly liquid amounts held in long-term pools (similar to liquidity sources above), plus b) unrestricted board designated net assets (e.g. unrestricted endowment) and then converting this amount to days by multiplying by 365 days
2) Divide liquidity so determined by operating expenses converted to a cash basis by adjusting for depreciation expense, any other significant non-cash expenses and accrual adjustments.



Our Analysis and Comments on Your Liquidity

This is just one way to look at liquidity but **these measures indicate that the College's liquidity position is reasonably good**. Significant unrestricted cash on hand and to a lesser extent the quasi endowment are the main components that factor into and are driving both metrics.

FERRUM COLLEGE

11 WARNING SIGNS OF FINANCIAL DISTRESS

Throughout this document we have highlighted the ***11 Warning Signs of Financial Distress***. In a nutshell, the industry continues to be challenged and the challenges have intensified at a time when the general economy is fundamentally sound albeit growing very slowly. As Bob Dylan once said, "the times, they are a changin". Three challenges at the forefront are:

1. **Student-driven revenu**e – Institutions are struggling to achieve enrollment and net tuition goals. Contrary to the past, negative growth is the norm at many institutions.
2. **Changing demographics** – Traditional sources won't yield the needed enrollment anymore. The Census Bureau forecasts that the United States will have a majority-minority by 2043, and the gender gap is growing with women making up 57% of college students now versus 40% in the 1970's.
3. **Continuing technology transformation** – Technology transformation is changing how programs are delivered, e.g. electronic classrooms and high-quality online courses with credit transfer.

If you find that your institution is showing some of these eleven warning signs, how should you address them? First, ***realistically evaluate your situation and prepare financial projections based on your current course. Is your current course sustainable?*** Then, ***boldly plot a new course and strategic plan with carefully selected initiatives***, the "right" initiatives, which will lead to long-term success – a robust strategic plan and vision. Your strategic plan should address achieving *financial equilibrium*. Management and the board must be completely behind it. Fully align operational plans and annual budgets to the strategic plan to ensure that resources are expended on strategic imperatives – ***strategic budgeting***. Develop and monitor key performance indicators (KPIs) for progress toward strategic goals – we normally manage what is measured.

In addition, in the process of addressing the warning signs look at it as an opportunity. Below are some potential opportunities as you transform your institution:

- **Be unique, differentiate**
- **Go after and attract students from new demographics**
- **Focus on academic quality**
- **Consider mergers or affiliations with other institutions**
- **Reduce instructional costs using technology and eliminate less attractive programs**
- **Consider new and improved budgeting – *incremental budgeting*: zero-based budgeting (starting everything from scratch) on a rotational basis versus on everything**

11 Warning Signs of Financial Distress

(not considered all-inclusive)

	Advisable Indicator	Ferrum College June 30, 2017	Ferrum College June 30, 2016	Ferrum College June 30, 2015
1 *Low financial scores*				
The following metrics might signify this warning sign:				
- **Composite Financial Index (CFI)** - measures the overall financial health of the institution and its ability to achieve its mission over the long-term (x)	> 3.00 - 4.00	4.34	2.88	3.18
- **ED Composite Score** - measures institutional health over a shorter time horizon than the CFI calculation and with a condensed scoring scale (x)	> 1.5	2.57	2.81	2.84
- **We are not aware of any accreditor issues related to finance.**				
2 *Enrollment declines in core programs* ***(undergraduates only)***				
While the audit process doesn't specifically address "core" programs, the metrics below indicate enrollment trends for the institution as a whole:				
- **Total FTE enrollment** ***(Ideally, enrollment must reach a critical mass of > 1,000 -1,400 for an institution to be financial sustainable over the long-term)***	> 1,000 - 1,400	1,170	1,239	1,347
- **Change in total FTE enrollment (%)**	Improving	-5.57%	-8.02%	-1.75%
3 *The operating margin from student-related revenues is negative.*				
The following metrics might signify this warning sign:				
- **Net income or net operating revenues ratio** - measures unrestricted surplus/deficit as a percent of unrestricted operating revenue (%)	> 2.00 - 4.00%	-1.97%	2.10%	2.02%
- **Auxiliary services margin** - auxiliary services revenues less related expenses divided by auxiliary services revenues (%)	> 20%	25.67%	27.18%	21.15%
4 *Student-driven revenue accounts for greater than 85% of core revenue*				
The following metrics might signify this warning sign:				
- **Student-driven revenue dependency** - compares student-driven revenue to total unrestricted operating revenue; indicates dependency and susceptibility to enrollment fluctuations (%)	< 75%	88.71%	87.93%	89.56%
5 *Living off the endowment to cover operating costs and the endowment is not large enough* - The following metric might signify this warning sign:				
- **Endowment size relative to the annual operating budget (x)** ***(5x funds 20-25% of the operating budget, defined as total operating expenses, given an endowment spending rate of 4-5%)***	5x operating expenses	1.54	1.36	1.35
6 *New building projects with high cash outflow* - The following metrics might signify this warning sign; and ***it is also critical to have/follow a strong debt policy***:				
- **Viability ratio** - measures net assets available (expendable) to meet debt obligations at the balance sheet date (x)	> 1.25 - 2.00	1.24	0.94	0.93
- **Debt burden ratio** - measures current debt service as a percent of operating expenses less depreciation plus debt principal payments (%) ***(maximum <10%)***	< 7%	6.77%	7.62%	7.30%
- **Debt service ratio** - measures the ability for operations to cover debt service (unrestricted operating change + depreciation and interest/debt service) (x)	N/A	1.42	1.82	2.05
- **Facilities burden ratio** - compares total cost of facilities to total plant cost, net; impact of investment on the budget; expenses for each $1 of plant	N/A	0.13	0.12	0.14
7 *Deferred maintenance is piling up* - While the audit process doesn't specifically address deferred maintenance, the metrics below indicates continued investment in physical plant and a reasonable age of facility:				
- **Physical asset reinvestment** - capital expenditures/depreciation (x)	> 1.00	0.81	1.03	0.68
- **Age of facility** - measures the relative plant and equipment age (years)	< 14.00	15.85	14.37	11.22
8 *Alumni and donors are not sufficiently engaged (the average alumni gift is less than $100)*				
As part of the audit, we do not gather sufficient pertinent donor information to address this completely. **Contributions are typically reasonably strong.**	N/A	*(In millions)* $ 5.20	$ 1.35	$ 1.58
9 *Short-term debt is needed to fund operations particularly in the last quarter*				
The audit process doesn't specifically address this but the institution did not have draws on any outstanding lines of credit at year end.				
10 *Programs are being added that are not profitable*				
The audit process doesn't specifically address this potential warning sign.				
11 *Restricted assets are being used to fund operations*				
As part of the audit we did not observe that restricted assets are being used to fund operations.				

