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Finance, Revenue and Bonding Committee General Bonding Subcommittee

-March 31, 2021-

Co-Chairs, Ranking Members, and Members of the Committee, thank you for giving us the opportunity to update you on the transformative building initiatives that you have made possible at the University of Connecticut. My name is Thomas Katsouleas, and I am delighted to be sharing this information with you as the President of the University of Connecticut. Joining me today are Scott Jordan, Executive Vice President for Administration and Chief Financial Officer, Laura Cruickshank, Associate Vice President, Master Planner and Chief Architect and from UConn Health Dr. Andy Agwunobi, CEO and Executive Vice President for Health Affairs, Lisa Danville, Associate Vice President, Budgeting and Tom Trutter, Vice President, Campus Planning, Design and Construction. Attached to this testimony is information on the University capital program you may find useful.

At your convenience, I encourage you to take a few minutes to view three videos showcasing <u>what it means to</u> <u>be a Husky</u>, an overview of our <u>research enterprise</u> and UConn Health - <u>The Power of Possible</u>.

It seems only appropriate that I begin my testimony reflecting on what is consuming our state and country – COVID-19 and getting back to normal. I am inspired and proud of the way the University stepped up to the unprecedented challenge of the COVID-19 pandemic. Students, staff, and faculty members across our entire University have demonstrated tenacity and strength that would be the envy of any championship team. Partnerships and workgroups emerged that had never collaborated before. Leadership has appeared at all levels of the institution and the silos that are often referenced in academic settings, evaporated. Teams were centered on creating the best and safest environment for our students and employees. But the greatest credits go to our students, the vast majority of whom were careful and cautious, and followed the rules that helped keep the prevalence of the virus extremely low on our campuses.

I also think of the frontline workers at UConn Health whose selfless dedication saved countless lives during the worst of the pandemic. I think of the central warehouse staffers who distributed personal protective equipment, the facilities staffers who made classrooms and residence halls safe for our students, the entire staff of Student Health and Wellness, the faculty researchers who converted their genomics research to detecting COVID in wastewater and the behavioral health scholars who developed protocol adoption strategies. I think of the faculty members who so rapidly developed courses on the pandemic and on anti-Black racism, to respond to students need to understand the events around them, and in doing so created two of the most popular classes in UConn history. I think of the people who worked to make our transition to remote instruction a success; the people who assembled COVID-19 testing kits, administered vaccines, and collected samples, manufactured face shields, and worked to ensure our values of diversity and inclusion were not lost in the response to the pandemic.

Turning to the Capital Program, the University has benefitted tremendously from the UCONN 2000 Infrastructure Improvement Program established by the General Assembly in 1995. We are now in the third phase of this 32-year program, which is designed to modernize, rehabilitate, and dramatically expand the physical plant of the University. This phase, which extends through FY27, includes the NextGenCT and the Bioscience Connecticut initiatives. The Bioscience initiative at UConn Health, completed in 2018 and the NextGenCT program at Storrs and the Regional Campuses is moving along aggressively. Since the beginning of UCONN 2000, we have seen improvements in nearly every facet of the University. as evidenced by the successes I highlighted a moment ago.

UConn Bonding Request

We are grateful the Governor's proposed capital program maintains UCONN 2000 funding of \$190.5 million in FY22 and \$125.1 million in FY23 as specified in State statute and we ask the committee to maintain this level of funding. It is imperative to recognize that this long-term capital program phases project funds over multiple years. This funding will support years 8 and 9 of the 13-year capital program. Numerous projects are currently in construction with required funding to be allotted in these future years. To avoid additional costs associated with delaying or shutting down projects in construction, it is critical that planned levels of capital funding remain intact to support these interdependent projects and to assist in the State's economic recovery from the COVID crisis through creation and/or preservation of thousands of construction jobs.

Next Generation Connecticut Capital Program Overview

In 2013, building upon the success of the strategic investments made in our capital program, the General Assembly enacted NextGenCT. The original goals of the program were to hire and support outstanding faculty, train graduates to meet the future workforce needs of Connecticut, develop preeminence in our research and innovation programs, and initiate research and industry partnerships that lead to economic development. The cornerstone of this effort is the development of new facilities and renovation of critical infrastructure. The capital component of NextGenCT is progressing rapidly and supporting my priority to double research and scholarship at UConn over the next 7-10 years. Not only will this increased research bring in an additional quarter billion dollars a year in federal funding to our state, but it will also help to translate more University discoveries into licenses, patents, start-ups, and jobs.

