STRATEGIC FRAMEWORK FOR ACADEMIC SPACE | 2018

UNIVERSITY of VIRGINIA

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

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Alice Raucher, AIA, LEED AP BD+C, Architect for the University

Colette Sheehy, Senior Vice President for Operations

Donald Sundgren, Associate Vice President and Chief Facilities Officer

Anda Webb, Vice Provost for Administration and Chief of Staff

CORE TEAM (managers at top)

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Richard Minturn, Office of the Executive Vice President and Provost

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Joann Im-Duxbury, Facilities Management

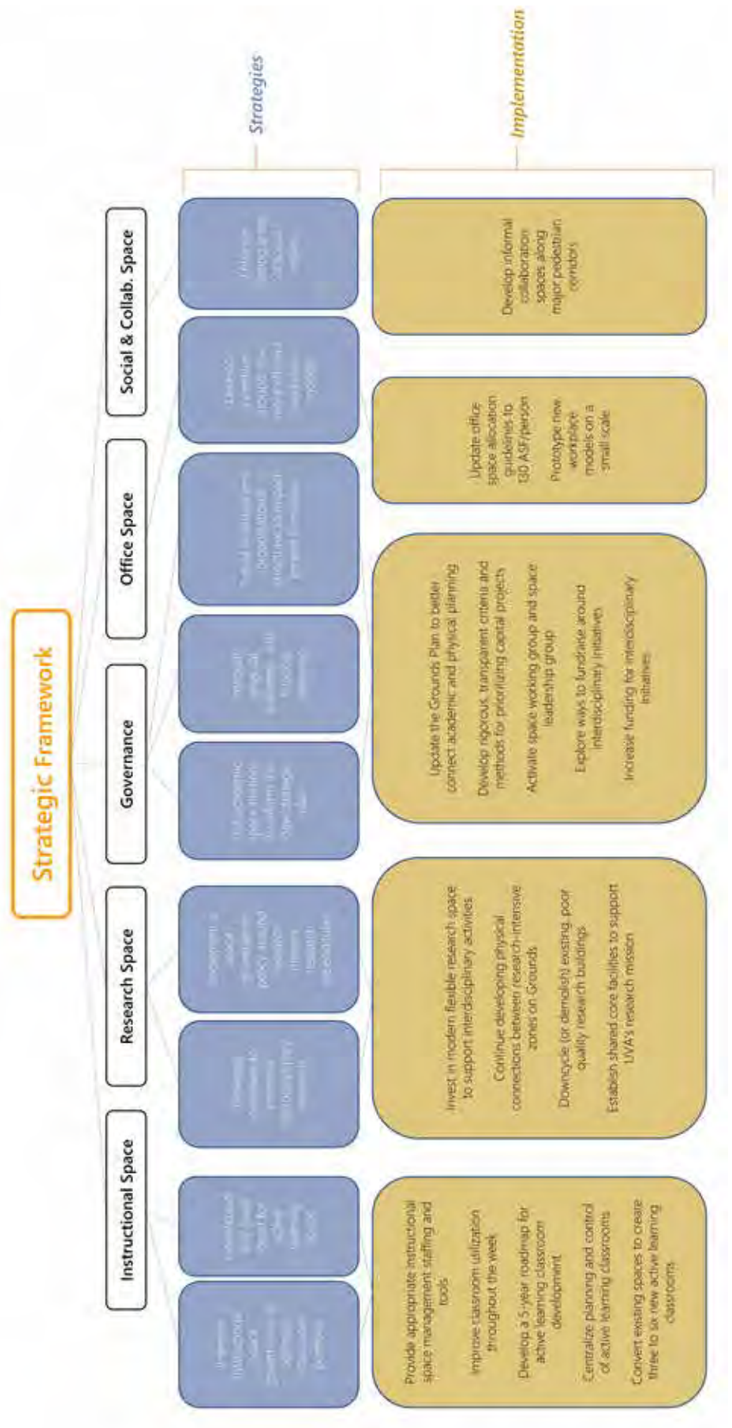
Bill Palmer, LEED AP, Office of the Architect for the University

Constance Warnock, LEED AP, Office of the Architect for the University

Jennifer Wise, Office of the Architect for the University

SPACE WORKING GROUP

CONSULTING TEAM - DUMONTJANKS



EXECUTIVE SUMMARY

The University of Virginia manages a complex portfolio of buildings that includes over four million assignable square feet of academic space (excluding athletics, clinical, and residential space). Understanding how this space is used and managed today is critical for contextualizing each of the University's schools' projections of future growth and space requirements, and for creating a rigorous strategic framework to inform future capital-investment decisions. This study therefore has three primary purposes. To:

- Analyze the use, configuration, and future needs of the University's instructional space portfolio;
- Synthesize the myriad of space studies conducted for individual schools and/or around specific topics, and to identify common themes, minimize the need for duplication, and identify opportunities for sharing;
- Provide a series of policy recommendations that together form a strategic framework for the management and prioritization of academic space at UVA, and that can be used to support the development of the University's new strategic plan.

Our key findings are that:

- UVA's current approach to space planning and capital development is decentralized, and that there is likely value in the University adopting a more synergistic and strategic posture.
- The University faces a climate of shifting modalities, primarily in active learning and interdisciplinary research, and the majority of its current space portfolio is not well-suited to this change. Optimizing the use of existing resources is therefore critical so as to enlarge the pie for potential reinvestment.
- The University could better drive positive culture change if it had a governance structure that integrated academic, financial, and physical planning, supported by data, tools, and processes that empower transparent, analytical, and rigorous decision making.

With respect to the University's Provost-controlled classroom portfolio, the data strongly suggests that UVA has a sufficient quantity of classroom space to meet current and projected demand, and that more efficient use of this portfolio is realistically achievable, particularly on Monday and Wednesday mornings.

However, qualitatively, UVA will need a different kind of classroom in the future. Future pedagogies at UVA will almost certainly continue shifting toward active learning models, but the existing classroom inventory restricts the University's ability to implement this change. In the near-term, the University can (slightly) improve the utilization of existing active learning classrooms, and it can, on a small scale, convert existing traditional classrooms to active learning classrooms. But intermediate- and long-term needs will not be met by these changes. There are likely very few, if any, candidates for conversion of larger rooms, particularly at the 120-person capacity, identified as an area of significant need. The study finds that for every shift of 5% of the total number of sections from traditional to active learning, the University will need to provide seven to eight additional active learning classrooms.

With respect to research space, 62% of UVA's existing portfolio is outmoded, in poor condition, and/or not well-suited to the kinds of interdisciplinary, problem-based team research the University is increasingly emphasizing (the data provided, and our analysis, do not reflect the renovations of Chemistry, Gilmer, and Pinn Hall). Modernizing the University's research space portfolio is therefore a critical priority.

Approximately one-third of the University's academic space is offices. Several studies, including the UVA Administrative Staff Space Study and the Health Sciences Integrated Space Plan, have suggested alternative workplace configurations. Because of the sheer quantity of office ASF, continued experimentation with workplace models is a high-value proposition.

Over the last several years, UVA has conducted multiple, independent space needs studies, primarily at the level of individual schools. A simple aggregation of stated need totals approximately 587,000 ASF (excluding non-academic space from the Health System). This decentralized approach to space planning and capital development likely overstates need (this is certainly the case for classrooms), and ignores opportunities for sharing. We therefore conclude that while new space is warranted in some cases (for example: growth in engineering will require more space), an emphasis on adaptive reuse or replacement, and the creation of a holistic context from which to consider future unit-based studies should be a high priority for UVA.

With respect to future development, the University is fortunate to have multiple opportunities in a number of different districts: Ivy Corridor, Stacey-West Main, Brandon Avenue, and Fontaine Research Park. These zones represent over 2.5 million square feet of development potential (and a future redevelopment of what is now the West Complex could offer another 500,000 square feet). Each of these opportunities could be transformative, and their order and character will define the future of Grounds. It is therefore imperative to prioritize these opportunities in conjunction with an overall vision for UVA that integrates academic, financial, and physical planning.

Finally, the study makes several policy recommendations. The key finding is that UVA's academic space governance structures need to be unified and activated. To accomplish this, the study recommends undertaking a grounds-plan update that, based on identified redevelopment zones, assesses and prioritizes synergies for the location and phasing of future uses on Grounds; helps shape space needs developed by schools or other planning efforts; and helps form a platform for integrated planning. The University should also consider adjusting incentive and organizational structures to impact the formation of capital projects, promote interdisciplinarity, and better support project prioritization.

OVERVIEW OF ACADEMIC SPACE

OVERVIEW

The Strategic Framework for Academic Space was a six-month inquiry, conducted from April through October 2018. It engaged various stakeholders from the Office of the Architect for the University, Facilities Management, the Office of the Provost, and individual schools and colleges.

The key purpose of the study was to understand how academic space at the University is used and managed today, and to lay the groundwork for the future prioritization of capital projects.

The study's key tasks were to:

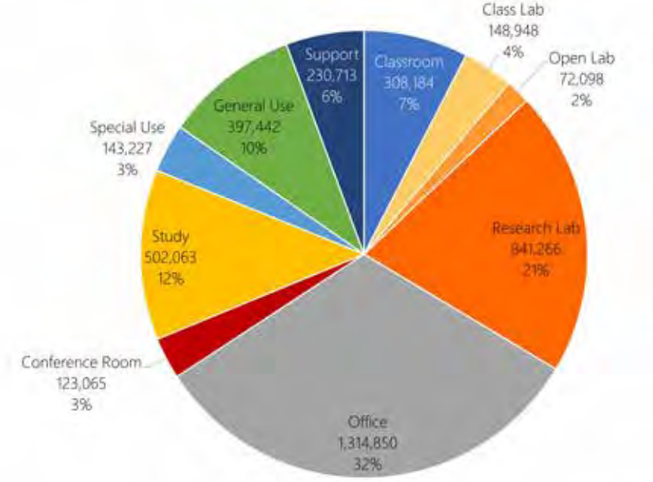
1. Review and synthesize existing data and previously-completed unit studies
2. Undertake an instructional space and informal learning space study
3. Create a strategic framework for managing and prioritizing academic space

ACADEMIC SPACE ACROSS GROUNDS

ASSIGNABLE SQUARE FEET OF ACADEMIC SPACE BY SPACE TYPE

The study explored the composition and utilization of over four million assignable square feet (ASF) of academic space at the University of Virginia. The pie chart below shows the breakdown of this space by space type, with athletics, clinical, and residential space excluded. Across Grounds, UVA's academic space includes approximately 300,000 ASF of classroom space (7%), 840,000 ASF of research labs (21%), 1.3 million ASF of offices (32%), 500,000 ASF of study space (12%), of which nearly half is made up of stacks, and 400,000 ASF of general use space (10%). This last category includes assembly, exhibition, dining, lounge, auditoria, gallery and other assorted spaces. Among large research universities similar to UVA, this space breakdown, including the relative percentages of classroom and office space, is fairly typical.

BREAKDOWN OF ACADEMIC SPACE (4.1 MILLION ASF)

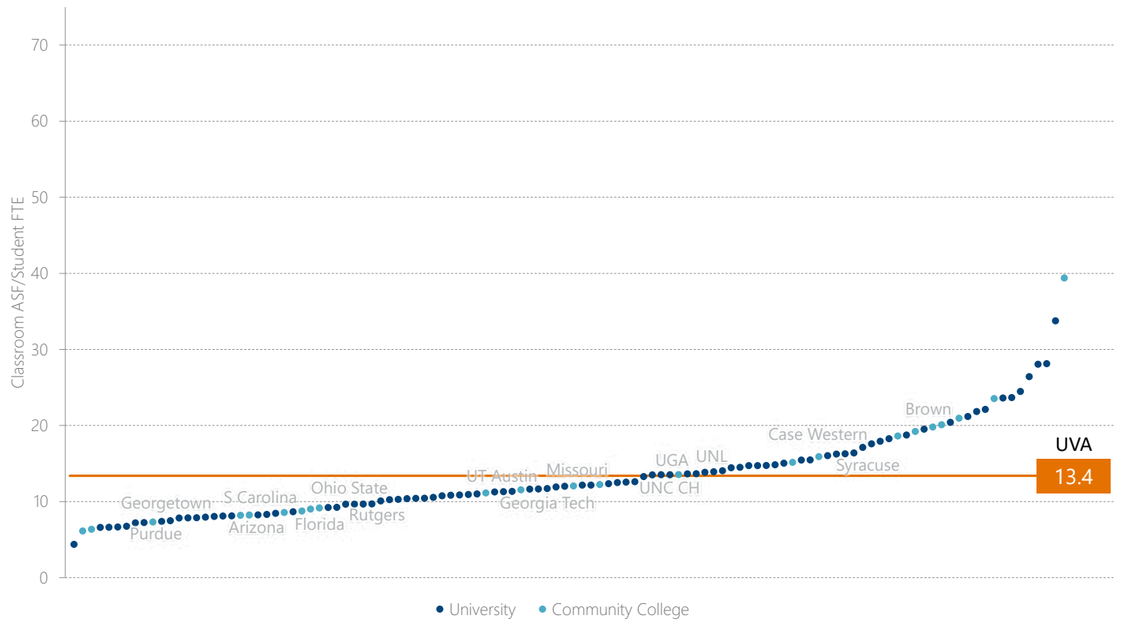


*Excludes athletics, clinical, and residential space

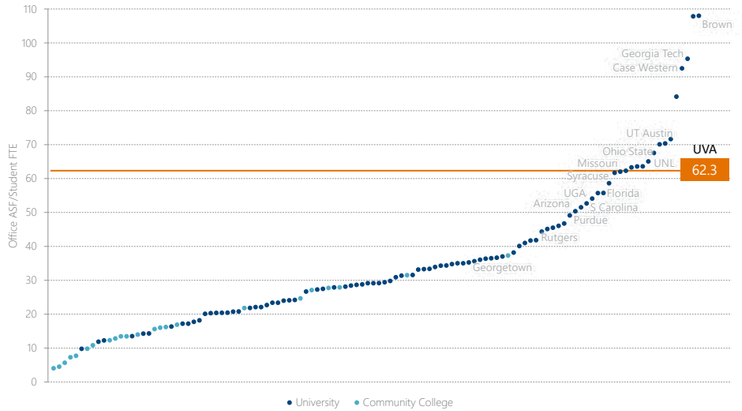
BENCHMARKING

Normative approaches to university space planning have inherent limitations because explorations of per student square foot space allocations in major space categories across different colleges and universities reveal an almost linear distribution, with little clustering of the data (presumably if there were a "correct" answer or a perfect space-need formula, this would produce clustering around specific per square foot values in real-world institutional space inventories). Benchmarking is also perilous because it is often difficult to achieve true "apples to apples" comparisons, with matching assumptions in how data is collected across institutions. All of this notwithstanding, here are several comparisons that provide high-level feedback on UVA's relative position regarding available space. Our comparison dataset contains information from over 100 different institutions, and the graphs below and on the opposite page show UVA's assignable square feet per student in classroom, office, study, and general use categories. Several relevant comparator institutions are noted. In general, UVA's classroom and general use ASF/student FTE is in the middle of the dataset, while UVA is on the higher end with respect to office and study space ASF/student FTE.

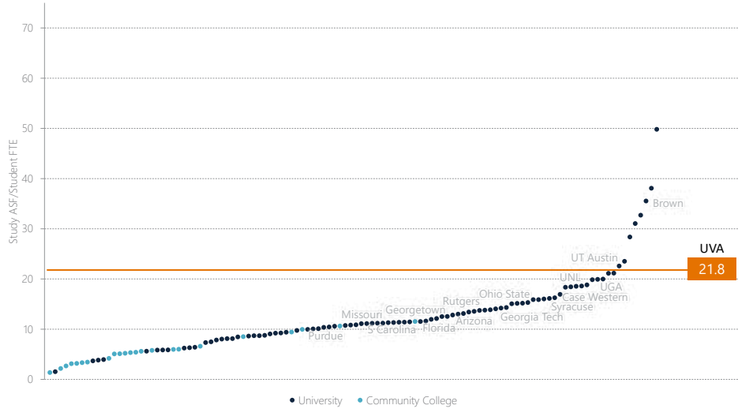
CLASSROOM ASF/STUDENT FTE



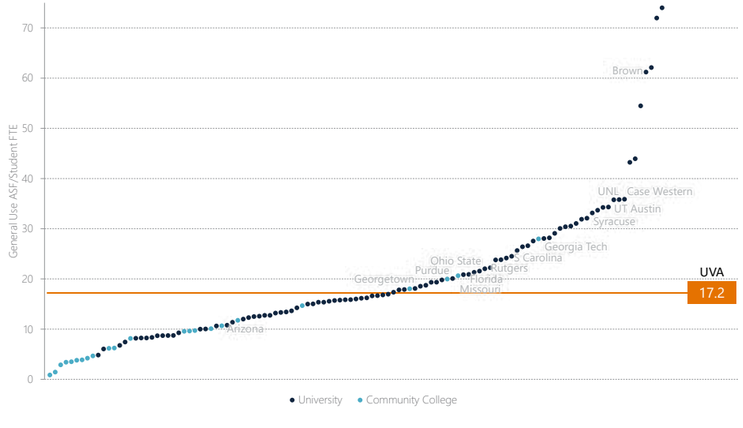
OFFICE ASF/STUDENT FTE



STUDY ASF/STUDENT FTE



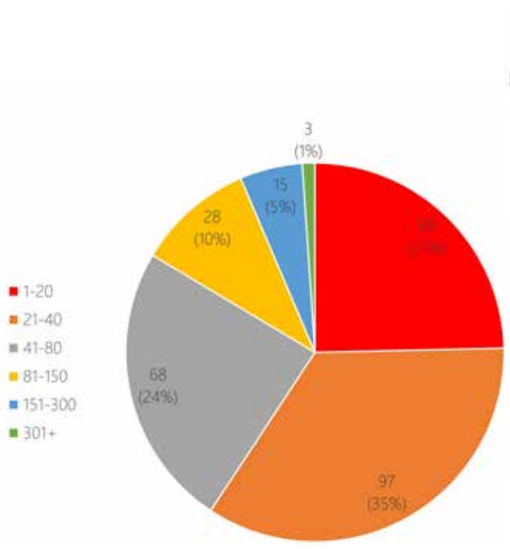
GENERAL USE ASF/STUDENT FTE



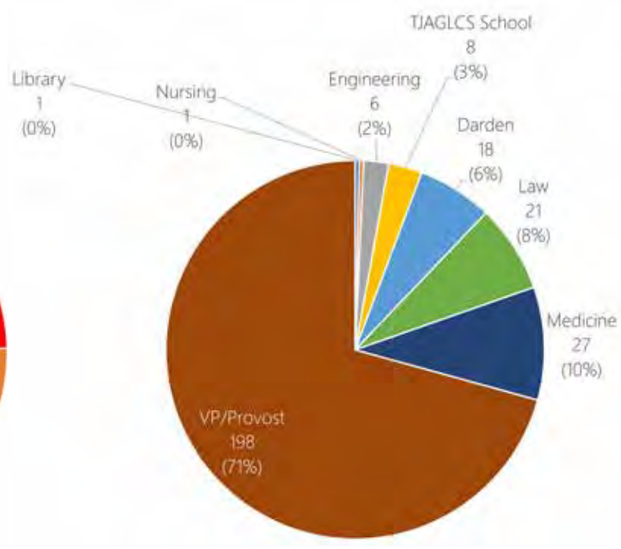
CLASSROOMS

The pie charts below show the capacity and "ownership" of UVA's 280 classrooms. Most classrooms (84%) have station counts between one and 80 seats. The majority of UVA's classrooms (71%) fall under the jurisdiction of the Provost; these classrooms are centrally managed and are open to all academic units. The remaining classrooms (29%) are controlled by individual schools/colleges and units.

DISTRIBUTION OF CLASSROOMS BY STATION COUNT



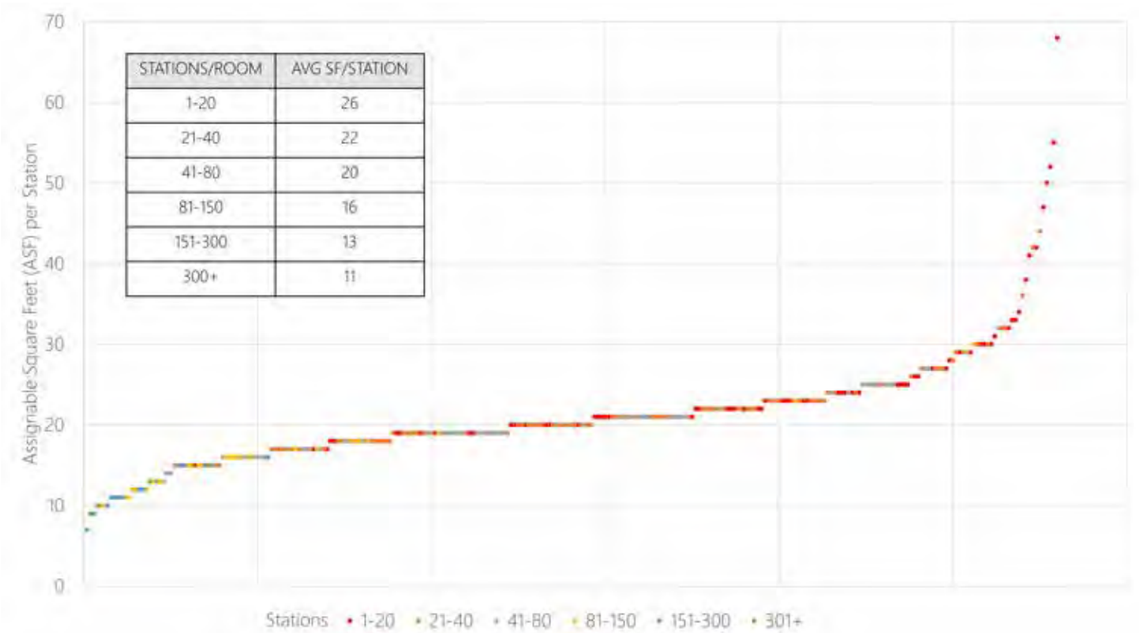
DISTRIBUTION OF CLASSROOMS BY "OWNER"



TOTAL CLASSROOMS: 280

CLASSROOMS BY SIZE & STATION COUNT

The graph below shows the distribution of classrooms arranged from left to right by ASF per station in ascending order, with each classroom colored based on its capacity. The diagram shows that rooms with smaller capacities have a higher ASF per station and vice versa (this is typical and is usually driven by the type of furniture used to configure the different kinds of classrooms). Note, in particular, that the University's current supply of rooms in the 120-seat range have an average station size around 16 ASF. This will be relevant in our latter discussion of the need for additional active learning classrooms.



