

**State University System  
Education and General  
2020-2021 Legislative Budget Request  
Form I**

<b>University(s):</b>	<b>University of South Florida</b>
<b>Issue Title:</b>	<b>Advancing the academic excellence and national stature of USF, the SUS and the State of Florida</b>
<b>Date Issue Approved by University Board of Trustees:</b>	<b>August 19, 2019</b>
<b>Recurring Funds Requested:</b>	<b>\$37,424,835</b>
<b>Non-Recurring Funds Requested:</b>	
<b>Total Funds Requested:</b>	<b>\$37,424,835</b>
<b>Please check the issue type below:</b>	
<b>Shared Services/System-Wide Issue for Fiscal Year 2020-2021</b>	<input type="checkbox"/>
<b>Unique Issue for Fiscal Year 2020-2021</b>	<input checked="" type="checkbox"/>

**I. Description**

The University of South Florida (USF) is requesting a recurring investment of new state dollars beginning in FY 2020-21. By accelerating USF’s trajectory, this investment will create economic advantages for the State of Florida by providing numerous positive benefits for current and future USF students and faculty, for the State University System (SUS) and for the State of Florida as a whole.

With USF’s momentum, the impact of additional state resources of \$37.4 million represents an opportunity for the state to further support one of the most promising universities in the nation.

For example, since 2013, USF has risen faster in *U.S. News & World Report’s* (USN&WR) annual rankings of national universities than any public or private university. Furthermore, leaders in higher education are recognizing the increasing impact of USF. For instance, as Holden Thorp, provost at Washington University in St. Louis noted, it is the “...University of South Floridas of the world that are the real game-changers for students and their communities...”<sup>1</sup>

---

<sup>1</sup> <https://www.chronicle.com/article/How-Well-Do-Elite-Colleges/246100>.

To fully leverage its positive impact on the State of Florida, USF strives to become a Top 25-ranked public university in *USN&WR*'s annual rankings. Additionally, USF's aspirations are to maximize the state's opportunity to be home to another member of the prestigious Association of American Universities (AAU). AAU evaluates new members based upon their academic reputation, as well as their national leadership in its research and development enterprise. USF is well on its way -- already positioned as a Top 25 public institution in research expenditures and in the Top 10 for intellectual property (e.g., patent) creation.

Our request is the first phase of a multi-year investment plan – in concert with other external and philanthropic funds contributed by the university. It is particularly timely because the new investment will be made concurrently with the consolidation of the USF System into one Preeminent State Research University, geographically distributed. The investment will benefit all communities, all campuses, all students and all faculty of the newly consolidated “One USF.” The consolidation will take place on the first day of the next state fiscal year: July 1, 2020.

The justification for this request is divided into the following sections:

1. Why invest in USF? A University with a Trajectory of Increasing Academic Excellence;
2. Florida's Benefits from Additional Prestigious Universities;
3. Broad Benefits from Additional State Funds Invested in the Future of USF;
4. Building an “Architecture of Academic Excellence” for USF; and
5. Strategic Deployment of Investments to Further Enhance Academic Excellence.

### *Why Invest in USF? A University with a Trajectory of Increasing Academic Excellence*

Evidence shows that a dollar invested in USF has stretched farther and delivered greater returns to students and the economy during the last decade than at any public university in Florida or the United States.

Consider USF's<sup>2</sup> remarkable ascent in national rankings over the past decade. Indeed, since the first year of our current institutional strategic plan in 2013, USF has:

- Achieved the largest gain in *USN&WR*'s rankings of any public or private university in the United States.
- Achieved and maintained a Top 50 ranking among all public universities in the United States in four of the 10 official rankings approved by the BOG to measure national preeminence.

---

<sup>2</sup> At times throughout this document, the term “USF” may refer to the data, ranking, etc. of the USF Tampa campus. As three separately accredited institutions by SACSCOC, each campus of the current USF System is classified differently and reports separate federal data and therefore receives separate national rankings. Consolidation eliminates the need for this separate reporting and ranking in the future.

Furthermore, USF's rise in the national rankings during the past several years has – not coincidentally – corresponded with record-breaking gains in student success metrics.

- USF is ranked as the #1 public research university in the nation for gains in the six-year graduation rate of its students between 2008 and 2018. USF raised its six-year graduation rate by 25 percentage points during that decade, a gain of six percentage points greater than the #2 ranked institution in America during that same time period<sup>3</sup>.
- The USF System raised its four-year graduation rate from 35.5% in 2011 to 58.6% in 2018, which was the largest percentage point gain (+23.1%) in the SUS during that time period.
- USF is ranked #1 in America among all public universities for Latino student success<sup>4</sup>.
- USF is ranked #6 in America and #1 in Florida among all public universities for black student success<sup>4</sup>.
- USF is ranked #9 in America and #1 in Florida among all public universities for Pell-recipient student success<sup>5</sup>.

USF also achieved similar gains in research and development rankings during the same time period.

- Total research expenditures for USF now exceed \$550 million annually, which places USF as the #2 ranked public or private university in Florida with an annual amount of total research spending that doubles the next-closest SUS institution<sup>6</sup>.
- USF is ranked #25 in America among all public universities in total annual research expenditures, according to the National Science Foundation's (NSF) HERD Survey<sup>6</sup>.
- USF is ranked #7 in America and #1 in Florida among all public universities for the most U.S. patents granted in 2018, according to the Intellectual Property Owners Association<sup>7</sup>.