Since the NextGenCT initiative began in the fall 2013, we have funded 174 new faculty (98 in STEM fields) and enrolled 2,070 additional undergraduate students (with 1,242 or 63% more in engineering). We have graduated 35% more STEM undergraduates since NextGenCT began. Our faculty also made dramatic increases in research productivity at Storrs during this time. For example:

- Research awards increased by \$86M or 91%; and
- Research proposals increased by \$116M or 20%.

Now in its seventh year, the NextGenCT initiative is moving forward, making strategic investments in Connecticut's future, laying critical groundwork for economic development, and creating hundreds of construction jobs in the process.

Major investment has been necessary to support new and renovated laboratories for STEM research and teaching, classrooms, academic support, residence halls, parking, utilities, information technology, equipment, and critical infrastructure upgrades.

Since NextGenCT began, we have:

- Completed a new 212,000 square foot residence hall, which is home to approximately 730 STEM students;
- Opened a 115,000 square foot Engineering and Science building;
- Completed the new downtown Hartford Campus and the Stamford Residential Housing facility (summer 2017);

- Completed major infrastructure repairs and upgrades across all of Storrs Campus such as steam line replacements, sewer system upgrades, a supplemental water supply, and various other underground utility improvements;
- Completed a new 30,000 square foot Production Facility and major renovations to the Fine Arts facilities;
- Completed phase I and phase II is underway of the renovation of the Gant Science Complex a 285,000 square foot science and engineering complex; and
- Finished major renovations to numerous facilities, including academic buildings.

With construction currently underway, the STEM Research Center Science 1 building is a keystone in the effort to fulfill the mandates of NextGenCT and will provide critical new research facilities for the existing and new STEM faculty. The 198,000 square foot research facility is designed to meet some of the current and future programmatic requirements of the University as it seeks to balance the anticipated rise in student enrollment in STEM programs with future programmatic research needs. Completion of this significant building is expected by Fall 2022. Multiple major infrastructure improvements as well as construction of a new Supplemental Utility Plant are also underway to support this new building as well as existing facilities. The University is moving forward on several other projects to meet the needs of our expanded enrollment and faculty teaching and research requirements.

University Highlights and Successes

Despite COVID's challenges, UConn remains one of the many stars that make up the constellation of higher education institutions here in Connecticut. As the state's public flagship university and the only public research and academic medical center in the state, we continue to shine brightly.

Total enrollment is the highest it has ever been at 32,023, despite the fact we had to decrease our residential population from 12,040 to 4,700 to be as safe and as socially distant as possible. UConn (all campuses) enrolled its largest ever freshman class this year with 5750 students, 72% or 4,140 are in-state students. We have a robust COVID testing program that includes individual and pooled testing and wastewater surveillance for students. Testing is also available for faculty and staff. We are working with the towns of Windham, Glastonbury, and Manchester to provide wastewater surveillance testing and have the capacity to expand to more towns.

UCH has treated 826 COVID patients (as of 3/26/21). I am so proud of Andy, the leadership and all the staff who have been true heroes throughout the pandemic.

UConn received \$286 million in research funding – our best year yet; and 7 junior faculty from Engineering and our College of Liberal Arts and Sciences were announced as NSF Faculty Early Career Development Program award winners, one of the most prestigious research grants for junior faculty in the U.S. Our startup companies raised \$400M+ in private equity (as much as the prior 4 years combined). With a typical multiplier, this represents an indirect economic impact of close to \$1B. Over 100 small business companies were assisted through our Tech Park and UConn Intellectual Property is addressing COVID-19 some highlights include CaroGen's platform for vaccine, ImStem's stem cell therapy for Corona pneumonia and CT Biotech's custom protective masks.

72% of last year's instate students who graduated are living and working in CT. UConn is the single largest producer of engineers in the state, graduating more than 50% of engineers each year. These numbers help to illustrate not only the talents of our graduates, but the tremendous value UConn brings to our state.

I would now like to ask Dr. Agwunobi to speak with you about UConn Health.