STATIONS/ROOM	AVG SF/STATION
1-20	26
21-40	22
41-80	20
81-150	16
151-300	13
300+	11

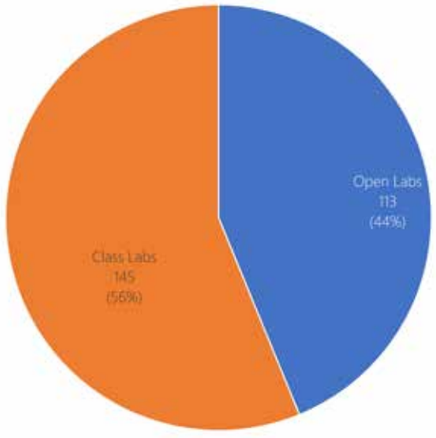
CLASSROOM ASF DISTRIBUTION

The heatmap below shows the distribution of classroom space across Grounds. The darker a building is colored, the more ASF of classroom space that building contains. The map illustrates an important east-west academic spine, stretching from Gilmer Hall in the west, to the University Hospital in the east. The professional schools also support a significant classroom concentration in North Grounds. The four buildings with the highest concentrations of classroom space are New Cabell Hall, Robertson Hall, the Law School, and the Darden School of Business.

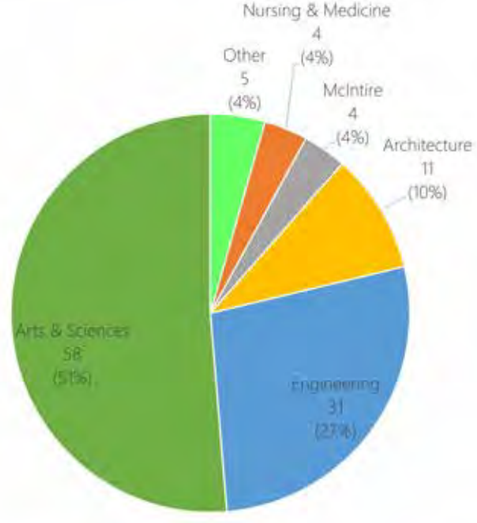
TEACHING LABORATORIES

The pie charts below describe UVA's teaching laboratory space. The left pie chart shows the breakdown between class labs, which have regularly-scheduled formal instruction, and open labs, which include both program-specific non-scheduled spaces and other University resources like computer labs and maker spaces. The right pie chart shows the distribution of these open laboratories by their administrator. The College of Arts and Sciences controls just over half of all open laboratories on Grounds, and the School of Engineering and Applied Sciences administers nearly one-third, with the remainder under the control of a variety of entities, as shown.

SCHEDULED AND OPEN TEACHING LABS



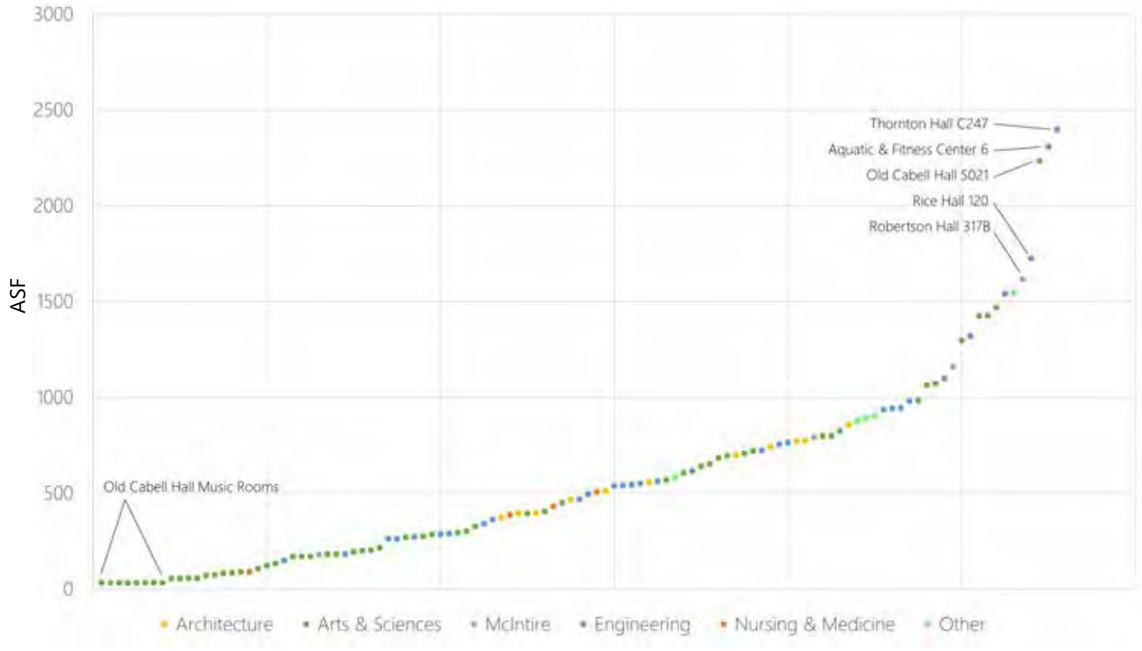
OPEN LABS BY "OWNER"



TOTAL LABS: 258

OPEN LAB DISTRIBUTION BY ASF

The graph below shows the distribution of open labs arranged from left to right by ASF in ascending order, with each lab colored based on its administrator. We have labeled the five largest open labs on Grounds as well as several of the smallest. While open labs are an important part of many programs, the nature of the labs usually prevents good record keeping of their usage. It would therefore be appropriate for the University to review open lab assignments on a periodic basis to ensure optimal space allocations.

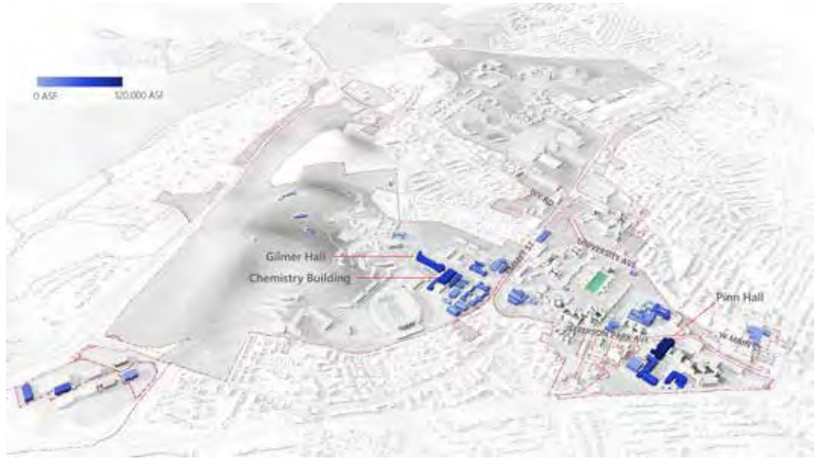


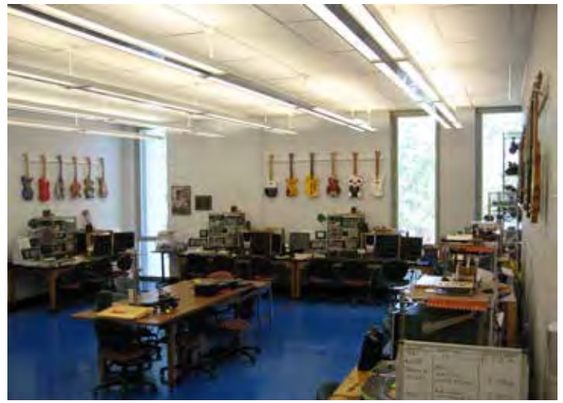
TEACHING LAB ASF DISTRIBUTION

The heatmap below shows the distribution of teaching lab ASF across Grounds (this includes both spaces used for scheduled instruction and open labs). The darker blue a building is colored, the more ASF of lab space it contains. Labs are largely clustered around the science, engineering, and architecture buildings. The two buildings with the highest concentrations of teaching lab space are the Chemistry Building and Campbell Hall. (Note that the square footage indicated for Chemistry shows the building's pre-renovation configuration)

RESEARCH LAB ASF DISTRIBUTION

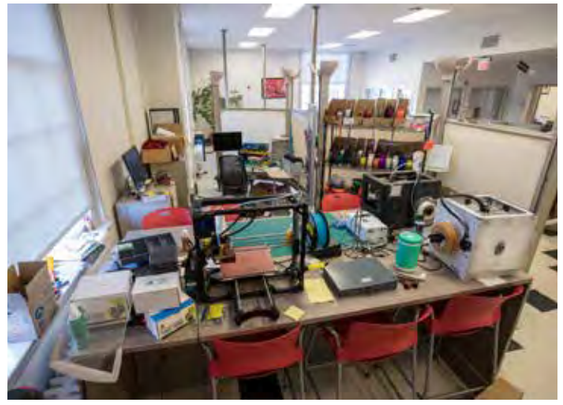
The heatmap below shows the distribution of research lab ASF across Grounds. The darker blue a building is colored, the more ASF of lab space it contains. This map reveals three centers of research activity on Grounds—one at the medical center in the east, one around the science and engineering district in the west, and the Fontaine Research Park southwest of Central Grounds. The three buildings with the highest concentrations of research lab space are the Chemistry Building, Gilmer Hall, and Pinn Hall. (Note that the square footage indicated for Gilmer Hall shows the building's pre-renovation configuration)





MECHATRONICS LAB, MECHANICAL ENGINEERING BUILDING

DRAMA DEPARTMENT SCENE & PROP SHOP, DRAMA BUILDING



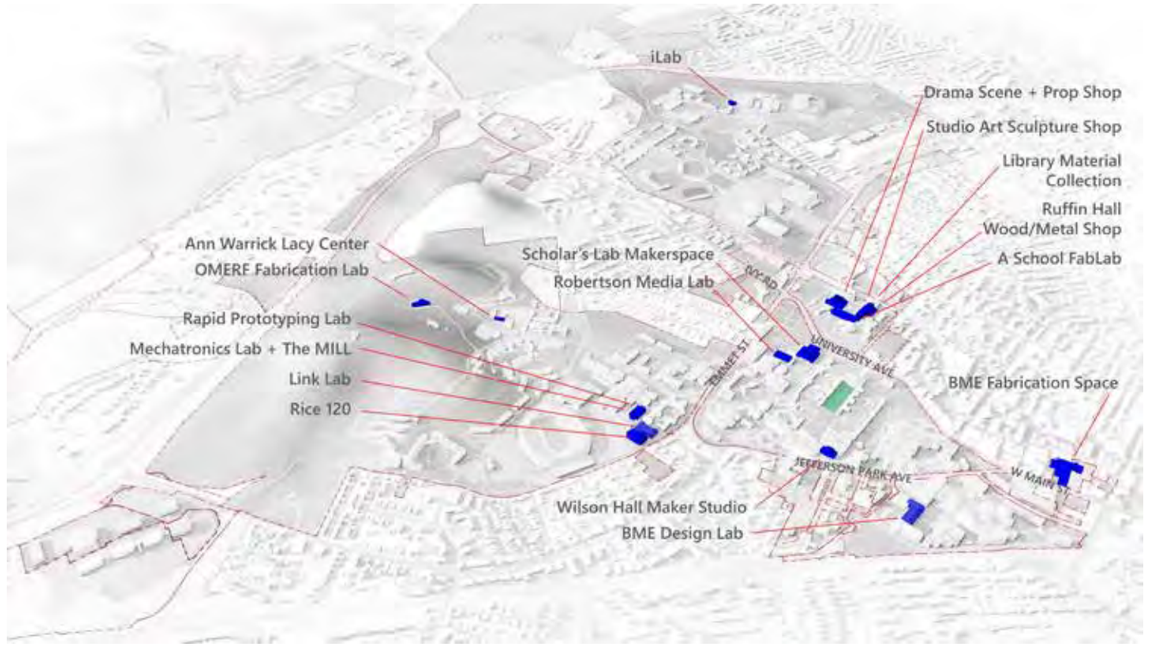
SCHOLARS' LAB, ALDERMAN LIBRARY

SCHOOL OF ARCHITECTURE "FAB LAB", CAMPBELL HALL

Photos courtesy of University Communications

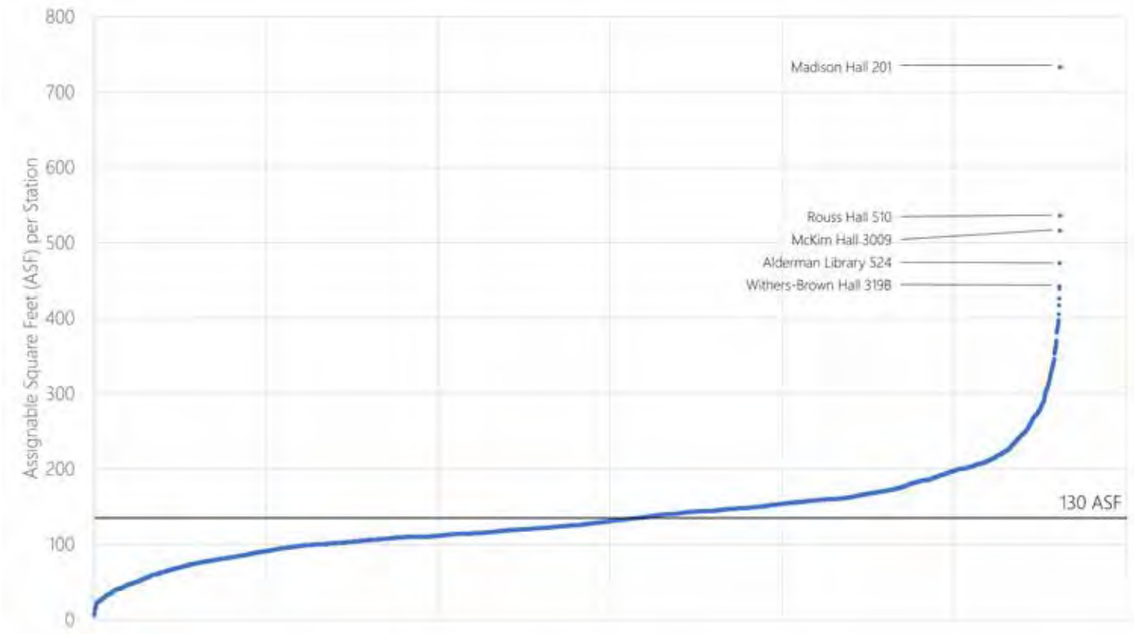
MAKER SPACE DISTRIBUTION

The map below shows the distribution of maker spaces across Grounds. These are collaborative work spaces with special features and technologies to facilitate learning, exploration, and fabrication of items. At UVA, maker spaces include wood shops, 3D printing labs, computer labs, and other production-oriented spaces.



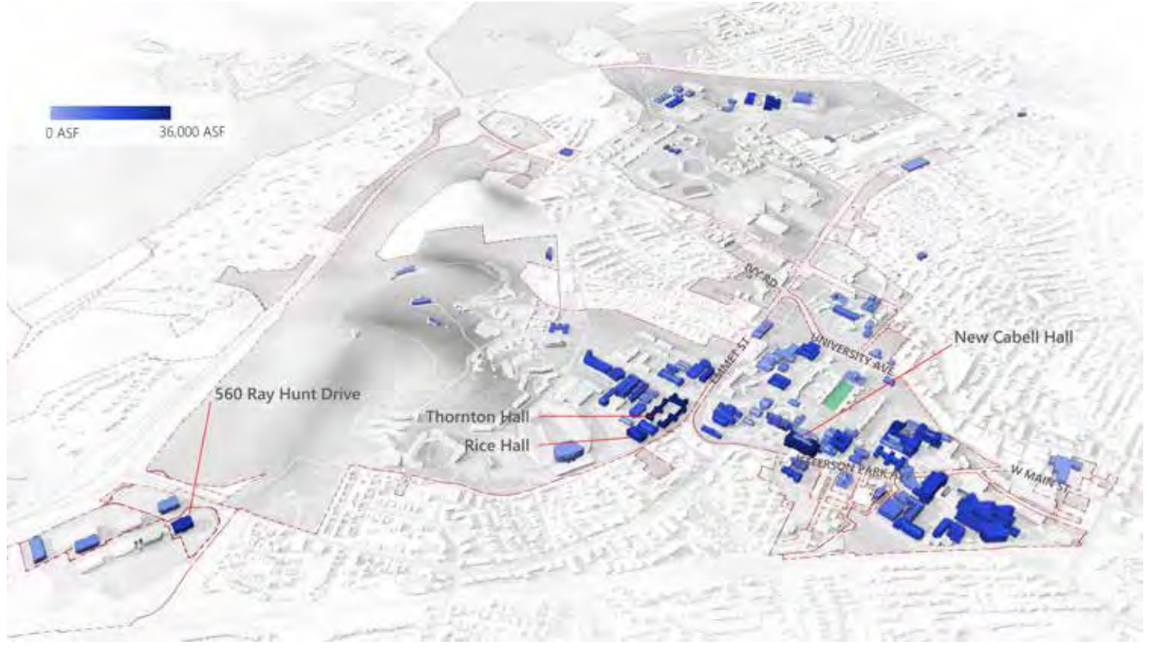
OFFICE ASF PER STATION

The office space category is the single largest category of academic space at UVA (and all other universities) with over 1.3 million ASF, nearly one-third of all the University's academic space. The graph below shows the distribution of offices by station size, arranged from left to right in ascending order. The top five offices with the largest ASF per station figures are labeled. Per the Administrative Space Study, the recommended figure for private offices is 130 ASF; this line is marked on the chart. UVA, however, currently has an average (academic) office station size of 134 ASF, with 47% of offices having an ASF per station figure greater than 130. Note that these station size calculations include large open space and bullpen configurations as well as private offices.



OFFICE ASF DISTRIBUTION

The heatmap below shows the distribution of office space across Grounds. The darker blue a building is colored, the more ASF of office space it contains. The four buildings with the highest concentrations of office space are Thornton Hall, Rice Hall, New Cabell Hall, and 560 Ray Hunt Drive.



INSTRUCTIONAL SPACE UTILIZATION

CLASSROOM UTILIZATION

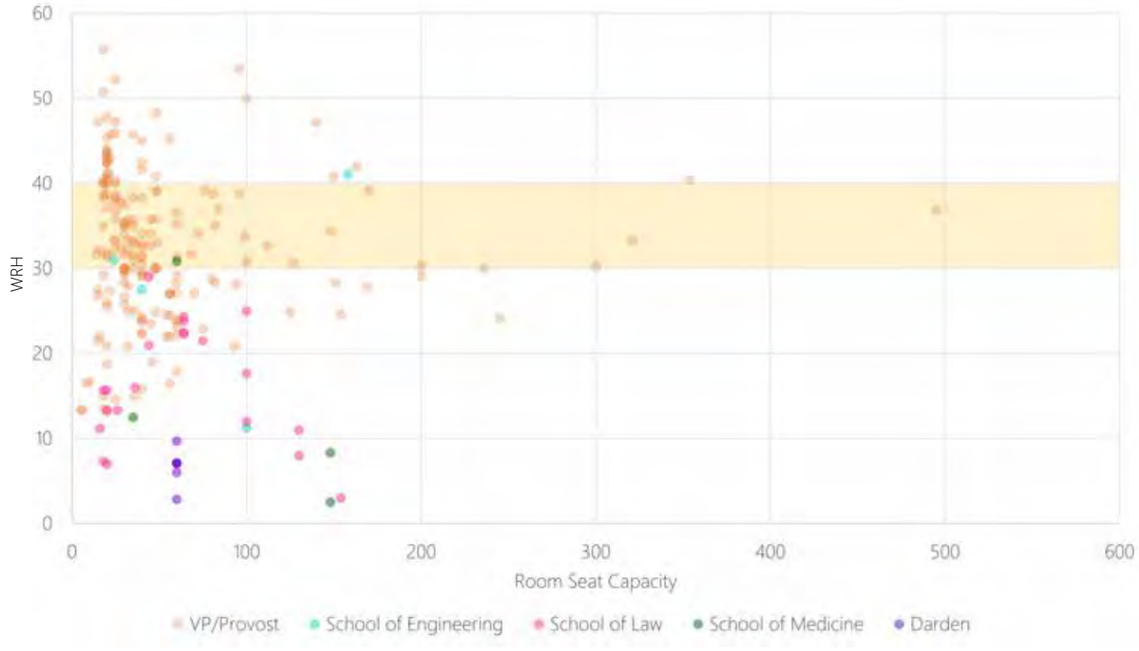
Classrooms at UVA are controlled by multiple entities. The Provost is responsible for the general classroom pool that can be used by any department for scheduled instruction (198 rooms); other rooms are controlled by the School of Medicine (27), Law (21), Darden (18), Engineering (6), Libraries (1), and Nursing (1).

Using data provided by UVA's Office of the Registrar and the individual colleges (where available), we measured the number of hours in the week a room is used for scheduled instruction (termed weekly room hours or WRH) for the Fall 2017 semester. The scatter plot at the top of the opposite page shows the utilization of all classrooms, measured by WRHs, indexed by the number of stations in the room, and colored by the room's controlling entity. SCHEV targets 40 hours per week of classroom use for scheduled instruction. This is consistent with other states, although some still use what is now an old-fashioned 30-hour-per-week minimum target.