### *Florida's Benefits from Additional Prestigious Universities*

The Association of American Universities (AAU) is considered the most prestigious of all university associations. It is an invitation-only association that consists of 34 American public universities, 26 American private universities and

---

<sup>3</sup>[https://tableau.dashboard.utah.edu/t/idmv/views/GraduationRateTrendsPublicResearchInstitutions/Dashboard1?iframeSizedToWindow=true&:embed=y&:showAppBanner=false&:display\\_count=no&:showVizHome=no&:origin=viz\\_share\\_link](https://tableau.dashboard.utah.edu/t/idmv/views/GraduationRateTrendsPublicResearchInstitutions/Dashboard1?iframeSizedToWindow=true&:embed=y&:showAppBanner=false&:display_count=no&:showVizHome=no&:origin=viz_share_link).

<sup>4</sup> The Education Trust, 2017.

<sup>5</sup> Third Way, May 2018.

<sup>6</sup> <https://ncesdata.nsf.gov/profiles/site?method=rankingBySource&ds=herd>.

<sup>7</sup> <https://academyofinventors.org/wp-content/uploads/2019/05/Top-100-Universities-2018.pdf>.

two Canadian public universities. Currently, the University of Florida is Florida's only member institution, public or private.

Why should taxpayers and policymakers in Florida seek more AAU member institutions? The answer is simple: The most talented faculty, students and entrepreneurs gravitate to the most prestigious institutions, particularly when those institutions are located in large, metropolitan areas such as the AAU member institutions in the cities of New York, Boston, Los Angeles, the San Francisco Bay Area, San Diego, Houston, Seattle, Atlanta, Chicago, Philadelphia and others. Moreover, membership in the AAU, in its most basic sense, is a recognition that Florida universities are nationally prestigious, and thereby so is Florida's entire State University System.

Additionally, the AAU institutions – despite representing fewer than two percent of American universities – are awarded 60 percent of the nation's approximately \$40 billion in federally funded research each year. Upwards of 70 percent of America's Nobel Prize winners, National Academy of Sciences members and National Medal of Science winners are faculty members at AAU institutions. The AAU institutions represent America's greatest economic development assets by being awarded over 5,000 new U.S. patents per year, executing over 4,000 licensing agreements and creating over 3,600 operational startup companies annually<sup>8</sup>.

Consequently, Florida – with only one AAU institution – may be lagging in the battle for intellectual capital and research funding, which are primary factors in the recognition and ranking of elite universities and university systems. California boasts nine AAU member institutions (six public) and New York is home to six others (two public). Texas has three AAU members, two of which are public. Florida is the only one of America's top 10 most populous states that is home to fewer than two AAU member institutions; five of those 10 states boast at least two *public* AAU institutions. Focused state investments, coupled with increased institutional fundraising and responsible university stewardship of existing resources, could allow other Florida institutions – and especially USF – to cross the thresholds necessary to be considered for eligibility by outpacing existing AAU members' performance.

Given the historical track record of AAU institutions to date, the state and taxpayers will be more than repaid for these additional investments. As more of its top research institutions join the ranks of the elite national universities, the state as a whole will be elevated to new economic and reputational heights. Although AAU does not guarantee membership to any institution based on a level of achievement, the association is quite transparent in revealing the "indicators" it looks for in its prospective members. The AAU's most important membership indicators ("Phase I Indicators") relate to research competitiveness and the quality and impact of the institution's faculty. They include competitively funded federal research expenditures, National Academy

---

<sup>8</sup> <https://www.aau.edu/who-we-are/aau-numbers>.

memberships and faculty awards, and faculty research citation volume and impact. Secondary, or “Phase II,” indicators that are considered include non-competitively awarded research funding, doctoral education quality, postdoctoral appointments and undergraduate education. The full listing of AAU Membership Indicators is available on the AAU’s website<sup>9</sup>, [www.aau.edu](http://www.aau.edu).

### ***Broad Benefits from Additional State Funds Invested in the Future of USF***

The 2018 Florida Legislature mandated that by July 1, 2020, the current USF System will consolidate into one university, geographically distributed. During June 2019, the USF Board of Trustees updated the BOG on its plan for consolidation and is on track to meet this goal. “One USF” affords the State of Florida the opportunity to maximize the impact of a major, highly ranked research university located across a large metropolitan area. In fact, USF (at #58 in *USN&WR* and #25 in NSF’s ranking of total research expenditures) is already Florida’s highest-ranked public university in any of its major metropolitan areas and is poised to continue its upward trajectory under our plan for consolidation.

Today, the Tampa Bay region is served by the three institutions of the USF System, and under consolidation this will only accelerate. USF already has campuses in Tampa, a city of nearly 400,000 located in a county (Hillsborough) with a population exceeding 1.4 million residents; St. Petersburg, a city of nearly 300,000 residents located in a county (Pinellas) with a population of nearly 1 million residents; and Sarasota-Manatee, representing two counties with a combined population exceeding 800,000 residents.

This year alone, Tampa and/or the Tampa Bay region were ranked as:

- The #6 (Sarasota-Bradenton) and #8 (Tampa-St. Petersburg) Fastest Growing City in America by *Forbes*<sup>10</sup>;
- The best large city in Florida to live in and #15 in the United States by Wallet Hub<sup>11</sup>; and
- The #1 city in Florida and #29 in the nation for tech talent<sup>12</sup>.

