

Department of
Higher EducationJohn R. Kasich, Governor
John Carey, Chancellor

Affordability & Efficiency

FY2017 Efficiency Reporting Guidance

In the early part of 2015, Gov. John R. Kasich created the Ohio Task Force on Affordability and Efficiency in Higher Education to make recommendations to Ohio's colleges and universities based on three simultaneous principles 1) to be more efficient both in expense management and revenue generation 2) while offering an education of equal or higher quality and 3) decreasing costs to students and their families. The Task Force met several times during the course of 2015. In October, the Task Force issued a report with ten recommendations to advise colleges and universities on efficiency and academic practices to improve both the quality of education and lower costs for students. For additional information on each category and recommendation, please review the [Action Steps to Reduce College Costs report](#), issued by the Ohio Task Force on Affordability and Efficiency.

Section 3333.95 of the Ohio Revised Code requires the Chancellor of Higher Education to maintain an Efficiency Advisory Committee, composed of members from each of Ohio's public colleges and universities. The purpose of this committee is to generate efficiency reports for campuses, identify shared services opportunities, streamline administrative operations, and share best practices in efficiencies among colleges and universities. The law additionally requires an annual report to be completed by the Department of Higher Education. The college and university data captured from this report for fiscal year 2017 will allow ODHE to produce the 2017 Efficiency Advisory Committee Report by December 31, 2017, as required by law.

The template is structured into four sections:

- **Section 1: Efficiencies** – The first section captures practices likely to yield significant savings that can then be passed on to students. This includes Procurement, Administrative/Operational, and Energy.
- **Section 2: Academic Practices** – This section covers areas such as textbooks, time to degree incentives, and academic course and program reviews. While improvements to academic processes and policies may not convey immediate cost savings, there will likely be tangible benefits that improve the quality of education for students.
- **Section 3: Policy Reforms** – This section captures additional policy reforms recommended by the Task Force.
- **Section 4: Cost Savings, Redeployment of Savings & Tangible Benefits to Students** – The last section asks colleges and universities to provide, if applicable, cost savings in actual dollars saved for each of the recommendations. Furthermore, colleges and universities must advise if the savings have been redeployed as a cost savings to students or if they offered a benefit to the quality of education for students.

For any questions, please contact Sara Molski at 614-728-8335. Please submit your survey by email to smolski@highered.ohio.gov by **October 13, 2017**.

Section I: Efficiency Practices

Procurement

Recommendation 3A | Campus contracts: Each college/university must require that its employees use existing contracts for purchasing goods and services, starting with the areas with the largest opportunities for savings. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

Miami University, as recommended in the Task Force report, has amended its procurement policy to require that all university departments prioritize goods and services available through contracts negotiated by the Inter-University Council - Procurement Group (IUC-PG).

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

Recommendation 3B | Collaborative contracts: Ohio's colleges and universities must pursue new and/or strengthened joint purchasing agreements in the following categories:

- Copier/printer services
- Computer hardware
- Travel services
- Outbound shipping
- Scientific Supplies and Equipment
- Office Supplies and Equipment

Were there any updates/changes in FY17? If yes, please complete the below chart.

Contract Type	Is the college/university participating in joint contracts? [yes, no, plan to]	Include additional explanation here if needed. If the college/university chooses not to participate, please explain why.
Copier/printer services	Yes	The University began use of the contract on 7/1/16 with the replacement of student walk-up printing services netting \$115,951 savings in FY17. On-going use of the contract includes replacement of departmental copy/print as needed, securing \$40,988 reduction in maintenance charges.
Computer hardware	Yes	Miami updated our institution-wide technology procurement procedures to ensure that all technology purchases leverage the new electronic product catalogues. These catalogues have direct links between products and the existing state contract database, thereby ensuring that purchasers have access to the best in-state pricing available. Equipment within the scope of this new procedure includes computers and computer peripherals (e.g. keyboards, mice, docking stations, speakers, cables, etc.), printers, monitors, projection equipment, and accessories. 91% of Miami's spend was in compliance with the contract in FY17.
Travel services	Yes	The University has negotiated discounted air rates with Delta Airlines, saving 3% over standard rates, for total savings \$1,672. Miami is reviewing hotel spend for chain discount opportunities.
Outbound shipping	Yes	No Change
Scientific supplies & equipment	Plan to	The consortium RFP was completed in FY17. Contract negotiations are underway.
Office supplies & equipment	Yes	Miami is participating with the IUC-PG to review a new master core list of standard products. In FY17, 89% of spend was compliant with the contract.
Other	Yes	In FY17, Miami, along with 4 other IUC schools (WSU, UT, KSU, YSU), established a Strategic IT Purchasing Consortium. The consortium's mission is to aggregate purchasing power for in-common vendors to improve pricing on products, services, maintenance, subscription fees, and other associated technology expenses. The initial target for the consortium was Ellucian, as all 5 schools are Banner ERP schools, but the group has since expanded its scope of engagement to include Oracle, AWS, and others. As of this update, negotiations with Ellucian and Oracle are actively underway

IUC Insurance Consortium	Yes	The IUC Insurance Consortium (IUC-IC) is a collaboration of 13 public universities in Ohio. The IUC-IC collectively pools a core group of casualty and property risks, retaining a portion of the risks in a formalized self-insurance pool and then purchasing insurance to cover large incidents. The IUC-IC was formed as a joint purchasing group for property coverages in 1994, and expanded to casualty coverages in 1998. The program eventually grew to provide the self-insurance layers described below, and matured into the current pooling arrangements and governance structure in 2006. Due to their collaboration, the IUC-IC has been able to reduce costs by purchasing group insurance and services, pooling losses, expanding coverage and sharing limits in the excess layers. Miami University realized savings of \$530,906 from participation in the Consortium in FY17.
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Assets and Operations

Recommendation 4 | Assets and Operations

4A Asset review: Each college/university must conduct an assessment of its noncore assets to determine their market value if sold, leased or otherwise repurposed. Where opportunities exist, colleges and universities must consider coordinating these efforts with other colleges and universities to reap larger benefits of scale. Please complete the section that aligns with the implementation status of your college/university.

Temporary

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used for the college/university's asset review and the key outcomes below or on additional pages:

Since 2009 Miami University has aggressively pursued assessments of its non-core assets to determine their market value if sold, leased or otherwise repurposed. The following is a summary of the transactions that have already been completed:

Public Radio Station - Leased the broadcast rights to Cincinnati Public Radio in 2010, saving \$600,000 in annual operating costs.

Software Company redLantern - In 2010, redLantern was sold for a gross sales price of \$3,000,000.

On-campus Banking - Total value of the 2012 contract to the University is \$1.2 million over seven years. The new arrangement also made deposits of funds collected by university departments easier and faster with fewer administrative resources required to accomplish these deposits.

Beverage "Pouring Rights" - The 10-year contract negotiated in 2014 with an area Pepsi distributor has an estimated value of \$8.5 million over the life of the agreement.

Health Services - The 2015 sponsorship agreement provides \$10 million to the University over 12 years along with improved sports medicine services for Miami's intercollegiate athletes and students participating in intramural and club sports.

Sponsorship Agreements for Intercollegiate Athletics - Miami utilizes IMG to negotiate affinity partnerships for Intercollegiate Athletics which provides an annual value for the University's athletic programs of \$700,000.

In addition to the assessment of non-core assets that was previously completed by the University, the University undertook an updated assessment of the remaining non-core assets as recommended in the Ohio Task Force report. The process identified those properties directly adjacent and contiguous with the Oxford Campus. Assets in this category are of strategic importance because of growth or new uses for the land. As an example, three residential homes situated on property contiguous with the main campus were removed in recent years to provide space for new residence halls. The following assets have been evaluated for the possibility of being sold, leased or otherwise repurposed:

Airport - The receipt of capital improvement grants from the FAA precludes any immediate sale of the airport site and limits lease opportunities as well, but future opportunities will continue to be evaluated. Miami is also evaluating how it can more efficiently provide air travel that currently occurs through a university-owned plane. Despite FAA limitations for development on the surrounding land, the University has leased the property for agricultural cash crops to generate some revenue and reduce on-going maintenance costs. Miami is in the early stages of evaluating the sale of its plane.

Elm Street Facility - This building is being vacated due to high maintenance and operating costs. The University is currently evaluating whether to pursue offers for sale or an exchange of the property.