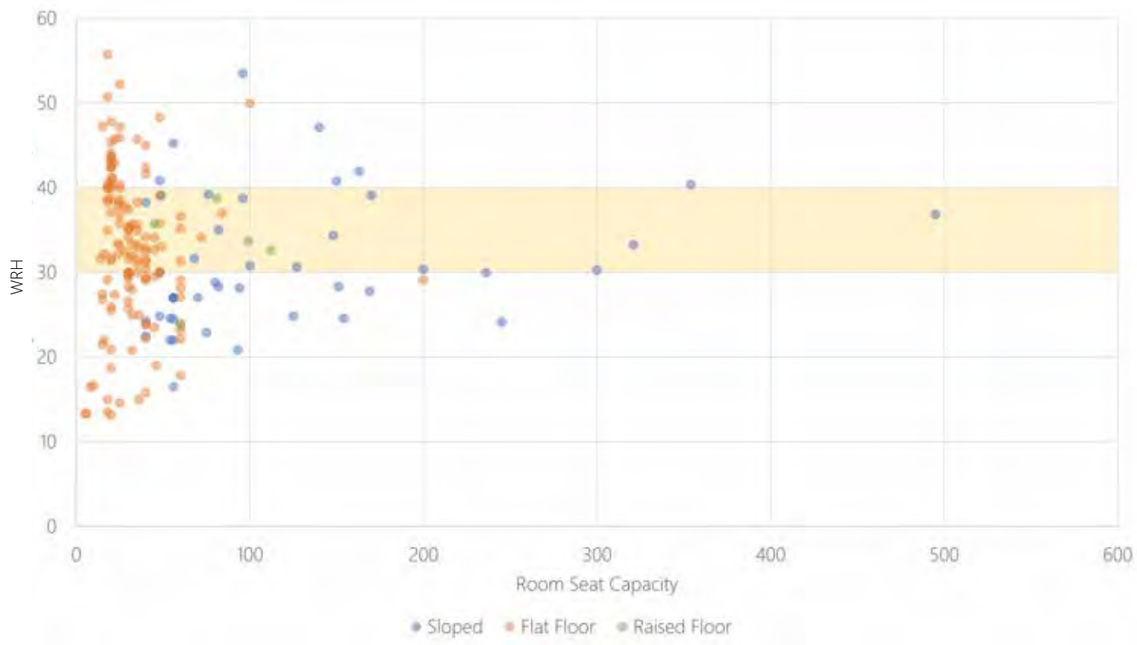
This minimum target range is indicated by a yellow band on the graph; classrooms in or above this band can be considered to have reasonable usage. In general, the scatterplot indicates that with a few exceptions, the majority of classrooms across Grounds, regardless of size or owner, are used less than 40 hours per week for scheduled instruction. Law, Darden, and the School of Medicine's rooms are, generally speaking, lightly utilized (though there are questions about the completeness of the data provided).

The scatterplot at the bottom of the opposite page shows only the Provost-controlled rooms, and explores the utilization of these rooms by their configuration: sloped-floor, flat-floor, or raised-floor (to accommodate technology). Note that almost all rooms with capacities greater than 75 have a sloped floor, which limits teaching flexibility, and may hinder conversion for active learning purposes.

UVA-WIDE CLASSROOMS BY CONTROLLING SCHOOL/COLLEGE/UNIT



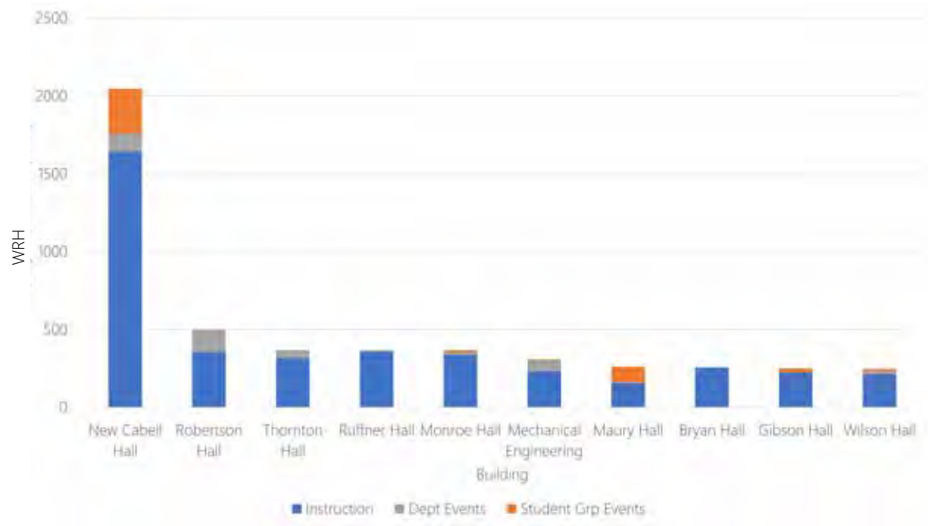
PROVOST-CONTROLLED CLASSROOMS BY CONFIGURATION



INSTRUCTIONAL & NON-INSTRUCTIONAL CLASSROOM UTILIZATION

While the majority of classroom utilization is for scheduled instruction, many classrooms are also used for departmental events and student group usage. The graph below shows cumulative scheduled instructional and non-instructional space utilization over the course of the semester. Scheduled instruction is relatively consistent, while student group use has discernible peaks toward the end of the semester. The yellow bar shows where utilization (i.e. the blue area) would be if all classrooms were scheduled for 30 to 40 WRH.

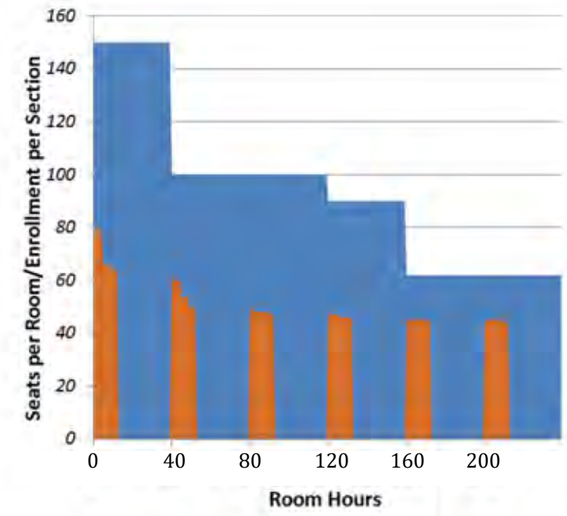
The bar chart below shows a single week's worth of scheduled activity in the 10 busiest buildings on Grounds. At over 2,000 WRH, New Cabell Hall is over four times busier than the next busiest building, Robertson Hall.



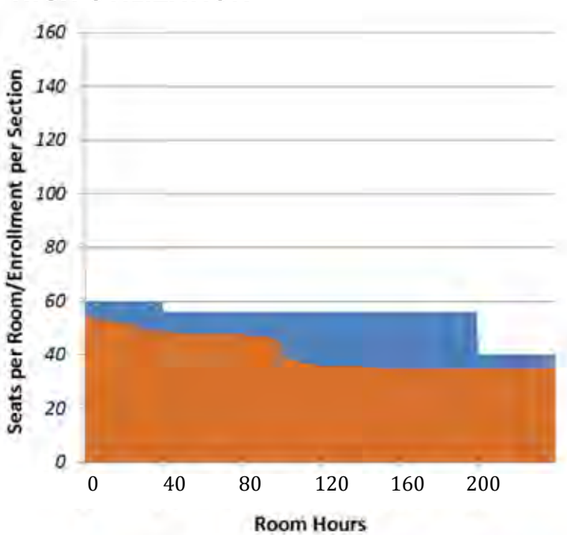
ROOM UTILIZATION BY DAY AND TIME

The histograms below show fluctuations in the percentage of Provost-controlled classrooms throughout the day, by day of the week, for the busiest week of the Fall 2017 semester. Peak classroom use takes place on Tuesday and Thursday mornings (between 9:30 AM and 11:00 AM), at which time nearly 100% of classrooms have scheduled activity. Classrooms are also used at UVA for non-instructional purposes, and in particular are an important venue for student meetings (largely because of a lack of alternative locations for these meetings). It was therefore important to analyze the impact of non-instructional use of UVA's classrooms. The data suggests that this non-instructional activity (departmental and student group events) generally takes place after 5pm and is therefore complementary to instructional activity. While this is not a perfect arrangement, particularly given limitations on food and other amenities that students would like to include in their meetings, from purely a utilization perspective the current arrangement does not present an obstacle. Finally, we note the relatively low use during the early morning hours, and on Fridays; this pattern is not atypical.

LOW UTILIZATION



HIGH UTILIZATION



*These excerpted figures are illustrative, and do not depict UVA data.

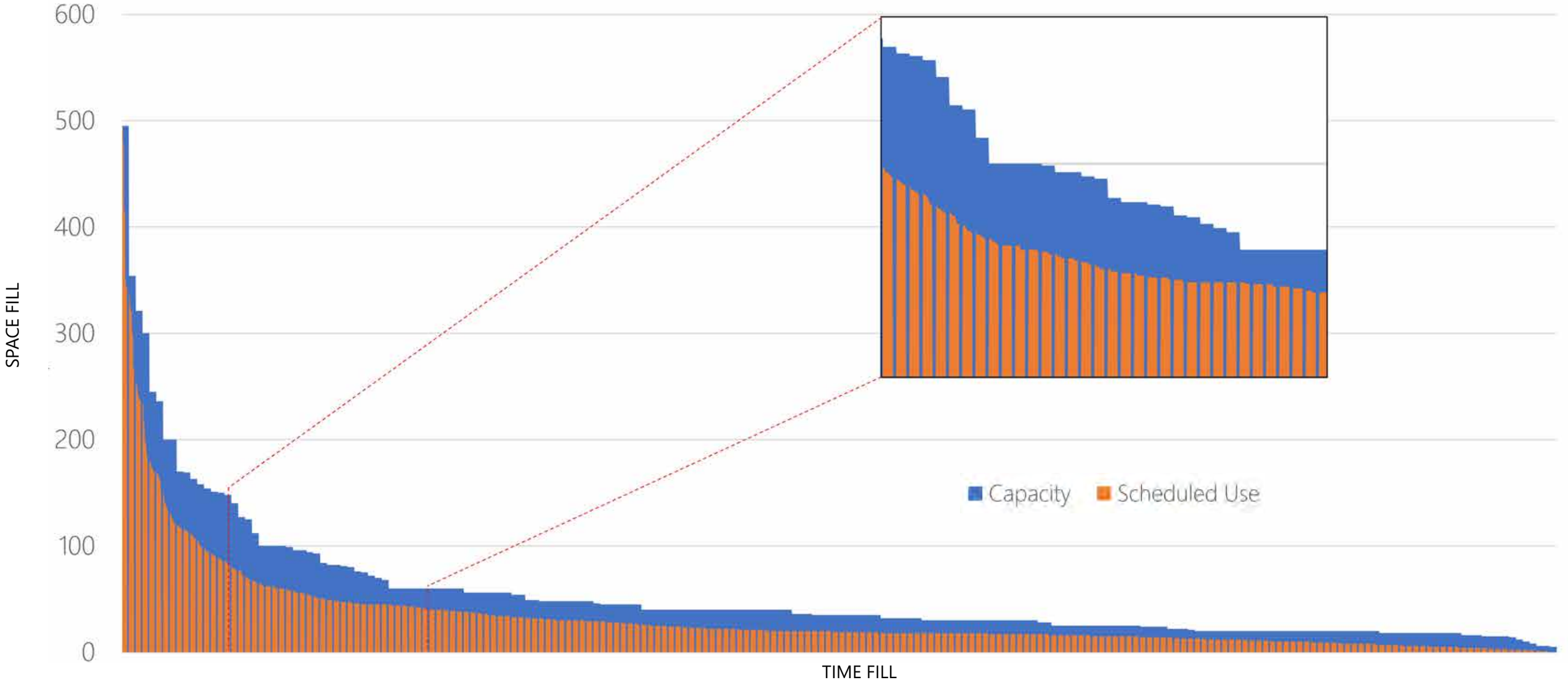
CLASSROOM METRIC

Along with WRH measurements, the other important consideration in classroom use is the sense of the overall fit of the classroom pool (and its associated station counts) with section sizes in the course schedule. Our proposed classroom metric captures both of these considerations in a single diagram. The examples on the opposite page are for demonstration purposes only and do not represent conditions at UVA. The blue area shows classroom supply; each classroom generates a rectangle with height dictated by the number of seats and width determined by the target 40 hours of scheduled use. Rooms are ordered from largest to smallest. The orange area shows all scheduled instruction in classrooms. Each course in the schedule generates a rectangle. The duration of the courses is represented on the x-axis and its enrollment on the y-axis. Courses are not necessarily placed in the classrooms where they are taught, but are arranged from largest enrollment to smallest, and distributed evenly across the x-axis.

The pictures show the potential for two kinds of opportunity. "Vertical" opportunity is any blue area that lies above an orange block, and "horizontal" opportunity is any blue area that lies between orange blocks. Vertical opportunity represents empty seats in a room while class is in session and captures notions that are traditionally resolved through the use of an average seat occupancy factor – i.e., the capacity for larger section sizes or for renovations to create smaller rooms with lower station counts (obviously pedagogical considerations about academic delivery need to be the primary driver). Horizontal opportunity represents the capacity to schedule more sections – i.e., times when rooms are vacant and available for use. In the example diagrams to the left, the top example shows capacity for additional scheduled activity as well as increased enrollments, while the bottom example shows a good fit between the classroom portfolio and sheduled instruction/course enrollment levels.

The graph can easily be translated into a numerical metric by taking the ratio of the orange area to the blue area. Our diagram for UVA can be found overleaf. UVA's classroom metric (Provost-only classrooms) for the Fall 2017 semester is .467. While state systems that have adopted the use of this metric typically target scores of .500 to .700, UVA's score is good relative to other similar institutions with whom we have conducted this exercise. For UVA, the diagram identifies rooms with capacities in the 50 to 150 range as currently having fewer corresponding courses of similar size.

METRIC SCORE: 0.467

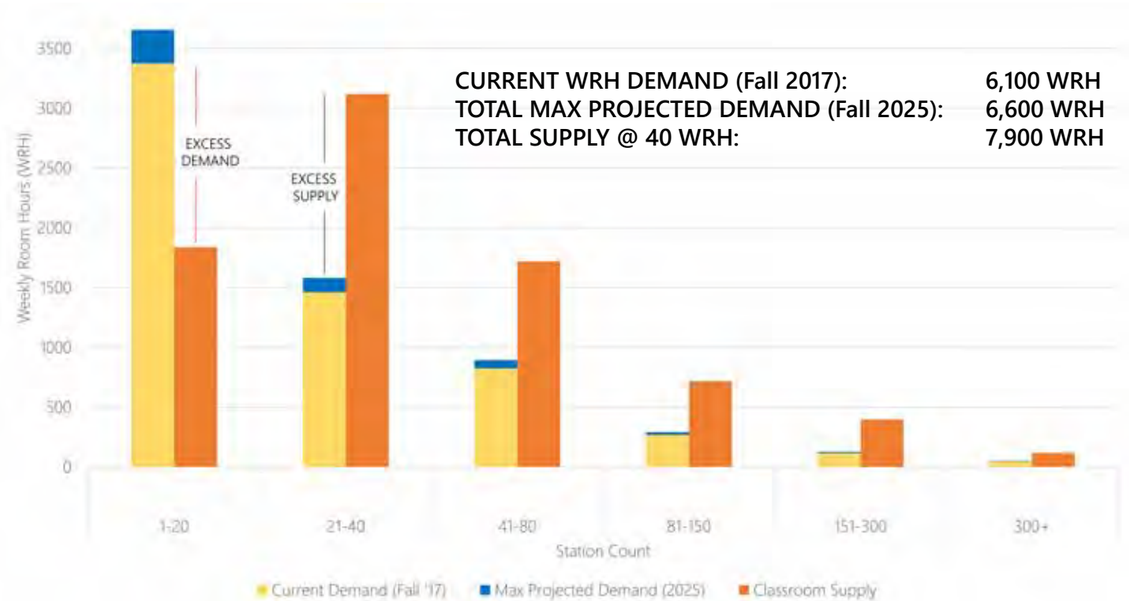


ENROLLMENT PROJECTIONS

UVA's formal enrollment projections anticipated 22,590 students in Fall 2017. Actual enrollment exceeded the projection by approximately 500 students. We can adjust the former projections to the actual Fall 2017 enrollment; this results in a projected student headcount of 23,523 in 2025. Current thinking at the University, however, assumes a more "typical" (i.e. historically based) year-over-year growth rate of 1% per year. When applied to actual Fall 2017 enrollment, this method results in a projected student body of almost almost 24,989 in 2025. The graph below reflects these projections. **With this rate of growth, it will be important for UVA to better utilize classrooms in order to accommodate the increased enrollment.**

PROJECTED CLASSROOM DEMAND

The graph below describes current and projected demand for classroom space, calculated in WRH (Y-axis), and compares this demand to the likely available classroom supply (again calculated in WRH). The orange bars, broken down by classroom size, represent available WRH if all rooms of that size were scheduled for 40 hours per week. The yellow portions of the bars represent actual Fall 2017 WRH demand, and the blue portions represent projected WRH demand if enrollment were to grow 1% annually through 2025. The demand for small rooms (20 seats or less) indicates the prevalence of small, seminar-style courses. Note that the perceived "shortage" of smaller rooms shown in the diagram does not exist in practice, as these smaller sections are in reality scheduled in larger rooms, which have significant additional scheduling capacity. The analysis suggests that, even with relatively significant enrollment growth, UVA does not have a quantitative need for additional classrooms, assuming good scheduling practices.



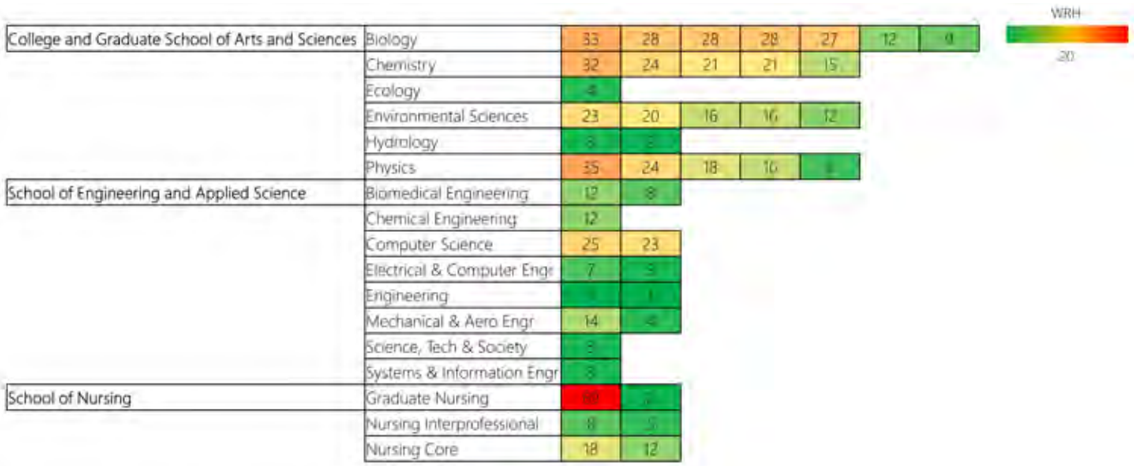
SCIENCE & ENGINEERING LABS UTILIZATION

Understanding the use of teaching laboratories requires a more nuanced approach. This room category includes specialized spaces used primarily for scheduled instruction, from traditional science labs to dance studios and music practice rooms. Because of their specialized nature, these rooms are inherently not fungible, and so we divide them into departmental categories, and explore their use on a room-by-room basis.

WRH target-use guidelines for science-intensive teaching labs are typically lower than similar guidelines for classrooms, because teaching labs also need to support project work, and required dedicated set-up time. Usage guidelines are typically around 20 WRH for science-intensive labs, although labs serving basic first-year introductory courses often see substantially higher utilization.

For non-science intensive labs (typically computer labs of one form or another, and scheduled arts spaces), targets are more like those for classrooms, typically at 30 WRH. We recognize that some arts spaces are sometimes used for both scheduled and non-scheduled instruction, and this can complicate WRH calculations. These rooms should be considered on a case-by-case basis.

The diagram below illustrates the use of scheduled science and engineering teaching laboratories across Grounds. Each box in the diagrams represents an individual room. The number in the box is the room's WRH. The box is colored on a gradient relative to the usage guidelines discussed above. Red boxes indicate highly utilized rooms; green boxes show rooms with additional scheduling capacity. We note that some specialized disciplines (and sub-disciplines) may require a lab in order for the program to exist, but the WRH need for that lab may be relatively low, and because of its highly specialized nature, the lab may not be suitable or use by other groups. These are always difficult (but important) considerations, and we therefore make no judgment here as to the merits of any program. At UVA, core biology and chemistry labs are well utilized. The extreme utilization value shown for the nursing teaching laboratory is likely a reflection of how record keeping for the simulation lab is handled, with the room automatically being booked all day every day.



NON-SCIENCE & ENGINEERING LAB UTILIZATION

The diagram below illustrates the use of non-science teaching laboratories across Grounds. The non-science intensive labs on Grounds show a reasonable utilization pattern, with multiple labs being used to support more than one program. Wherever possible, the University should continue to monitor opportunities to virtualize software, and thus promote this kind of shared use.