FERRUM COLLEGE

STRATEGIC FINANCIAL ANALYSIS IN HIGHER EDUCATION

The "**Strategic Financial Analysis in Higher Education**" developed by Attain, KPMG, and Prager & Co., LLC focuses on the evaluation of an institution's use of financial resources to achieve its unique mission. These ratios quantify the status, sources, and uses of these resources and the debt paying ability of an institution. They are categorized into four areas of measurement and are designed to answer the following basic questions:

- Are financial resources sufficient and flexible enough to support the mission? **(Primary Reserve Ratio)**
- Do operating results indicate the institution is functioning within available resources? **(Net Income Ratio)**
- Does financial asset performance support the strategic direction? **(Return on Net Assets Ratio)**
- Is debt managed strategically to advance the mission? **(Viability Ratio)**

A unique concept with this analysis is the integration of a key ratio from each of the four categories into a combined, single measurement of the overall level of financial health of an institution. This measure is called the Composite Financial Index (**CFI**). **CFI** can be useful to an institution in helping to understand its financial position in the marketplace and in assessing its financial viability. It is best used as a component of financial goals in an institution's strategic plan.

CFI is based on four core ratios, further described below, that represent measurement of key components in relation to institutional risk that must be consistently addressed:

- Balance sheet measurements reflecting wealth accumulation and financial flexibility, each with 35% weighting
  - **Primary Reserve** – compares operating commitments to expendable accumulated wealth or financial cushion; expendable net assets/expenses; a ratio of .40 or better is the minimum advisable reserve (resources to cover operating expenses for about 5 months (.40 of 12 months)).
  - **Viability** – measures debt capacity; compares outstanding long-term obligations to expendable wealth; expendable net assets/debt; a ratio of 1.25 to 2 is considered a minimum advisable range. A ratio of 1 indicates an institution has the expendable resources to pay off its debt.
- Operating measurements indicating annual operating performance
  - **Net Income (also referred to as Net Operating Revenues)** – measures, on a short-term basis, the ability to live within your means; change in unrestricted operating net assets/unrestricted operating revenues; an institution should target two to four percent as a goal and that target may vary from year to year depending on institutional strategic initiatives. Metric most within the control of management. 10% weighting.
  - **Return on Net Assets** – measures the ability to generate overall return against all net resources; a real return of three to four percent plus the higher education price index (HEPI) might be considered a reasonable target, depending on the institution's specific strategic plan. 20% weighting.

These four ratios are properly weighed and scored on a common scale to arrive at **CFI**. Using a single score is superior to the individual measurement of each ratio because it allows a weakness in a particular ratio to be offset by strength in another ratio, similar to the use of GPA (grade point average) for students. Note that **CFI** and all these ratios deal only with the financial aspects of an institution and must be blended with key performance indicators in areas such as academics, infrastructure, and student and faculty satisfaction to understand a complete measure of institutional strength.

CFI is quantified on a progressive scale of one to ten, with one indicating the need to assess the viability to survive and ten indicating strong financial conditions and flexibility. Once **CFI** is determined, it can be compared to the following scale for an indicator of the range of overall institutional well-being, appropriately considering nonfinancial indicators. The scores overlap because the index is not intended to represent financial health as a precise point on the chart, but rather as a range for a particular level of health.

Given the **CFI** score, there are also suggested actions that an institution should consider which are summarized in the table below.

Ratio Analysis in Higher Education – CFI: Scoring Scale

Scale Level	CFI Scoring Range	Action
One	-1 to 1	Severe financial stress – assess viability; can the College survive?
Two Three	0 to 2 1 to 3	Moderate financial stress – reengineer the institution.
Four Five	2 to 4 3 to 5	Direct resources toward becoming a stronger institution and moving to the next level.
Six Seven	4 to 6 5 to 7	Focus resources to compete in the future.
Eight	6 to 8	Experiment with new initiatives.
Nine	7 to 9	New initiatives. Design a robust mission.
Ten	> 9	Deploy resources to achieve a robust mission.

It may be more appropriate to review **CFI** over a period of three to five years and to evaluate the trend. To improve **CFI**, the components of the individual ratios suggest where to focus attention.