Miscellaneous Residential Properties not Adjacent to the Oxford Campus - The University is currently evaluating whether to pursue a sale or exchange of \$1 million of residential properties in Oxford not adjacent to the Oxford Campus.

Ox College - In 2001 the University entered into a long-term lease agreement for the former Ox College residence hall with a local community foundation. This agreement enabled Miami to avoid the cost of operating and maintaining the building. The site also includes vacant land that is near the Elm Street building that may increase the attractiveness of the Elm Street building to developers should the University choose to pursue such a transaction. Further analysis is needed to determine the feasibility of selling or exchanging some of this site.

Parking Facilities - The University engaged a consultant to evaluate the operation of its parking facilities and to determine the feasibility of leasing or selling the facilities to a private operator. The consultant's conclusion was that selling or leasing these parking facilities is not financially viable.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

Miami University previously completed the assessment of non-core assets. The Miami University has commenced the process for liquidating certain real estate but these transactions are still in process. The sale of these properties is likely to take 1 to 2 years to finalize. In addition to the studies conducted in 2016, an RFP regarding the hotel on campus will likely be issued in early winter 2017-18

4B Operations review: Each college/university must conduct an assessment of non-academic operations that might be run more efficiently by a regional cooperative, private operator or other entity. These opportunities must then be evaluated to determine whether collaboration across colleges and universities would increase efficiencies, improve service or otherwise add value. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If so, please provide an overview of the process used for the college/university's operations review and the key outcomes below or on additional pages:

The University completed an assessment of non-academic operations to determine if they can be operated more efficiently by a regional cooperative, private operator, or other entity. A summary of the results from these reviews follows:

Dining - Improving the performance of the University's dining and residence hall operations was identified as a university priority in 2008. In an effort to achieve further improvement in the dining program, an RFP for management services was issued in late 2014 but the selected vendor was unsuccessful in assuming these responsibilities and is no longer under contract. An updated assessment of the dining operation was completed in 2014 and serves as the blueprint for making further and ongoing improvements in the dining.

Housing - As noted above, the need for improvement in the residence hall facilities and operations was identified in 2008 as an institutional priority. In 2011, the University issued an RFP for a potential P3 housing partnership before undertaking the construction of new residential housing for freshman and sophomore students. The proposal-evaluation committee determined that a P3 partner would not offer a viable alternative to university-constructed housing for freshmen and sophomores. While Miami continues to own and operate housing for freshmen and sophomore students on the Oxford campus, it has generally relinquished upper class and graduate student housing to operators in the Oxford area and thereby avoided the need for a formal P3 agreement that would shift financial risk to the University.

Student Health Center and Student Health Insurance - In 2013, Miami University contracted the management of its student health center with a local hospital provider, resulting in annual savings of about \$450,000. The University also annually evaluates its student health insurance policy and continues to find that its hard waiver policy leads to annual savings for those students needing to purchase

health insurance. The annual evaluation also verified that more affordable student health insurance opportunities are not available through the Federal Exchange.

Child Care - Child care is already contracted with private operators.

IT Help Desk - IT Services has completed a review of its help desk and found that Miami's cost per contact is lower than industry providers. Miami is working with other public colleges and universities in Ohio to identify other collaborations and approaches that would further lower the cost of providing this service at Miami or improve the service available to students and employees. Such initiatives include expanding the knowledge base offered and to increase client self-service capabilities. The additional savings from these strategies are not able to be estimated at this time. In addition to possible help desk collaborations, Miami is working with Wright State University on a collaboration involving video-captioning services. Additional update is provided under FY 2017.

Janitorial Services, Landscaping and Facility Maintenance - An assessment of the facility operations was performed by an independent operator earlier this year. The independent operator reviewed staffing levels, operating costs, and level of services provided on Miami's campus compared to national averages and best-in-class. Specifically, the report compared data on full time equivalent per gross square foot (FTE/GSF), cost per square foot (\$/GSF), and APPA standards for quality of service. Their report suggests that unless significant improvements and efficiencies can be achieved for the custodial operations within the next 12 months, such services should be contracted with a private operator. The annual savings opportunity is projected to be about \$1.6 million. Similar opportunities were not found to exist for facilities maintenance or the grounds operations. Additional update is provided under FY 2017.

Real Estate Management - Because Miami's real estate holdings are largely rural, it is not financially practical to place them under the oversight of a real estate management company.

Print Center - The print center, due to a need to repurpose this space for expanded lab space in Hughes Hall, is being closed. Services will be provided through print shops in the Oxford or nearby communities. The annual operating savings is estimated to be \$200,000.

2017 Update:

Miami University administrators, with guidance from the University Senate's Fiscal Priorities Committee, has developed an Administrative Program Review process to better enable an ongoing assessment of operations. Each administrative area will be reviewed on a rotating cycle every 5 years. The reviews will have performance metrics common across each administrative area as well as performance metrics unique to the functional area under review. Review teams are to be comprised of representatives from the division under review, external reviewer from peer institutions, and representatives from the President's Executive Council and Senate Executive Committee.

Additionally, Miami University has joined a consortium of universities from across the country in a project that will provide administrative benchmarks across a variety of administrative functions. The information obtained from the consortium will be incorporated into the Administrative Program Review process.

The goal of the administrative review process is to create another mechanism of continuous improvement to ensure the efficient use of resources, and quality outcomes for constituencies serviced across the university in future years.

In addition to the Administrative Program Review, the initiatives described below were initiated or completed in FY 2017.

Help Desk – The work effort from last year focused on building Miami’s self-service capabilities through the implementation of a knowledgebase. That work was successfully completed in December with the launch of the university’s first Digital Knowledge Center (DKC). With DKC, instead of calling an IT Help Desk Analyst, students, faculty, and staff are able to seek answers to their questions in a self-service fashion by searching knowledge articles stored in highly searchable databases. By the conclusion of FY17, Miami had already experienced a 16% reduction in Help Desk cost-per-contact, driven by an 80% year-over-year increase in self-service usage.

Also over the last year, Cuyahoga Community College launched an RFP to rebid their outsourced Tier 1 Help Desk Services. As a part of that bid process, which was awarded to Blackboard Inc, Tri-C ensured that the negotiated agreement could be leveraged by other Ohio institutions. Kent State University successfully leveraged that agreement last spring; Miami University followed suit over the summer. As a result, Miami will be transitioning Tier 1 Help Desk Services to Blackboard in the Fall of 2017. When combined with the continued benefits generated by the DKC work effort (see above), Miami is anticipating this outsourcing step will result in an additional 32% drop in the cost of providing Tier 1 Help Desk Services.

Student Package Center – From FY10 to FY16, package volume at Miami has increased 114%, averaging 16% growth per year. The growth has been more exponential than linear. A 20% year over year package growth is anticipated in the forward fiscal years. To keep up with this growth, Miami was reaching capacity at its existing 5500 sq ft mail and package center and considering the need to increase staff. Rather than expand the existing facility and hire additional staff, Miami implemented smart locker technology. Coupled with improved processes, Miami will now be able to operate in 3300 sq ft of space for the next 5 years, even with 20% year over year package growth. At the same time, the full-time mail and package center manager position was eliminated through attrition due to increased automation. In total, nearly \$400,000 was saved in forfeited space and reduced staff salary and benefits.

Janitorial Services, Landscaping and Facility Maintenance – Since the last report, an internal consolidation of custodial services has been implemented to achieve savings and consistency of service. Action is being taken to align our staffing (FTE/GSF) and operating expenses (\$/GSF) with best in class. Miami is on-track to achieve a first-year goal of an 8% reduction in FTE while providing the same or higher level of service. This trend is expected to continue with an additional 3% reduction in FY19. Several actions have been taken to reduce operating expenses, but most notable is the outsourcing of our central storeroom operations. In 2017, after a competitive bidding process, Miami contracted with Wolseley/Ferguson to provide procurement and logistical services associated with janitorial, landscaping, and maintenance supplies. This contract includes a fixed fee as well as performance bonuses. Expected outcomes over the 5-year life of the contract: 21% reduction in price paid for goods at the start of year 1 versus end of year 5. More specifically, a 10% reduction in the cost of goods in year 1 versus year 0; an additional 5% in year 2; 3% year 3; 2% year 4; 1% year 5. The 5-year estimated savings for this contract exceeds \$1.8M. In addition, employees designated as job planners spend an average of 25% of their time procuring parts and materials. With this agreement, Wolseley/Ferguson will provide a dedicated buyer onsite as well as leverage their supply chain. As a result, Miami expects to realize this 25% productivity gain. For FY 2017, the savings resulting from the reforms were \$173,000. Also, the Wolseley/Ferguson fees are paid through vacant position elimination.