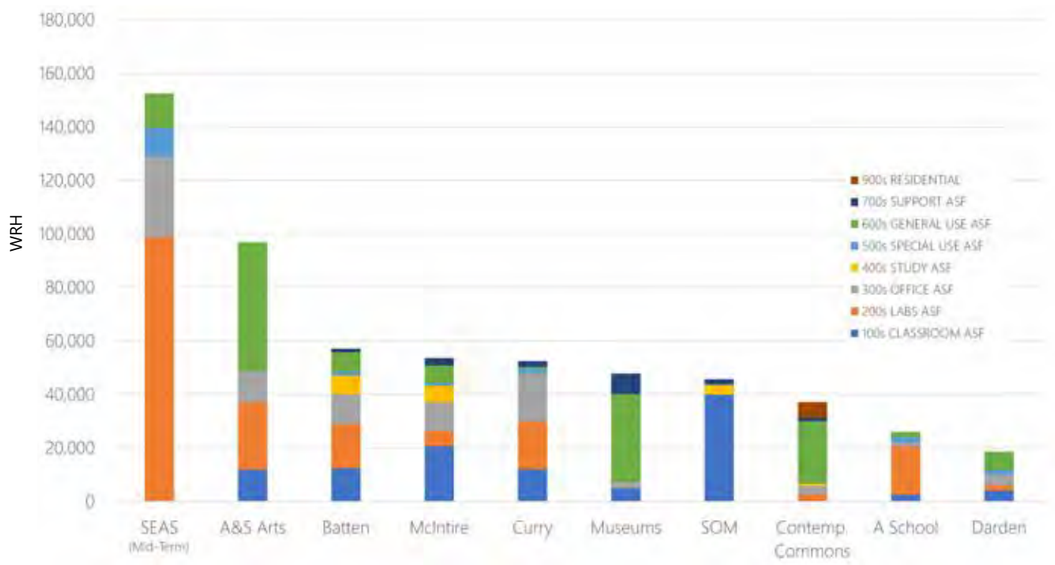
SYNTHESIS OF PREVIOUS STUDIES

NEEDS ASSESSMENT

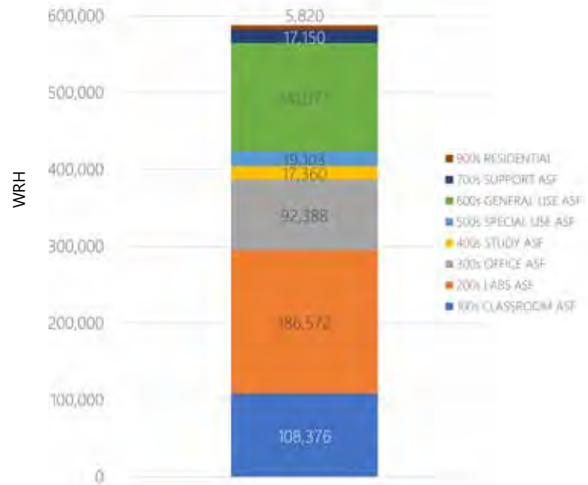
Historically, UVA has explored the needs of individual schools or topics on an individual basis, typically through the exercise of a specific, unit-based planning study. We reviewed a dozen such studies, including *What's Next for STEM at UVA?* (2015), Health Systems *Integrated Space Plan* (2017), and Arts & Sciences *Space Planning + Organizational Roadmapping* (2018), all of which were completed within the last four-to-five years. A complete list of the studies we referenced can be found in the appendix. While the studies were specific to the needs of their sponsoring unit, they did have several common components. These included a quantitative assessment of additional space needs (usually due to recent and projected student and faculty growth; i.e., Curry School, School of Engineering and Applied Sciences), or space needs associated with new programs (i.e. Contemplative Commons, a dedicated building for the Batten School). They also include significant qualitative concerns around the condition of research space (i.e. School of Engineering and Applied Sciences, School of Medicine), and an overall dearth of flexible, collaborative space (a theme identified across the studies).

We reviewed and aggregated the space needs identified by the individual studies (using the "mid-term" projection for SEAS and excluding the clinical component of the School of Medicine's projections) by space type. The result is an aggregate "need" of almost 600,000 ASF, including over 100,000 ASF of classroom space (a 33% increase in the current portfolio), 186,000 ASF of laboratory space, 92,000 additional ASF of office space, and 141,000 ASF of general use space (includes museum exhibition space, assembly, and lounge spaces). Our analysis of classroom use (which showed sufficient quantities of existing classroom space) suggests this simple aggregation therefore likely overstates the University-wide need. And while much of the additional classroom need is for specialized spaces - large active learning classrooms, for instance - the individual studies don't reflect space sharing opportunities. While we have not performed similar exercises across the other space types, this overstatement is likely the general case.

SPACE NEEDS FROM STUDIES BY SCHOOL/COLLEGE/UNIT



AGGREGATED SPACE NEEDS FROM STUDIES



TOTAL: 587,842 ASF

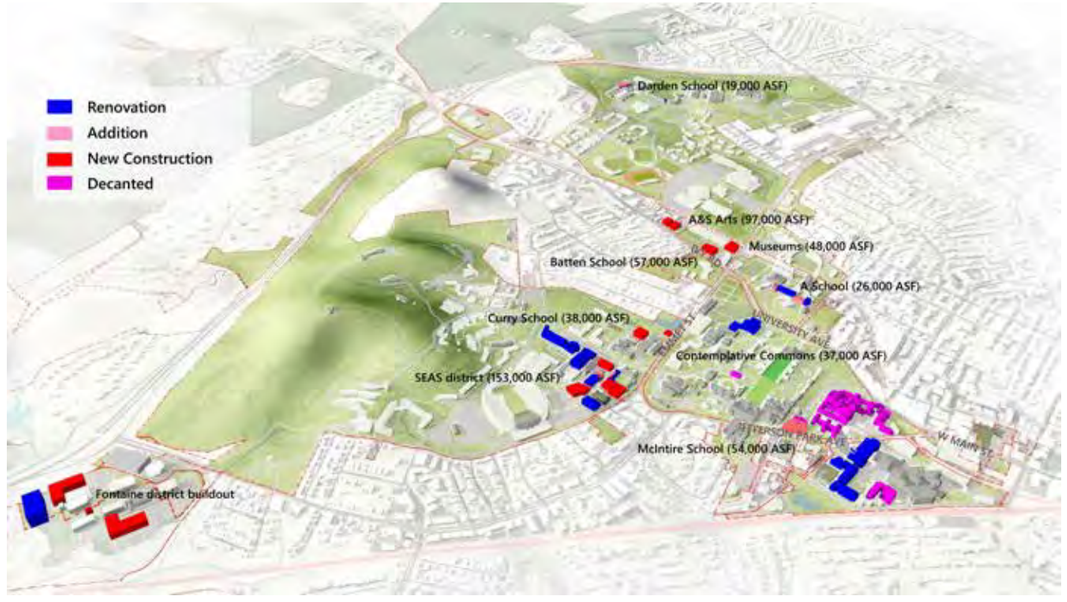
AVERAGE ANNUAL GROWTH PROJECTIONS BY SCHOOL

While UVA's growth projections anticipate an annual rate of growth less than 1% for next several years, the various schools and their respective studies project much different average annual rates over different timeframes:

- School of Architecture (2017-2020): **6.9%**
  Ref. *SOA Campbell Hall Renovation and Addition (*2017*)*
- Batten School of Leadership and Public Policy (2014-2025): **1.6%**
  Ref. *Space Needs Assessment Future State Report* (2015)
- Curry School of Education (2017-2025): **0.5%**
  Ref. *Needs Assessment: Current State and Future Vision* (2017)
- McIntire School of Commerce (2015-2024): **2.1%**
  Ref. *Needs Assessment and Options Development* (2016)
- SEAS (2017-2025, "mid-term"): **2.3%**
  Ref. Integrated Space Plan (March 2018)
- College of Arts & Sciences - STEM (2018-2025): **1.6%**
  Ref. *What's Next for STEM at UVA?* (2015)

CONCEPTUAL MAP

In addition to aggregating the calculated space needs, we mapped the footprints of proposed building projects—when available—from the various studies. The resulting map (which does not include non-academic projects like Athletics and Brandon Avenue mixed-use) shows new construction across Grounds, from Fontaine to the Ivy Corridor, multiple significant renovation projects, and the decanting (and potential demolition) of West Complex.



POINTS OF INTERSECTION

Many of the previous studies reviewed describe a need for collaboration spaces, although slightly different nomenclature is used across the various documents. Below is an attempt to distinguish between the various space and approaches described:

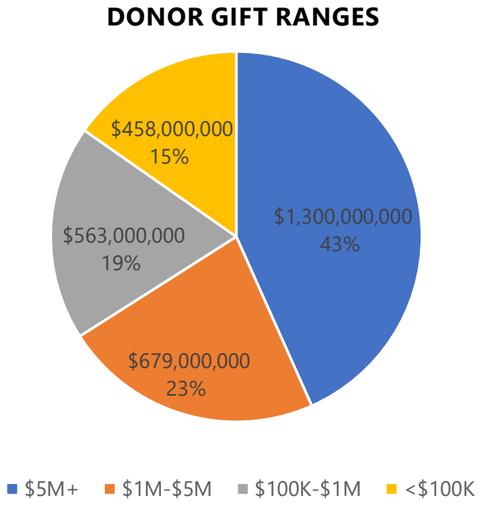
SHARED SPACES
One example of a widely-discussed shared space is a school-specific maker space, which is open to all with permission. Other examples include library spaces, non-gallery museum spaces, and 200-500 seat classrooms. Spaces like these can be shared by multiple groups across the University for a variety of uses.

COLLABORATIVE SPACES
Some examples of collaborative spaces are centrally-controlled maker spaces with no departmental affiliation (this is a model employed by Georgia Tech), lab and core facilities, and performance halls. Additional examples of collaboration space are the Fontaine Translational Research Building and the envisioned future home for the Batten School, given its role as an interdisciplinary convener.

COLLABORATIVE PROGRAMS
Initiatives that promote collaboration have traction at UVA, although there is room for enhancement. One such program is the Strategic Investment Fund, which is set up to fund opportunities that can transform critical areas of knowledge and further research progress, and which has led to the identification of high-profile interdisciplinary initiatives. Additionally, the Cluster Hiring Initiative brings together faculty members across disciplines to work on specific interdisciplinary topics.

FUNDRAISING HISTORY

Fundraising at UVA has historically been a responsibility of individual deans. The University has 16 distinct foundations, organized by school, only a few of which report to University Advancement (which focuses on cross-Grounds initiatives). Moreover, UVA has historically relied heavily on its most generous donors, who constitute a relatively small pool. This leads to a dynamic where multiple constituents compete for the same donor's interest, and does not naturally provide support for interdisciplinary initiatives. The recent $3 billion capital campaign, for instance, relied on 90 large donors (gifts over $5 million) for more than 40% of total monies raised.



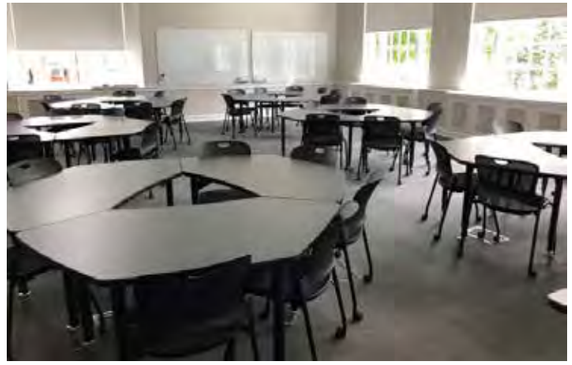
CHANGING MODALITIES

CHANGING MODALITIES

ACTIVE LEARNING

A pedagogical shift is taking place toward active learning models. This modality gets away from traditional "sage on the stage" methods by engaging students beyond listening, reading, and regurgitating material. Active learning is highly collaborative as students are encouraged to work together and present findings to each other and to the class at large. Classrooms designed to support this mode of instruction generally have tables for groups instead of individual desks. These classrooms therefore have a higher ASF per student to allow for flexibility, engagement, and ease of movement. Active learning rooms can also make use of technologies such as screens, throwable microphones, and iClickers to facilitate instruction.

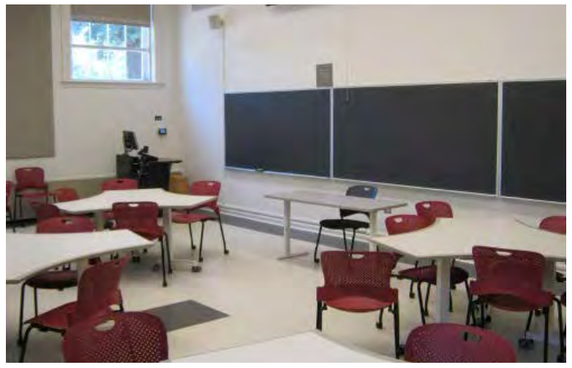
UVA has made significant efforts to embrace active learning methods, but is limited by the small number of classrooms it can use for these purposes. In particular, outside of the College of Medicine, the University has no active learning classrooms for 120-person sections. The University has seen steadily increasing demand for these kinds of spaces, and because of their positive impact on learning outcomes, this trend is likely to continue, and if anything, could be accelerated.



MONROE HALL 110

NEW CABELL 368

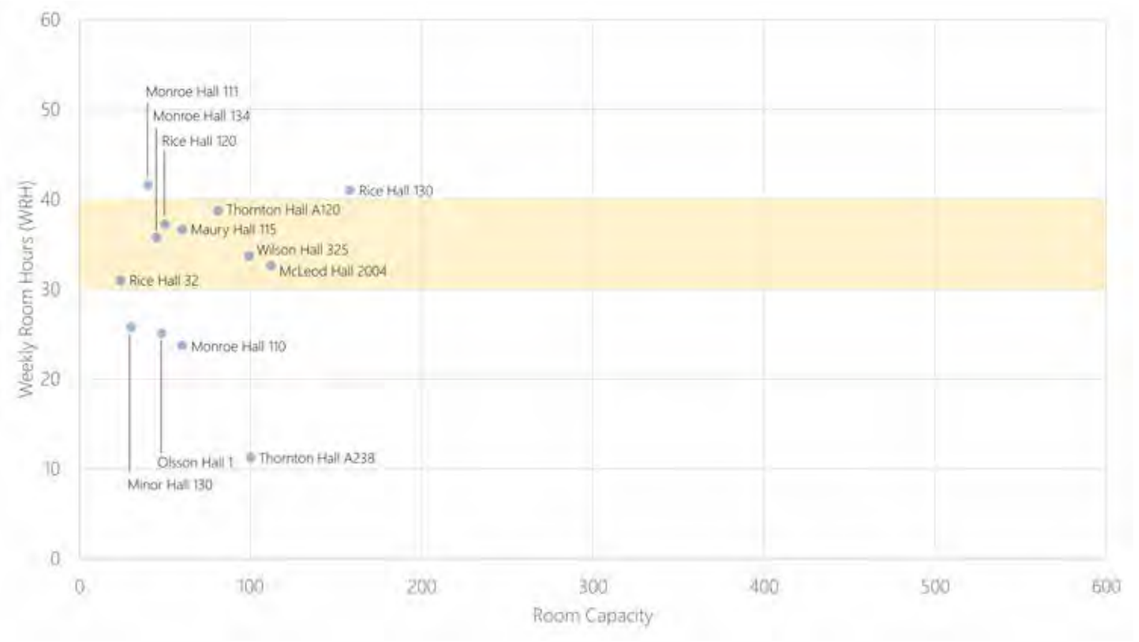
WILSON HALL 325



MINOR HALL 130

ACTIVE LEARNING SPACE UTILIZATION

UVA currently has 13 classrooms designated as active learning spaces Their use is diagrammed in the scatterplot below; each dot represents an active learning classroom, with room capacity along the x-axis, and weekly room hours of scheduled instruction along the y-axis. These rooms generally have a healthy usage, with only four out of 13 scheduled for less than 30 WRH. That said, because of the high demand for these rooms, the University should consider policy changes that ensure each room is used for a minimum of 40 hours per week for scheduled instruction.



PROJECTED NEED

Currently, 5.5% of all sections are delivered in active learning classrooms. If the existing active learning rooms were all used for a minimum of 40 WRH, the University would be able to teach 7% of all sections in active learning classrooms. **In general, for every 5% shift of the total number of sections from traditional to active learning, the University will need to provide seven to eight additional active learning classrooms.**

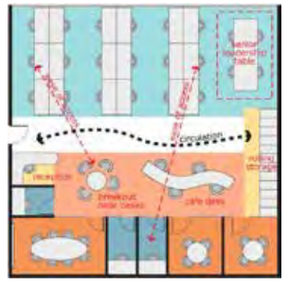
The University has not yet identified an optimal ratio of traditional to active learning sections, and therefore it is not possible at this time to provide a target number of active learning classrooms. But the need to increase the existing pool is clear, and the University should therefore consider a strategy by which it delivers tranches of active learning rooms, and then monitors their adoption rates, using this method to calibrate demand and supply. Initially, in delivering the first tranche of new active learning rooms, the University should explore opportunities to convert existing rooms (this work is already underway). But long term, and especially for the larger 120-person active learning spaces, conversion opportunities are likely limited. As we have documented, UVA's existing 120-person classrooms currently have a relatively small station size, and are often raked. While there may be some opportunities to combine rooms, it is important to consider the resulting configurations (active learning models tend not to work well in rooms with one dimension significantly longer than another).

Figures represent active learning room usage of 40 WRH

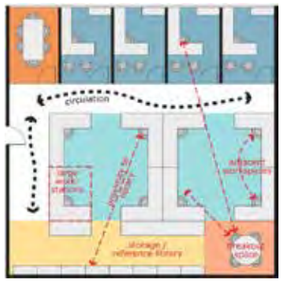
% of Sections Held in Active Learning Spaces	# of Active Learning Rooms	# of Regular Rooms
5.5% (current)	13	267
7%	13	267
10%	18	262
15%	26	254
20%	33	247
25%	40	240

OFFICE SPACE

The office space category is the single largest category of academic space at UVA (and all other universities) with over 1.3 million ASF, nearly one-third of UVA's academic space (vs. approximately 300,000 ASF for classrooms). This portfolio includes many large, traditional offices that do not promote interaction and collaboration with other faculty or students. Recent studies that have addressed office space (including the Health Systems *Integrated Space Plan* and UVA Administrative Staff study) noted the inefficiency of traditional offices, and recommended reorienting new office space to be more efficient, flexible, and collaborative. Considering the quantity of office space on Grounds, experimenting with new workplace models is a high value proposition.



Open Neighborhood



Collaborative Neighborhood

Traditional Neighborhood

EXCERPT FROM UVA ADMINISTRATIVE SPACE PLAN

The **Private Office** still plays an important role in the workplace. It's form has evolved to fit the needs of a new office culture.

Offices and workspaces will be adjusted to fit the needs of the **users**. Size responds to the function the office serves.

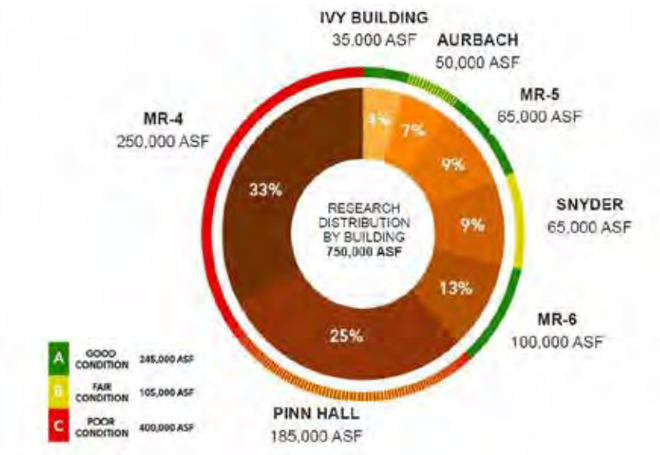
Collaboration plays greater role in modern workplace practices. Important to provide ample **shared space** in addition to the **private office** and **workspace**.

In the past, office size has reflected position. In current practices, it's important to analyze **utilization** and **work flow** to create spaces that serve their users.

EXCERPT FROM HEALTH SYSTEMS INTEGRATED SPACE PLAN

INTERDISCIPLINARY RESEARCH SPACE

Across the country, many universities are reorienting their approach to research around the world's great challenges. These problems are not neatly defined by traditional disciplinary boundaries, and their solutions therefore require interdisciplinary teams that can provide multiple perspectives. A significant quantity of sponsored research dollars is now awarded to teams led by multiple primary investigators. And many of these interdisciplinary teams are thriving in facilities designed specifically to enhance collaboration and interaction, and to avoid the silos sometimes associated with traditional research space models. These new buildings are organized thematically; many of them do not have permanent occupants, but instead rotate teams through on a three-to-five year basis depending on grant activity and the status of the research. They are flexible, and they almost always contain a mix of uses that promote community, contact, and discussion. Much of UVA's existing research space is outmoded, in poor condition, and not well-suited to the kinds of team research now required. As the University considers how best to update its research-space inventory, here are several case studies that highlight potential approaches.



RESEARCH SPACE CONDITION GRAPHIC FROM HEALTH SYSTEMS INTEGRATED SPACE PLAN

FINANCING STRATEGIES

UVA employs many different strategies to fund new building projects. Certainly, philanthropy plays a large role in supporting new construction (please see page 39 for a breakdown of this funding source), but because many donor relationships are specific to a school, the University may want to consider more in-depth explorations and an integrated approach that blends multiple funding sources moving forward. Methods used by other institutions include:

- Philanthropy
- State funds
- University funds (e.g. priority, strategic fund, subvention, etc.)
- Debt (sometimes with innovative issuances like "shelf-like" which establish a reservoir of funds for a given period without having to then go back to the market for each individual project—The Ohio State University used this method to structure a municipal bond issuance that was recognized with several awards in 2017)
- Foundations (non-profit partners with co-aligned interests are increasingly playing a role in capital projects, for example Georgia Tech recently partnered with the Kendeda Fund on an environmentally advanced education and research building)
- Single-use with industry partner (many universities are inviting industry researchers to share space on campus, in the same building with university investigators, and using this as a revenue source to fund the building's construction—this tactic has been successfully employed by Princeton, Georgia Tech, UMass, and others)
- Mixed-use with private developer (in this scenario the university typically acts as anchor tenant in a mixed-used development, converting an upfront capital cost into an ongoing operating expense)
- University as developer (while UVA sometimes uses this terminology to suggest a model in which the University uses central funds to build a facility for a particular school for which the school then pays an ongoing rent charge, it is more typically used to describe an arrangement whereby the University employs its real estate assets for commercial purposes to generate revenue that can then be used to build academic buildings; e.g. MITIMCo in Kendall Square, the University of Chicago at Harper Court and other locations, several "commons" at the University of British Columbia, etc.)
- Revenue-generating core facilities (several institutions are making core facilities in their buildings available on a fee-basis to the private sector)
- Pledged-revenue streams (e.g. Garamendi bonds in the UC system allow universities to pledge indirects as a source for revenue bonds)
- Hybrid models (it is possible to combine several of these methods in a single project)

CASE STUDIES

GROSS HALL, DUKE UNIVERSITY

Gross Hall at Duke University is a gut-renovation project completed in 2013. It was centrally funded, using Provost monies (sadly, this funding source is no longer available at Duke). The building houses the Center for Interdisciplinary Studies, and groups which occupy the building are organized around specific research topics with three-to-five years occupancy. The building contains general-use classrooms, offices, wet and dry labs, and collision spaces that are organized around intellectual neighborhoods.