If you calculate **CFI** (for an institution with long-term debt) by using the advisable indicators for the four core ratios and assuming a consumer or higher education price index of 3.0%, **a minimum advisable or target CFI would be 3-4.**

A note of caution, as with any ratio or benchmarking analysis, an institution should manage to its mission and strategic plan and not solely to a ratio, benchmark or credit rating. For instance, a strategic decision may negatively impact metrics in the short-term, but be the "right" decision for the institution in the long-term

Strategic Financial Analysis in Higher Education Ratios

	Advisable Indicator	Ferrum College June 30, 2017	June 30, 2016	June 30, 2015
MEASURING OVERALL FINANCIAL HEALTH				
Composite Financial Index - measures the financial component of an institution's well-being using four core ratios: **primary reserve, viability, return on net assets and net income (x)**	*> 3.00 - 4.00 (Also, see CFI Scoring Scale)*	4.34	2.88	3.18
MEASURING RESOURCE SUFFICIENCY AND FLEXIBILITY				
Primary reserve - measures how long the institution could operate without relying on additional net assets generated by operations (x)	*> 0.40*	1.02	0.78	0.76
MEASURING STRATEGIC MANAGEMENT OF DEBT				
Viability - measures availability of net assets to cover debt should the institution need to settle its obligations as of the balance sheet date (x)	*> 1.25 - 2.00*	1.24	0.94	0.93
Debt burden - measures the institution's dependence on borrowed funds as a source of financing its mission and the relative cost of borrowing to overall expenditures (%)	*< 7%*	6.77%	7.62%	7.30%
Interest burden - similar to debt burden but only includes interest (%)	*5-7%*	3.95%	3.78%	3.70%
Debt service coverage - measures the excess of operational earnings available to cover debt service payments (x)	*High ratio*	1.42	1.82	2.05
MEASURING ASSET PERFORMANCE & MANAGEMENT				
Return on average net assets - measures the institution's performance in generating net assets compared to the capital base used to produce those net assets (%)	*> 3.00 - 4.00 plus CPI*	9.11%	-2.61%	0.97%
Physical asset reinvestment - compares capital expenditures to depreciation; indicates how physical asset growth compares to usage (depreciation); higher than 1.00 may be a strain on resources while a lower ratio may indicate an underinvestment in the campus (x)	*1.00 is considered sufficient*	0.81	1.03	0.68
Age of facility - measures the relative age of plant assets and equipment (years)	*< 14*	15.85	14.37	11.22
Facilities burden - compares the total cost of facilities (depreciation, interest on facilities-related debt, and plant operations/maintenance) to total physical plant assets, net; calculates the impact of capital investments on the budget; expenses for each $1 of plant (x)	*Varies by institution based on its budget*	0.13	0.12	0.14
MEASURING OPERATING RESULTS				
Net income - indicates whether total unrestricted activities resulted in a surplus or a deficit (%) *(Also referred to as the Net Operating Revenues Ratio)*	*> 2.00 - 4.00%*	-1.97%	2.10%	2.02%
Cash income - indicates whether unrestricted activities, excluding gains, resulted in a net cash inflow or outflow (%)	*Increasing trend*	3.58%	5.74%	7.66%
Net tuition dependency - compares tuition and fees, net of discounts to total unrestriced operating revenue; indicates the dependency on tuition and the susceptibility to enrollment fluctuations (%)	*< 60%*	51.02%	51.41%	53.66%
Net tuition per student FTE *(undergraduate)*	*Increasing*	$14,211	$14,212	$14,546
FTE (full time equivalent students)	*N/A*	1,170	1,239	1,347
Student-driven revenue dependency - similar to net tuition dependency but adds auxiliary revenue (%)	*< 75%*	88.71%	87.93%	89.56%

Notes: *(Only select Strategic Financial Analysis ratios are presented)*

- **Ratios taken from *Strategic Financial Analysis in Higher Education* jointly published by Attain, KPMG and Prager & Co. LLC**
- **Liquidity and deferred maintenance ratios have not been included above. While extremely important there are inherent difficulties in precisely calculating such ratios using only audited financial statement information.** *We can assist you with these calculations.*

MOODY'S AND STANDARD & POOR'S BENCHMARKS AND RATIOS

Moody's and Standard & Poor's (S&P) ratios are for the primary purpose of establishing a credit rating. It can be helpful to understand the factors that drive that process and useful in analyzing your institution. However, again, as with any ratio or benchmarking analysis, an institution should manage to its mission and strategic plan and not solely to a ratio, benchmark or credit rating. For instance, a strategic decision may negatively impact metrics in the short-term, but be the "right" decision for the institution in the long-term.

Methodologies used by the agencies evolve with a changing higher education landscape. Both agencies changed their methodologies recently and are now utilizing a "*scorecard*". Our related ratios and medians reflect these changes and the related inputs into the scorecards. Moody's shifted its focus from measuring the strength of an institution's balance sheet (which include certain assets that may not be liquidated and spent on operations) to focus more on spendable cash and investments. With the change, cash-based metrics are now the focus versus wealth-based measures. S&P reconfigured it's methodology but continues to include a wealth-based metric referred to as available resources (which is similar to expendable net assets). Both agencies have deemphasized annual debt service because of the varying impact on trend analysis of fluctuating maturities. *Also, be aware that both agencies have unique computations that will not line up perfectly with an institution's financial statements. A couple of examples: 1) Moody's smooths annual investment income by using 5% of the average prior three years of cash and investments in all applicable calculations; and 2) S&P includes financial aid in operating expenses in all applicable calculations versus deducting it from tuition and fees. (Our related ratios incorporate these modifications.)*

Moody's considers four factors in their scorecard to approximate a credit profile with relevant metrics for each factor. Both quantitative and qualitative considerations impact the assessments. Further, note that Moody's indicates their scorecard is a tool and they are not necessarily bound by it. Moody's analysis also studies governance and management, debt structure (maturity, security, terms and conditions), multi-year trends and various other credit considerations.