These operational improvements have facilitated several projects related to our vehicle fleet and fuel consumption. In the past three years 23 vehicles have been permanently removed from the fleet. As more employees move to second shift, vehicle demand is better managed through pooling. As a result, underutilized vehicles are eliminated from service. These moves have reduced our future replacement vehicle costs by over \$450,000; reduced our parking, insurance and maintenance costs by over \$44,000 annually. In

addition, all such projects impacting our fleet have resulted in a 17% reduction in fuel consumption from FY16 to 17, translating to over 10,000 fewer gallons of fuel consumed. This trend is expected to continue with an additional 8 vehicle reduction in the next fiscal year.

Non-academic Greenhouse – Physical Facilities operational review identified an opportunity in our non-academic greenhouse Operations. Miami University traditionally operated two non-academic greenhouses to grow annual flowers for campus. These greenhouses had tens of thousands of dollars of deferred maintenance, with one greenhouse reaching end of life. In 2016, these greenhouses were permanently closed, with annuals grown and shipped to campus by a third party provider. Excluding greenhouse replacement and deferred maintenance as well as labor costs, Miami was able to procure annuals at 15% below previous cost of just utilities and supplies. 2/3 of an FTE was reallocated to other needed grounds tasks.

Restructuring of Meal Plans – Student meal plans were updated in FY17 to offer a combination of buffet meals plus declining balance dollars, which provides the best value for our students. Prior meal plans included an administrative fee, \$1,625 per semester. This fee was restructured to a residential fee, \$400 per semester for students in Miami housing, to help support the residential experience and programming.

Dining Operations – An Aramark assessment of Dining and CSC Operations resulted in implementation of single-source distribution through our Group Purchasing Organization (GPO). The University uses U.S. Foods, a broadline distributor as a primary vendor. US Foods provides the University a discount of 2.1% on approximately \$1.1 million in purchases, which results in roughly \$24,000 in annual discount. The recommendation was also made to reduce the amount of inventory stored at the CSC from an average of \$1 million to \$285,000. This resulted in reduced holding costs and freed up cash previously tied up in inventory. Furthermore, the suggestion was that if Miami increased spend through US Foods to \$6M, we could potentially negotiate an increase in rebate up to 4% of spend, or \$240,000.

Through our GPO, Vizient/National IPA, which USF is the distributor; our discount off each invoice has increased to 2.25%. In addition, we are now taking full advantage of the "Standardization" program, which for the period from 7/1/16- 5/31/17 returned a total of 2.11% of our spend.

Through review of the operations at the Demske Culinary Support Center, we were able to transfer 7 FTEs into the dining operations after the close of Vegetable Processing and consolidate the Bakery Operations into 1 shift, which eliminated the need for two additional managers, resulting in a savings of \$95,000

To alleviate storage restraints in a number of locations, we now warehouse the top-10 frozen items. We have been able to eliminate the majority of additional vendors used in the past, and bring most food in through our Group Purchasing Organization. This process change has provided a reduction in inventory cost, as well as labor savings from reducing multiple touch points.

Print Services – Miami University reviewed the print services offered to students, faculty and retail to provide more efficient and cost effective solutions. Previously, the University provided custom-creation print on demand for students and faculty. The print jobs were classified as "big" or "small" print and depending on type were either printed in-house or outsourced using other print shops around the area. The distribution of transactions were mainly individual students/retail (68%), faculty and staff (28%) and student

organizations (4%). The operating expenses for this operation were 1,028,000 (FY15), 952,000 (FY16) and zero (FY17). Revenue for this operation were 883,000 (FY15), 959,000 (FY16) and zero (FY17).

In FY17, the University decided to outsource this operation to the print consortium, using Xerox as the provider. The consortium consists of Miami University, Sinclair College, Clarke State, Wright State and Central State. The Xerox web portal was launched for fall of FY18 to provide greater ease for print ordering across campus. Additional cost savings to the University are expected with increased participation in the program. The cost savings for the average job to the students and faculty utilizing the Xerox consortium pricing ranges from 10-30%.

The University also offers print devices across campus for per sheet printing by students and faculty. This contract was awarded to ComDoc in FY17. For the next three fiscal years, Miami University will reduce the expense for operating this service on average by 40%. Additional savings from this contract are being captured in the multi-functional devices across campus.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

N/A

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

4C Affinity partnerships and sponsorships: Colleges and universities must, on determining assets and operations that are to be retained, evaluate opportunities for affinity relationships and sponsorships that can support students, faculty and staff. Colleges and universities can use these types of partnerships to generate new resources by identifying “win-win” opportunities with private entities that are interested in connecting with students, faculty, staff, alumni or other members of their communities. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes. Please identify partnerships/sponsorships within the below chart.

These opportunities were assessed as part of the review of non core assets and operations. Please see 4B. As these opportunities are constantly evolving, a new assessment of P3 opportunities is planned for FY 2018.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

Please identify partnerships and sponsorships in effect for FY2017:

Partnerships/Sponsorships	Description
Strategic IT Purchasing Consortium	<p>Part of the Strategic IT Purchasing Consortium’s value proposition, as described in Recommendation 3B, is the opportunity it provides Miami to cultivate deeper, more meaningful partnerships with key strategic technology suppliers.</p> <p>We have identified 5 vendors that we believe fall into this category – AWS, CBTS, Ellucian, IBM, and Oracle.</p> <p>In FY18, the consortium will actively pursue partnership opportunities with these vendors by identifying “win-win” opportunities through connections with Miami students, faculty, staff, alumni, and/or other members of the community.</p>
Public Radio Station	Leased the broadcast rights to Cincinnati Public Radio in 2010, saving \$600,000 in annual operating costs.
On-campus Banking	Total value of the 2012 contract to the University is \$1.2 million over seven years. The new arrangement also made deposits of funds collected by university departments easier and faster with fewer administrative resources required to accomplish these deposits.
Health Services	The 2015 sponsorship agreement provides \$10 million to the University over 12 years along with improved sports medicine services for Miami’s intercollegiate athletes and students participating in intramural and club sports.
Sponsorship Agreements for Intercollegiate Athletics	Miami utilizes IMG to negotiate affinity partnerships for Intercollegiate Athletics which provides an annual value for the University’s athletic programs of \$700,000.
Student Health Center	Tri-Health was selected in 2015 to operate the student health center and to provide urgent care services to Miami employees and dependents. The savings at the Student Health Center total \$450,000 per year and the health care savings.

Administrative Practices

Recommendation 5 | Administrative cost reforms

5A Cost diagnostic: Each college/university must produce a diagnostic to identify its cost drivers, along with priority areas that offer the best opportunities for efficiencies. This diagnostic must identify, over at least a 10-year period:

- Key drivers of costs and revenue by administrative function and academic program;
- Distribution of employee costs — both among types of compensation and among units;
- Revenue sources connected to cost increases — whether students are paying for these through tuition and fees, or whether they are externally funded;
- Span of control for managers across the college/university — how many employees managers typically oversee, by the manager’s function; and
- Priority steps that would reduce overhead while maintaining quality — which recommendations would have the most benefit?

Please complete the section that aligns with the implementation status of your college/university.

Has the college/university produced a cost diagnostic? If yes, please provide an overview of the process used and the key outcomes.

A 10-year cost diagnostic was completed for Miami University as recommended in the Governor’s Task Force report. This review included an analysis of spending by functional category and by object of expense. The diagnostic confirmed that the many efforts by Miami University over the past eight years have been effective in slowing the annual rate of growth in spending. Spending per student, net of student financial aid, actually declined from its peak in 2008, and the increase in actual spending over the entire ten-year period rose at a rate slower than the annual growth in the consumer price index.

While the cost trends observed over the last decade are generally quite favorable, this review did identify a small number of areas where costs have grown faster than the overall trend at Miami. Most of these areas align with the strategic priorities of the University during this period. It also is possible that opportunities for increased productivity or improved efficiency may exist in areas that grew slower than the average rate of growth. For all administrative functions and cost centers, a deeper analysis could potentially identify opportunities for improvement. For this reason, the University intends to implement a program review process for assessing nonacademic functions and programs on a regular cycle. Through these reviews, the effectiveness and sufficiency of these activities can be properly assessed and improved.

Please provide details on the result(s) of the assessment. What are the cost drivers, based on the categories above? Please discuss the college/university’s priority areas that offer the best opportunities for recommendation.