ENERGY BIOSCIENCES BUILDING, UC BERKELEY

The Energy Biosciences Building at the University of California Berkeley is occupied by the Department of Bioengineering, Energy Biosciences Institute, and an associated tenant, BP. The Energy Biosciences Building is one of many buildings at UC Berkeley that uses this model. It contains offices, research space, meeting space, auditoria, and shared common spaces. The occupants conduct research on today's most urgent environmental issues, like climate change.

ENGINEERED BIOSYSTEMS BUILDING, GEORGIA TECH

The Engineered Biosystems Building at the Georgia Institute of Technology was constructed with the express purpose of facilitating research across disciplines and institutions to create new treatments, medical technologies, medications, and therapies. Researchers from the Colleges of Sciences, Engineering, and Computing, as well as those from outside entities are tenants in the building. The facility uses a building-based shared services model and a "collaboration specialist" is on staff to facilitate interactions among the tenants.

MEDIA LAB, MIT

The Media Lab at the Massachusetts Institute of Technology is an established and well-known example of interdisciplinary space. The building limits the amount of private work space available to faculty (offices are around 90 square feet), and instead emphasizes active collaboration zones specific to each of its teams. The building also has multiple common and event spaces to promote engagement. The building is, however, reserved for use by the School of Architecture and Planning, risking the continuation of rigid silos.

RECOMMENDATIONS

RECOMMENDATIONS

Throughout its 200-year history, UVA has been a leader in research and the delivery of high-quality liberal arts educations. In order to continue this tradition, the University must now consider how best to position its facilities so as to promote active and engaged learning methods, interdisciplinary research, and the other needs of a complex prestigious 21st century University. These questions are particularly important at this moment, because the University has now embarked upon the development of a new strategic plan under its new president. This presents an important opportunity to establish systems which can align academic, financial, and physical planning, break down institutional silos, and optimize future development on (and beyond) Grounds.

A. INSTRUCTIONAL SPACE

In summary, the university likely has sufficient classroom square footage, but a significant portion of this square footage is of the wrong type and cannot meet the university's pedagogical goals. Moreover, this existing square footage cannot be converted to accommodate the desired styles of teaching and learning. It is therefore likely the University will need to construct some new square footage for active learning needs, and that when this happens, it should consider converting existing inappropriate classroom square footage for other academic purposes.

Key Strategies

1. Improve instructional space policy, management, and governance so as to optimize use of the classroom portfolio and better align this use with evolving curriculum and changing faculty/ student demographics.
2. Understand and meet the need for Active Learning Model rooms.

Implementation Steps

1. Strengthen planning, analysis, and management of instructional space by providing appropriate staffing and IT tools, primarily through the registrar's office.
2. Improve utilization of registrar-controlled classrooms by targeting 9am to 2pm Monday and Wednesday as a first step, and then targeting usage on Fridays.
3. By June 2019, develop a 5-year roadmap for active learning classroom development, including number, size, modality, and location.
4. Centralize planning and control of active learning classrooms with robust organizational and technological support.
5. By Fall of 2020, create three-to-six new active learning classrooms, beginning with conversions through simple furniture replacement, followed by conversions requiring both renovation and furniture replacement.

CLASSROOM UTILIZATION OPPORTUNITIES

B. RESEARCH SPACE

62% of the University's ~840,000 ASF research portfolio is not well suited for its current use because of some combination of aging systems and obsolete layout

Key Strategies

1. Further explore financial and other incentive structures to promote interdisciplinary research.
2. Implement a space governance policy that considers both space allocation and re-allocation based on research themes and transdisciplinary activities and a process to track research expenditures per square foot and FTE for all primary investigators.

Implementation Steps

1. Invest in modern, flexible, and adaptable research space to accommodate transdisciplinary activities.
2. Continue to actively develop physical connections between the University's research-intensive zones (Health, Science and Engineering, Fontaine).
3. Further explore opportunities and impacts of downcycling existing research buildings for other uses (or potentially demolishing them).
4. Further explore opportunities to establish core facilities to support the research mission.

C. OFFICE SPACE

Academic functions at UVA occupy ~1,300,000 ASF of office space (vs. ~308,000 ASF for classrooms). This portfolio includes many large traditional offices that do not promote interaction and collaboration with other faculty and students

Key Strategies

1. Explore incentive structures to encourage experimentation with new workplace models (while renovating and reconfiguring offices is not a driver of academic capital project development, the scale of square footage in this category argues for the implementation of new models).

Implementation Steps

1. Update the University's office-space allocation guidelines using a space budget of 130 ASF per person divided between individual work, collaboration, and support spaces.
2. Pursue small-scale prototyping of alternative configurations that stakeholders can experiment with, show to other interested parties, and report back on their experiences (McIntire has indicated a willingness to do such a test).

D. SOCIAL, COLLABORATION, AND MAKER SPACES

UVA needs targeted additional accessible collaboration and maker spaces on Grounds.

Implementation Steps

1. Explore strategies for future collaboration and collision spaces that operate on a (relatively) small scale and are located to activate major pedestrian corridors.
2. Determine, on a case-by-case basis, whether maker spaces should be centrally managed to maximize universal accessibility.

E. GOVERNANCE

Academic space governance structures need to be unified and activated.

Key Strategies

1. The findings described in the previous page should inform the new strategic plan in order to help UVA move towards a more efficienwt, more intentional use of its academic space moving forward.
2. Academic, financial, and physical planning at UVA (and many other universities) should be more fully integrated.
3. Consider adjusting incentive and organizational structures to impact the formation of capital projects, promote interdisciplinarity, and better support project prioritization.

Implementation Steps

1. Undertake a grounds-plan update that, based on identified redevelopment zones, assesses and prioritizes synergies for the location and phasing of future uses on Grounds; and helps shape space needs developed by schools or other planning efforts.
2. Develop a rigorous and transparent method for prioritizing between potential capital projects (making evaluation criteria transparent and clear is the most impactful practice for changing how projects are formulated).
3. Ensure that the space working group and the space leadership group are activated and enabled in their activities, and that all space-related decisions are channeled through these groups.
4. Explore ways to positively impact fundraising for interdisciplinary initiatives.
5. Consider amending the RCM model to bolster a central fund for interdisciplinary initiatives, building on the work of the cluster-hire process and the Strategic Initiative Fund.

STRATEGIES & IMPLEMENTATION STEPS SUMMARY MATRIX

#	RECOMMENDATIONS	+++	++	+
A. INSTRUCTIONAL SPACE				
STRATEGIES				
1	Improve instructional space governance to optimize classroom portfolio and adapt to changing needs	■		
2	Understand and meet need for active learning space		■	
IMPLEMENTATION STEPS				
1	Provide appropriate staffing and IT tools to support planning, analysis, and management of instructional space	■		
2a	Improve utilization of registrar-controlled classrooms Mon. and Weds. From 9am to 2pm	■		
2b	Develop and enact policy changes necessary to improve utilization throughout the week (before 9am, after 5pm, Fridays)			■
3	Develop a 5-year roadmap for active learning classroom development, inc. number, size, modality and location	■		
4	Centralize planning and control of active learning classrooms		■	
5	Create three to six new active learning classrooms by Fall '20, with an intial focus on room conversions			■
B. RESEARCH SPACE				
STRATEGIES				
1	Develop incentives (financial and otherwise) to promote interdisciplinary research	■		
2	Implement a space governance policy built around research themes, research expenditures	■		
IMPLEMENTATION STEPS				
1	Invest in modern flexible research space to support interdisciplinary activities	■		
2	Continue developing physical connections between research-intensive zones on Grounds (HS, SEAS, Fontaine)	■		
3	Downcycle existing, poor quality research buildings for other uses, or demolish if impractical		■	
4	Establish shared core facilities to support research mission		■	
C. OFFICE SPACE				
STRATEGIES				
1	Develop incentives around new, more efficient workplace models		■	
IMPLEMENTATION STEPS				
1	Update office-space allocation guidelines to 130 ASF/person for admin *and* faculty	■		
2	Prototype new workplace models on a small scale			■
D. SOCIAL SPACE, COLLABORATION SPACES, AND MAKER SPACE				
IMPLEMENTATION STEPS				
1	Develop informal collaboration spaces along major pedestrian corridors			■
2	Make non-discipline specific maker spaces universally accessible			■
E. GOVERNANCE				
STRATEGIES				
1	Use Strategic Framework for Academic Space findings to inform the new strategic plan	■		
2	Integrate physical, academic, and financial planning	■		
3	Adjust incentive and organizational structure to impact project formation	■		
IMPLEMENTATION STEPS				
1	Update the Grounds Plan and better connect to academic and financial planning	■		
2	Develop rigorous, transparent criteria and method for prioritizing capital projects	■		
3	Activate space working group and space leadership group	■		
4	Explore ways to effectively fundraise around interdisciplinary initiatives		■	
5	Increase funds for interdisciplinary initiatives			■

■ Top priority ■ High priority ■ Priority

DEVELOPMENT OPPORTUNITIES

Historically, UVA's growth has created an informal, yet strong, east-west axis linking the Science & Engineering cluster with West Complex and the Health Systems cluster, and a north-south axis extending from the Humanities cluster south of the Lawn to the Arts & Architecture cluster on Carr's Hill. These axes support a compact, pedestrian scale that largely fits within a ten-minute walking circle. Outside of the core campus, the professional schools are located in North Grounds, and the University has recently begun a major initiative to reinforce a significantly augmented clinical and research cluster at Fontaine Park. This arrangement highlights the importance of connection between the various parts of Grounds. In addition, UVA has committed significant resources to the Inova Campus in Fairfax.

This is a fertile time for UVA. The University has the opportunity to develop, either in series or in parallel, a number of different districts: Ivy Corridor, Stacey-West Main, Brandon Avenue, and Fontaine Research Park. These zones represent over 2.5 million square feet of development potential. In addition, UVA is in the planning stages of a phased decanting of outdated clinical and research facilities in West Complex, which could open up another 500,000 square feet for eventual redevelopment. The map below shows these potential areas for development in blue. The blue heat map used to color the buildings represents a blended metric of overall academic activity.

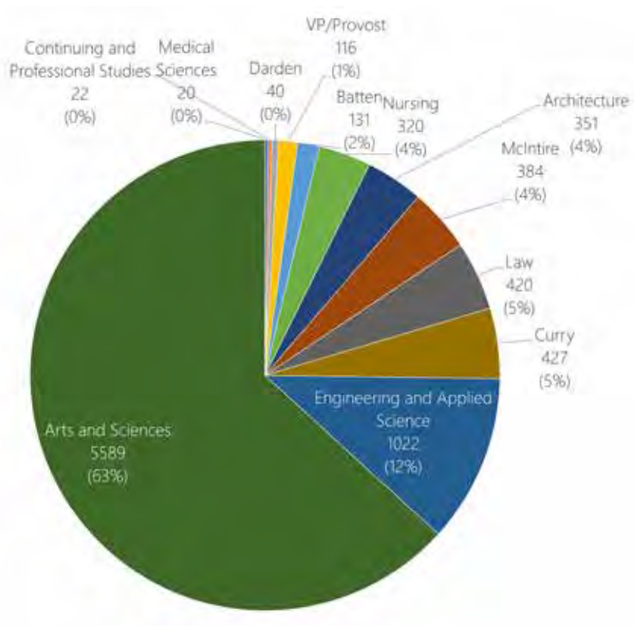
Each of these development opportunities has the potential to be transformative. Collectively the order and character of the redevelopment of these zones will define the future of Grounds. It is therefore imperative to prioritize these opportunities in conjunction with an overall strategic vision for UVA that integrates academic, financial, and physical planning.

APPENDICES

APPENDIX A: ADDITIONAL ANALYSIS

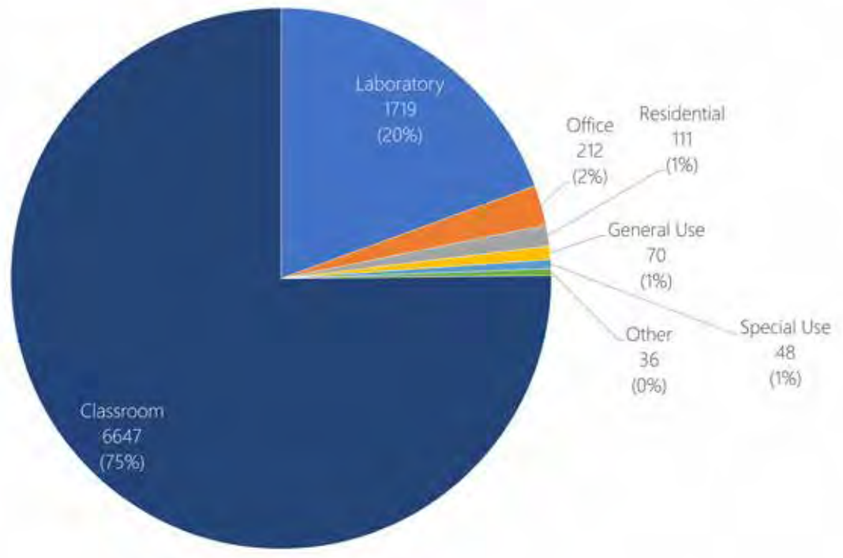
UVA-WIDE WRH OF INSTRUCTION BY SCHOOL/COLLEGE

The pie chart below shows the weekly room hours (WRH) of scheduled instruction by school or college for the fall 2017 semester. The College of Arts and Sciences has the most WRH at 5,600 (63%). The School of Engineering and Applied Sciences is next with just over 1,000 WRH (12%).



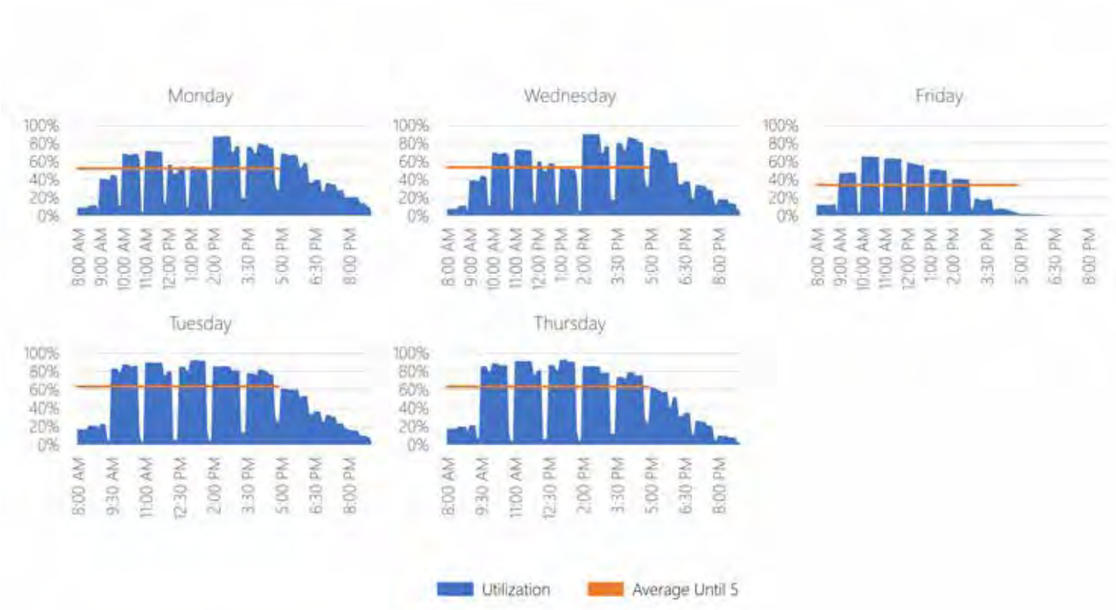
UVA-WIDE WRH OF INSTRUCTION BY SPACE TYPE

The pie chart below shows the weekly room hours (WRH) of scheduled instruction by space type for the fall 2017 semester. The majority of instruction takes place in classrooms, with just over 6,600 WRH (75%). Laboratories host just over 1,700 WRH of scheduled instruction (20%). Various other space types host the remaining 5%.



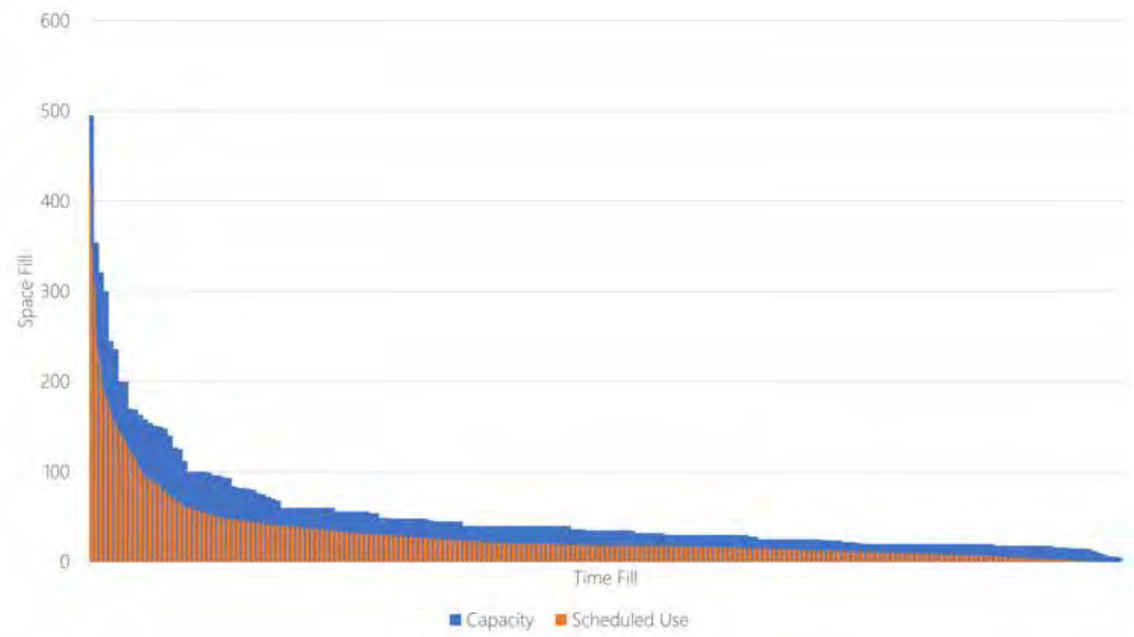
CLASSROOM USE HISTOGRAMS - SPRING 2018

The histograms below show the percentage of Provost-controlled classrooms that are scheduled at any given time on each day of the busiest week of the spring 2018 semester. Please see page 30 for the Fall 2017 histograms and page 31 for additional details.



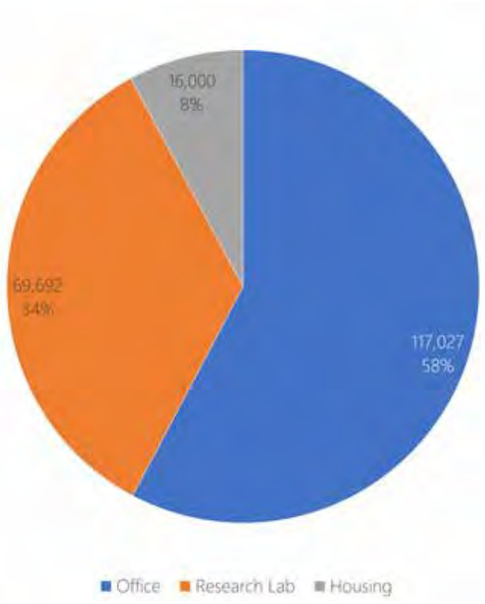
CLASSROOM METRIC DIAGRAM - SPRING 2018 - SCORE: 0.433

The graph below shows an overall picture of classroom utilization for the spring 2018 semester. Please see pages 34-35 for the Fall 2017 diagram semester and page 33 for additional details.