The decision by the Legislature to consolidate the USF System into one university, geographically distributed, provides the first opportunity in the Tampa Bay region’s history to be fully served by one preeminent, nationally ranked research university. The BOT’s Consolidation Plan calls for investment in all three campuses to raise the national profile of “One USF” and to provide students and faculty with new academic and research opportunities never before available.

This LBR contemplates the initial phases of that investment in all three campuses, as well as the resources necessary to develop and strengthen

---

<sup>9</sup> <https://www.aau.edu/who-we-are/membership-policy>.

<sup>10</sup> <https://www.forbes.com/pictures/mlj45hdfd/1-austin-texas/#5fa856da56d0>.

<sup>11</sup> <https://wallethub.com/edu/best-worst-large-cities-to-live-in/14358/>.

<sup>12</sup> <https://www.tampabay.com/business/tampa-bay-ranks-no-29-among-top-areas-for-tech-talent-20190725/>.

specialized, nationally renowned academic and research centers of excellence on each of the three campuses.

“One USF” also allows the institution to maximize new investments for even greater returns, which will be realized in every corner of the Tampa Bay region. Instead of three USF System institutions competing for limited state resources and philanthropic gifts, “One USF” will allow new investments to pay dividends for all three campuses. This multiplier effect of new financial investments in a single USF will greatly benefit Florida, as one of its largest and fastest-growing regions is recognized internationally as a destination for exceptionally talented students and faculty. It sends a message to corporations looking to avail themselves of that talent in a large and growing population center.

For the first time ever, beginning July 1, 2020, no particular municipality or county in Tampa Bay will be the exclusive “home” to the region’s top public research university, nor will any one campus be the primary destination for its talent and commensurate corporate investment. Rather, each of Hillsborough, Manatee, Pinellas and Sarasota counties will be home to a campus of a top-ranked research university with access to the world-class talent, research programs and economic-development initiatives available through a united USF.

USF’s geographical location and unique vision for alignment across Tampa, St. Petersburg and Sarasota-Manatee make it a strong candidate for new investment, which can stretch each dollar for tripartite benefit. This provides the best return on investment to the state, and importantly, across the entirety of the eight-county Tampa Bay region.

### ***Building an “Architecture of Academic Excellence” for USF***

Although USF has already reached the Top 25 public universities in various research and development rankings (as noted above), those rankings tend to be more objective, rather than subjective, measurements. For instance, where USF is now ranked as the 25<sup>th</sup> best public university in America in terms of total research expenditures<sup>13</sup>, that ranking is the result of a straightforward sum total of all research spending with no subjective judgment. USF, which is a relatively young university compared with other national peers, has traditionally fared well in these types of national rankings where institutional reputation is not a dominant factor and objective results are the only (or the principal majority) measurement.

Conversely, although *USN&WR* and AAU consider certain objective data elements to evaluate institutional performance, a large component of their rankings and membership decisions are also based on an institution’s national academic reputation for excellence. USF has more work to do in this regard. Indeed, much of this LBR is tailored to requesting and deploying strategic

---

<sup>13</sup> <https://ncesdata.nsf.gov/profiles/site?method=rankingBySource&ds=herd>.