Cost Diagnostic Spend Categories that are Outliers Oxford Educational and General Operations

VP Enrollment and Student Success (8.2%) - Increased spending on enrollment management has been a major factor in the growth in the number and quality of students enrolling at Miami.

Audit Fees (6.3%)- Audit contracts are awarded by the Auditor of State, but a cost reduction may be possible at the next contract renewal.

Marketing and Communications (5.9%) - Increased spending on marketing has contributed to the growth in number and quality of students enrolling at Miami.

Travel and Hosting (5.13%) - Increased spending on travel is consistent with university priorities such as increased international opportunities for students, national student recruitment, and fundraising growth.

Investment Fees (4.4%) - The growth is reasonable given the growth in the amount invested by the University and the Foundation.

Advancement (3.4%) - There also has been growth in donor contributions.

Debt (3.10%) - No new E&G debt has been issued since 2007. E&G debt will continue to be closely scrutinized going forward.

Student Employment (2.29%) - This is a strategic priority for the University as increased student employment opportunities assist students in meeting their financial obligations, aiding retention, and gaining professional experiences that benefit them in their preparation for future professional opportunities.

General Counsel (2.0%) - This is the result of increased regulation and litigation.

Human Resources (1.7%) - This is partially due to increased regulation and also to a greater emphasis on employee programs (such as wellness) that have helped to slow the growth in employee benefit costs. Accenture also identified HR as an operation where the current level of spending is below best practice.

Cost Diagnostic Spend Categories that are Outliers Oxford Auxiliary Operations

Aviation Services (11.7%) - Increase is due to rise in the cost of maintaining the university plane and the related services. Along with the airport, this cost center will continue to be evaluated.

Debt (11.21%) - This is the result of the residential and dining facility renewal program mentioned earlier.

Graduate Assistants (8.86%) - This is due to increased utilization of graduate students in Recreational Center operations and ICA. This cost aligns with the university's educational priorities.

Goggin Ice Center (7.3%) - This is a result of the increased cost of operating a new and much larger ice arena.

Financial Aid (1.94%) - This is due to growth in tuition which impacts scholarship costs for Intercollegiate Athletics.

Intercollegiate Athletics (2.3%) - Intercollegiate Athletics, especially when combined with the growth in related facility costs, continues to increase its cost at a faster rate than most university operations. This growth, even though consistent with other similar athletic programs, is disproportionately large when compared to the restrained growth in most academic programs and should be evaluated, definitely slowed, and possibly reduced.

Transportation Services (2.2%) - Growth is exclusively due to cost increases for bus transportation used by students and staff.

If the college/university has not produced a cost diagnostic, is there a plan to? If yes, what is the implementation plan? If the college/university has not completed a cost diagnostic and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

This process was completed in FY16 as described above.

5B Productivity measure: While the measure should be consistent, each college/university should have latitude to develop its own standards for the proper level of productivity in its units. This will allow, for instance, for appropriate differences between productivity in high-volume environments vs. high-touch ones.

What steps has the institution taken to improve the productivity measure score? Or, what are the institution's plans to improve your score? You may view your productivity measure score [here](#). For more information on the Productivity Measure, please visit [here](#).

The Ohio Department of Higher Education has provided its productivity measure for Miami University, and the University will use these ratios as part of its approach to monitoring its progress towards improved efficiency and affordability for its students. The measure included revenues from resident students, but total costs for all students regardless of residency.

Has the college/university implemented or considered utilizing Lean Six Sigma methodology as a tool to evaluate the college/university's processes?

Miami University began its Lean journey in 2009. Since 2009, Miami employees have completed 1188 projects valued at \$54,228,979 in cost avoidance, cost reduction, and new revenue. In FY 2017 Miami completed 281 of those projects at a value of \$9,995,620.

Over 2500 employees have been introduced to Lean and 158 are currently in the Lean Certification Program with 56 of them having completed the program to achieve Senior Lean Leader status, 11 of the 56 attained this certification in FY2017. The certification process takes 24-30 months and includes over 100 hours of specialized formal training, involvement in 5 Lean Projects and Lean leader of three, plus the presentation of a significant project to the Miami Lean Review Board. In FY2017, the University added a tiering system to the certification process to recognize milestones of certification completion.

In addition to the training provided to Miami University staff and students, the Lean program has extended Lean training to other universities in Ohio. In FY2017, Miami shared the Lean program with Kent State, Wright State, and Youngstown State. Miami also collaborated with The Ohio State and Bowling Green State University regarding Lean. In previous year's Miami had engaged with the University of Cincinnati and had become certified by LeanOhio to present LeanOhio Bootcamp programs to Ohio government agencies.

As part of the Lean program, Miami has developed a Lean structure, Lean database with dashboard reporting, and standardized processes for Lean project management. Only one full-time and one part-time employee are dedicated to Lean. All of the other employees have other non-related Lean responsibilities. Presently, all divisions of the university have employees engaged in Lean.

5C Organizational structure: Each college/university should, as part or because of its cost diagnostic, review its organizational structure in line with best practices to identify opportunities to streamline and reduce costs. The college/university reviews should consider shared

business services — among units or between college/university, when appropriate — for fiscal services, human resources and information technology. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university reviewed its organizational structure? If yes, please provide an overview of the process used and the key outcomes.

In FY17, a review of the institution’s IT Services Division was performed against industry Best Practice to identify opportunities to streamline operations and reduce costs. Out of this study came a series of recommendations, which included:

- Optimize the resource mix of solution delivery vs service delivery
- Increase high-value skills/roles (e.g. information security, architecture, integration, data management, change management)
- Decrease non-differentiating skills/roles (e.g. help desk analysts)
- Create synergy by combining/aggregating fragmented team structures (e.g. CP, Classroom Services, AV, Field Services)
- Increase automation in critical system administrative roles – increasing unit efficiency and throughput
- Increase/Optimize Manager Span-of-Control – target ratio of 6:1

With the completion of the assessment and subsequent management review, the recommended structural changes were implemented. The results of this effort included:

- Through headcount realignment, Solution Delivery staffing increased from 34 to 55 FTEs
- New high-skill positions were also created and filled in information security, architecture, and data management
- A new staff augmentation process was established, allowing IT leaders to hire high-skill temporary staff on an as-needed basis
- Miami’s Tier 1 Help Desk structure, along with all HD analyst roles and related management positions, outsourced to Blackboard
- Four teams – Campus Partnerships, Classroom Services, AV, Field Services – consolidated into one (Technology Support Services)
- Completed multi-year effort to increase Manager Span-of-Control – increased from 4.91:1 to 6.14:1

As a result of these efforts, IT Services has experienced substantial increases in service levels and solution delivery throughput; the new high-skill positions have filled key organizational gaps and stabilized critical operations; the immediate value of staff augmentation has been leveraged by our institution-wide ERP implementation; and the technology capability now in the hands of students has increased satisfaction at lower cost. It is important to note that these changes did not increase the division’s headcount. Financially, this initiative yielded a \$481,200 reduction in annual operating expenses.

If the college/university has not reviewed the organizational structure, is there a plan to? If yes, what is the implementation plan? If the college/university has not completed a review and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

5D Health-care costs: A statewide working group should identify opportunities to collaborate on health-care costs.

(Optional) Has the college/university identified any healthcare reforms that the working group should consider? Please describe.

Joint Center of Excellence: Knee/Hip Replacement

Per a competitive bid process, Miami University sourced a hospital to provide a "center of excellence/bundled service" for knee/hip replacements effective January 1, 2017. The bundled service arrangement benefits both the University's healthcare plan and employees/dependents; the plan is guaranteed a fixed cost with warranty period for all knee/hip replacements performed by the facility via a specific panel of physicians and employees/dependents receive high value quality care with the added convenience of a single bill and explanation of benefits.

The fixed cost for the bundled service is both a cost avoidance strategy: mitigate revisions and/or revision costs are borne by the hospital during the warranty period and the negotiated fixed cost with the selected hospital is less than the per episode cost incurred by the plan historically at other hospitals.

On-campus Healthcare Services

Miami University health plan members (employees and dependents) may receive healthcare services on-campus for a limited set of acute, primary care/urgent care services. The university directly contracted with a hospital system to manage and provide staffing for the on-campus health services. Periodic analysis of the most commonly received services at the on-campus facility compared to the same services received through the health plan identifies that the University breaks even for the cost of the services and benefits from increased productivity and decreased absenteeism of the employees.