LEASED SPACE ASF BY USE

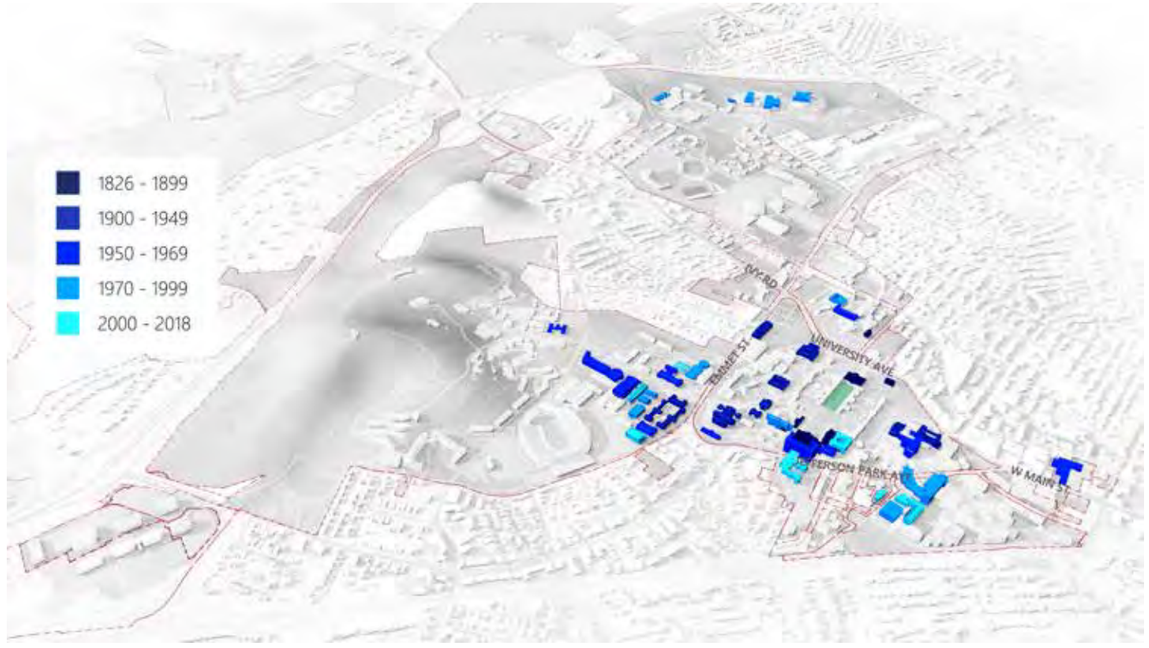
The pie chart below breaks down UVA's leased space by use. Of the over 200,000 ASF of leased space, over 100,000 ASF (58%) is office space (including Jefferson Quarry, Lloyd's Building, and Kluge-Ruhe), nearly 70,000 ASF (34%) is research labs (including CAB North Fork, Millmont Main Building and Cottage, and Morven Farms), and 16,000 ASF (8%) is housing (University Forum Apartments).



TOTAL LEASED SPACE: 202,719 SQUARE FEET

ACADEMIC SPACE DEVELOPMENT CHRONOLOGY

The map below shows buildings colored based on the period of their construction. The lighter blue a building is colored, the more recently it was built.



APPENDIX B: ADDITIONAL CASE STUDIES

PLANNED BUILDINGS, THE OHIO STATE UNIVERSITY

- Interdisciplinary Research Facility - Designed to serve multiple disciplines and will include labs, a vivarium, and support spaces, modeled on existing Biomedical Research Tower
- Arts District - Relocation and consolidation of the Departments of Theatre, Fine Arts, Music, and Dance to create high-quality learning environments with the aim of fostering interactions across the arts. Will serve as new, grand front door of campus at the heart of the University District
- Interdisciplinary Health Sciences Center - Upgraded, flexible facilities (classrooms, teaching/ simulation labs, offices, support, and quadrangle with green space) to encourage interprofessional collaborations among the Colleges of Medicine, Optometry, and Nursing, and the School of Health and Rehabilitation Sciences

INTERDISCIPLINARY SCIENCE AND TECHNOLOGY BUILDING, MICHIGAN STATE UNIV

- Provides modern teaching and interdisciplinary research space to support growth in STEM fields
- Emphasis on research to support the University's Global Impact Initiative to hire over 100 new faculty investigators to accelerate finding solutions to the recognized "Grand Challenges"
- Adjacent to other research facilities to continue the development of research district centered around the biomedical and biological sciences
- Promotion of interdisciplinary work provides competitive edge for multidisciplinary grants

NEW INTERDISCIPLINARY CENTERS, UNIVERSITY OF CALIFORNIA BERKELEY

Four New Initiative Centers (NICs) created in 2013 with the goal of developing research and instructional programs in promising areas between or among traditional disciplines

CENTER FOR COMPUTATIONAL BIOLOGY

- ~30 research groups from 12 departments and 5 colleges, plus LBNL. Two interdisciplinary research graduate programs: computational biology Ph.D. program, and a designated emphasis in computational and genomics biology.
- CCB works with several research centers and institutes, as well as Innovation fellows, collaborators from other institutions and leaders from industry, government, and nonprofits
- CCB directed by a faculty Director appointed by Provost. Director reports to the Vice Provost for Strategic Academic and Facilities Planning

CENTER FOR NEW MEDIA

- Mission is to critically analyze and help shape developments in new media from cross-disciplinary and global perspectives that emphasize humanities and the public interest
- BCNM has established cross-disciplinary faculty positions and a special program for masters' and Ph.D. students. The BCNM supports academic modes of scholarship while encouraging unorthodox artworks, designs, and experiments
- With >100 affiliated faculty from >30 departments, BCNM brings together humanists, technologists, social scientists, artists, and designers. The center offers two graduate curricula, an undergraduate certificate, several fellowships, and a visiting scholar program

ADDITIONAL BUILDINGS, UNIVERSITY OF CALIFORNIA BERKELEY

- The Li Ka Shing Center desginated for health-related research. Houses research groups with common interest in molecular baiss for disease. Space allocated based on need and impact on other groups in facility at large
- Sutardja Dai Hall houses interdisciplinary and collaborative research projects in information and communication technologies. Space allocations and operational decisions must foster interdisciplinary interaction

APPENDIX C: PREVIOUS STUDIES & SUMMARIES

This section details the previous studies synthesized for this project, and provides a breakdown of space recommendations and key excerpts for each of the individual school studies.

Center for Contemplative Studies
- *Program and Feasibility Study Report* (2017)

College and Graduate School of Arts & Sciences
- *Arts Programs Vision & Playbook* (2017)
- *Arts Space Planning & Organizational Roadmapping* (2018)
- Instructional Design Group website (2018)

College and Graduate School of Arts & Sciences / School of Engineering and Applied Sciences
- *What's next for STEM at UVA?* – Integrated Facilities Plan (2015)

Curry School of Education
- *Needs Assessment, Current State & Future Vision Report* (2017)

Darden School of Business
- *Concept Study Report* (2014)
- *Program Review and Preliminary Master Plan*, version 1 & 2 (2016)
- *Master Plan* (2016)

Frank Batten School of Leadership and Public Policy
- *Space Needs Assessment Future State Report* (2015)
- *Programming and Siting Study* (2018)

Health System
- *Fontaine Master Plan* (2018)
- *Health Systems Integrated Space Plan* (2017)

Library
- *Vision and Goals for the Alderman Library Renovation Project* (2017)

McIntire School of Commerce
- *Needs Assessment & Options Development* (2015)
- *Program Growth & Site Scenarios* (2017)

School of Architecture
- *Planning Study* (2017)
- *Campbell Hall Renovation & Addition* (2017)

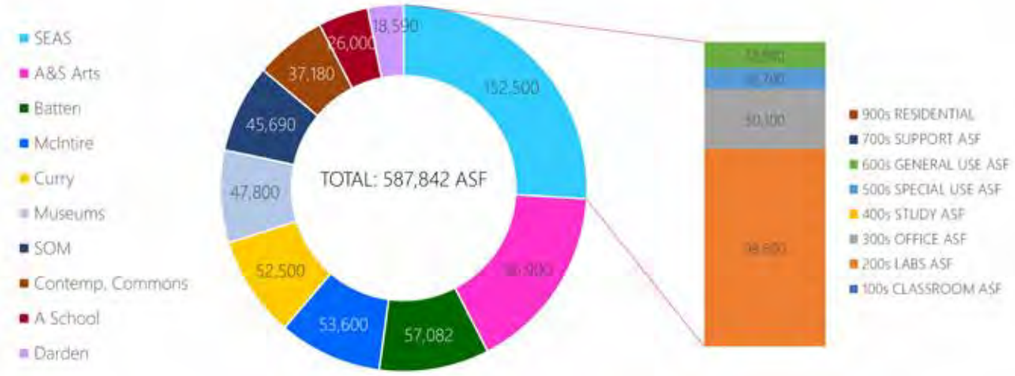
School of Engineering and Applied Sciences
- *Integrated Space Plan* (2018)

UVA-wide
- *Academic Space Analysis* (2016)
- *Administrative Space Plan* (2018)
- *Grounds Plan Planning Model* (2008)
- *Grounds Plan Planning Model Update* (2016)
- *Space Planning Dashboard* (2017)
- *Capital Planning Process* (2016)
- Makergrounds website (2018)
- *Utilities Master Plan* (2015)

UVA Art Museums
- *Final Report* (2018)

VP for Research
- *Data Sciences Institute* (2018)

SPACE NEED: SCHOOL OF ENGINEERING AND APPLIED SCIENCES

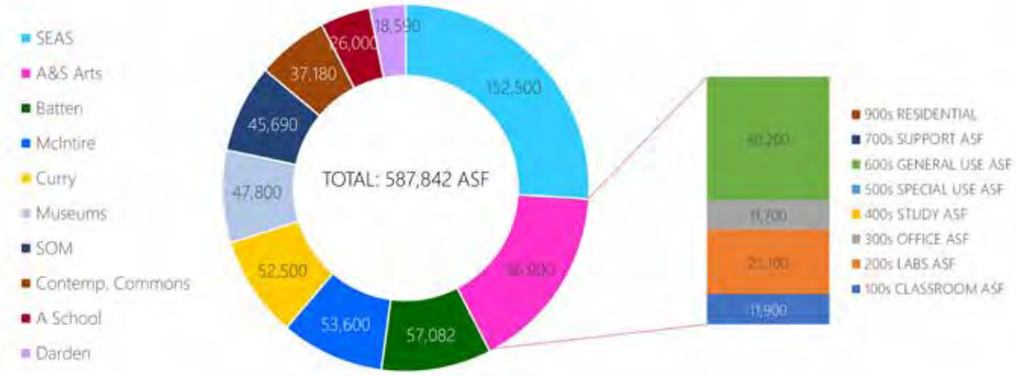


UVA Engineering *Integrated Space Plan* (2018) + *What's Next for STEM at UVA?* (2015)

"**Aging buildings** housing the University's STEM programs coincident with **student enrollment growth** and an **unprecedented period of STEM faculty hiring** requires the University and State to complete substantial reinvestment renewal and renovation work in order to continue to house essential teaching and research functions on Grounds."

"Research space is composed of ***inflexible clusters*** of laboratories that ***prohibit interdisciplinary teaching and research***, contributing to an ***inefficient use of space***."

SPACE NEED: COLLEGE OF ARTS AND SCIENCES

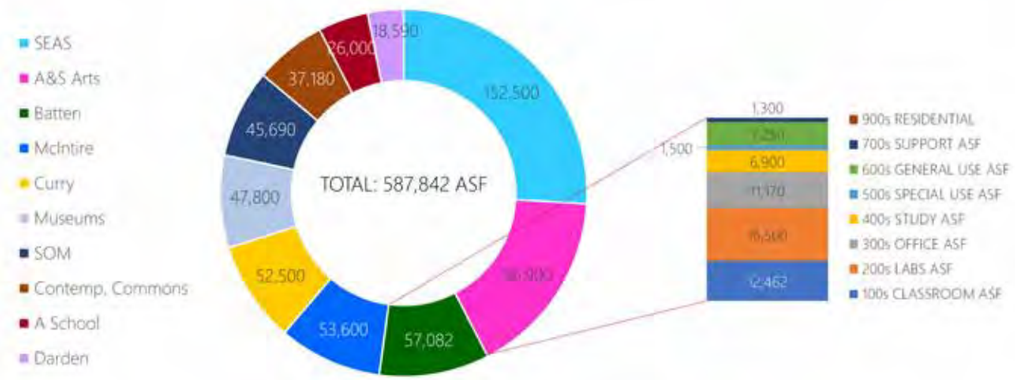


UVA Arts in Arts & Sciences *Space Planning + Organizational Roadmapping* (2018)

"The main limitation is our current **lack of sufficient flexible space** needed to support experimental work that is critical to achieving the A&S vision for the arts. Existing spaces were designed to support traditional work in siloed, separated disciplines. A&S Arts is more than fully utilizing those spaces in support of traditional disciplinary activities"

"**What we need are larger, flat-floor areas** designed with ample storage for varied and flexible activities and uses. We need **more spaces for producing** arts products and events: labs and studios, rehearsal spaces, and more blackbox and whitebox spaces."

SPACE NEED: BATTEN SCHOOL OF LEADERSHIP AND PUBLIC POLICY

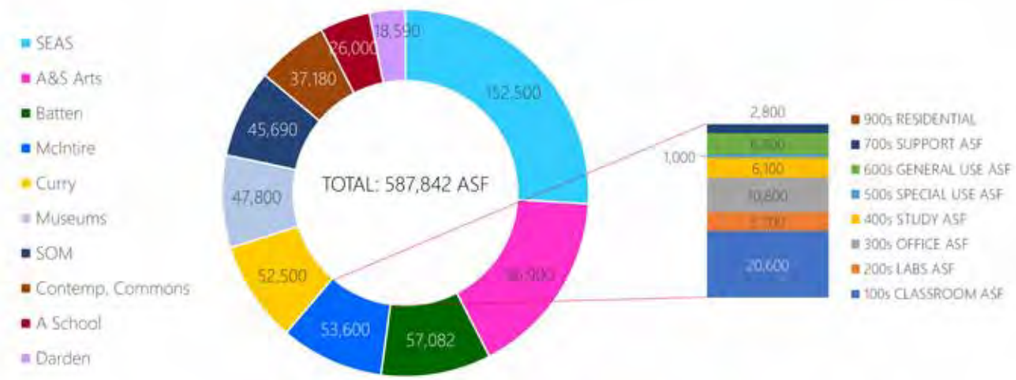


Frank Batten School *Space Needs Assessment Future State Report* (2015) + *Program + Siting Study* (2018)

"More space for Batten will enable it to ***support its growing populations*** and support the experiences that it envisions, because it will have the right types of space, enough of it, and control over how it is used. In particular, Batten lacks its own classrooms and spaces for its users to gather informally."

"Batten wants to be the place at UVA where people come together for public policy-related issues. As an interdisciplinary School with links to several departments and schools (e.g.: Psychology, Education, Business), ***Batten is well-positioned to bring together disciplines from across the*** ."

SPACE NEED: MCINTIRE SCHOOL OF COMMERCE

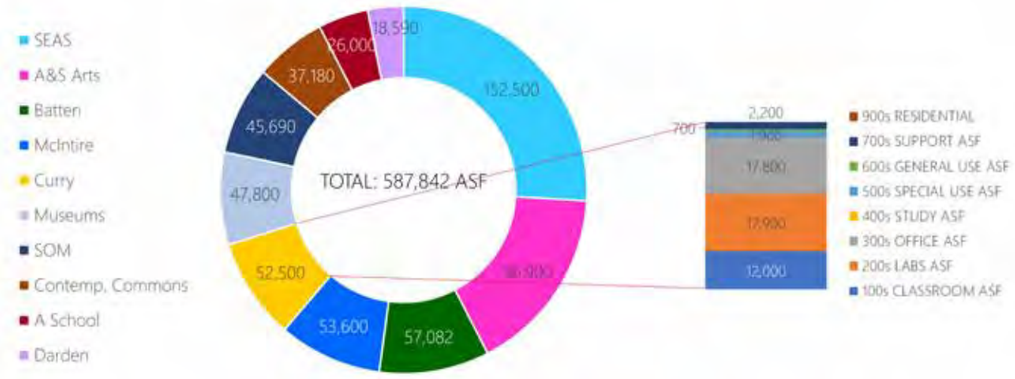


McIntire School of Commerce *Needs Assessment and Options Development* (2016) + *Program Growth and Site Scenarios* (2017)

"The McIntire School has a ***long-term plan for purposeful growth***, including creating new graduate programs, expanding current graduate and executive programs, developing research and study programs through centers, and enhancing the portfolio of undergraduate program offerings."

"McIntire ***needs a facility that is as flexible, multi-functional, and responsive as its community***. The School is also facing a few ***specific constraints related to meeting, informal/collaborative, event, and specialized space***."

SPACE NEED: CURRY SCHOOL OF EDUCATION

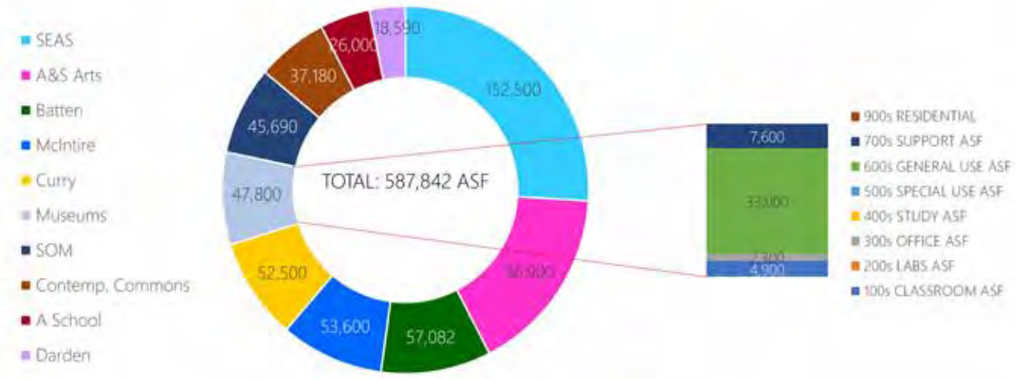


Curry School *Needs Assessment: Current State and Future Vision* (2017)

"Curry is ***at capacity*** and ***requires immediate additional space*** due to growth in salaried faculty."

"Curry is increasingly ***focusing efforts on tackling complex issues in partnership*** with fellow UVA schools and initiatives from a multidisciplinary perspective…Sharing space with University partners would enable Curry to nurture those crucial relationships and take advantage of transdisciplinary research and teaching opportunities."

SPACE NEED: MUSEUMS

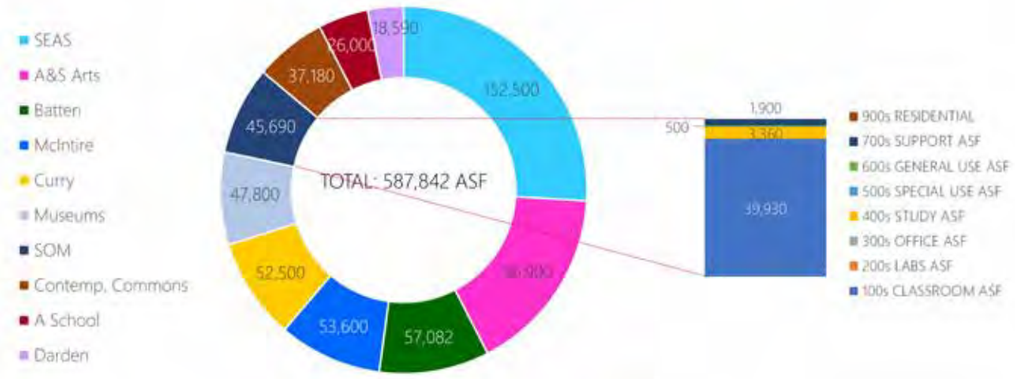


UVA Art Museums *Final Report* (2018)

"The Fralin and the Kluge-Ruhe ***need dedicated and expanded space*** to serve and enable the scholarly needs of UVA. faculty and students, across grounds, increasing opportunities for research, publishing, and exhibition through innovative collaboration."

"Desire for the new art museum building to serve as: ***a hub connecting students, faculty, researchers, and the public*** to the collections and one another…and a leader and ***model for a new type of inter-disciplinary arts museum*** that leverages valuable resources and expands on educational opportunities."

SPACE NEED: SCHOOL OF MEDICINE

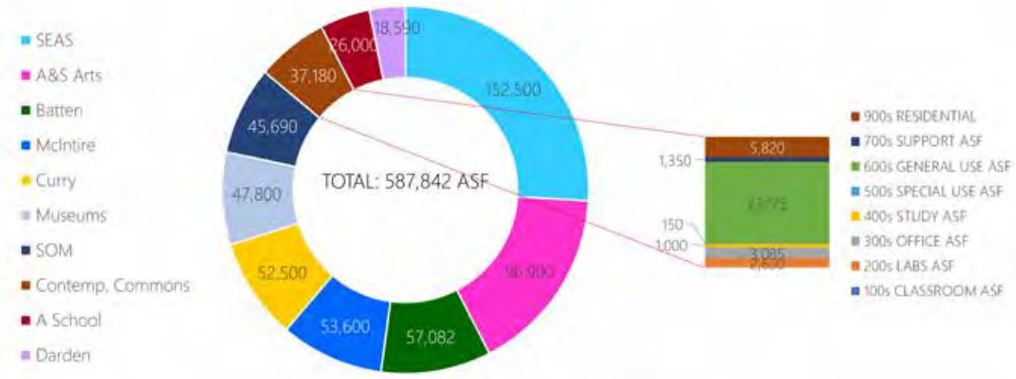


Health Systems *Integrated Space Plan* (2017)

"With investment in the right set of new buildings – ones which support increased space utilization and contemporary operations – the Health System can ***migrate into a smaller footprint while accommodating planned strategic growth***."

"The current Health System portfolio includes roughly ***one-third space which is at the end of its useful life*** and in which further investment is not recommended. This represents some 1 million square feet, located primarily in the West Complex, Cobb Hall, McKim Hall, the Jefferson Park Medical Office Building, and MR-4."

SPACE NEED: CONTEMPLATIVE COMMONS



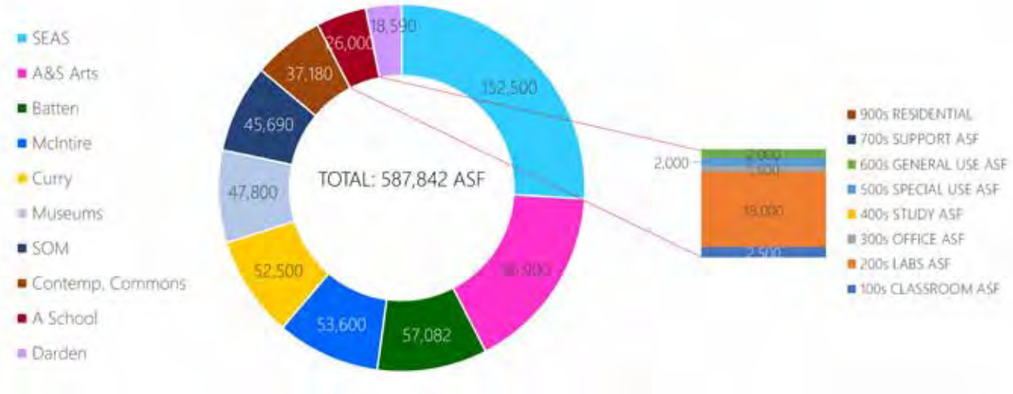
Contemplative Commons *Executive Summary and Programming Excerpts* (April 2017)

The Contemplative Commons "will be a place that functions as a living laboratory for in-context research…provides ***open flexible spaces***…provides specialized spaces with specific experiences and equipment."

