



**Testimony to the Maryland General Assembly  
Presented by  
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I am pleased to provide testimony to the General Assembly for our FY 2016 capital budget request. We greatly appreciate the General Assembly's on-going support of our capital requests. However, space renewal and space shortages remain our greatest long-term programmatic and fiscal challenges.

Space Renewal. We have recently completed a facilities audit and updated our estimated deferred maintenance backlog. Our deferred maintenance backlog is \$907M. This includes \$738M for our state-supported buildings and \$169M for our exterior infrastructure such as roads, sidewalks, exterior lighting and underground utilities. One-sixth of the space in our major state-supported buildings is in poor condition, one-half is in fair condition and one-third is in good condition. We are addressing the space in poor condition through our ten-year CIP and institutional facilities renewal plans. Cole Field House, a building in poor condition, is in our FY 2016 CIP request. Of our state-supported space (5.4M NASF), one-half (2.7M NASF) has not had major renovation for more than 40 years. Additionally, we have almost two-thirds (2.1M NASF) of the USM state-supported space that was originally built more than 50 years ago. This is more than the total amount of state-supported space of all ages at every other USM institution except UMB which has a total of 2.2M NASF of state-supported space.

Space Shortages. Our current state-supported space shortage of 1.7M NASF is almost the size of the entire UMBC campus (2.2M NASF). Looking at it another way, we are about 24 buildings short of state-supported space. A large portion of this shortfall is in research space. We are currently 999 research labs (0.9M NASF) short of space. With an existing inventory of about 5.4M NASF of state-supported space, these space shortages are very significant. Detail regarding our space shortages is attached.

The projects recommended for funding this year are critically needed to help address both our space renewal and space shortage problems. The St. John Center, Clark Hall and New Cole Field House projects will also help advance the State's 55 percent college completion goal and the State's strategic goals for the economy and workforce, in particular in the STEM fields.

## **Edward St. John Learning and Teaching Center (\$65.7M for Construction)**

This building will provide high-impact improvements to our instructional facilities and enhance our ability to help meet the State's 55 percent college completion goal and the State's strategic goals for the economy and workforce. The Edward St. John Learning and Teaching Center will provide nine modern general purpose classrooms, seven small seminar rooms and support space. In addition it will provide nine general chemistry class labs, four classrooms and support space for the Department of Chemistry and Biochemistry. This building will provide state-of-the-art improvements that will benefit almost every one of our 25,000 undergraduate students, who we expect will take more than one class in this new facility during their stay at UMD.

Many of our existing classrooms are woefully sub-standard. For example, we are still teaching classes in a 60-year old former rifle range which has low ceilings that prevent the installation of modern computer and A/V equipment, and columns in the seating area that block the view of the chalkboard. The nine general chemistry class labs will replace six general chemistry class labs in the Chemistry Building that are woefully inadequate. Maryland high schools have better labs than many of ours in the Chemistry Building. It will also provide additional class labs and classrooms to accommodate projected student growth in this vital STEM field. The chemistry class labs and classrooms will not only serve students majoring in Chemistry or Biochemistry, but also students in many other majors across campus such as Engineering and Animal Sciences that require introductory chemistry courses. Over 80 percent of the credit hours taught by the Department of Chemistry and Biochemistry are to students in other majors.

Construction began on this project in June 2014 and we are on schedule to hold classes in the building for the spring 2017 semester. We urge you to fully fund our FY 2016 request so that we may remain on schedule and get this vitally important project on-line for the spring 2017 semester.

## **A. James Clark Hall (New Bioengineering Building)** **(\$1M for planning and construction)**

Clark Hall will focus on the booming fields of bioengineering and biomedical device development. Research and innovations in lifesaving areas are already underway in the A. James Clark School of Engineering. Examples include biodegradable heart valves made from 3-D printers, surgical robots that can remove tough-to-reach brain tumors, and drug delivery systems that can prevent recurrence of malaria. This kind of research and innovation is expected to dramatically expand with the construction of this building.

Clark Hall will house labs, classrooms and meeting and maker spaces that will bring together students, faculty, medical practitioners, entrepreneurs and regulators to design and build the next generation of health-care technologies, then get them into the marketplace. It will unite the many disciplines on campus involved in human health innovation, including biology, information technology and electrical and mechanical engineering. The building will feature flexible classrooms and labs to spur an organic flow of ideas between disciplines. Other features include optical and imaging labs focused on digital fabrication, rapid prototyping, 3-D printing, optics and bioinformatics. Clark Hall is expected to boost Maryland's economy through workforce training and biomedical startups, while making more room for the ballooning bioengineering program. Since its 2006 founding, the undergraduate program has grown to 414 students and is now UMD's fastest-growing department. The building is also expected to facilitate increased opportunities for partnerships with federal agencies such as the Food and Drug Administration, and with the University of Maryland School of Medicine.