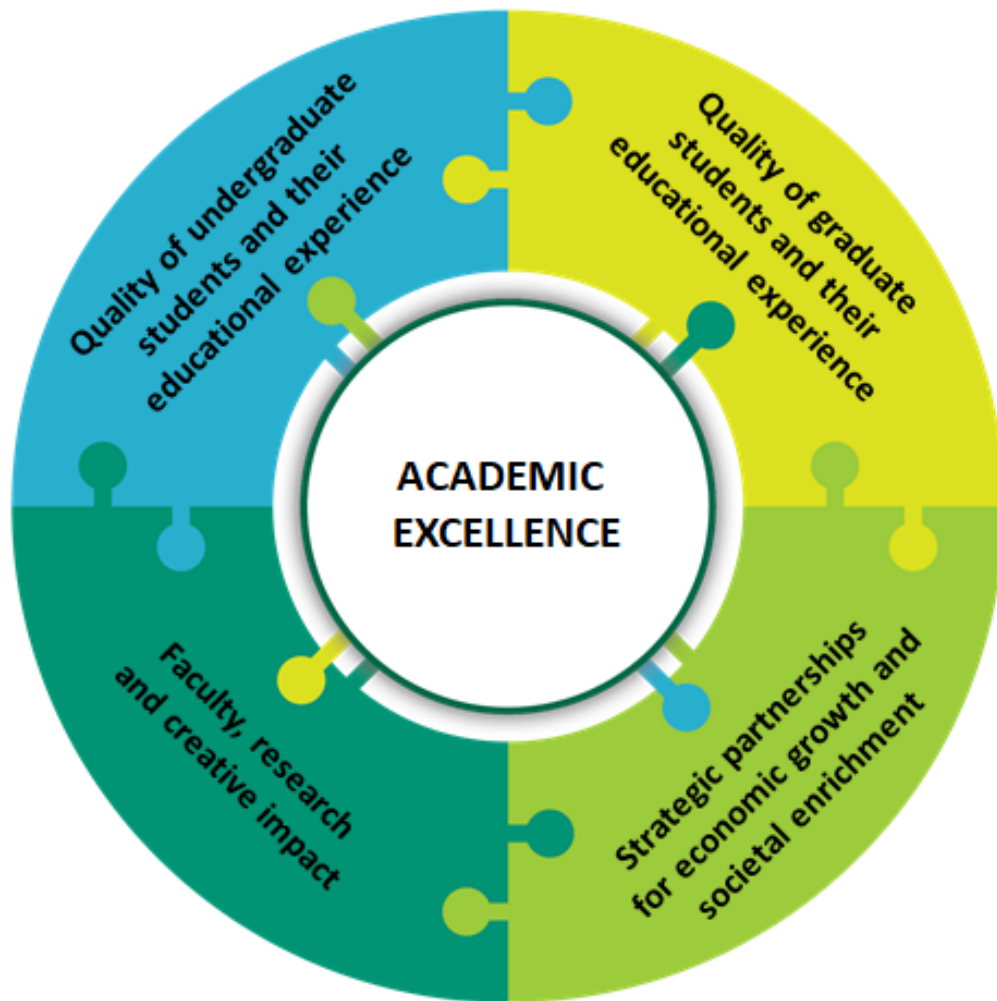


investments in specific, targeted areas that will build upon USF's already growing national academic reputation.

Leadership of USF refers to these key components and the plan to address them as the "*architecture of academic excellence*"<sup>14</sup>. The "architecture" is built upon four components:

- 1) Quality of undergraduate students and their educational experience;
- 2) Quality of graduate students and their educational experience;
- 3) Faculty, research and creative impact; and
- 4) Strategic partnerships for economic growth and societal enrichment.

Collectively, these four components form and drive the overall academic reputation of any public research institution.



An institution's academic reputation and its effect on *USN&WR* rankings and AAU membership cannot be overstated, and in fact the two are closely intertwined. Consider that:

---

<sup>14</sup> Adapted from: <https://www.smu.edu/-/media/Site/Provost/Provost/PDF/Continuing-the-Ascent.pdf?la=en>.

- 21 of the current *USN&WR* Top 25 public universities are members of the AAU<sup>15</sup>;
- Another ten public AAU members are ranked in the Top 50 of *USN&WR* (seven of them are in the Top 40); and
- Only three of the 34 public AAU members are ranked outside the *USN&WR* Top 50, and those schools are ranked 56<sup>th</sup> and tied for 61<sup>st</sup> nationally (USF currently ranks ahead of two public AAU member institutions)<sup>16</sup>.

A sustained investment in USF over a period of time, targeted in the four components of the “architecture” described above, will position USF to raise our national academic reputation. This, in turn, will continue to raise our national rankings and the likelihood of becoming eligible for AAU membership in the future. This trajectory also builds on the BOG’s stated vision for the SUS that by 2025, the State University System of Florida “will be internationally recognized as a premier public university system, noted for the distinctive and collective strengths of its member institutions.” A key strategy for fulfilling this vision will be to promote the successes and achievements of USF and the SUS to the leadership of other universities, as well as to high school guidance counselors nationwide to raise the overall reputation of USF and the entire SUS.

***Strategic Deployment of Investments to Further Enhance Academic Excellence***

Based on the architecture outlined above and USF’s extraordinary track record of success over the past decade, any new recurring investments provided by the Legislature and Governor for this initiative will be deployed specifically to achieve the following goals, all of which will advance USF’s national prestige:

- Increased student success outcomes, including improved FTIC retention rates and four-year and six-year graduation rates.
- Increased individualized attention for student success by lowering the student-to-faculty ratio and the proportion of classes with fewer than 20 students and with fewer than 50 students.
- Increased faculty resources and productivity, including more competitive faculty salaries; the ability to hire more National Academy-member faculty and other world-class scholars; increasing external grant funding and research citations; and citation impact. Additional faculty will be focused primarily in areas of strategic emphasis as identified by the BOG, including science and mathematics, engineering, business and medicine.
- Enhancements to the quality of and access for incoming students, including attracting students with high SAT and ACT scores, students who graduated in the top 10% of their high school classes, as well as continuing to provide access for Pell grant recipients and others.

---

<sup>15</sup> The only non-AAU members ranked in *USN&WR*’s Top 25 public universities are the College of William & Mary, University of Georgia, University of Connecticut and Clemson University.

<sup>16</sup> Iowa State University is ranked #56 and the Universities of Missouri and Kansas are tied for #61, the lowest ranking among public AAU members and three places behind USF’s current *USN&WR* ranking.



- Enhancement of institutional reputation among academic peer institutions and high school guidance counselors across the country.
- Increased community support through philanthropy and alumni giving.

Specific investments in this first phase will be made in the following areas to enhance USF's overall national and international academic reputation via the "architecture" plan:

*Quality of Undergraduate Students and their Educational Experience*

\$1.5 million to enhance undergraduate student recruitment and support services.

*Quality of Graduate Students and their Educational Experience*

\$2.5 million to enhance graduate student recruitment and support.

*Faculty, Research and Creative Impact*

\$6.2 million to retain current high-performing USF faculty.

\$4.4 million to hire 10 additional National Academy members and other world-class scholars.

\$4.6 million to hire 20 additional full professors.

\$3.2 million to hire 20 additional full-time associate professors.

\$5.5 million to hire 40 additional full-time assistant professors.

\$5.3 million to hire 50 additional full-time instructors.

\$2.2 million to hire 20 additional technical personnel to support the above faculty hires.

*Strategic Partnerships Involving Economic Development and Societal Engagement*

\$2 million to support innovative new national and global research partnerships and R&D initiatives.

This first-phase investment will result in a net gain of 140 additional faculty members, contributing to USF's overall five-year plan to add 375 net new faculty. During both the first-year and the five-year plan, (if new state funding is provided) faculty will be hired at each of the three campuses consistent with the USF BOT's strategic priorities for each campus.