"It's about creating spaces where people ***can come together at the intersection of disciplines*** to create, learn and reflect."

"The Commons – a ***pan- environment*** – will create unprecedented opportunities for intersections between academic and residential; faculty and students; culture and nature; schools and disciplines."

SPACE NEED: SCHOOL OF ARCHITECTURE

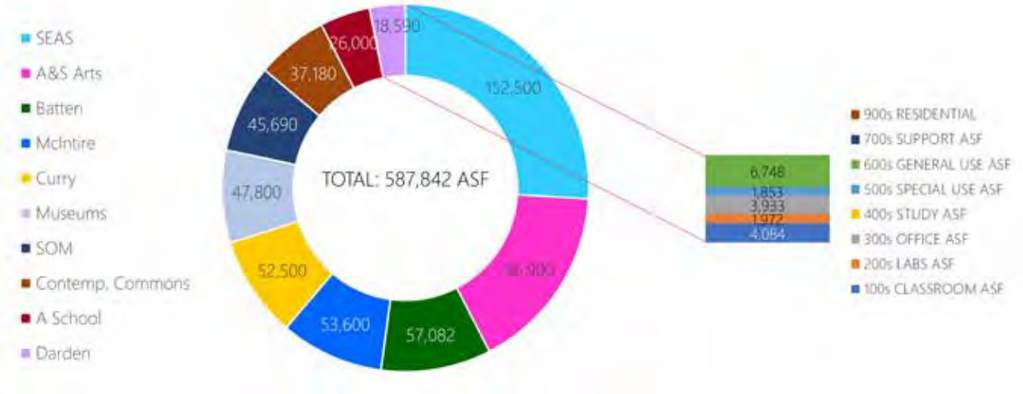


School of Architecture *Space Needs Assessment* (2016) + *Addition* (2017)

"In 2015-16, no classrooms met the SCHEV minimum standard for 60% occupancy in terms of actual enrollment…***Several spaces are in noticeably higher demand than others***, most likely due to room quality…There is a dearth of office space at the A-School."

"The goal is to make courses in the FabLab accessible to a multidisciplinary group of students….***Expand collaborations with other UVA schools*** and units, domestic and international universities, and building trades, fabricators, design industries, and NGOs interested in similar research applications."

SPACE NEED: DARDEN SCHOOL OF BUSINESS



Darden School of Business *Master Plan Study* (2016)

Plan is "a roadmap for Darden facilities in the near to midterm as well as long term ideas to support its recently developed strategic plan. Components of this plan include an 'Academic Hub,' a central organizing space and gathering location for the school, as well as co-location of student services, improved food service, student-friendly outdoor pedestrian spaces, and the ***enhancement of a technology infrastructure for in-classroom learning and synchronous and asynchronous distance learning***."

APPENDIX D: MEETING MINUTES

Below are the minutes from the series of meetings held at UVA on April 10:

Subject: Meeting 2 Kickoff
Present: DJ Team, C. Warnock, W. Palmer, J. Monteith, R. Minturn, J. Wise

- Schedule review:
  - J. Monteith confirmed that this initiative is not on the BOV's June agenda but should be included in September. It was noted that there is an August board retreat (date TBD) that might provide an opportunity to review progress to date.
  - Discussion of May meeting agenda– opportunity to preview, discuss initial findings of the academic space study and the synthesis of existing studies
- Now that state-mandated enrollment increases have been met (as of 2018), UVA expected to revert to "typical" growth of approx. 1% annually
  - Note that this could change depending on the priorities of the president-elect
- Study scope:
  - What do we mean by performance space?
    - D. Minturn described as 1) traditional, department-based performance and production, 2) interdisciplinary, experimental performance (for credit), and 3) student enrichment activities (CIOs), not for credit, overseen by Student Affairs
  - Study can be framed in terms of what is useful for the president-elect

Subject: Classrooms/Learning Spaces Group 2: Pedagogy Experts and Academic Space Planners
Present: DJ Team, C. Warnock, W. Palmer, J. Monteith, R. Minturn, J. Wise, L. Carrazana, J. Hyohan, W. Stuart, L. Hawthorne, A. Towns, J. Carls, C. Brighton, J. Notis, M. Brandt-Pearce, D. Smith, S. McDonald, J. Moore, D. Hoffman, P. Lawson

- Space needs:
  - W. Stuart emphasized the need for a 500-seat auditorium for large lectures, ideally w/ two rows on the same plane for breakout groups. She also noted the need for a variety of flexible, flat-floored, small spaces for 16-30 (approx. 600 sf) as a supplement to traditional classrooms
  - Discussion of the logistical difficulty of sub-dividable spaces
  - W. Stuart stressed that only flexibility for increased use of existing classroom space is "time" (i.e. when during the week classes are scheduled)
  - L. Hawthorne described the need for casual, living room spaces (beyond those in res halls); i.e. spaces that do not look like classrooms
  - M. Brandt-Pearce and others emphasized on the need for spaces that support active and hands-on learning and that can accommodate 60-100 students
    - These rooms could then allow for a strategy of de-crowding existing rooms to allow for more flexible furniture that can better support active learning pedagogies
  - Discussion of the need for professional education space, could be off grounds
  - More maker spaces needed around campus
    - Defined as spaces with hi-tech and/or lo-tech fabrication equipment
    - Lacey Hall space is exemplary but hard to access
    - ILab also great, but North Grounds/Darden School is a psychological barrier
    - W. Stuart believes maker spaces should be shared but noted that discipline-specific spaces will always be necessary
    - L. Carrazana noted that policies around maker spaces can help break down institutional silos (ref. Georgia Tech's policy of universal accessibility)
    - G. Janks questioned what needs to happen for spaces to be truly shared, esp. in the context of RCM and the notion of space "ownership"
    - Can UVA be more intentional about where these maker spaces are rather than opportunistic?
- Changes to pedagogy occurring but some faculty will always have a reluctance to move too far from traditional models
  - A. Towns noted that active learning is exploding in the College of Arts & Sciences but that UVA will always have a need for traditional lectures
  - Small increase in hybrid lecture/working group, little embrace of distance learning to date
    - "UVA brand is the student experience," access to faculty is key – hence low adoption rate of hybrid models in the College
- Discussion of the max capacity for a flat floor space, consensus was 120-150
- Space use:
  - W. Stuart discussed space gridlock between 9-5, esp. on Tuesday and Thursday. Efforts to push classes to Friday were mentioned.
  - G. Janks asked what, programmatically, would a 500-seat space enable that can't happen now
  - Discussion of whether it is possible to incentivize off-peak class scheduling. Are there examples from other schools?

Subject: Common Types of Space for Multi-School/Interdisciplinary Opportunities
Present: DJ Team, C. Warnock, W. Palmer, J. Monteith, R. Minturn, J. Wise, J. Hyohan, L. Carrazana

- Evidence of move towards interdisciplinary work on campus:
  - L. Carrazana noted that at the time of the STEM study there was very limited interdisciplinarity
  - Currently Fontaine and Engineering present significant opportunities for transdisciplinary buildings
    - Organized around themes and multi-school cluster hires – themes include multiple areas of engineering, neurology and physics
  - Big Data is another successful cross-cutting field (this was one of the first SIFs), however those involved are focused on fundraising, creating a new school
  - Further discussion of the Strategic Investment Fund as another vehicle for interdisciplinarity
  - Core facilities (vivaria, cleanrooms, imaging, etc.) could be opportunities but thus far efforts have fallen short as a result of politics
  - L. Carrazana identified the Institutes as a means of bridging social science and research
- G. Janks asked what are UVA's big ideas/themes that can be used to inspire collaboration
  - Cornerstone Plan is too general
  - What is UVA's identity?
    - D. Minturn noted the historical liberal arts/leadership focus and questioned what the move towards research suggests? Are these two things a binary or complementary?
- Question posed as to how other schools are fostering collaboration and especially buildings not designated for specific departments or schools, esp. in the context of RCM. Who are UVA's peers/aspirational peers worth investigating?
- How do we define space?

- Common space (tends to be more undergrad oriented)
  - Classrooms
  - Maker spaces
  - Media/production spaces
  - Teaching labs
  - Community spaces
- Interdisciplinary space (tends to be grad oriented)
  - Labs and research core spaces
  - Performance spaces

Subject: Health Systems
Present: DJ Team, C. Warnock, W. Palmer, J. Monteith, R. Minturn, J. Wise, J. Hyohan, L. Carrazana, J. Hurley Smith, T. Harkins

- L. Carrazana noted that the Health Systems ISP did an excellent job outlining priorities
- T. Harkins noted the current needs for 90,000 sf of educational space for SOM, BME, Public Health and research space within the next 10 years. This includes the need for a 200-seat space. He also confirmed the fact that existing clinical space is adequate and has received necessary investment over time.
  - HS lacks student wellness and amenity space
- J. Hurley Smith noted that hybrid delivery is of interest however there are technological constraints
- Technology in general is a challenge, because of the existence of multiple systems
- Upgrades to research space a major priority – 60% deemed in poor condition
- Discussion of West Complex:
  - Part of historic campus fabric, but not serving the needs
  - Buildings present an opportunity given their proximity to the Academic Village
  - What are those buildings suited for if not research?
  - Should the buildings be demolished?
- J. Hurley Smith emphasized that the next step is to evaluate governance policies
  - Need to reevaluate what needs to remain on Grounds and what can move elsewhere
  - Currently establishing guidelines for lab research space management
  - Next task will be similar guidelines for office space
  - Transportation/traffic (and parking) are issues raised by the ISP as major impediments to on-grounds clinical growth. These will be addressed by moving low acuity and ambulatory services off grounds.
  - There are also many staff/support on Grounds that don't need to be there
- Discussion of the low utilization and in some cases redundancy of office space for faculty
  - What is needed is convenient, reliable, reservable space
  - A space "crisis" can be a good opportunity to consider alternatives like open office formats / hoteling that would not otherwise be palatable
  - Belief that people will be happy to accept smaller offices if it means they can all be together

FOLLOW UP: UVA to provide draft Health Services space plan and staff/faculty location criteria

Below are the minutes from the series of meetings held at UVA on April 11:

Subject: Executive Sponsor Meeting
Present: DJ Team, C. Warnock, J. Monteith, R. Minturn, J. Wise, J. Hyohan, A. Raucher, C. Sheehy, D. Sundgren

- What is core scope of the Strategic Framework for Academic Space?
  - What do we have?
  - What do we need?
  - What will we need?
  - How does UVA adapt what we have to serve new needs vs. building new?
  - Where are the opportunities?
  - Provide a comprehensive snapshot of academic space
  - G. Janks identified the purpose of the study as enabling decision-making, not necessarily providing decisions
- C. Sheehy identified related questions: How do you incentivize collaboration? How do you identify who's willing?
- Discussion of how RCM supports or impedes what the Deans are trying to achieve.
- Who has worked within a RCM framework to emphasize interdisciplinarity? What policies/incentives were most effective? How do we get there?
- Discussion of the utility of benchmarking
  - G. Janks stated the inherent limitations. It's about policy, not formulae.
  - Where is there a role for benchmarking?
    - Baseline understanding of pace utilization/scheduling ("a typical week")
    - RCM policies/incentives
- DJ to request historic data on section sizes. What has the impact of RCM been?
- C. Sheehy questioned how we effectively and efficiently adapt spaces to serve new needs as teaching continues to evolve.
- Discussion on how the framework can best support the university's new leadership

FOLLOW UP: UVA to identify peer institutions for benchmarking. DJ to explore available data for these institutions and then, if necessary, to potentially help frame info request for UVA to issue.

Subject: Executive Sponsor Meeting Debrief
Present: DJ Team, C. Warnock, J. Monteith, R. Minturn, J. Wise, J. Hyohan

- How do we engage academics in this effort?
  - Suggestion from L. Carrazana that a faculty innovator work session be included in May. Also, suggested bringing Deans Pianta (Curry School) and Stam (Batten School) on as advisors to the working group along with traditional engagement of other deans, especially SOM, A&S, SEAS
  - J. Hyohan asked whether there is a role for the faculty senate in this context.
- Who should be engaged from the financial side?

- Discussed possible peers: UNC Chapel Hill, Duke, V. Tech, UT Austin
- Does UVA aspire to continue as a Tier I research institution?
    - Does this clash with historic strength as a liberal arts institution?
    - L. Carrazana and G. Janks observed that if so it will require a significant contribution of resources – research is costly – and that other universities have latitude with undergraduate tuition increases that can support research
- Further discussion of RCM model in practice
    - What works in other schools?
    - Is year-over-year rollover captured by schools?

FOLLOW UP: UVA to schedule May meetings with identified academic, financial contacts

Subject: Classrooms/Learning Spaces/Student Activity Space - Group 1/Performance Space System Providers
Present: DJ Team, J. Monteith, J. Wise, J. Hyohan, W. Palmer, M. Pattie, W. Stuart, D. Allen, M. Webb, L. Marshall, S. Drumheller

- M. Webb noted that the classroom portfolio is in the best shape it's ever been and that there have been consistent capital investments over the last several years.
- M. Pattie described Student Affairs as being in a period of reconfiguration, refocusing on student leadership, career development, and student wellness in addition to crisis response
    - This is motivated by the increasing rate of change in student outlook. 4th years and 1st years have very different perspectives
    - New student wellness center being planned, office is evaluating the Student Activities Building
- Description of student group hierarchy: CIOs, special status orgs, agency orgs, fraternal orgs
- W. Stuart described the challenge of student activities space limitations, especially for performance space and for food service
    - 20% of student groups need performance space
    - Scheduling protocol is to wait until the 3rd week of the semester to allocate CIOs space in classrooms
- M. Pattie noted that buildings like Newcomb change character over the course of the day
- Student Activities Building described as off the beaten path, but all student space, especially 1515 and Newcomb are well used
    - Discussion of Merriweather Louis Institute as well as the need for a space optimization study for student affairs
    - G. Janks asked what is considered too out of the way
- Discussion of the role of the Corner in student life
    - Place for UVA/community convening
- What are the priorities for student affairs?
    - Balancing supply and demand for performance space
    - "General capacity", more 1515-esque hangout spaces
    - Need improved systems, policies and procedures, scheduling, and governance to optimize space utilization
- J. Stern asked whether common gathering places could be reserved for appropriate student groups, freeing up other types of space
    - W. Stuart observed that this would require a policy change from individual schools who "own" the space

FOLLOW UP: UVA to provide Student Affairs study PPT

Below are the minutes from the series of meetings held at UVA on May 9:

Subject: Core Group Meeting
Present: DJ Team, C. Warnock, W. Palmer, J. Monteith, R. Minturn, J. Wise, L. Carrazana, J. Im

- Initial review of utilization analysis and previous studies synthesis presentation
- G. Janks noted that space issues appear largely cultural/process-oriented rather than a matter of bricks and mortar
    - Anecdotal needs not aligned with what the data tells us
        - 500-seat room appears to have capacity
        - Notable "bump" in existing capacity for 60-150 seat rooms, despite stated need
- Discussion of how to reflect qualitative and locational issues in the analysis

Presentation notes/next steps:

1. **DJ to overlay non-instructional use on instructional use to paint a full picture of weekly space utilization**
2. **DJ to filter out Law School, Darden, SOM as parallel data set**
3. **DJ to add detailed insert/section of classroom metric**

Subject: Finance Meeting
Present: DJ Team, C. Warnock, W. Palmer, J. Monteith, R. Minturn, J. Wise, L. Carrazana, J. Im, A. Webb, E. Lorente

- Discussion of the need to integrate academic, financial, and physical planning
- What processes can help relevant people get the finance information they need across UVA?
- How is RCM applied across UVA?
    - Per A. Webb, schools have revenue model with facilities as base, utilities charged directly to school, pro rata charge for common space
        - Flat charge for classroom space (est. $16-18/sf per year including utilities) – generally works despite lack of distinction based on quality
        - Currently little debate over space cost allocation
        - RCM is for education and general spaces only (less than 50% of UVA portfolio)
        - Leased space also excluded
        - There is no university reserve in the Provost's Office ("Governor's Overhead") for capital spending – all indirects go back to schools
        - Currently 75% of revenue goes to school that "owns" course, 25% to school that "owns" student
            - Revenue split is being revisted this summer
- A. Webb noted that Wynne Stuart manages classroom use but that the State/SCHEV mandates whether new space is needed based on utilization

- For new construction projects, schools need to commit to 2% of construction costs/year as a capital reserve for building upkeep
    - E. Lorente noted that this methodology is limited and does not account for/disincentivizes higher up-front expenditures for more sustainable/efficient methods and materials
- What has the effect of RCM been on Grounds?
    - A. Webb observed that we're 4 years in with RCM, still a work in progress and too early to say whether it is "working"
    - Schools have not been driven to give up space due to RCM
        - Had been a "subletting" phenomenon but this has been caught by the space database
    - Issue with operating expenses, including in IT security, etc., escalating more quickly than tuition can be increased, creating a financial burden for schools
    - A. Webb disputed the idea that RCM has driven large class offerings, thinks it is more to do with faculty popularity
    - Is there evidence of student "poaching"?
        - Schools want the revenue associated with additional students
        - They want to grow but the only way is to cannibalize other students (ie. the College is generating as many computer science majors as SEAS, but SEAS receives 75% of the revenue)
- A. Webb noted that not everyone is healthy under RCM, still need to adjust and stabilize, described a "manufactured crisis"
    - Feeling that schools are operating in crisis mode
    - "The money is the money, same as it ever was" – the difference is that schools are now forced to make certain types of decisions for the first time
- G. Janks questioned whether RCM can support interdisciplinary work
    - A. Webb described that research funding and awards is the biggest impediment to interdisciplinary collaboration
    - E. Lorente indicated that RCM does preclude collaboration, noted that schools are focusing on the wrong things – they have too much data and are trying to monetize everything
    - L. Carrazana observed that the program is there, the vision is there but RCM impedes implementation
        - Cluster hires are helping change culture
- Discussion of enrollment trends
    - UVA is stable at the moment but State is constantly pushing for enrollment increases
        - University growth is inherently limited by housing availability for 1st years
        - Schools are independently pushing for growth as well
- A.Webb and E. Lorente believe that integrated planning is critical
    - Schools shouldn't make decisions in vacuum
    - "Silo mentality" is noted
    - General belief that the capital planning process has improved though it is still largely donor driven

- Discussion of what new leadership will bring
    - Impossible to know but it can't be an excuse for inaction
    - J. Im described schools (Cornell, Michigan, Indiana) with a space charge that goes to Provost ("strategic tax")
        - How do we get there?
        - It's going to be for the new president to decide whether it's a priority and, if so, to force interdisciplinarity
        - Issue noted that schools don't know the UVA governance model, confusion over how decisions are made

Subject: Finance Meeting Debrief
Present: DJ Team, C. Warnock, W. Palmer, J. Monteith, R. Minturn, J. Wise, L. Carrazana, J. Im

- How does advancement work?
    - 27 separate foundations doing independent fundraising
    - Decentralization brings challenges, particularly as the pool of donors is hit by multiple schools
        - How do you integrate capital planning in this context?
- L. Carrazana noted that cluster hires are a great opportunity to break down silos
    - Faculty are strong, bring new ideas and motivations
- G. Janks asked what the goals of the study should be
    - L. Carrazana believes that it should identify the critical issues in the context of opportunities and priorities
        - Also important to communicate the political costs of certain decisions
        - What are the land use opportunities?
    - C. Warnock discussed major thematic questions
        - "How can space utilization strategy further the president's vision?"
- Discussion of the presentation

Presentation notes/next steps:

1. **L. Carrazana: why aren't McLeod and Claude Moore showing up on WSCH diagram?**
2. **250/55 diagram is not capturing core facilities**
3. **Need to clarify what from the Health Systems ISP should be included – follow up conference call with L. Carrazana and working group needs to be scheduled**
4. **J. Heckman to provide active learning classroom IDs to integrate into analysis**

Subject: Academic Innovators Meeting
Present: DJ Team, C. Warnock, J. Monteith, R. Minturn, J. Wise, J. Im, J. Groves, J. Notis, H. Ma

- H. Ma relayed a conversation with colleagues regarding space needs
  - More board space (on 3-4 sides of classroom)
    - Screens OK but not necessary
  - Need more space that facilitates group work – flexible furniture, flat floors, etc.
  - More than one door to minimize distractions also important
- G. Janks posed the question of "Where are we going?"
  - J. Notis believes there is a lot of demand for flexibility, but there is a plurality of opinions and needs
  - J. Groves described his capstone project which draws students from engineering and beyond and focuses on design thinking
    - Noted that students don't have reservable access to working space for groups of 3-5
    - It would be ideal to have a basic shop space that would be dedicated for an entire semester – doesn't need to be fancy
      - Reference to architecture studio space
    - The space is there but it's not always available
  - J. Notis believes a "home garage on steroids" would serve 85% of "maker space" need

Subject: Space Working Group
Present: DJ Team, C. Warnock, J. Monteith, R. Minturn, J. Wise, J. Im, J. Notis, L. Carrazana, E. Lorente

- W. Stuart observed that the space utilization metric does not address qualitative issues including room type or location. Also believes that law and medicine should be filtered out and that this will change the picture
- Towns and W. Stuart disputed A&S labs findings – need to review what is defined as a teaching lab
- Need to see non-instructional use of space as well
  - W. Stuart noted that geography is key for non-instructional use
    - Certain buildings off limits for CIOs
- Question of how maintenance time is factored into data
- Comment made that certain lounge spaces (seating in corridors, etc.) are not coded as such and that FICM is not accurately representing the distribution of unprogrammed space
  - Is there a way to address this using UVA data?
- Request by J. Notis to specify the time horizon of the various studies
  - SEAS buildout and space needs ("aspirational") too high
- Discussion of benchmarking slides
  - E. Lorente asked what schools with lower ASF/student are doing to succeed