- **Factor 1: Market profile**. A strong brand name and reputation allows an institution to compete. Three sub-factors – scope of operations, reputation and pricing power, and strategic positioning (qualitative factor). Relevant metrics = Operating Revenue and the annual change
- **Factor 2: Operating performance**. Strong operations enable an institution to repay debt from regular operating revenue while providing funds for strategic investment. Two sub-factors – operating results and budgetary flexibility, and revenue diversity. Relevant metrics = Operating Cash Flow Margin and Revenue Diversity
- **Factor 3: Wealth and liquidity**. An institution's financial reserves enable it to withstand periods of volatility. Two sub-factors – total wealth and liquidity. Relevant metrics = Total Cash and Investments, Spendable Cash and Investments to Operating Expenses and Days Cash on Hand
- **Factor 4: Leverage**. An institution's financing decisions provide insight into the strength and diversity of it funding sources as well as its risk appetite. Two sub-factors – financial leverage and debt affordability. Relevant metrics = Spendable Cash and Investments to Debt and Total Debt to Cash Flow

S&P's scorecard methodology considers the **enterprise and financial profiles** of an institution in issuing a credit rating comprised of the following assessments and measurements. There are quantitative and qualitative factors affecting these assessments and the factors are also subject to overriding considerations and caps.

- **Enterprise profile**
  - **Industry risk.** (qualitative) Reflects S&P's judgement of the risk of the industry versus other industries, including competition, regulations, etc.
  - **Economic fundamentals.** Assessment of how the country's or locality's economic and wider sociopolitical conditions influence the industry. Anchor quantitative metric = National or State GDP per capita
  - **Market position and demand**. Assessment of the institution's competitive strength within the higher education market. Anchor quantitative metrics = Selectivity, Retention, Matriculation and Other Student Demand Rates
  - **Management and governance.** (qualitative measure) Assessment of strategic planning, risk management and operational effectiveness, management expertise, depth and breath, and internal controls.
- **Financial profile**
  - **Financial management policies.** (qualitative) Measures the quality of practices such as transparency, reserve and liquidity, investment management, long-term planning, and debt management.
  - **Financial performance**. Measures how current and future operating performance could affect debt servicing capabilities. Anchor quantitative measure = Operating Margin
  - **Financial resources.** Measures leverage and available resources to assist in times of financial stress. Anchor quantitative measure = Available Resources to Operations
  - **Debt and contingent liabilities.** Measures the extent to which of all possible debt, current and future, may affect debt servicing capability. Anchor quantitative measures = Available Resources to Debt and Maximum Annual Debt Service Burden

Moody's Ratios & Benchmark Medians

	Benchmark*	Ferrum College June 30, 2017	Ferrum College June 30, 2016	Ferrum College June 30, 2015
MOODY'S HIGHER EDUCATION SCORECARD - KEY QUANTITATIVE METRICS				
Market profile				
Operating revenue **	$ 83,748	$ 32,594	$ 33,966	$ 36,285
Annual change in operating revenue (%)	1.50%	-4.04%	-6.39%	0.95%
Operating performance				
Operating cash flow margin (%)	13.40%	9.35%	12.35%	13.36%
Net tuition and auxiliaries, % of operating revenue (%)	84.20%	88.69%	88.66%	90.12%
Wealth and liquidity				
Total cash and investments **	$ 127,447	$ 48,514	$ 44,529	$ 46,937
Spendable cash and investments to operating expenses (x)	0.85	1.32	1.17	1.30
Days cash on hand (approximate for monthly and annual)	240	167	165	161
Leverage				
Spendable cash and investments to debt (x)	1.23	0.93	0.79	0.85
Total debt to cash flow (x)	4.77	8.95	6.66	6.04
MARKET DATA AND RATIOS - OTHER RATIOS (*UNDERGRADUATE*)				
Total FTE enrollment	3,220	1,170	1,239	1,347
Change in total FTE enrollment (%)	0.00%	-5.57%	-8.02%	-1.75%
Net tuition per student	$ 20,204	$ 14,211	$ 14,212	$ 14,546
Change in net tuition per student (%)	1.00%	-0.01%	-2.30%	2.24%
Educational expenses per student	$ 24,869	$ 20,601	$ 19,714	$ 18,885
Institutional tuition discount (%)	N/A	50.99%	48.88%	47.24%
Total tuition discount (%)	36.9%	55.88%	54.24%	51.85%
Tuition rate	N/A	$ 31,800	$ 30,720	$ 29,680
Tuition rate increase over prior year (%)	N/A	3.5%	3.5%	4.3%
KEY FINANCIAL STATISTICS - OTHER RATIOS				
Total debt **	$ 60,235	$ 27,272	$ 27,942	$ 29,275
Spendable cash and investments **	$ 76,761	$ 25,458	$ 22,022	$ 24,950
Operating expenses**	$ 80,410	$ 33,232	$ 33,533	$ 35,773
Annual change in operating expenses (%)	2.10%	-0.90%	-6.26%	2.49%
Total gift revenue**	$ 7,613	$ 5,203	$ 1,346	$ 1,581
CAPITAL - OTHER RATIOS				
Total cash and investments to debt (x)	1.82	1.78	1.59	1.60
Total debt to total capitalization (%)	26.90%	22.72%	24.81%	25.19%
Debt service to operating expenses (%)	5.30%	6.46%	7.32%	6.92%
Capital spending (x)	1.18	0.81	1.03	0.68
Age of plant (number of years)	13.40	15.85	14.37	11.22
BALANCE SHEET - OTHER RATIOS				
Total cash and investments to operating expenses (x)	1.27	1.46	1.33	1.31
Total cash and investments per student	$ 39,314	$ 41,465	$ 35,939	$ 34,845
OPERATING - OTHER RATIOS				
Operating margin (%)	3.90%	-1.96%	1.27%	1.41%
Operating margin, excluding gifts (%)	-2.00%	-3.30%	0.43%	0.49%
Change in net tuition revenue (%)	-0.20%	-5.58%	-10.13%	0.45%
Annual debt service coverage (x)	2.72	1.42	1.71	1.96
Return on average net assets (%)	0.50%	9.11%	-2.61%	0.97%
Return on cash and investments (%)	-1.40%	8.95%	-5.13%	1.40%