**II. Return on Investment**

The combined effect of the return on investment will:

- Strengthen Florida's position as the top state in the nation for higher education, thereby enhancing the global prominence of Florida.
- Propel USF on a trajectory toward a *USN&WR* Top 25 ranking.
- Advance USF towards AAU eligibility.
- Improve student success outcomes and students' educational experiences.

- Increase institutional impact as an engine for innovation and economic impact.

Given that 21 of *USN&WR's* Top 25 public universities are members of the AAU – and the fact that positioning USF for membership in the AAU has been the goal of the USF BOT in the institution's Strategic Plan since 2007 – USF will continue to benchmark the success of the investments against that aspirational peer group's performance. Our goal is to meet or exceed the average of the 34 public AAU institutions' latest performance on each metric.

*USN&WR's* rankings are derived from 16 specific metrics that serve as the publication's formula inputs. In seven of those 16 metrics, USF already achieves above or very near the current average of the 34 public AAU members' achievement level.

Notably, USF currently exceeds the average achievement level of public AAU universities in two student success outcome metrics assessed by *USN&WR* in its rankings. These include a comparison of each institution's actual six-year graduation rate compared to that predicted by *USN&WR* and an institution's success rate in graduating Pell Grant recipient students when compared against their Non-Pell Grant students.

The metrics in which USF is already competitive with public AAU members include:

<i>USN&amp;WR</i> Metric	Average Performance of Public AAUs	Current USF Performance
First-year Retention Rate	92%	91%
Pell Grant six-year Graduation Rate	74%	73%
Over/under Predicted Performance in the six-year Graduation Rate	+3.5%	+9%
Ratio of Pell and Non-Pell Grant six-year Graduation Rate	88%	93%
Proportion of Classes with Fewer than 20 Students	41%	45%
SAT Scores for the 25 <sup>th</sup> – 75 <sup>th</sup> Percentile of Incoming Students	1200-1400	1230-1350
Annual Alumni Giving Rate	11%	12%

In the other nine *USN&WR* metrics, USF strives to improve its performance to match the current average achievement level of the 34 public AAU institutions.

<i>USN&amp;WR</i> Metric	Average Performance of Public AAUs	Current USF Performance
Six-year Graduation Rate	81%	73%
Academic Peer Assessment	3.7	2.8
High School Guidance Counselors' Ratings	4.1	3.5
Average Faculty Salary	\$160,553	\$135,614
Proportion of Faculty with Highest Degree in their Field	92%	82%
Proportion of Fulltime Faculty	92%	84%
Student-to-faculty Ratio	17:1	22:1
Incoming Enrollees who Graduated in Top 10% of their High School Class	59%	34%
Average Spending Per Student	\$74,888	\$33,241

**It is worth emphasizing that many of the above metrics (in which USF lags the current public AAU average performance) are directly related to available financial resources.** They include: faculty salaries; the proportion of faculty with the highest degree in their field; the proportion of full-time to part-time faculty; student-to-faculty ratio; and the average institutional spending per student.

**All of these metrics will be positively impacted almost immediately by the proposed investment in USF and the strategic deployment of the funds as outlined above through the “architecture” plan.** Nearly two-thirds of the proposed first-year investment is aimed directly at hiring additional faculty and improving the salaries of current high-performing faculty to allow USF to catch up to its national peers.

Similarly, the “architecture” plan contemplates spending additional resources to recruit and retain more high-achieving high school students in order to improve USF’s performance in two of the remaining *USN&WR* metrics (percentage of

students from the Top 10% of their high school class and the six-year graduation rate).

The final two metrics are strictly related to external perceptions of USF's academic reputation. The "architecture" plan is designed specifically to achieve gains in these areas through targeted investments and awareness campaigns. These two metrics are, however, "perceptual" rankings that tend to lag actual performance. A sustained effort will be necessary through these investments to communicate the strengths and achievements of USF and the SUS as a whole to national peers and high school guidance counselors to see the requisite gains in these two critical metrics. Even with some expected lag time in assessment ratings, improvements made in the financial resources metrics outlined above through this investment will continue USF's upward ascent toward the Top 25.

In summary, USF has demonstrated a track record of using targeted investments to achieve results that well exceed other universities' performance. USF embraces metrics-based accountability; We relish it, and our results speak for themselves. The timing is auspicious now for a major investment of new state funds into USF given its national momentum and trajectory, the opportunities afforded through consolidation, and the economic impact to the state by having a major nationally ranked research university located in one of Florida's fastest-growing metropolitan areas. The "architecture" plan developed and described in this LBR presents the vision and plan to deploy those state assets to maximize the return on investment for USF students, for taxpayers, for the State University System and for the entire State of Florida.

### III. Facilities:

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.	N/A			

**2020-2021 Legislative Budget Request**  
**Education and General**  
**Position and Fiscal Summary**  
**Operating Budget Form II**  
(to be completed for each issue)

**University:** University of South Florida  
**Issue Title:** Advancing the academic excellence and national stature of USF, the SUS and the State of Florida

	RECURRING	NON-RECURRING	TOTAL
<u>Positions</u>			
Faculty	140.00	0.00	140.00
Other (A&P/USPS)	20.00	0.00	20.00
	-----	-----	-----
Total	160.00	0.00	160.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$15,619,969	\$0	\$15,619,969
Other (A&P/USPS)	\$1,400,000	\$0	\$1,400,000
	-----	-----	-----
Total	\$17,019,969	\$0	\$17,019,969
	=====	=====	=====
Salaries and Benefits	\$21,571,161	\$0	\$21,571,161
Other Personal Services	\$4,000,000	\$0	\$4,000,000
Expenses	\$5,603,674	\$0	\$5,603,674
Operating Capital Outlay	\$0	\$0	\$0
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
<b>Faculty Retention</b>	\$6,250,000	\$0	\$6,250,000
	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$37,424,835	\$0	\$37,424,835
	=====	=====	=====