(Optional) Has the college/university achieved any expected annual cost savings through health-care efficiencies? Please explain how cost savings were estimated.

5E Data centers: The College/university must develop a plan to move their primary or disaster recovery data centers to the State of Ohio Computer Center (SOCC). Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

Miami remains in line with its "cloud-first" strategy, as initially defined in FY14, with the majority of the institution's core application portfolio residing in the cloud. Miami is continuing to prioritize cloud-based application hosting and software-as-a-service as our top compute deployment model options.

In FY17, Miami's Backup & Disaster Recovery capability was migrated to the cloud, as was our new User Authentication application.

Looking ahead to FY18 – Phase 1 of Miami’s ERP implementation involves upgrading our instance of Ellucian’s Banner product to the most recent version (v9). While upgrading the software, the implementation team will also be eliminating all customizations made to the base code, which is a prerequisite to migrating Miami to a SaaS product. This first phase will be completed in July 2018. Looking ahead to FY19, Phase 2 of the project will evaluate all viable cloud ERP products in the marketplace, assessing the capabilities and the realistic cost savings that can be achieved by migrating Miami’s ERP ecosystem to the cloud.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

5F Space utilization: Each college/university must study the utilization of its campus and employ a system that encourages optimization of physical spaces. Please complete the section that aligns with the implementation status of your college/university. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

Miami University has undertaken multiple initiatives to examine the utilization of its space this year. Most significantly, an outside consultant was contracted to conduct a survey of university space. The survey included all space types across the Oxford, Hamilton, Middletown, and Voice of America Campuses. This process reviewed existing space use, time utilizations & seat fill utilization for classrooms, standards for new creation of new space, classroom scheduling methods, and room assignment policies. The report from the survey highlighted areas of need and surplus as benchmarked against national standards. Key high-level points identified:

- Miami’s overall space portfolio is within 10% of expected norms for overall quantity of square footage for an institution of similar student body size, academic quality, athletic division, and locale characteristics
- Weekly room hours align with national standards (31 hours/week), but seat fill is low (64%)
- The seat fill is lower than target because many classes are being scheduled in rooms larger than necessary because of shortages in room sizes in the lower end of the inventory
- Lack of academic swing space is driving a need to increase space on campus as larger buildings are temporarily taken off-line for renovations

This has allowed a more detailed look at the existing classroom portfolio against current course offerings to identify both space, policy, and academic topics that could be challenged for greater efficiency and alignment with the academic mission. From this several next steps were identified:

- Improve flexibility of classrooms to address seat fill. Identify several classrooms that could be modified to become active classrooms offering more flexibility in teaching styles and thus be used by a wider set of courses
- Use the class schedule as a tool to increase classroom utilization. The current block scheduling accomplished a significant amount of standardization across the academic calendar to increase utilization
- Work toward a block schedule supporting 35 hours/week and a seat fill of 70%. Achieving this goal will significantly reduce the need for investing in swing space required to renew existing facilities
- In collaboration with the Provost’s Office, the University Registrar’s Office mandated that all usage of state buildings (academic facilities) be scheduled in the CollegeNet 25Live software that allows optimization scenarios to be run based on fill ratios, course enrollment capacity, room size and location
- Physical Facilities Department and Provost’s office are continuing to review policies and procedures address the topics raised.

Please provide details on the results of the assessment below or on additional pages:

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

Energy

Energy Efficiencies seek to refine sustainable methods utilized by college/university to procure and use energy (resulting in more efficient use of energy), including, but not limited to lighting systems, heating & cooling systems, electricity, natural gas, and utility monitoring.

Were there any updates/changes to college/university energy efficiency projects in FY17? If yes, please complete the below chart.

Miami University has engaged in a number of energy efficiency initiatives. Campus energy efficiency initiatives resulted in a 36.5% decrease in energy consumption per gross square foot and a decrease in total energy consumption by 24.3% from a baseline fiscal year of 2008 through fiscal year 2017. Without these energy efficiency strategies, Miami University’s annual energy costs would have been \$3.2 million higher in FY2017 compared to FY2008. For FY17, the saving resulting from our energy efficiency strategies were \$498,176

Project	Collaborative Partnership(s)	Explanation
Western Geothermal Phase 2		This project expanded our existing geothermal plant and distribution system to connect 5 existing buildings (Hoyt , Presser, Clawson, Havighurst, and Child Development Center) to meet heating and cooling needs. An additional 375 wells were drilled for a total of 690 wells. A new 700 ton VFD Centrifugal Chiller and 2-350 ton/4mmbtu VFD HP chillers were installed as part of project. Hoyt Hall is the campus data center that has year-round cooling needs. This project captures the rejected heat and transfers this energy to heating the connected loads. This project provides for a 50% reduction in utility cost and carbon footprint. Free-cooling sequence was incorporated into the operation.
LED Lighting 2017 Project		This project replaced over 877 2'x2' florescent fixtures with LED retrofits in 7 academic buildings (Alumni, Health Service Center, CPA, Bachelor, Laws, Warfield and Williams).
VFD Fans & Pump Installation		This project converted constant volume fans and pumps into variable volume operation in (8) E&G buildings (Alumni, Boyd, Hall Auditorium, Health Service Center, Millett, Hiestand, Hughes, and Student Development Center). There were 19 fans totaling 74.5 HP and 12 pumps totaling 81 HP equipped with VFD's and control's to modulate the speed to satisfy the load.
Goggin Arena Heat Recovery & Damper Isolation		This project installed a run-around heat pump system to recover the exhaust from the lockers and transfer that energy into the supply air back into the spaces. It also installed occupancy sensors to shut the air flow back to a minimum setting when the locker rooms are "un-occupied" in 9 rooms.
Recreational Sports Center Energy Efficiency Improvements		This project Installed (14) variable frequency drives on (4) pumps and (10) fans totaling 70 HP and 124.5 HP respectively, along with associated controls to incorporate energy reduction sequences. Project also addressed wild flowing hot water coils by installing (5) 2-way control valves on the Preheat face and by-pass coils on 4 air handling units.
Hamilton/Clawson Residence Hall Renovations		Specific energy reduction strategies were intentionally integrated into these two residence halls. Prior to the renovations, these two residence halls had no central cooling. A goal was established to reduce energy costs by 20%, even with the addition of central cooling and increased electrical loads. Reduction of water consumption is also included in the expectation. The project was successfully completed and on track to exceed the 20%.

Regional Compacts

Ohio Revised Code Section 3345.59 requires regional compacts of Ohio's public colleges and universities, with an executed agreement in place by June 30, 2018 for colleges and universities to collaborate more fully on shared operations and programs. Per O.R.C. §3345.59 {E} colleges and universities shall report within their annual efficiency report the efficiencies gained as a result of the compact. This provision will be included in the *FY18* Efficiency Advisory Committee survey; therefore, institutions should prepare accordingly to meet this timeline.

Section II: Academic Practices

Recommendation 6 | Textbook Affordability

6A Negotiate cost: Professional negotiators must be assigned to help faculty obtain the best deals for students on textbooks and instructional materials, starting with high-volume, high-cost courses. Faculty must consider both cost and quality in the selection of course materials. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

In 2017, Miami University selected a provider of online textbooks and course materials, e-Campus, which signaled a shift away from the traditional brick and mortar bookstore approach toward a virtual approach. The e-Campus bookstore not only lowers the overhead cost of running a physical bookstore, but it provides faculty, at a glance, multiple textbook options so that they can ensure that they are selecting high quality, affordable and accessible course materials for their students. Because the virtual bookstore is linked to the SIS system, students can easily purchase new, used, rental and digital textbooks instantly upon registering for particular courses. Miami faculty are provided training (via workshops and online videos) on how to use the software platform as well as how to select appropriate and cost-effective textbooks. This shift was implemented for summer 2017 and is being more fully implemented during the fall 2017 semester. Students estimated cost savings for textbooks is 15-20%. For the summer term of 2017 the savings for texts were on the higher end of our estimates (20.17%). Based on this performance expected savings for FY18 could be up to \$1.8 million.

There is an additional buying option to reduce cost to students referred to as Marketplace. This is comparative to Amazon private sellers that resale their used textbooks on their own. eCampus has committed to bundling these books with their larger orders from eCampus to ease customer stress and staff completing duplicative work in the moment.

Course Adoptions by faculty were matched to previous years in the Bookstore. More efforts are proactively being taken by eCampus to ensure this number continues to rise.