This building is made possible through gifts from two of Maryland's most prominent benefactors. Engineer and construction executive A. James Clark has given \$15M towards the construction. His previous support includes a \$15M gift to the engineering school in 1994 that bears his name and \$30M in 2003 for undergraduate scholarships. Clark Hall will be the 27<sup>th</sup> structure build by Clark Construction on the UMD campus. Bioengineering pioneer Robert E. Fischell has committed \$6M, \$5M for the construction and \$1M for program support. His more than 200 medical patents include the first implantable insulin pump and the modern heart stent. Both the Fischell Department of Bioengineering and the Fischell Institute for Biomedical Devices, launched in 2005 by a \$31M gift from Fischell and his three sons, will move into Clark Hall.

Mr. Clark's estate and Dr. Fischell are anxious to see this building completed as quickly as possible. We were on schedule to begin construction in March 2015 and be substantially complete by March 2017, and requested \$55.6M in FY 2016 to support our schedule. Unfortunately, the Governor's CIP recommends only \$1M in FY 2016, which would defer completion one year. Not only would this deferral delay the tremendous academic, research and economic development benefits of this building to UMD and the State, it would be a huge disappointment to two of our greatest and most generous supporters. We are very concerned that this disappointment may impact our ability to secure potential future donations from them, and potentially from other donors for other buildings when they see that we were not able to meet these donors' expectations. We ask for your help in finding a way to get this project back on schedule.

## **New Cole Field House (Human Performance and Academic Research Facility) (\$5M for Planning)**

This project will convert and expand Cole Field House to create a hub for innovation and a national model for integrating research, academics and athletics. The building will house a new Center for Sports Medicine, Health and Human Performance, a new venue for the Academy for Innovation and Entrepreneurship and a Terrapin Performance Center which will include a full size indoor football field and new training facilities. This will be a signature project for the entire institution where students from across campus will have opportunities to take new courses, explore their boldest ideas and create new companies.

The creation of the Center for Sports Medicine, Health and Human Performance will bring together experts from UMD's A. James Clark School of Engineering, School of Public Health, College of Agriculture and Natural Resources, Department of Intercollegiate Athletics and the University of Maryland Baltimore's School of Medicine to push the boundaries of human physiology and potentially redefine how we move. The Center will explore questions such as: does an ROTC student have a running gait that makes him susceptible to injury; how can a robotic glove improve hand rehabilitation for stroke victims; and how do changes in nutrition affect a "weekend warrior's" performance. The Center will include clinical space to treat people in the Washington D.C region, and research space dedicated to studying areas such as concussion and traumatic brain injury, muscle-brain physiology and biochemistry, and exoskeleton-robotic treatments.

The Academy is focused on nurturing innovation and entrepreneurship creativity among all our 37,000 students and will be located in the new St. John Center and in Cole Field House. The Academy at Cole Field House will expand the more than 100 innovation and entrepreneurship courses already offered each year at UMD, will serve as a clearinghouse for experiential learning opportunities, and will house an Innovation Shell which is a hybrid incubator-classroom space where students can bring their ventures to life.

The Terrapin Performance Center will be the premier athletic training facility in Division I sports. It will include an indoor, all-season, regulation-size practice field under Cole's iconic domed roof, an adjacent strength and conditioning facility, two outdoor practice fields, team meeting space, coaches offices and locker facilities. These world-class practice, training and strength and conditioning facilities as well as expansive meeting space will provide UMD's student-athletes with a competitive advantage as new members of the Big Ten Conference.

This \$155M project will be funded from \$25M of State funds, \$25M of Big Ten revenues, and \$105M from a combination of private gifts, institutional funds and clinical revenues from the facility. Under Armour founder and CEO Kevin Plank helped launch the project with a \$25M gift. We have received \$40M in donor pledges so far and are working hard to secure more. We plan to begin construction of the first phase of this project, the indoor practice field, in December 2015 and complete it by April 2017. Completion of this facility by April 2017 has been a motivating factor in many of the gifts.

The Governor's CIP requested \$5M for design in FY 2016. The Department of Legislative Services recommends reducing the \$5M appropriation by \$3M since the GO Bond portion of the design cost should be proportional to the State's share of the total cost of the facility. ***We urge you to allocate the \$5M as requested, and designate it for use for both design and construction.*** We plan to begin design of the entire project in May 2015, at a total estimated cost of \$13.8M. In addition, this project requires an estimated \$7.6M of relocations of existing functions in order to expand the facility for both the academic and non-academic functions, and we plan to implement these relocations in FY 2016. We will apply the \$5M to a portion of the design cost and a portion of the cost of the relocations, and will easily expend all of it in FY 2016. Allocating the requested \$5M will also be a show of good faith to our current donors who expect the State to be fully committed to contributing to the cost of this project. In addition, it will be a good signal to potential donors that the State is fully committed to this project, enhancing our ability to secure future donations.

## **Campus Wide Building System and Infrastructure Improvements** **(\$10M for Planning and Construction)**

This is the fifth phase of a \$135M plan to provide UMD annual capital funds to help address a portion of our \$907M deferred maintenance backlog. \$5M of State funds was provided in 2011 and \$10M (\$5M of State funds and \$5M of USM Academic Revenue Bonds) was provided in 2012, 2013 and 2014. We are extremely grateful to the General Assembly and USM for their past support of this critical need, and urge the General Assembly to continue that support and fund this request.