**State University System  
Education and General  
2020-2021 Legislative Budget Request  
Form I**

<b>University(s):</b>	<b>University of South Florida on behalf of the Florida Institute of Oceanography an AISO</b>
<b>Issue Title:</b>	<b>Re-envisioning FIO</b>
<b>Date Issue Approved by Host University Board of Trustees:</b>	<b>August 19, 2019</b>
<b>Recurring Funds Requested:</b>	<b>1,477,908</b>
<b>Non-Recurring Funds Requested:</b>	
<b>Total Funds Requested:</b>	<b>1,477,908</b>
<b>Please check the issue type below:</b>	
<b>Shared Services/System-Wide Issue for Fiscal Year 2020-2021</b>	<input checked="" type="checkbox"/>
<b>Unique Issue for Fiscal Year 2020-2021</b>	<input type="checkbox"/>

**I. Description** – 1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2019 University Accountability Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services.

**RE-ENVISIONING THE FLORIDA INSTITUTE OF OCEANOGRAPHY**

FIO is a statewide Academic Infrastructure Organization with the mission of supporting and facilitating collaborative research and education related to Florida’s coastal and ocean environment. FIO’s mission aligns closely with the new SUS research plan for a Secure Florida (preserving Florida’s Coasts) and a Prosperous Florida (translational research to support medicine, environment and tourism). FIO was established in 1967 by the Florida Board of Regents and designated an AISO by the Board of Governors in 2009. FIO functions across academia, state and federal agencies, ocean science organizations, and the private sector to solve problems through research, education and outreach. FIO has focused on providing sea-going research vessel services to its members, currently with two state of the art research vessels- the Weatherbird II and the W.T. Hogarth. In 2014, FIO acquired the Keys Marine Lab (KML) from the Florida Fish and Wildlife Conservation Commission. The Keys Marine Lab is a full

service teaching and research facility with extensive marine seawater systems, on site laboratories, housing for students and researchers, small boats and direct access to the unique Florida Keys environment.

As a state with the largest coastline in the continental U.S. and the second largest coastal economy, FIO's mission is a particularly crucial one. Florida needs to develop a new generation of scientifically trained and inspired leaders, who understand the need for good stewardship, and the opportunities presented by the fragile coastal and ocean environment that surrounds the state. FIO is perfectly positioned to carry out that role with its extensive network of scientists, location, assets, and focus. It has become evident that many younger faculty members at SUS Institutions are not aware of the services FIO provides, do not know how to apply for ship-time and/or how to organize and operate a research cruise. FIO will target a new pipeline of potential ship users through outreach activities in order to inspire the next generation of scientists with world class oceanographic experiences to promote careers in Florida coastal and oceanic industries.

Historically, FIO's main mission has been providing ship-time to SUS and other member organizations, and about half the ship-time provided by FIO has been subsidized by the state. Currently, the only resources available to FIO to offer subsidized ship time to SUS and other member institutions comes from FIO cash reserves, which are needed for both routine and unexpected maintenance expenses so that ship operations run smoothly and safely. Over-using these cash reserves would negatively impact the long-term ability for FIO to safely continue its primary mission.

The purpose of this Legislative Budget Request is to re-envision how FIO fulfills its mission to support and facilitate collaborative research and education related to Florida's coastal and ocean environment. This proposal involves restructuring and redirecting how new FIO resources will be distributed throughout the State University System and other FIO members with three goals:

**1. Inspire the next generation of Florida oceanographers with world class oceanographic experiences that will focus their careers on Florida coastal and ocean issues.**

Special high-impact experiential courses will be offered that target promising undergraduate and graduate students in academic areas related to oceanography. Currently, FIO offers a single field studies course that serves 20-30 students per year, with the limitation being the number of students who can be accommodated at a time, suggesting that demand is very high. Two new field courses will take place entirely on FIO vessels for a unique experience that only an organization such as FIO could provide, statewide. Two additional courses will be offered at FIO's Keys Marine Lab (KML), again as a unique experience utilizing facilities, field sites, and expertise only found at KML. They will address topical issues and be research-focused.

Course proposals will be solicited from across the SUS institutions and proposals screened by an FIO panel. Successful courses could be offered in subsequent years and/or new ones solicited. Examples of shipboard courses would be in coastal undersea mapping or offshore studies related to seawater warming and acidification. Keys Marine Lab courses will take advantage of the unique location and facilities of KML. An example would be a course in coral ecology, focusing on coral reef restoration, a topic where KML has a unique track record.



Experts from the SUS faculty will be solicited to propose courses to develop the marine scientists of tomorrow based on a foundation of field, classroom and laboratory science experiences on FIO's state-of-the art research vessels and labs. The proposals will include the goals and expected learning outcomes of the course, how it would impact the students in terms of future leadership and stewardship regarding Florida's coastal and ocean ecosystems, a plan to implement the course in terms of syllabi, lab/field manuals, facilities, equipment and graduate assistants needed, how high impact experiential research will be incorporated, the timing of the course along with a support letter from their chair/dean, and a proposed budget.