UConn Health

I am Dr. Andy Agwunobi, CEO, UConn Health. I agree with the President, the past twelve months have been challenging for all of us. At UConn Health, however, this challenge has really brought out the best in us. I am extremely proud of the way that our faculty, staff, learners, and administrators have all risen to the test to prepare for and respond to this crisis. It has truly been a remarkable experience. And as the state's only public academic medical center, we have been able to leverage our expertise and resources in education, research, and clinical care - and to collaborate across the larger university and with other partners such as the Jackson Laboratory - to safely and effectively address the challenges that we, our patients and the state have faced this past year.

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<u>UConn Health Bonding Request:</u> It is imperative that UConn Health keep up with maintenance of buildings on our campus to ensure that the state's investments are protected and that all facilities are current with code and accessibility requirements. FY18, marked the final year of any state bond funds approved or available for UConn Health through the *Bioscience Connecticut Capital Program*, including any deferred maintenance needs.

Based on a thorough facilities condition assessment (FCA) report completed in 2018, annual capital needs for the campus are approximately \$35 million per year. Like all other state agencies, we are asking this committee for funds to cover critical deferred maintenance, equipment and limited renovations and improvements. **We are asking for capital funds in the amount of \$57.1 million in FY22 and \$23 million in FY23**. To provide more detail, this request includes funds for vital renewal components to building systems that are beyond the normal life expectancy. Most of these components are part of systems that serve our research and education area - such as aged pumps, compressors, pipe systems, fan motors, and controls – and, if any one of these components failed, it may shut down an entire building system. There are very significant investments in lab research work and protecting these investments with reliable building infrastructure systems is of utmost importance. This request also includes funds for renovations and improvements to research, classroom, and clinical spaces. The clinical renovations are necessary to support increased patient care volumes achieved through the Bioscience Connecticut initiative. Finally, it is vital that UConn Health continue to invest in information technology security and equipment. The Governor's proposed budget does not include the amounts requested.

It is important to note that if it were not for the state's unfunded legacy costs charged to it, UConn Health would be in a better position to fund more of the upkeep required on our campus and to protect the Bioscience Connecticut investments made by the State. However, to mitigate deficits in our annual budgets due to these growing liabilities charged to us by the state and COVID clinical revenue losses, we have had to utilize funds from operating revenues that would normally have been used to fund capital expenses, including deferred maintenance projects. As a result, UConn Health continues to delay critical work to maintain the assets the state and UConn Health have already invested in.

Continuing to defer renewal of our buildings could also lead to additional costs over the long-term in the following ways:

• **Rising construction and renovation costs.** According to a national Market Outlook report, the costs associated with construction and renovations are projected to rise, trending at 4% per year. Using that assumption, deferring \$27 million of work could cost about \$1,080,000 a year.

- **Cost of Unplanned Emergencies vs. Planned Replacements**. In an emergency, contractors conducting repairs during off hours or without the proper planning, charge a premium for orderly execution of the work. This could result in 1.5 times increases labor costs.
- **Business Interruptions**. As research, education, and healthcare methods have evolved, UConn Health has required increasingly more sophisticated building engineering and systems. When a building system fails, the research, education, or healthcare work can be disrupted and lead to unforseen costs.
- Energy Costs. Many of the new replacement components are much more energy efficient than the older items. In addition, upgrading the lighting, and heat/ventilation systems controls provides significant energy savings that accumulate year after year.

UConn Health Highlights and Successes

UConn Health is a vibrant, high-performing state asset, you can be proud of all our accomplishments during this unprecedented time. With an annual operating budget of over \$1.2 billion, UConn Health employs over 5100 full and part-time individuals working as physicians, dentists, mental health professionals, nurses, residents, research assistants, technicians, and many other positions. Driven in part by the state's Bioscience Connecticut investment, focused business development, marketing efforts and of course the hard work of our talented physicians, faculty and other employees, revenues have increased 60% over the past six years. We have seen 30% increases in class size with the past two incoming years the largest medical and dental student classes in history, and expansions in research awards. With extensive cost reductions, revenue enhancements and strategic growth initiatives, UConn Health has not requested deficit funding from the state in over 10 years, prior to the Covid-19 pandemic.