Notes: *(Only select Moody's ratios are presented)*

- Shading indicates the key quantitative metrics in the updated Moody's Higher Education Methodology that uses a scorecard to approximate a credit profile. The scorecard is organized into four factors - *market profile, operating performance, wealth and liquidity, and leverage*. The new methodology was released in November 2015. All aspects of this change may not be reflected in Moody's median presentation at this time. *Brown Edwards is available to assist you in a self assessment using this methodology.*

* Moody's - Medians for private colleges and universities rated "Baa"; fiscal 2016 data (dated June 12, 2017)

** In thousands (x) Indicates times or a multiple

- Moody's computes/uses as operating investment income 5% of the three year trailing average of cash and investments for *all ratios with Operating Revenue*; this calculation has been integrated into all ratios for the institution and the benchmark medians

Standard and Poor's Ratios

		Benchmark*	Ferrum College June 30, 2017	Ferrum College June 30, 2016	Ferrum College June 30, 2015
S&P's RATING METHODOLOGY FOR NOT-FOR-PROFIT COLLEGES AND UNIVERSITIES - SCORECARD					
ENTERPRISE PROFILE					
- Market position and demand					
FTE Enrollment *(< 1,400 enrollment negative) - Undergraduate*		2,642	1,170	1,239	1,347
Change in total FTE enrollment (%) *(>15% increase positive; >3% decrease negative)*		N/A	-5.57%	-8.02%	-1.75%
Tuition discount, total (%)		38.00%	55.88%	54.24%	51.85%
FINANCIAL PROFILE					
- Financial performance	*Anchor metric*				
Operating margin (%)		0.78%	-1.18%	1.32%	1.30%
Revenue diversity:					
- Student-generated revenue (%) *(> 80% negative)*		89.44%	93.14%	92.50%	93.39%
- Endowment Market Value**		$ 63,098	$ 51,076	$ 45,449	$ 48,465
- Endowment Market Value per FTE		$ 21,084	$ 43,654	$ 36,682	$ 35,980
- Financial resources *(available resources = expendable resources)*					
Expendable resources to operating expenses (%) *(mid level ratio should be in the range of 100%-300%)*	*Anchor metric*	49.40%	62.23%	48.11%	48.03%
Cash and investments to operating expenses (%)		79.20%	89.35%	81.85%	82.53%
Cash and investments to expendable resources (%) *(a ratio of 2x is positive)*		N/A	1.44	1.70	1.72
Expendable resources to debt service (x) *(a ratio of greater than 1x positive)*		N/A	15.75	10.66	11.04
- Debt and contingent liabilities					
Maximum annual debt service to operating expenses (MADS burden) (%) *(generally, 5 yr high debt service and current interest used) (mid level ratio should be in the range of 4%-6%)*	*Anchor metrics*	4.17%	6.41%	7.06%	6.78%
Expendable resources to debt (%) *(mid level ratio should be in the range of 100%-200%)*	*Anchor metrics*	83.10%	123.89%	93.67%	93.31%
Cash and investments to debt (%)		150.70%	177.89%	159.36%	160.33%
OTHER S&P'S RATIOS					
Total debt, including any current financing**		$ 54,629	$27,272	$27,942	$29,275
Total debt per FTE		$ 19,863	$23,309	$22,552	$21,733
Average age of plant		13.52	15.85	14.37	11.22

Notes: *(Only select Moody's ratios are presented)*

- Shading indicates the key quantitative metrics in the updated S&P Higher Education Methodology that uses a scorecard to approximate a credit profile. The S&P scorecard assesses an institution's credit based on its *enterprise and financial profile*. Enterprise profile is determined by *industry risk, economic fundamentals, market position and demand, and management and governance*. Financial profile is determined by *financial management policies, financial performance, financial resources and debt and contingent liabilities*. The new methodology was released in January 2016. All aspects of this change may not be reflected in S&P's median presentation at this time.
Brown Edwards is available to assist you in a self assessment using this methodology.

* S&P - Medians for private colleges and universities rated "BBB"; fiscal 2016 data (dated July 20, 2017)

** In thousands (x) Indicates times or a multiple

- Standard & Poor's treats financial aid as an expense (versus the FASB approach of netting against tuition and fees).

FERRUM COLLEGE

OTHER ANALYSIS, INCLUDING ED'S COMPOSITE SCORE

The following pages include other key financial analysis such as **the U.S. Department of Education (ED) Composite Score, measurement of endowment size relative to the annual operating budget, sources of total revenue, sources of operating expenses by function and percent change from the prior year, key fundraising ratios, inflationary indexes (HEPI, the higher education price index, and CPI), the auxiliary services net margin, and pie charts of current year total revenue by source and current year operating expenses by function.**

ED has also adopted Financial Responsibility Standards for institutions participating in student financial-assistance programs under Title IV. Failure to meet these minimums will result in being monitored by the Department. Their ratios provide a measure of an institution's financial health by focusing on the ability to meet debt obligations, the level of reserves available to support current operations, as well as the ability to function within its means in a given operating cycle.