Courses would be selected that (1) utilize the unique resources of FIO vessels and labs, (2) are expected to have a high impact on the students, and (3) target students with the potential of being future leaders. Students will be recruited from across the SUS, and selected on criteria designed to identify future leaders and stewards of Florida's coastal and ocean ecosystems.

Four of these 4 credit courses would be offered each year with shipboard courses two-weeks in length, KML courses up to 4 weeks in length. They will be scheduled on an alternate calendar, and credit would be transferable to any SUS institution. We expect to support a total of four faculty members at 0.332 FTE for the term they teach and four graduate teaching assistants at 0.5 FTE. The quality of each course will be assessed by post-course interviews and questionnaires and the career path of the students followed for several years to measure the outcome of the program. It is expected that a total of over 60 students per year would participate in these courses.

**2. Introduce the next generation of Florida oceanographers to FIO vessel and KML services to enhance their research productivity.**

There is a new generation of coastal and ocean researchers in Florida and many are not aware of FIO and/or do not have the knowledge and skill sets to organize FIO ship cruises or to utilize the Keys Marine Lab that would enhance their research/teaching programs. We propose an outreach program to identify these faculty researchers throughout the SUS system, bring them to FIO and use workshops and three day demonstration cruises/field experiences to train them how to fund, organize and manage research cruises and field experiences, and to learn what equipment and services are available on FIO vessels and at KML. This will ultimately enhance student and faculty access to world-class oceanographic scientific experiences and seed the next generation of oceanographers to focus on Florida coastal and ocean issues. This is a new program that will allow FIO to expand its services to a new generation of SUS and other member users of FIO vessels.

FIO will form an outreach group using existing employees who will reach out directly to SUS faculty and other FIO members. They will schedule trips to each SUS institution, meet with faculty and students, explain how FIO vessels and KML could enhance their research/teaching related to coastal and ocean science and engineering. FIO will schedule two workshops a year at the St. Petersburg facility for oceanographic vessel use. Each workshop will engage faculty participants in the process of applying for ship time, how to organize and manage a research cruise, and will include a three day

demonstration cruise with an agreed upon scientific mission with specific hands-on training of the equipment available. Workshops at KML will be similar, but not require time on the large research vessels. The outcome will be increased applications for FIO vessel and facilities use, which will improve the quality of research and the amount of research specific to Florida's marine environments.

**3. Provide improved access to FIO vessels for researchers and students across the state by pre-positioning vessels for use on the central Atlantic coast of Florida; along the Florida panhandle; as well as in St. Petersburg. This will expand opportunities for collaborative research and education related to Florida's coastal and ocean environments in different Florida coastal regions.**

Florida's coastal environments need to be carefully studied, mapped and understood in order to better manage both available resources and threats such as oil spills, red tide, other algal blooms, seaborne pathogens, and rising sea levels. Researchers in the SUS as well as other FIO members have limited resources to carry out the study and mapping of Florida's coastal regions, and available ship time is a limiting factor. FIO ship users who carry out research along the east coast of Florida or along the panhandle of Florida currently need to pay for transit time from the FIO headquarters in St. Petersburg to their research locations, so because of its location, FIO inadvertently favors researchers who study the central Gulf regions along the Florida coast. FIO will pre-position vessels for 30 days of subsidized ship-time once a year at each of two locations; one period along the east coast of Florida (either Harbor Branch or Port Canaveral) and the other period along the panhandle of Florida (Pensacola or Panama City). FIO will also provide 30 days of subsidized ship time for cruises originating from St. Petersburg for a total of 90 days subsidized ship time. The dates of prepositioning will be determined through a consensus of the FIO Membership Council. With thirty (30) days dedicated specifically to the SUS researchers/teachers who work along each region of Florida, the state will see a significant increase in collaborative research by SUS faculty and other FIO members related to timely coastal and ocean environmental issues including red tide and other Harmful Algal Blooms (HAB), climate change/sea level rise, restoration of the coastal environment, sea bottom-mapping, invasive species like lion fish, and ocean health all around Florida.

Proposals for subsidized ship-time will be solicited each winter, reviewed by an FIO-appointed scientific review panel in the spring; and awarded in the beginning of summer. Proposals that facilitate collaborative research and education and address research related to Florida's coastal and ocean environments will be prioritized. Awardees will be responsible for 10% of the ship time award (from their respective academic units). FIO will follow up through reports from the researchers and will monitor publications and other deliverables that result from the research. Subsidized ship-time in the past has paid off immensely in terms of scientific accomplishments (e.g. understanding the Deep Horizon oil spill aftermath), hundreds, if not thousands, of scientific publications, media pieces, the training of thousands of graduate and undergraduate students, and has played a key role in the career development of faculty-preparing many for leadership roles related to Florida's sensitive coastal and oceanic

environments. There is no substitute for real life, hands-on experiences for participants that address critical research needs involving climate change, water quality, beach erosion, harmful algal blooms, human pathogens, water quality, fisheries, coral reefs and other areas that impact Florida's ocean economy, which currently consists of over 450,000 jobs and Florida coastal cities account for 80% of Florida's overall Gross Domestic Product (GDP).