Rates as of August 1:

All Campuses – 81% Adopted

Oxford – 80% Adopted

Middletown – 87% Adopted

Hamilton – 89% Adopted

Luxembourg – 69% Adopted

VOA/West Chester – 53% Adopted

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

6B Standardize materials: Colleges and universities must encourage departments to choose common materials, including digital elements, for courses that serve a large enrollment of students. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

Appointed by the provost and co-chaired by an associate provost and librarian with faculty representation from all academic divisions, the Open Educational Resources/Affordability Committee has developed and is implementing a strategic plan to advance affordable and free educational resources among Miami's students. The committee has crafted a multi-level grant program and set of resources designed to target faculty teaching courses with the highest cost textbooks and largest enrollments. Successful applicants receive incentives for adopting and/or adapting OERs, creating their own online textbooks, and converting existing costly course packets to lower or no cost alternatives. Faculty in these programs receive the following forms of support: a robust site of resources and tips on Miami's Learning Management System (Canvas), consultation from the Scholarly Communications Coordinator and from specialist librarians, websites with guidance on selecting appropriate OERs, two-hour training orientation workshops, support of assessment of OER use, and professional development funding (with the amount varying by the faculty's level of engagement with the program). Although this effort has only been in existence for a year, over 75 faculty have participated in the program. Plans are underway to meet with each department to recruit additional faculty to adopt, adapt and/or create OERs and affordable course materials.

In addition, when faculty submit their textbook selections in compliance with the Higher Education Opportunity Act (HEOA), it allows our staff and e-Campus vendor to suggest standardized materials, more affordable editions, or alternative resources. Last year, faculty on all campuses increased their compliance by as much as 52%. For example, Middletown faculty went from 14% compliance in fall 2016 to 66% in fall 2017.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

6C Develop digital capabilities: Colleges and universities must be part of a consortium to develop digital tools and materials, including open educational resources, that provide students with high-quality, low-cost materials. Please complete the section that aligns with the implementation status of your college/university.

Please explain your efforts to develop digital tools and materials.

OhioLINK joined the Open Textbook Network in 2017 and selected seven member librarians, faculty and staff to become the OhioLINK Open Textbook Network (OTN) System Leaders. A Miami librarian was chosen to serve on the team. As system leaders, they will coordinate OhioLINK OTN awareness and advocacy initiatives regarding open educational resources and open textbooks on their campuses and throughout the state. As part of the consortium-wide membership, OhioLINK will send these system leaders to OTN's Summer Institute (OTNSI) as the kickoff event. OTNSI is an intensive, five-day training program at the University of Minnesota in August 2017. The OhioLINK system leaders, in conjunction with OTN staff, will coordinate full-day "train the trainer" workshops to be offered on their campuses and throughout all Ohio public institutions next fall. These workshops will focus on developing campus leaders and aid in their efforts to reduce textbook costs for students. The Miami representative also attended the OhioLINK-sponsored OER summit on July 24, 2017. Members from around the state discussed their OER activities and initiatives and attendees participated in some hands on activities exploring OER implementation. Miami's Course Pack Consultation Service was selected to be featured on the Ohio Affordable Learning Website as a model initiative for other institutions to pursue.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

Ohio Revised Code Section 3333.951(C) requires Ohio's public colleges and universities to report their efforts towards reducing textbook costs for students. Please discuss all practices implemented that ensure students have access to textbooks at an affordable price. Also, please identify efficiencies captured from your practices.

Miami University's efforts towards reducing textbook costs are detailed above in 6A, 6B, and 6C.

Ohio Revised Code Section 3333.951(D) requires Ohio's public colleges and universities to conduct a study to determine the current cost of textbooks for students enrolled in the institution and submit the study to the Chancellor by a date prescribed by the Chancellor. Please note that the study will be due on the same submission timeline as the *FY18* Efficiency Advisory Committee survey; therefore, institutions should prepare accordingly to meet this timeline.

Recommendation 7 | Time to Degree

7A Education campaign: Each college/university must develop a coordinated campaign to educate its full-time undergraduates about the course loads needed to graduate on time (two years for most associate degrees and four years for most bachelor's degrees). Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

Miami students not only can easily access degree path information, but they are also educated on how to make purposeful choices about their academic plans. Access to degree paths is made available through: (1) the student's Degree Audit Report which a student can run at any time for his or her chosen major as well as for any other major he or she may be considering; (2) the General Bulletin, the Guidebook for New Students and advising guides for each major (the latter are available in divisional advising offices) which provide clear listings of degree program requirements and term-by-term suggested schedules; and (3) term-by-term academic plans which are created as part of the UNV 101 course in consultation with the student's academic advisor. Academic advisors also are trained in and have access to the EAB Student Success Collaborative which not only displays suggested term-by-term schedules for each student's degree program but also indicates when and how each student might have moved off track so that immediate advising interventions can be made. This fall, the University is also requiring departments to display transfer advising plans for all of Miami's academic partnership agreements, using a common template for ease of use.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

7B Graduation incentive: Colleges and universities should consider establishing financial incentives to encourage full-time students to take at least 15 credits per semester. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

Miami University has implemented the Miami Tuition Promise. Under the Miami Tuition Promise undergraduate students' tuition and fees are fixed over four years. Additionally, Miami University does not charge additional tuition for enrollment in more than 12 credit hours per semester. Miami freshmen take an average of 15.7 credit hours per term already, negating the need for a financial incentive.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

7C Standardize credits for degree: Colleges and universities should streamline graduation requirements so that most bachelor's degree programs can be completed within 126 credit hours or less and associate degree programs can be completed within 65 credit hours or less. Exceptions are allowed for accreditation requirements. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

Effective with the fall 2017 incoming class, Miami's graduation requirements for baccalaureate degrees has been reduced from 128 to 124 credits, and the requirements for associate degrees have been reduced from 64 to 62 credits. This reduction followed a major revision of Miami's general education program (Global Miami Plan) in 2015 which featured a four-credit reduction in its requirements. Additionally, Miami makes available a public website that demonstrates 3-year plans for almost 62% of its undergraduate degree programs. These steps, coupled with sound academic advising, enables Miami students to graduate on average in four years—a statistic which is among the best of any Ohio public university and significantly below the national average of 5.2 years for four-year public institutions. Additionally, in AY 2017 1.7% of the fall 2014 cohort of first time full time students on the Oxford campus graduated in 3 years or less.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

7D Data-driven advising: Colleges and universities should enhance academic advising services so that students benefit from both high-impact, personalized consultations and data systems that proactively identify risk factors that hinder student success. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

Beginning in 2015, Miami shifted its academic advising model to focus on clear outcomes, a shared university-wide advising approach, required comprehensive training for all advisors, four levels of advisor recognition, and ongoing assessment of advising. In addition, the model features the use of the EAB Student Success Collaborative which provides advisors up-to-the-minute and predictive data about each advisee so that the advisor can provide customized intervention and communicate with advisees easily and regularly. Advisors are required to record summaries of each advising session in order to track each student's progress and build upon previous advice given. The academic advising effort is led by an associate provost with the guidance of a university wide committee. Each year, the committee produces an annual assessment report which summarizes findings from the multiple measures used to assess advising at Miami (e.g., national surveys, retention and graduation rates, advisor training completion rates, surveys and focus groups) and offers multiple recommendations for future improvement. These efforts, coupled with a strategic communication plan for students and advisors, has contributed to an improved first-to-second-year retention rate (91.8%) and higher levels of satisfaction among advisors and advisees.

Beginning in 2017, Miami is piloting, with a goal of implementing in Spring 2017 a centralized university-wide registration override system that allows students to add themselves to a "waitlist" for oversubscribed courses. The newly created system provides all pertinent student and curricular information to the advisor and faculty who is then able to assess the overall demand for the course. This will provide timely and actionable information during the registration process that will translate into students with the greatest need as it pertains to "on-time" graduation access to the seats in the class and assist with appropriate and efficient staffing models for high demand courses.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

7E Summer programs: Colleges and universities must develop plans to evaluate utilization rates for summer session and consider opportunities to increase productive activity. In particular, colleges and universities should consider adding summer-session options for

high-demand classes and bottleneck courses that are required for degree completion. Please complete the section that aligns with the implementation status of your college/university.

Please provide details on the results of the assessment. In particular, please address whether the campus added summer session options for high-demand and bottleneck classes.