In addition to generating \$2.2 billion in overall economic impact to the state, UConn Health fulfills its public mission of teaching the physicians, dentists, and scientists of tomorrow and providing high-quality patient care to all residents of the state, including the under and uninsured. We have patients from every city and town in the state who use our medical and dental services. We are the single largest provider of dental care to the uninsured and underinsured in the state, and we provide much needed mental health care and other specialty services for both inpatient and outpatient at levels not supported by most other private entities.

Bioscience Connecticut Initiative Capital Program

The groundbreaking for the first Bioscience Connecticut project took place in June 2012. In 2018, all projects were completed. The UConn Health campus has been transformed into a modern, state-of-the-art academic medical center campus. Key construction projects included the Main Building Research Lab renovations, the Technology Incubator addition, which is at capacity, the Academic addition and renovations, the Outpatient Pavilion, a new hospital bed tower, Dental Care Center, and other clinical renovations, three new parking garages, and many roadway improvements both on and off campus.

In addition, several buildings past their useful life were demolished to make room for the construction of the world-renowned Jackson Laboratory for Genomic Medicine. UConn Health's campus now includes 24 buildings comprising 3.6 million gross square feet, with a current replacement value of \$1.6 billion.

Thank you for your consideration and strong support of the University of Connecticut.

UCONN 2000 Capital Program





Presentation to Finance, Revenue & Bonding Committee

March 2021



UCONN 2000 Capital Program

The UCONN 2000 capital program will continue the transformation of modernizing, rehabilitating and expanding the physical plant of the University



Over \$4.3B in capital expenditures since FY96 from all fund sources

Capital Expenditures (\$M)

\$3,353.8	State-supported UCONN 2000 GO bonds		
254 0	Other State-supported bonds		
254.0	Other State-supported bonds (i.e Tech Park, Waterbury)		
	UConn-supported Special		
338.6	UConn-supported Special Obligation bonds		
242.2	Non-State funds (i.e UConn		
343.3 Non-State funds (i.e UConn operating funds, gifts)			
ć4 200 F	Total Expenditures (as of 12/31/20)		

Capital Program Challenges

Instability in economy is contributing to workforce, supply chain and funding uncertainty

- COVID has created capital program risks and challenges that could result in project delays
 - Potential for workforce limitations, interruptions or unavailability job site safety is highest priority
 - Unknown impact to supply chain for select materials
 - Future State funding is not guaranteed
- Project delays result in increased costs and reduced project scopes; current construction cost annual escalation estimated @ 4%
- Action plan:
 - Communicate major capital project status to State leaders to ensure that
 the essential future year funding remains intact
 - Focus on minimizing active project delays and rebidding select projects to take advantage of current market



UCONN 2000 State General Obligation Bonds

Т	Status	Statute		Bondir Schedule	
		\$382.0	FY96- FY99	Phase I	
		580.0	FY00- FY05 FY05- FY19	Phase II	
	Complet e	962.0		Phase III: Bioscience CT+	
		627.1	FY05- FY14	Phase III: 21 st Century UConn	
		1,128.5	FY15- FY20		
ļ		260.0	FY21		
		190.5	FY22		
	A -41	125.1	FY23	Phase III: NextGenCT	
	Active	84.7	FY24	NextOchor	
		56.0	FY25		
		14.0	FY26		
		9.0	FY27		

The schedule of UCONN 2000 State supported bonds, which fund the majority of the capital oudget, was last revised in FY20

> \$479.3M of authorized bond funds remain in FY22-FY27 for projects that are already under construction or are in design/planning

UCONN 2000 Capital Budget Plan

The remainder of NextGenCT bond funds will support the Science Program, select Academic Priorities and Deferred Maintenance