ED's Responsibility test ***should not be confused with the Composite Financial Index***. ED's scoring is configured for a short time horizon and annual financial responsibility testing as it relates to managing federal funds, versus the CFI scoring which takes a long-term horizon approach based on an organization ultimately achieving its mission. Their Financial Responsibility test uses a composite score based on three ratios, two of which are ratios also used in the **CFI**, the primary reserve ratio and the net income ratio. The third ratio in ED's methodology is the equity ratio, which is a measure of financial strength indicating an institution's ability to borrow. This financial responsibility index was developed for ED to determine eligibility for Title IV funds. Its purpose is primarily to identify institutions that are at increased financial risk (using a scale of -1 to 3) to the student financial aid program ***in a short time horizon***.

The ***CFI methodology presents a more complete picture of an institution's financial strengths and weaknesses*** (using a scale of –X to 10). Moreover, CFI assists institutions in understanding the ***affordability of their strategic plans*** and in ***monitoring and evaluating the financial results of implementing those strategic initiatives over a longer time horizon***.

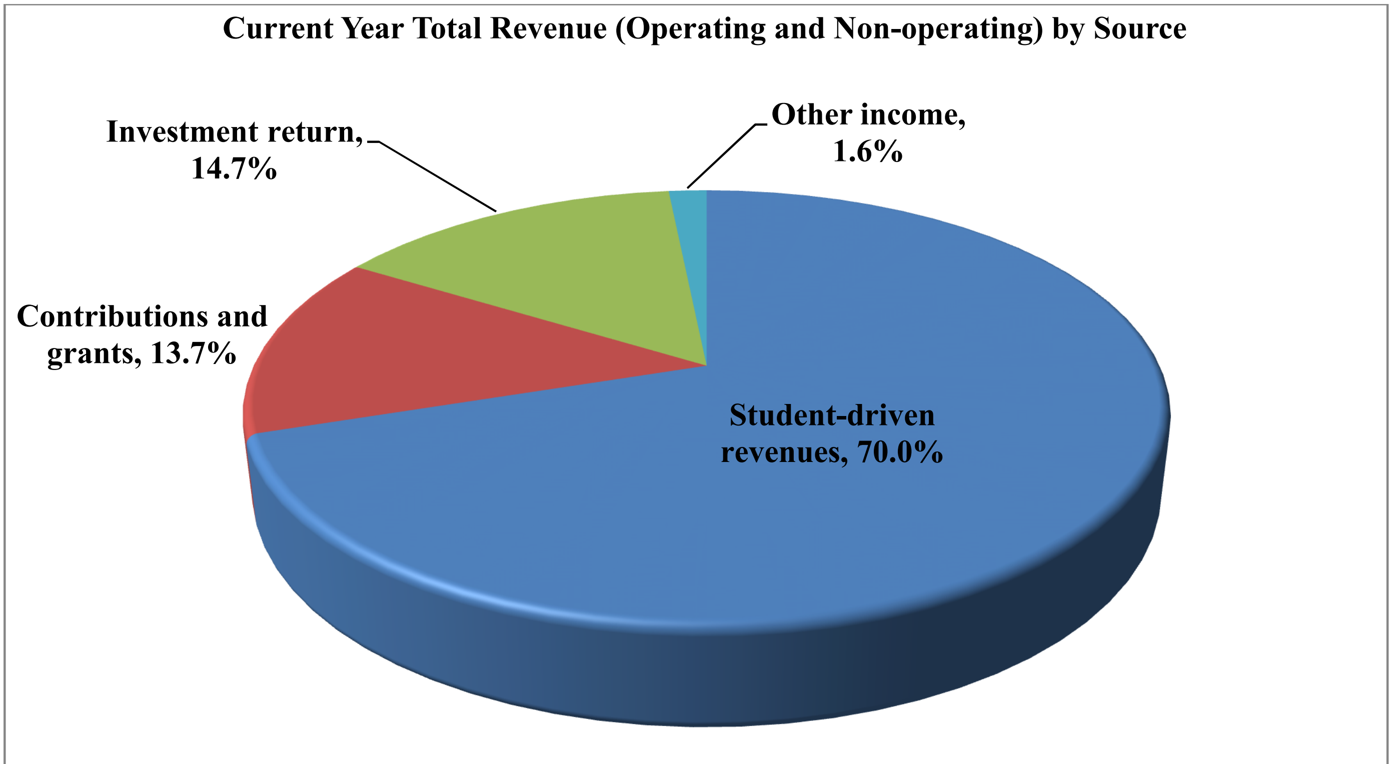
The Brown Edwards' group median for the ED Composite Score was 2.60 in 2016.