In 2017, Miami created [guidelines for accelerated or compressed delivery of courses](#) to ensure that summer and winter term course offerings are of high quality and follow federal and regional (Higher Learning Commission) academic and credit hour regulations. Additionally, each year, summer and winter term course evaluations and enrollments are analyzed by academic deans, and course schedules are adjusted accordingly. Low or no enrollment courses are discontinued, and sections of courses with smaller enrollments are combined. Under the leadership of its e-learning offices, Miami has also engaged in careful planning of online and hybrid course offerings in the summer and winter to aid students' progress toward degree, and in 2016, Miami instituted a 20% reduction in tuition for online courses taken during the summer and winter terms by resident undergraduate students.

In 2016, Miami began implementing a multi-term scheduling approach so that students and advisors could plan more purposefully for winter and summer terms as well as the fall and spring semesters.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

7F Pathway agreements: Colleges and universities should continue to develop agreements that create seamless pathways for students who begin their educations at community or technical colleges and complete them at universities. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

Over 240 Miami courses are matched with Transfer Assurance Guides or Career-Technical Assurance Guides to ensure that transfer students within the state of Ohio are making timely degree progress, and in the past two years, Miami revised its CLEP, Advanced Placement and International Baccalaureate course alignments to increase opportunities for students to gain specific college course credit by 15%. In the past five years and in keeping with Miami's 2020 Strategic Plan which calls for increasing partnerships, Miami faculty and staff have also forged dozens of academic articulation agreements and MOUs. A list of domestic and international agreements is available via a public website. This fall, the University is also requiring departments to display transfer advising plans (which display

term-by-term suggested pathways) for all of Miami's academic partnership agreements to promote greater transparency and accessibility. These efforts are supported by an Academic Partnerships Committee (which is chaired by an associate provost) as well as an online partnership agreement workflow platform (which enables easy storage and tracking of agreements). The Partnerships Committee also works with departments to encourage new and sustainable partnerships with two- and four-year institutions. As a result of these efforts, the number of academic partnerships has increased by 75% in the past year.

Please provide details. In particular, how many articulation agreements does the college/university have with other Ohio colleges and universities (either 2+2 or 3+1)? Please provide a list.

Miami University

Partnering institution, Academic degree or major, Miami University Academic division/department

1. Central Ohio Technical College, BS in Commerce, CLAAS/Regionals: Commerce
2. Cincinnati State Technical & Community College, General, EMSS; CLAAS/Regionals
3. Cincinnati State Technical & Community College, AAB in Business Management to BS in Commerce
4. Cincinnati State Technical & Community College, AAB in Supply Chain Management to BS in Commerce, CLAAS/Regionals: Commerce
5. Cincinnati State Technical & Community College, BS in Criminal Justice, CLAAS/Regionals: Justice & Community Studies
6. Cincinnati State Technical & Community College, Bachelor of Integrative Studies, CLAAS/Regionals: Interdisciplinary & Communication Studies
7. Cincinnati State Technical & Community College, Associate Degrees in Electrical/Electronic and Electrical/Computer and Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
8. Cincinnati State Technical & Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
9. Cincinnati State Technical & Community College, Associate Degree in Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
10. Columbus State Community College, General, EMSS
11. Columbus State Community College, Associate Degrees in Electrical/Electronic and Electrical/Computing Engineering Technology to BS Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
12. Columbus State Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
13. Columbus State Community College, BS in Commerce, CLAAS/Regionals: Commerce
14. Columbus State Community College, BS in Social Work, EHS: Family Science & Social Work
15. Cuyahoga Community College, BS in Commerce, CLAAS/Regionals: Commerce
16. Eastern Gateway Community College, AAB in Business Management to BS in Commerce, CLAAS/Regionals: Commerce
17. Edison State Community College, Associate Degrees in Electrical/electronic and Electrical/Computing Engineering Technology to BS Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology

18. Edison State Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
19. James A. Rhodes State College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
20. North Central State Community College, Associate Degrees in Electrical/Electronic and Electrical/Computing Engineering Technology to BS Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
21. North Central State Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
22. Northwest State Community College, Associate Degrees in Electrical/Electronic and Electrical/Computing Engineering Technology to BS Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
23. Northwest State Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
24. Shawnee State University, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
25. Sinclair Community College, General, EMSS
26. Sinclair Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
27. Sinclair Community College, Associate Degree in Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
28. Sinclair Community College, AAS in Accounting to BS in Commerce, CLAAS/Regionals: Commerce
29. Sinclair Community College, AAS in Business Administration to BS in Commerce, CLAAS/Regionals: Commerce
30. Sinclair Community College, AAS in Business Management to BS in Commerce, CLAAS/Regionals: Commerce
31. Sinclair Community College, AAS in Supply Chain Management to BS in Commerce, CLAAS/Regionals: Commerce
32. Sinclair Community College, Bachelor of Integrative Studies, CLAAS/Regionals: Interdisciplinary & Communication Studies
33. Sinclair Community College, BS in Criminal Justice, CLAAS/Regionals: Justice & Community Studies
34. Sinclair Community College, Associate Technical Study Program to BS in Health Information Technology, CLAAS/Regionals: Computer & Information Technology
35. Southern State Community College, Associate Degrees in Electrical/Electronic and Electrical/Computing Engineering Technology to BS Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology,
36. Southern State Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
37. Southern State Community College, AAB in Accounting to BS in Commerce, CLAAS/Regionals: Commerce
38. Southern State Community College, AAB in Entrepreneurship to BS in Commerce, CLAAS/Regionals: Commerce
39. Southern State Community College, AAB in Real Estate to BS in Commerce, CLAAS/Regionals: Commerce
40. Terra Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology

41. Terra Community College, AB in Business, CLAAS/Regionals: Commerce
42. Terra Community College, Management to BS in Commerce, CLAAS/Regionals: Commerce
43. Terra Community College, AB in Hospitality Business Management to BS in Commerce, CLAAS/Regionals: Commerce,
44. Terra Community College, AB in Business Management to BS in Commerce, CLAAS/Regionals: Commerce
45. Terra Community College, AAB in Industrial Supervision to BS in Commerce, CLAAS/Regionals: Commerce
46. Washington State Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology
47. Zane State Community College, Associate Degree Programs in Electrical, Mechanical, Electro-Mechanical Engineering Technology to BS in Applied Science in Engineering Technology, CLAAS/Regionals: Engineering Technology

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

7G Competency-based education: Colleges and universities should consider developing or expanding programs that measure student success based on demonstrated competencies instead of through the amount of time students spend studying a subject. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

This fall, Miami will begin its first competency-based program: the Math Emporium. The Math Emporium is a series of nine one-credit-hour courses, of which three can be taken online and completed in as little as one semester. The courses build foundational math skills and critical thinking skills that are needed in higher-level math courses (pre-calculus and above) and in courses that use mathematics (e.g., chemistry, physics). Topics range from basic arithmetic to quadratics and function introduction. Which courses a student takes are determined by placement tests that measure mastery of the content in each of the Math Emporium courses. Students only take the courses for which they have not shown mastery of the content. This CBE course-based program marks Miami's initial entry into competency-based education. Plans are underway to develop additional CBE programs, including a track for a degree completion program and a certificate program.

If applicable, please provide additional details. In particular, how many students does the college/university estimate the competency-based education programs will serve?

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

Recommendation 8 | Course and Program Evaluation

8 Duplicative Programs: Colleges and universities should review and address low-enrolled courses and programs and consolidate programs duplicated at other colleges and universities in your geographic area. Please indicate the section that aligns with the implementation status of your college/university. There is no need to provide your report.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

In response to the 2017 request by the Ohio Department of Higher Education, Miami University conducted a review of potential duplicate associate and baccalaureate degree programs with University of Cincinnati. The review included nine associate degree programs and 55 baccalaureate degree programs. To conduct this review, Miami evaluated the programs in terms of the following indicators: (1) retention rates; (2) graduation rates; (3) enrollment pattern over past five years; (4) employment of its graduates; and (5) contributions to the core liberal education mission of the University. The Office of Institutional Research, in consultation with the Office of the Provost, compiled the program data and shared the information with the academic deans who offered feedback based on their contextual understanding of the program’s mission, purpose and effectiveness. Each academic dean determined whether the programs within their division warranted no action or further evaluation. In their review, the deans noted six bachelor degree programs and three associate degree programs that may benefit from further evaluation, including possible program elimination, realignment of the program within the University to improve efficiencies, or collaboration with University of Cincinnati. Programs that have been eliminated or are being considered for elimination are either outdated, have declining enrollments or are not aligned with the University’s mission. Possible forms of collaboration with University of Cincinnati include: co-registration for distance-learning classes, or creation of dual degree programs (such as the Master of Social Work that Miami currently has with Wright State University). The Miami University Associate Provost initiated conversations with the Vice Provost of Undergraduate Affairs at University of Cincinnati on possible collaborations.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

Course and Program Sharing: What courses/programs are currently being shared with other colleges and universities?