UCONN 2000 Bond Funded Projects (in millions)		Prior Auth	FY21	FY22	FY23	FY24-FY27	Budget	Status for FY21
	NW Quad: Gant Science Building Renovation	\$140.2	\$29.6		\$62.0	\$16.2	\$248.0	Construction
E	NW Quad: STEM Research Center Science 1*	51.0	92.0	77.0			220.0	Construction
8 g	NW Quad: Science Program Utility Plant & Infrastructure*	84.4	75.7	27.9			188.0	Construction
Program	Engineering Lab Renovations	3.0	1.0	1.0			5.0	Design/Construction
			4.3	25.6	8.0	30.8	77.2	Design/Construction
Science	Torrey					12.5	12.5	Planning
Sci	Major Equipment (Faculty Start-up)	14.42	4.8	6.3	6.1	16.4	48.0	Ongoing
	Total Science Program		\$207.3	\$137.8	\$76.1	\$75.9		
	Classroom & Lab Renovations	8.6	7.4	10.1	10.3	15.1	51.4	Design/Construction
Academic	Major Equipment (Faculty Start-up, ITS)	26.4	4.6	5.1	4.8	8.1	49.0	Ongoing
	Total Academic Priorities		\$12.0	\$15.1	\$15.1	\$23.2		
0	Watershed Compliance	0.8	3.7				4.5	Design/Construction
Deferred Maintenance	Historic Buildings Exterior Repairs (per SHPO agreement)	0.8	2.0	0.5	0.5	2.7	6.5	Design/Construction
Deferred aintenan	Pedestrian Safety Improvements	2.3	2.4		2.2		6.8	Design/Construction
efe nte	Wastewater Treatment Plant (Sewage) Repairs					35.0	35.0	Planning
Jai D	Deferred Maintenance-All Campuses	76.5	20.3	28.3	25.7	20.1	170.9	Design/Construction
2	Total Deferred Maintenance		\$28.4	\$28.8	\$28.4	\$57.8		
Other/Contingency			12.4	8.8	5.6	6.8		
Total UCO	Fotal UCONN 2000 Bond Funded Projects for NextGenCT		\$260.0	\$190.5	\$125.1	\$163.7	\$2,087.9	

*Project is or is anticipated to be constructed under a Project Labor Agreement.

**Excludes other project funds not part of the Next Generation Connecticut initiative or previously approved.



Northwest Science Quad – 5 Projects

The FY22 and FY23 allocations include \$213.9M or 68% to support the high priority Science





Capital Program Summary

In spite of the negative COVID impacts, UConn will continue to complete projects within the Capital Program

- State bond funding currently in statute will support the NextGenCT Science Program as well as other required infrastructure projects
- While future year State bond funding is not guaranteed, UConn continues to work with the State to communicate project funding requirements
- UConn will identify funding strategies to mitigate the negative impacts of any COVID related costs or delays while limiting the impact to the strained operating budget
- Construction begins on the NW Quad Science projects which accomplishes the simultaneous goals of assisting in the State's economic recovery from the COVID crisis, as the construction value of these projects supports the creation and/or preservation of thousands of jobs, as well as working towards the University's goal

Major NextGenCT Buildings Opened



UConn Hartford Campus \$139M 3 bldgs & 215,000 sqft Completed August 2017



Werth Residence Hall \$95.8M 212,000 sqft & 730 beds Completed August 2016



Engineering & Science Building

~\$92.5M 115,000 sqft Completed October 2017



Eine Arte

Fine Arts Production Facility ~\$35.7M 30,000 sqft Completed April 2020



Monteith Building Renovation

\$23.7M 73,000 sqft Completed August 2016



Gant Building Renovation Phase I ~\$85M 120,000 sqft Completed August 2019 Gant Building Renovation Phase II ~\$85M 80,000 sqft Est Completion May 2021

Putnam Refectory Renovation

\$18.7M 42,000 sqft Completed August 2016



NextGenCT Progress - Student Growth

Since FY13, total undergraduate enrollment has increased by 2,070 students or 9% despite NextGenCT operating fund shortages – growth at Storrs is more than the planned amount



Other STEM — Total Actual Engineering

*Note: Original NGC planned enrollment by FY27 is 28,881



NextGenCT: CT's Tech Talent Pipeline

UConn is the primary engine that feeds the tech talent pipeline in the State to support innovation and economic growth

	Fall 2020 Actual	Change FY	
First Year Applications: Total	36,552	5,189	+17%
Storrs Undergraduates: STEM	10,664	2,669	+33%
Storrs Undergraduates: Total	18,917	1,389	+8%
Undergraduates: Total	24,371	2,070	+9%
Graduates: Total	6,928	484	+7%
Bachelor's Degrees: STEM (FY20)	3,226	839	+35%
Bachelor's Degrees: Total (FY20)	5,731	609	+12%
Masters & Doctoral Degrees: STEM (FY20)	604	12	+2%
Masters & Doctoral Degrees: Total (FY20)	2,156	289	+15%

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NextGenCT and Engineering Industry

The Connecticut Department of Labor expects a 17% overall increase in engineering employment between 2016 and 2026

Why do we need more engineering students?