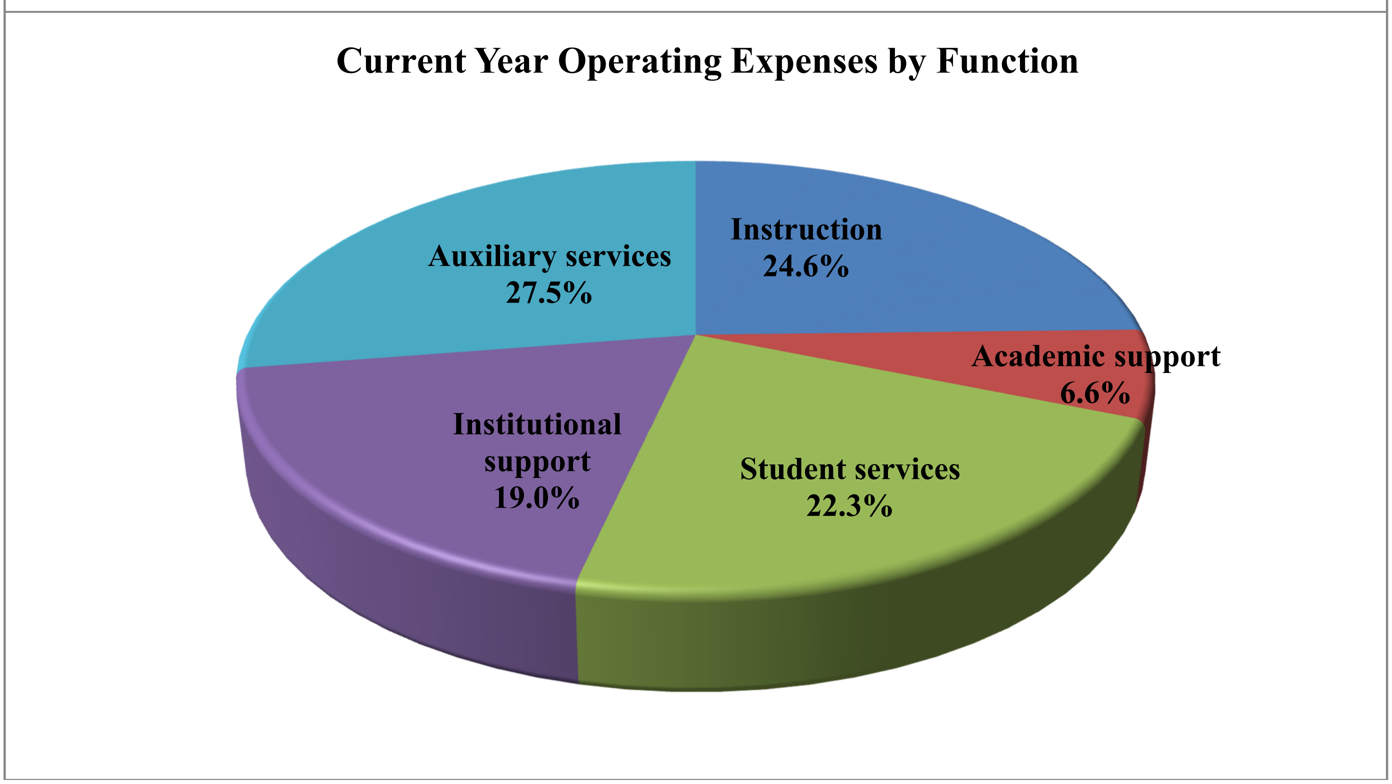
Other Analysis

	Ferrum College		
	June 30, 2017	June 30, 2016	June 30, 2015
Department of Education Title IV Financial Responsibility Standards Composite Score			
Primary Reserve Ratio (x)			
Score (Strength Factor x 40%)	1.20	1.20	1.20
Equity Ratio (x)			
Score (Strength Factor x 40%)	1.20	1.20	1.20
Net Income Ratio (x)			
Score (Strength Factor x 20%)	0.17	0.41	0.44
Composite Score (Sum of above ratios) (x)	2.57	2.81	2.84

Interpretation of Composite Score Range	*Composite Score (x)*	*Regulatory Result*
School is financially healthy enough to participate without additional monitoring	1.50 to 3.00	Financially Responsible
"In the zone," additional monitoring needed to participate	1.00 to 1.40	
School is not financially healthy enough to be considered financially responsible	-1.00 to .90	Not Financially Responsible

	June 30, 2017	June 30, 2016	June 30, 2015
Endowment size relative to the annual operating budget (x) *(5x funds 20-25% of the operating budget, defined as total operating expenses, given an endowment spending rate of 4-5%)*	1.54	1.36	1.35
Total Revenue (Operating and Non-Operating) Sources as a Percent of Total Revenue (per audited financial statements)			
Tuition and fees, net	40.3%	56.2%	53.5%
Contributions and grants	13.7%	6.5%	5.9%
Investment income spent	5.5%	7.5%	5.9%
Auxiliary services	29.7%	40.0%	35.8%
Other income	0.1%	0.5%	1.1%
Investment total return retained	9.2%	-8.8%	-0.5%
Change in funds held in trust by others	1.5%	-1.9%	-1.7%
Total revenue	100.0%	100.0%	100.0%
Operating Expenses as a Percent of Total Operating Expenses (per audited financial statements)			
Instruction	24.6%	25.9%	25.1%
Academic support	6.6%	5.7%	5.9%
Student services	22.3%	22.6%	21.7%
Institutional support	19.0%	18.6%	18.4%
Auxiliary services	27.5%	27.2%	28.9%
Total operating expenses	100.0%	100.0%	100.0%
Fundraising ratios			
Fundraising ratio (cost of fundraising as a percent of total contributions) (%)	16.3%	69.3%	69.6%
Fundraising expense ratio (cost of fundraising as a percent of total expenses) (%)	2.6%	2.8%	3.1%
Inflationary operating expense ratios and benchmarks (%)			
Percent increase in operating expenses/FTE	5.0%	1.9%	4.3%
Percent increase in operating expenses	-0.9%	-6.3%	2.5%
Higher Education PI (by Commonfund) *(CY June 30, 2016)*	1.8%	1.8%	2.1%
CPI (July to June) *USDL-Bureau of Labor Statistics*	1.6%	1.0%	0.1%
Auxiliary Services Net Margin (%)	25.7%	27.2%	21.2%