Course/Program	Partnering College/University	Explanation
Classics	Ohio University	Virtual Classroom

Master of Social Work	Wright State University	The MSW is a joint graduate degree program which enrolls both Miami and WSU students. The curriculum is delivered in partnership by Miami and WSU faculty.
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Recommendation 9 | Co-located Campuses

Ohio Revised Code Section 3333.951 requires Ohio’s co-located colleges/universities to annually review best practices and shared services in order to improve academic and other services and reduce costs for students. Co-located campuses are then required to report their findings to the Efficiency Advisory Committee.

Co-located Campus: N/A

Type of Shared Service or Best Practice (IE: Administrative, Academic, etc.)	Please explain in detail your findings related to this shared service or best practice.

- Please explain your approach and process to sharing services with your co-located campus.
- Please identify and discuss best practices that have been identified by the co-located campuses.
- Please provide your estimated cost savings from shared services between the co-located campuses.

Section III: Policy Reforms

Recommendation 10 | Policy Reforms

10A Financial advising: Ohio’s colleges and universities should make financial literacy a standard part of students’ education. Please complete the section that aligns with the implementation status of your college/university.

Has the college/university implemented this recommendation? If yes, please provide an overview of the process used and the key outcomes.

If the college/university has not implemented this recommendation, is there a plan to implement? If yes, what is the implementation plan? If the college/university has not implemented this recommendation and does not plan to do so, please provide the rationale.

If this recommendation was fully implemented in FY16 and no substantial changes occurred in FY17, please indicate below.

Miami University has implemented a financial advising program for students. Students can view information on their student loan debt via a personalized website (MiamiOH.edu/KnowBeforeYouOwe), to obtain information on expected monthly payments, total costs for the loans, repayment plans, and budgeting tools. In addition, the site allows students to research median earnings for their chosen profession in order to gauge loans costs to anticipated income.

In addition, we implemented a series of intrusive counseling strategies for students that are borrowing higher amounts. These strategies include emails, calls, and one-on-one appointments to review loan debt, strategies for loan debt reduction, and creation of personal spending plans. These changes went into effect beginning with Fall 2016 and rolled out over the course of the school year.

While it is too early to see the full impact of the effect on this advising, we do know that overall loan borrowing decreased by \$1.2 million FY17, as compared to FY16, on a slightly larger enrollment. During the same period of time, average student loan debt for graduating students also dropped slightly.

10B Obstacles: The state Department of Higher Education and/or state legislature should seek to remove any obstacles in policy, rule or statute that inhibit the efficiencies envisioned in these recommendations.

What legislative obstacles or policy roadblocks, if any, inhibit efficiencies and affordability practices at the college/university?

Construction Reform

With the Construction Reform legislation in 2012, please describe the outcomes, efficiencies gained, and benefits to students from implementing this reform.

Construction reform has had a substantial benefit to outcomes of Miami University construction projects. Miami has been able to execute nearly \$600,000,000 since 2013 with zero litigation claims, reduced contingency spends, increased quality (measurably fewer punch list and deficient work issues). The work has been performed with no increase in University staff to support increase in capital projects executed. These outcomes have allowed Miami University to purchase more work directly benefiting students. Select outcomes and efficiency gains:

- Average annual construction spending per capital project manager before construction reform was \$6,075,625. Average annual construction spending per capital project manager after construction reform is \$15,639,470. This represents a 2.5-time improvement in staff productivity. Also, construction reform has resulted in an estimated 80% reduction in monthly paperwork processing time.
- Reduction in contingency funds allocated for work performed after construction reform. The contingency allocation before construction reform for renovation work was 15%, and after construction reform for renovation work is 10%. The contingency allocation before construction reform for new work was 7%, and after construction reform for new work is 5%. Since construction reform, this equates to more than \$42,000,000 in avoided contingency allocation that was either saved or applied to more productive increase in scope of work
- Overall reduction in number of change orders and value of change orders as a percentage of construction cost. Also, there have been no Architect or Engineer error and omission change orders on Design-Build projects.
- Article 8 Claims have been reduced to 0
- Projects consistently are hitting key interim milestone and completion dates, with many projects running ahead of schedule.
- Contracts for multiple building projects under one CM allows better buying power and lower first costs.
- Improved overall construction quality since construction reform. Quality outcomes due to best value procurement, with selections based on qualifications as well as price. Best Value Selection allows relationships with contractor to be built on past successes which leads to greater efficiency and eliminates learning curve with University standards, best practice, dealing with staff & faculty
- Shorter time to bring projects to market when the construction manager is hired early in design and bid packages can be sent out prior to full completion of drawings.
- Negotiating a guaranteed maximum price ahead of bidding allows owners to reduce risk and plan project budgets with a higher degree of accuracy
- Smaller, local subcontractors are encouraged to pre-qualify with the construction manager prior to bidding to promote diversity and inclusion. Owners can request that local contractors be included in the pre-qualification process.

Additional Practices

Are there additional efficiency practices your college/university implemented in FY17 to ensure students have access to an affordable and quality education? Please identify.

Section IV: Cost Savings, Redeployment of Savings & Tangible Benefits to Students

The following charts allow each college/university to report this information. For the first chart, please provide, if applicable, any actual cost savings to the college or university and/or students for fiscal year 2017 (or expected annual cost savings) for each of the recommendations from the Task Force. (Please note this does NOT include cost avoidance.)

For the second chart, please provide more detail as to how cost savings were deployed, specifically in the following categories: reductions in cost of attendance, student financial aid, student services, investment in efficiency and affordability tools, and student program improvements. Please use the explanation field to provide further detail.

Please use the chart below to capture, if applicable, FY17 cost savings, or expected annual savings, to the college/university in actual dollars:

Template

Recommendation	If applicable, provide the actual FY17 cost savings, or expected annual cost savings, to the institution and/or student. Please specify. *Put NA if no savings
<i>Efficiency Practices</i>	
3A: Campus Contracts	\$585,571
3B: Collaborative contracts	\$694,818
4A: Asset Review	\$132,587
4B: Operations Review	\$2,070,000
4C: Affinity partnerships and sponsorships	\$3,180,333
5A: Cost diagnostic ¹	\$0
5B: Productivity measure ¹	\$3,845,348
5C: Organizational Structure ¹	\$0
5D: Health-care costs	\$0
5E: Data Centers	\$0
5F: Space utilization	\$0
Energy projects	\$498,176
<i>Academic Practices and Policies</i>	
6A – 6C and textbook efficiency practices	\$97,571
7A: Education Campaign	\$893,420
7B: Graduation Incentive	\$0
7C: Standardize credits for degrees	\$0
7D: Data-driven advising	\$986,319
7E: Summer programs	\$1,039,407
7F: Pathway agreements	\$0
7G: Competency-based education	\$0
8: Duplicative and low-enrollment courses and programs	\$0
9: Shared services at co-located campuses	N/A
Construction Reform	\$6,701,276
10A: Financial advising:	\$1,200,000
Additional efficiency practices	
Total Expected Annual Cost Savings:	\$21,924,826

Note:

1. Savings attributable from initiatives falling under components 5A, 5B and 5C all shown under 5B.

Please utilize the chart below to show how the total actual cost savings listed above were redeployed to either (1) reduce the cost of college for students or (2) to provide tangible benefits for the quality of students' education:

Category	Amount Invested	Explanation
Reductions to the total cost of attendance (tuition, fees, room and board, books and materials, or related costs — such as technology)	\$3,016,717	20% tuition discount for resident undergraduates taking online courses in summer and winter terms.
Student financial aid	\$10,729,821	Increased investment in student financial aid to lower the cost of attendance.
Student success services, particularly with regard to completion and time to degree	\$357,247	Student Success Collaborative
Investments in tools related to affordability and efficiency		
Improvements to high-demand/high-value student programs	\$727,549	Increased investment in additional tenure track/tenure eligible faculty.
Improvement in financial advising	\$1,200,000	Decrease in FY17 student borrowing compared to FY16.
Investment in STEM Facilities	\$19,730,000	University resources invested in STEM facilities.