- Engineers are needed within many sectors of the Connecticut economy including aerospace, naval, healthcare and insurance
- Connecticut is home to Electric Boat, Sikorsky, Pratt and Whitney and their ecosystem of more than 1,000 suppliers throughout the state
- Pratt and Whitney is expected to double their current production, requiring an additional 8,000 new employees
- Sikorsky is expected to double in size
- Electric Boat will hire 18,000 new workers



- UConn produces over 50% of all the engineering graduates in Connecticut
- A recent survey shows 95% of UConn Engineering graduates are employed within 6 months of their graduation



NextGenCT: STEM Success

UConn graduates in the Connecticut workforce

- Connecticut consistently ranks in the highest category nationally for education of its workforce
- UConn is the major supplier of talent to these companies

Connecticut companies and the number of UConn graduates employed at each:

Aerospace & Naval

- Travelers ~900
- Pratt & Whitney ~1000 The Hartford~750
 - Electric Boat ~400
- Collins Aerospace ~ 300
- Sikorsky ~300

- Cigna ~700
 - Aetna ~650



UConn Technology Park Status

- \$169.5M of funds authorized per PA 11-57 & 14-98 for the purpose of the development of a technology park & related buildings including planning, design, construction & improvements, land acquisition, purchase of equipment, on-site and off-site utilities and infrastructure improvements
- 3 Projects:
 - Innovation Partnership Building (industry partnership fit-outs in construction)
 - North Hillside Road Completion (complete)
- Water Supply (complete) Innovation Partnership Building
- 114,000 square foot facility, 3 floors + penthouse (includes 25,000 sqft of shelled tenant labs)
- Completion Schedule:
 - Additive Manufacturing Labs: September 2017
 - Main Entry & Adjacent Tenant Spaces: September 2017
 - Advanced Characterization Lab (ACL): December 2017
 - ACL tool hookup: July 2018





Tech Park – Innovation Partnership Building

UConn Tech Park serves as the main gateway for industry engagement with the University, building collaborative partnerships with industry and federal government to drive economic competitiveness across Connecticut's core sectors

Current federal and industry partnerships funding





\$100M

UCH Bioscience CT Projects Completed



New Hospital Tower

- 169 private rooms
- New & expanded Emergency Dept
- New Operating Rooms
- Opened: May 2016



- Education Construction: Academic Building move forward Allowed for 30% enrollment growth in Medical and **Dental Schools**
- Supports new, modern curriculum, including Team **Based Learning**
- Addition: completed Summer 2016
- Renovations: completed May 2017

Thanks to the Bioscience Connecticut effort (and its nearly \$1B investment), **UConn Health** continues to



Outpatient Pavilion

- 306,000 sq.ft. state-of-the-art, multispecialty outpatient clinical building on lower campus: completed January 2015
 - 1,400 car parking garage: completed November 2013



Research Space Renovation

- Renovated 205,000 sq.ft. or 86% of existing research facilities: completed May 2017
- 28,000 sq.ft. incubator lab addition to Cell & Genome Sciences Building for new
 - business start-ups: Completed January 2016





24 Buildings 3.6M GSF



10-Year Needs/SF \$80.82

Total 10-Year Renewal Needs \$295M

UCONN HEALTH



Facility Condition Needs Index 0.19



Current Replacement Value \$1.6B



Identifying Renewal Needs at UConn Health









Bringing facilities up to campus standards and conditions Enhancing user safety and mitigating liability Replenishing lifecycle of existing assets Maximizing life of newly installed assets





UConn Health Capital Request

The biennial capital request for UCH will fund deferred maintenance, equipment and research, classrooms & clinical space renovations

Capital Request (\$M)	FY22	FY23
Campus Renovations	\$7.0	\$7.0
Clinical Equipment	3.0	3.0
Deferred Maintenance	27.1	8.0
Information Technology	10.0	3.0
Revenue Growth Investment	10.0	2.0
Total	\$57.1	\$23.0

UConn Health has not received any bonding authorizations since FY19. We look forward to working with the administration and the Legislature to address these critical needs in this biennium.