**II. Return on Investment** - *Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if the issue focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.*

1. Approximately 60 highly qualified students each year will be exposed to high impact, experiential ship and field activities that will position them to assume future leadership roles related to management, stewardship and research of Florida's rich marine resources.
  - 97% of alumni from FIO's annual 5-week Field Studies Course for undergraduates (now in its 7<sup>th</sup> year) are currently involved in a STEM field in their respective career or in graduate school, according to course follow-up surveys. 71% of alumni are currently conducting marine science and/or ecosystem research.
  - With nearly 22 million visitors to Florida's beaches and waters annually, it is imperative that FIO plays a major role in expanding the pipeline for future marine and oceanographic professionals.
2. Outreach to SUS faculty and the availability of subsidized ship-time will result in increased use of FIO facilities and lead to increased research and teaching productivity.
  - FIO has the potential to reach nearly 650 marine research faculty professionals just within the university and college membership of the FIO Consortium.
  - In fiscal year 2017-18 FIO vessels spent 225 days at sea, with 99 of those days supporting FIO member grants, 77 days subsidized ship time to FIO members and the remainder supporting researchers outside of the FIO membership. With two vessels, FIO has the capacity to safely operate well over 300 ship days per year. In the same year, FIO supported researchers from 10 different member institutions involving over \$40 million in research grants from a variety of federal, state and local entities.
  - FIO plays a crucial role in the training of roughly 400 undergraduates, 100 graduates and plays a supporting role for dozens of university courses within the Florida SUS every year, through its vessels and laboratories. With additional funding for ship time and outreach efforts, FIO can better serve SUS institutions' research and education activities.
3. Availability of subsidized FIO ship time will have a major impact on the ability of SUS faculty and students to study problems facing Florida such as harmful algal blooms, seaborne human pathogens, climate change, rising sea level, salt water intrusion, coral health and many other subjects that relate to the quality of life and tourism in the state of Florida.

- Over the past few years, FIO has dedicated about 100 days of subsidized ship-time each year to support scientific research and training that would otherwise not have occurred. Additional ship-time will allow for more research support, seeding new research programs that address the problems Florida faces in understanding and managing its coastal and oceanic environments.
  - Research conducted on-board FIO's vessels and/or at KML has resulted in hundreds of peer-reviewed research publications within the Florida SUS.
  - KML's full-service capabilities led to usage from universities and organizations, nationwide, which allows for greater collaborative research and communication. Last year, KML supported a total of 61 organizations at its location in the middle Keys. The lab's state-of-the-art seawater systems have been instrumental in a multi-institutional coral restoration project that has been featured in local, national and international media.
4. More generally, this LBR will contribute to numerous goals outlined in the 2025 Strategic Plan in a variety of ways:
- Executing the SUS mission to provide undergraduate, graduate and professional education, research, and public service through a coordinated system of institutions of higher learning, each with its own mission and collectively dedicated to serving the needs of Florida.
  - Supporting students' development of the knowledge, skills, and aptitudes needed for success in the science fields.
  - Transforming and revitalizing Florida's coastal economy and society through research, discovery and innovation.
  - Mobilizing resources to address the significant challenges and opportunities facing Florida's citizens and communities.
  - Supporting dozens of STEM degrees in each of Florida's SUS institutions .
5. FIO has an effective plan for executing this enhancement to our SUS through:
- Increasing vessel access to SUS members and improving operations for research and education cruises.
  - Improved faculty and graduate student research support on FIO's platforms.
  - Implementing new four new university credit field-based courses for statewide education and training at both the undergraduate and graduate levels.

**III. Facilities** *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	<b>Facility Project Title</b>	<b>Fiscal Year</b>	<b>Amount Requested</b>	<b>Priority Number</b>
<b>1.</b>				
<b>2.</b>				

**2020-2021 Legislative Budget Request**  
**Education and General**  
**Position and Fiscal Summary**  
**Operating Budget Form II**  
(to be completed for each issue)

University:	Florida Institute of Oceanography (FIO), an SUS AISO		
Issue Title:	Re-envisioning FIO		
	RECURRING	NON-RECURRING	TOTAL
<u>Positions</u>			
Faculty	0.00	0.00	0.00
Other (A&P/USPS)	0.00	0.00	0.00
	-----	-----	-----
Total	0.00	0.00	0.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$0	\$0	\$0
Other (A&P/USPS)	\$0	\$0	\$0
	-----	-----	-----
Total	\$0	\$0	\$0
	=====	=====	=====

Salaries and Benefits for 4-Faculty/4-TA to teach courses	\$105,300	\$0	\$105,300
Travel for 4-Faculty/4-TAs to St. Petersburg for course(s) prep	\$10,000	\$0	\$10,000
Courses materials and supplies required to teach on vesse	\$10,000	\$0	\$10,000
Course Expenses for Keys Marine Lab	\$25,830	\$0	\$25,830
Shiptime for Undergraduate/graduate courses	\$245,000	\$0	\$245,000
Travel for two FIO staff to conduct outreach/workshops	\$20,000	\$0	\$20,000
Update Scientific gear/asset enhancements	\$50,000	\$0	\$50,000
Maintenance supplies for vessel and science gear	\$70,000	\$0	\$70,000
Shiptime to conduct/demonstrate vessel workshops	\$52,500	\$0	\$52,500
Salaries and benefits to pre-positioning crew east/panhandle regions (ovt and sea pay)	\$41,778	\$0	\$41,778
Shiptime to pre-position on East Coast	\$262,500	\$0	\$262,500
Shiptime to pre-position on Panhandle	\$262,500	\$0	\$262,500
Pre-positioning provisional expenses for vessel(s)	\$60,000	\$0	\$60,000
Subsidized Program out of FIO	\$262,500	\$0	\$262,500
	-----	-----	-----
Total All Categories	\$1,477,908	\$0	\$1,477,908
	=====	=====	=====