This multi-phased project addresses needs in two general categories, buildings and exterior infrastructure. The building category includes systems such as electrical gear, fire protection systems, HVAC equipment and elevators. Infrastructure includes work outside buildings such as underground utilities, roads, bridges, storm water management ponds and exterior security lighting. This work is critically needed to improve safety and protect lives, prevent major service interruptions and reduce on-going maintenance and repair costs.

For this phase, we plan to do: one electrical gear improvement project estimated to cost \$3.0M, one exterior security lighting project estimated to cost \$0.5M, three HVAC projects estimated to cost \$4.7M; one repair of a failing storm water drainage system in McKeldin Mall estimated to cost \$1.0M; one roof replacement estimated to cost \$0.5M; and repairs of failing elevators in two buildings estimated to cost \$0.3M. Aging and inadequate HVAC and electrical systems limit the type of research that can be conducted, interfere with instruction, and hinder our ability to meet our strategic goals. Failing exterior lighting can compromise the safety of pedestrians and vehicles. Failing storm drain lines can result in exterior flooding, disrupting university operations. Failing roofs can result in interior flooding which can damage parts of buildings and equipment and disrupt university operations, and potentially pose a safety issue for building occupants. Failing elevators can trap passengers and compromise their safety.

Although we have access to operating funds for facilities renewal, this has historically been too little to adequately maintain the University which essentially has the infrastructure needs of a small city. Much of the campus infrastructure is past its useful life and was never intended to meet the needs of our energy-intensive world. While the Regents have set a goal to spend 2% of replacement cost annually on facilities renewal, this does little to address the reality of an overwhelming backlog that was already in existence.

## **Department of Legislative Services Request for Comment** **Campuswide Building System and Infrastructure Improvements**

The Governor's FY 2016 CIP defers funding for this annual program in FY 2017 and FY 2018. The Department of Legislative Services analysis includes the following statement:

**The President should comment on the two-year interruption in funding and the impact on current and planned projects and the possibility of using other funds to fund these projects in FY 2017 and 2018.**

Our response to the request for comment follows.

The two-year interruption will significantly hinder our progress in addressing our \$907M deferred maintenance backlog. Projects we planned for in FY 2017 and 2018 will be deferred to FY 2019 and 2020. These include \$15.6M of building systems projects (mostly HVAC) and \$4.4M of exterior infrastructure projects (storm drain and water pipes). Current projects that were funded in prior years will not be impacted. We do not have other available fund sources to support these projects in FY 2017 and 2018. Given our overwhelming facilities renewal needs, we already redirect as much of our internal operating funds to facilities renewal as possible. We simply cannot redirect any more to make up for part or all of this two-year interruption. Private donations are not a viable possibility for these projects. While we are successful in fundraising for new building projects, facilities renewal projects are not attractive to donors.

## STATE-SUPPORTED SPACE DEFICIENCY FACTS

Below are the current and projected space deficits on campus for state-supported space based on Fall 2013 data.

| <u>MAJOR ROOM USES</u> | <u>Current</u><br><u>FALL 2013</u><br><u>Deficit (NASF)</u> | <u>Projected</u><br><u>FALL 2023</u><br><u>Deficit (NASF)</u> |
|------------------------|---|---|
| Classrooms             | (76,525)  | (46,582)  |
| Class Laboratories     | (58,938)  | (27,915)  |
| Research Laboratories  | (898,810)   | (1,260,908)   |
| Office                 | (158,108) (1)   | (134,848) (1)   |
| <i>Subtotal</i>        | (1,192,381)   | (1,470,253)   |
| <br>                   |   |   |
| Study Spaces           | (374,569)   | (437,493)   |
| Other Room Uses (2)    | (102,810) (1)   | (123,513) (1)   |
| <br>                   |   |   |
| <b>TOTAL</b>           | <b>(1,669,760)</b>  | <b>(2,031,259)</b>  |

(1) Applied 63% to the total deficit which reflects the proportion of state-supported space on the main campus.

(2) Special Use, General Use and Support Facilities - e.g., lounge, storage

NOTE: Projections are predicated upon full funding of the USM Strategic Plan for fiscal years 2013 and beyond. In addition, the projections take into account the projects in the last Governor's CIP.

**The total current inventory of state-supported space is 5,423,702 NASF (excludes leased space). This includes 4,687,123 NASF on the main campus and 736,579 NASF off-campus.**

**The current state-supported space deficit (1.7M NASF) is almost the size of the UMBC campus (2.2M NASF).**

**Looking at it another way, we are currently about 24 buildings short of state-supported space and this shortfall is projected to grow to 29 buildings by 2023 (based on building size of 70,000 NASF, about the size of the Bioscience Research Building).**

**We are currently 51 teaching labs short of space, and this shortfall is projected to reduce to 24 teaching labs by 2023 (based on average lab size of 1,150 NASF). The reduction is due to planned projects and a projected reduction in weekly student contact hours.**

**We are currently 999 research labs short of space, and this shortfall is projected to grow to 1,401 research labs by 2023 (based on average lab size of 900 NASF).**