Current Year Total Revenue (Operating and Non-operating) by Source
Investment return, 14.7%
Other income, 1.6%
Contributions and grants, 13.7%
Student-driven revenues, 70.0%


Current Year Operating Expenses by Function
Auxiliary services 27.5%
Instruction 24.6%
Academic support 6.6%
Institutional support 19.0%
Student services 22.3%

COMMENTS AND SUGGESTIONS

INDEPENDENT AUDITOR'S REPORT ON COMMENTS & SUGGESTIONS

To the Board of Trustees and Management of
Ferrum College
Ferrum, Virginia

In planning and performing our audit of the financial statements of Ferrum College as of and for the year ended June 30, 2017, in accordance with auditing standards generally accepted in the United States of America, we considered the College's internal control over financial reporting (internal control) as a basis for designing auditing procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the College's internal control. Accordingly, we do not express an opinion on the effectiveness of the College's internal control.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and, therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as discussed below, we identified a deficiency in internal control that we consider to be a material weakness.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency or a combination of deficiencies in internal control, such that there is a reasonable possibility that a material misstatement of the College's financial statements will not be prevented, or detected and corrected, on a timely basis. We consider the deficiency noted in the attached report to be a material weakness.

The College's written response to our comment has not been subjected to the audit procedures applied in the audit of the financial statements, and, accordingly we express no opinion on it.

We have already made this comment and suggestion available to management, and we will be pleased to discuss it in further detail at your convenience, to perform any additional study, or to assist you in implementing the recommendations.

This communication is intended solely for the information and use of the Board of Trustees, management, and others within the College, and appropriate regulatory agencies, if applicable, and is not intended to be, and should not be, used by anyone other than these specified parties.

Brown, Edwards & Company, L. L. P.
CERTIFIED PUBLIC ACCOUNTANTS

Roanoke, Virginia
October 12, 2017

COLLEGE ASSISTANCE DURING THE AUDIT

We extend our thanks to Chris Burnley, Vicky Robertson, and the entire business office staff for their assistance and attention during the 2017 audit engagement.

COMMENTS AND SUGGESTIONS RESULTING FROM THE CURRENT YEAR AUDIT

Recording Estate Gifts (Material Weakness)

We determined the College should have recorded a material estate gift as a receivable in 2017. The College has been aware of the estate gift for several years and it was received subsequent to year end (so the amount was known); however, the College did not record a receivable in 2017. According to authoritative accounting guidance, the fair value of an interest in an estate should be recorded, as a receivable or revenue, when the probate court declares the will valid. If other issues exist that put the College's share of the bequest in question (legal or IRS challenges, etc.), then those issues also need to be resolved before recording the gift. We recommend the Development Office maintain a listing of all conditional gifts (bequest, pledges with conditions, etc.) and, at year end, note the current status of each gift listed. This list should be provided to the Business Office to evaluate whether any of the gifts listed should be recorded as contribution receivable. The reasons for recording or not recording each gift should be listed. This completed list should be provided for the audit each year. If the College is aware of a pending estate gift at year end, the Business Office should determine whether the will has been validated by the probate court as of June 30 along with any other conditions that need to be met in order to determine whether a receivable should be booked. These steps should ensure that all conditional gifts are recorded when appropriate.

Management's Response: *Management acknowledges this error, and is performing a comprehensive review of the College's gift recording policies to ensure such transactions will be reported correctly in the future.*

REQUIRED COMMUNICATIONS WITH THOSE CHARGED WITH GOVERNANCE

To the Audit Committee of
Ferrum College
Ferrum, Virginia

We have audited the financial statements of Ferrum College (the "College") for the year ended June 30, 2017, and have issued our report thereon dated October 12, 2017. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards and *Government Auditing Standards* and the Uniform Guidance, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our engagement letter and pre-audit meeting with you. Professional standards also require that we communicate to you the following information related to our audit.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the College are described in Note 1 to the financial statements. As described in Note 6, the College adopted the requirement in FASB ASC 835-30 to present deferred loan costs as a reduction of the carrying amount of debt rather than an asset. These changes have been retrospectively applied to 2016. There were no other changes to existing policies. We noted no transactions entered into by the College during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the financial statements were:

- Management's estimate of the value of annuity obligations is based on actuarial assumptions.
- Management's estimate of the valuation of contributions receivable is based on historical experience and other guidance.
- Management's estimate of the value of the asset retirement obligation is based on historical information and trends.
- Management's estimate of the valuation of alternative investments is based on net asset values provided by fund managers.
- Management's estimate of the allowance for doubtful accounts is based on historical experience.

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<u>Significant Audit Findings</u> (Continued)

Qualitative Aspects of Accounting Practices (Continued)

We evaluated the key factors and assumptions used to develop these estimates in determining that they are reasonable in relation to the financial statements taken as a whole.

The financial statement disclosures are neutral, consistent, and clear.

Difficulties Encountered in Performing the Audit

We encountered no difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. The following misstatement detected as a result of audit procedures was corrected by management:

- An entry of $3,349,340 to record an estate gift receivable. The effect of this entry is an increase in contributions receivable and an increase in contribution income.

Disagreements with Management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated October 12, 2017.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the College's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We discussed a variety of matters, including the application of accounting principles and auditing standards, with management prior to being engaged as the College's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

****

This information is intended solely for the use of the Audit Committee, Board of Trustees, and management of Ferrum College and is not intended to be, and should not be, used by anyone other than these specified parties.

Brown, Edwards & Company, L.L.P.

CERTIFIED PUBLIC ACCOUNTANTS

Roanoke, Virginia
October 12, 2017