Below are the minutes from the series of meetings held at UVA on May 10:

Subject: College Academy Meeting
Present: DJ Team, C. Warnock, J. Monteith, J. Wise, J. Im, S. Betzer, C. Wellmon

- UVA is stuck in traditional education models to some degree because of physical conditions
- Description of Engagements curriculum
  - Providing students an interdisciplinary approach to education – moving beyond "cafeteria style"
  - Faculty "bought out" of home department (A&S only at present) to design courses
    - Faculty participates for 2-3 years
    - 2016-17 curriculum development
    - Fall 2017 was the pilot semester
  - Projecting quick scaling of program
    - Currently opt-in, 517 students
    - Scaling up to 700-800, 2,000 by 2020
    - Full scale will be 2,800 students
  - Targeting class sizes of 35-70, big difference from 1st year average of 155
  - Domains include ethics, aesthetics, empiricism, difference
    - Framework for big questions
- C. Wellmon noted that a lecture hall is antithetical to engagements concept
- S. Betzer echoed this observation and that "modularity and flexibility is the whole model"
  - Monroe 110 as an ideal active learning space, Wilson spaces too
  - Need for a 120-seat active learning classroom
  - C. Wellmon argued too much technology – "screenification" is a problem in classrooms
- Future of the program depends on having enough of the right kind of space
- Distribution of space also an issue
  - Department-specific buildings and quadrants of space as bastions of subject areas are anathema to interdisciplinarity
    - Should be about spaces beyond departmental boundaries

Subject: Center for Teaching Excellence Meeting
Present: DJ Team, C. Warnock, J. Monteith, J. Wise, J. Im, J. Heckman, M. Palmer

- CTE has been in place since 1990
  - Offers Course Design Institute at Provost level
  - Works with faculty and grad students to improve teaching (A&S, SEAS, Curry primarily)
  - Touches several thousand people per year
  - Promotes cross-institutional cultural changes around course design
- M. Palmer noted the important spatial dimension of these changes
  - Specifically noted the move towards active learning

        - The larger the class the less active
    - Hybrid delivery / online instruction limited
        - UVA focuses on face-to-face but that's not the only way
        - If there's a move towards hybrid delivery, need to be intentional about support spaces
    - Current space limits the type of instruction faculty can offer
        - Specifically mentioned the need for a 120-seat active learning classroom
        - Course room allocations do not factor in ULAs – can create space constraints
- Discussion of RCM and whether it incentivizes big courses, duplication of courses to capture revenue
    - M. Palmer observed that we need to think about how a 500-seat classroom can be utilized in a pedagogically sound way, noted that certain lecture-style courses will always be relevant
    - Class enrollments are increasing – this is not beneficial to students
- G. Janks asked whether an institutional strategy is possible within the UVA culture/structure
    - Instructional space strategy would need to fit within an institutional strategy (of which there is none at present)
    - M. Palmer believed it is possible but that you need the right incentive structures in place
- What are the other teaching resources on Grounds?
    - SHANTI (instructional technology, part of Library)
    - UVA Collab (Dave Strite as point of contact)
    - Scholar's Lab
    - School-specific instructional development units (Curry, Darden, McIntire, etc.)
    - Learning Design & Technology
- Discussion of a classroom building
    - M. Palmer argued that the right spaces are more important than specific geography
    - Currently a mismatch between class size and allocation of space which needs to be addressed
- M. Palmer noted that informal learning spaces are vitally important

Subject: Learning Design & Technology Meeting
Present: DJ Team, C. Warnock, J. Monteith, J. Wise, J. Im, J. Heckman, J. Giering

- LDT within A&S – supports teaching and learning mission of the College
- Team of 7, interact with 1/3 to 1/4 of A&S faculty on an annual basis
- Works with CTE, provides depth to CTE's breadth
    - Consultative, smaller groups and 1-on-1 sessions
- Provides learning technology grants
- Administers active learning classrooms
- J. Giering described LDT principles
    - Authentic, student-centered learning
    - Engaged learning
    - Creating a physical environment that supports student participation

- J. Giering noted a rapid shift towards active learning spaces and methods
    - 4 fully converted, 4 "active modified" (flat floor, group tables, limited technology)
    - Appetite for additional active learning rooms, esp. a 126-seater for Engagements
    - However, feels that "we are behind our peers in teaching innovation"
        - Reference made to the Univ. of Utah Innovation & Entrepreneurship Center
- J. Monteith asked why we can't convert several classrooms over a summer
    - Requires a reduction in capacity
    - Not all rooms are convertible due to dimensions, acoustics, etc.
    - Would conversion of classrooms conflict with SCHEV requirements?
- J. Giering feels an additional large enrollment classroom is needed, especially when large Gilmer room goes offline
    - Ref. Wilson Hall production studios, New Cabell "one-button studio"
- Discussion of tech in the classroom
    - It should facilitate students being seen and heard by other students (throwable mic example)
    - Tech can expand opportunity outside of the classroom
- "World Language Commons" in Old Cabell as ideal space, worth replicating
    - Break down formal/informal barriers

Presentation notes/next steps:

1. **UVA to provide locations/IDs for active learning and "active modified" rooms**
2. **Request that media spaces are mapped along with maker spaces**
3. **Need to map utilization of active learning classrooms to assess capacity**

Subject: West Complex & Fontaine Session
Present: DJ Team, C. Warnock, J. Monteith, J. Wise, J. Im, J. Heckman, R. Minturn, L. Carrazana, E. Cooper

- Goals of Fontaine development
    - Improve patient experience
    - Reduce traffic burden on Grounds
    - Create a translational campus
    - Improve sense of place, resource use
    - Improve connection with Grounds
    - Design a flexible plan
    - Create a desirable place to work
    - Create new opportunities to redevelop decanted buildings
- Fontaine was UVA Foundation property, recently reentitled for 835K sf
- Plan includes a 250K research building (shared by SOM-120K, SEAS-33K, Core facilities-30K, A&S-7K, Curry-5K)
- Complete decant of West Complex as a phased plan

Presentation notes/next steps:

1. **UVA to provide full Fontaine PPT, West Complex diagram if possible** (*provided by W. Palmer on 5/18*)
2. **L. Carrazana request to only include 2 early phase buildings in buildout diagram**

Subject: Executive Sponsor Meeting

Present: DJ Team, C. Warnock, J. Monteith, R. Minturn, J. Wise, A. Raucher, C. Sheehy, D. Sundgren, A. Webb

- How do you weigh classroom space relative to other priorities?
- G. Janks noted that this study will raise policy questions in parallel with bricks and mortar
    - Hard to identify a quantitative justification for more classroom space
        - But quantity doesn't tell the story…How do we integrate qualitative considerations?
- A.Raucher asked what shape the recommendation will take
    - Opportunities, strategy, policy
    - Request that we diagram efficiencies
        - What happens if you build classroom space – trickle down benefits?
- C. Sheehy asked what the map look like if we can incentivize sharing
    - How do we represent efficiencies of shared space?
- D. Sundgren noted the ongoing administrative space study – important to integrate the two
- Discussion of big classes and the need for smaller sections of approx. 30
- When considering schedule optimization important to consider student AND faculty travel time
- Note that classrooms are being used outside of scheduled hours by students

Presentation notes/next steps:

1. **UVA to provide any initial findings of administrative study** (*admin study findings debrief scheduled for 6/21*)
2. **DJ to integrate Darden data**

Below are the minutes from the series of meetings held at UVA on June 21:

Subject: Core Group Meeting

Present: DJ Team, W. Palmer, J. Monteith, R. Minturn, J. Wise, L. Carrazana, J. Im, J. Heckman

- Initial review of updated analysis and initial strategy building
    - Discussion of active learning space and whether it should be confined to Registrar-controlled space only versus including the SOM room in Claude Moore
        - L. Carrazana emphasized the importance of better understanding what other active learning spaces are on Grounds (SEAS, etc.)
    - J. Heckman noted that a room's listed capacity is not a constant and is subject to change year to year based on need, furniture, etc.
- Discussion of UVA growth projections over time, 1% annual historic growth dating back to 1980s, projected tapering off in next 5-7 years
    - What assumptions should be made moving forward?
    - G. Janks noted that fundamental conclusions don't change significantly if enrollment tapers off or continues to grow at 1%
- G. Janks summarized DJ analysis as not *more* space but *different* space
    - Review of qualitative considerations and the limitation of existing inventory
    - R. Minturn noted that Batten, for instance, has a specific need for classrooms at Ivy (given that it is a new district) – need to contextualize findings
- J. Im asked whether the next phase of the study will show how demand can be satisfied using existing capacity: DJ will look for some high-level solutions but a room-by-room analysis likely falls to the space working group
- Discussion of where new classrooms should go?
    - What is the best use of limited resources?
    - Can Fontaine ever truly be part of Central Grounds?
- J. Monteith noted that the integrated mix of uses is part of the UVA story and is evident in the planning for Brandon Avenue (housing, student services, academic, etc.)
- R. Minturn characterized planning groups as moving in the right direction but noted there is an ongoing need to tackle challenging issues and that financial considerations should be better represented in group composition
    - G. Janks asked whether the existing committees have the necessary teeth to spur changes

Next steps:

1. **DJ to coordinate follow up classroom discussion with Wynne Stuart to ensure accuracy of available data**
2. **DJ, J. Monteith to set a next meeting date**
3. **DJ and W. Palmer, J. Wise to arrange time to review administrative space study**

Subject: Executive Sponsor Meeting
Present: DJ Team, J. Monteith, J. Im, R. Minturn, J. Wise, A. Raucher, C. Sheehy, D. Sundgren, A. Webb

- G. Janks reminded Executive Sponsor Group that the study is not only about classrooms, summarized findings as not *more* space, *different* space
- A. Raucher asked how to evaluate the capacity for sharing
- L. Carrazana noted that there is overlap between the studies – shared hires, etc. – which are not captured by individual studies
    - G. Janks agreed and observed that the net need may be different
- D. Sundgren observed that RCM has not led schools to give up space
- L. Carrazana added that the HS ISP sees the cost of space management and that the SOM and SEAS are paying more attention to space management
- A. Raucher requested examples of interdisciplinary space funding models
    - G. Janks noted that such models can still be built on the school as the organizational unit
- A. Webb believes that the key is reinventing advancement and the culture of building "ownership"
- A. Raucher noted the spatial connection between athletics and North Grounds and that the distribution of residential space across grounds is another key factor for future developments
- Discussion of the 10-minute walking circle
    - Critical SEAS to SOM/West Complex connection
    - Important to consider different class change period and origin/destination patterns of undergrads and grads
- G. Janks observed that UVA is effectively widening Grounds
    - L. Carrazana described the operational burdens posed by this
- C. Sheehy believes data suggests UVA should wrestle more with optimization of space use as new space is expensive
- A. Webb observed that UVA hasn't taken aggressive control of classroom space since the decision to move to centralized scheduling several years ago, but that a new provost brings new opportunity
- A. Raucher requested a deeper dive into tiered classroom conversion opportunities
- J. Monteith asked that the next Executive Sponsor (date TBD) meeting be 90 minutes
- Additional questions raised:
    - Where and how can we position the existing portfolio to better use classroom resources?
    - What are the opportunities for sharing between schools – regarding planning studies for schools?
    - Add to planning armature the western edge of Lawn and West Complex to Ivy Corridor, layer on Athletics overlay
    - How do other Universities manage space ownership and related financial interdisciplinary aspects?
    - Can the study include a recommendation of classrooms to target for renovation?

Next steps:

1. **DJ to identify financial and organizational structures for interdisciplinary space at other universities**

Subject: UVA Libraries Meeting
Present: DJ Team, D. Clark, C. Warnock, J. Im, W. Palmer, J. Monteith, R. Minturn, J. Wise

- D. Clark provided an overview on the changing role of the library and feels the Alderman redesign lacks student spaces and may be too book-oriented even given UVA's culture
    - Feels the need for quiet, contemplative spaces in the library is more acute than the need for space where they can make noise
    - Believes UVA's ongoing focus on accessible collections is relatively unique
- D. Minturn asked what agendas are underrepresented in the library design
    - D. Clark believes the focus on browsable collections is at the expense of space for people
        - No real classrooms
        - No CTE engagement
        - Deemphasis on group study space
    - UVA's library system does not have a history of working with student affairs
    - D. Clark added that agnostic, central spaces give you the most bang for your buck
- Discussion of UVA's 10 libraries (including Brown, Music, and the Fine Arts Library) and independent departmental libraries
- C. Warnock doesn't feel there is enough of a sense of urgency around space sharing

Subject: UVA Advancement Meeting
Present: DJ Team, K. James, C. Warnock, J. Im, W. Palmer, J. Monteith, R. Minturn, J. Wise

- K. James described UVA's decentralized advancement structure
    - 16 distinct foundations including the "University Advancement" foundation which focuses on cross-Grounds initiatives
    - Only a few foundations report to University Advancement (SOM, SON, Architecture, Batten, Contemplative Sciences)
    - Attempt to streamline donor outreach through appointment of a "team leader" and the filing of contact reports
        - Difficult to enforce protocols
- K. James feels that donors rarely drive gifts and that schools work to articulate needs
- Discussion of how advancement discussions dovetail with capital planning
    - Business plan approval takes place in concert with annual project articulation
    - List of ~4-5 go to Board of Visitors annually
- Discussion of project funding and naming rights (or 50% of university's share of project equity requirement)
- UVA doesn't think about funding Institutes on the front end (beyond seed funding through SIF)
    - Data Science has fundraising strategy in place but most don't
- Currently no formal mechanism for funding joint ventures
    - K. James noted that shared projects can be difficult to fund and that advancement approach is lagging behind interdisciplinary trends in academia
        - Challenges posed by the absence of alumni (different in innovation hubs – LA, NY, etc.)

        - Alumni and related foundations responsible for ~60% of total giving
        - Idea-based fundraising as a new frontier, wave of the future
        - U. Washington, UCLA, U. Toronto (ref. David Palmer)
- K. James noted that unrestricted donations are increasingly rare, and donors want to see UVA match
    - Similarly difficult to fund renovations vs. new construction
- UVA development team is approx. 500 people
- Administrative silos exist and make coordination difficult
- UVA needs to build fundraising capacity for pan-university, cross-discipline initiatives
- Advancement should be more involved at the school level

Next steps:

1. **K. James to reach out to David Palmer from University of Toronto to set up a meeting/call to discuss interdisciplinary funding strategies**

Subject: Curriculum Meeting
Present: DJ Team, R. Minturn, W. Stuart, L. Carrazana, J. Wise, J. Monteith, M. Palmer, J. Giering, W. Palmer, A. Towns, S. Betzer

- W. Stuart observed that the data on active learning does not capture active learning pedagogy taking place in regular rooms
    - We have space but not the right space
- M. Palmer described the lack of appropriate classroom space as a major impediment to advanced teaching methods – quoted STEM-based survey
- J. Giering believes that the 5.5% number (courses taking place in active learning classrooms) should grow
- Discussion of whether Wilson 301 (large, fixed-seat) presents a conversion opportunity
- W. Stuart noted that UVA is at the limit of non-forced, cultural utilization of classrooms. In order to accommodate growth the University either needs more space or a top-down mandated policy
- Geography and politics are also factors
- W. Stuart also noted that smaller rooms are too crowded and that capacities should be reduced
- Observation that 18-25 student courses are UVA's sweet spot
- W. Stuart feels there is less CIO use of classrooms as the scheduled day has lengthened
- SCHEV mandate for 20 ASF/student precludes widespread adoption of active learning classrooms
    - Are there schools pushing back on this requirement? Is there an opportunity to change the system?

Next steps:

1. **Penny Cabaniss, State Governmental Relations, and Christina Morel, Institutional Assessment, as candidates to address lack of alignment between legislative requirements and student success goals, perhaps in collaboration with other institutions (George Mason, VA Tech, etc.)**

Subject: Space Working Group
Present: DJ Team, R. Minturn, W. Stuart, J. Wise, J. Monteith, J. Heckman, W. Palmer, A. Towns, J. Notis

- Observation that clinical activity follows a similar pattern of use to classrooms
- J. Notis noted that Fridays are typically used for faculty office hours
- W. Palmer asked whether active learning classrooms restrict possible non-instructional uses
- Discussion of open labs, where students go to do work, versus teaching labs, targeting 12-20 WRH
    - SCHEV doesn't care about FICM 220 space
- W. Stuart noted that given current utilization of space, renovation of existing space would require new space to absorb displaced activity
- J. Notis asked how much immediately reusable space exists currently
- A. Towns wants to see an action plan for the conversion of specific spaces (classroom and other)
    - Opportunity to create a wish list
- Where will the projects in the pipeline get us?
- W. Stuart feels that one large, efficient classroom building is preferable to classroom space distributed throughout several buildings on Grounds
- Suggestion that he study synthesis be used to create an action plan for learning spaces
- Opportunity for Space Working Group to develop a clearly articulated list of steps

Next steps:

1. **Space working group to provide nominees for room conversions and work on action plan**

Below are the minutes from the series of meetings held at UVA on August 2:

Subject: Core Group Meeting
Present: DJ Team, W. Palmer, J. Monteith, R. Minturn, J. Wise, L. Carrazana, J. Im, J. Heckman, C. Warnock

- G. Janks summarized key space findings as:
  - Generally, a question of quality not quantity (especially with respect to classrooms)
  - UVA is in a climate of changing modalities (active learning, interdisciplinarity)
  - Strategy and prioritization decisions have largely been decentralized
- J. Monteith summarized accompanying key conclusions as:
  - Need to focus on better scheduling of classrooms (esp. Monday and Wednesday mornings) and more flexibility
  - Need to review opportunities to convert existing rooms to satisfy active learning demand
  - Leadership needs to take a position with respect to priorities
- L. Carrazana qualified the first key finding, noting that there are exceptions (ie. SEAS need for additional lab space)
- The team discussed the process for identifying active learning conversion opportunities – especially for a 120-seat room
  - What will flexible furniture solutions (ref. Steelcase Ethos Mobile Chair) enable?
  - L. Carrazana noted that it's not just about flexible furniture
- Discussion of UVA's active learning target. Where do we want to be?
  - Judy Giering should be consulted on the A&S target
  - L. Carrazana believes the target will inherently change over time
  - J. Heckman speculated whether the target should be more granular – broken up by section size
  - C. Warnock believes the first critical step is to identify real demand for active learning
- Group consensus was that the addition of active learning on Grounds should be incremental, with periodic assessments to track supply-demand relationship
- J. Heckman noted that classroom capacity is a moving target – space inventory changes by semester depending on what will be scheduled for that room
  - New space management system allows for tracking of actual capacity, will provide clearer understanding of true supply
- G. Janks observed that office space is a major consideration on Grounds, but is it a battle worth fighting?
- D. Minturn identified both financial and academic arguments that need to be made compellingly in order to effect the cultural changes required for scaled office reconsiderations
- Discussion of collaborative office configurations and the fact that they need to be done *right* if they're going to be effective
  - G. Janks noted that architecture is never going to be a final solution and that culture change will always be critical
- Discussion of UVA's pursuit of interdisciplinary opportunities and why it is an institutional priority
- What tools beyond fundraising and public funds are UVA using for development on Grounds? Are there others that should be considered?
  - University-as-developer model (Student Health Building)
    - G. Janks notes that this is more an example of subvention
- Team revisited the aggregated demand
  - J. Im asked whether we need new space at all
  - L. Carrazana believes the qualitative issues are critical
    - Scheduling can compress need for additional space but there is still demonstrable need for larger active learning rooms, research space, and research infrastructure
  - W. Palmer pointed out that there is an important geography question too
    - G. Janks added that space need must be understood in the context of an overall Grounds Plan
      - If we build new wet labs and open up West Complex, then what?
      - If Ivy becomes a reality, how much classroom space do you need there?
      - How can new development zones be optimally integrated?
- J. Monteith outlined and assigned key tasks for internal development to support strategy building
  1. Identify active learning conversion targets
  2. Identify opportunities for A&S / SEAS trading
  3. Identify true active learning target
  4. Prepare 11 x 17 "placemat" summarizing findings
  5. Review opportunities to optimize utilization in terms of room size
  6. Review opportunities to optimize utilization in terms of schedule
  7. Identify UVA's tools for incentivization
  8. How to aggregate the studies – compress the 600K sf?
  9. Distinguish between scheduled capacity and actual room capacity
  10. Furniture procurement policy and targets

Next steps:

1. **Core team to form two task forces to address key tasks**
2. **DJ to support as needed, including preparing the "placemat"**
3. **DJ and J. Monteith to schedule next/final visit**
4. **DJ to work with W. Palmer to review listed vs. actual capacity of active learning rooms**

Subject: Executive Sponsor Meeting
Present: DJ Team, J. Monteith, J. Im, R. Minturn, J. Wise, A. Raucher, D. Sundgren, C. Warnock

- J. Monteith mentioned the need for a follow up discussion with the full Executive Sponsor Group next week
- What are the big opportunities to share with new leadership?
- A.Raucher discussed the notion of a leadership vacuum – feels there was a lack of articulation of

core principles and that decisions were made opportunistically rather that holistically
- D. Sundgren added that much of the decision making over the last decade has been driven by UVA's significant growth
- Discussion of office space across grounds

R. Minturn noted the need for incentive models for office space

  - J. Im gave an example of schools offering a stipend to faculty who reduce their office sf footprint
  - A.Raucher thinks certain cultures/behaviors will change organically over time based on what's provided and as new, younger faculty are brought on
- A.Raucher requested that Athletics be added to the map of opportunity areas
- Discussion of the library
  - R. Minturn observed that UVA decided the library is about scholarship, but that the use of space in the redesign can change over time (ie. removable stacks)
  - A.Raucher noted that the final design reflects a compromise and that UVA's commitment to tradition is a differentiator
- Discussion of financial models
  - D. Sundgren observed that philanthropy model and RCM inhibit interdisciplinary work
  - How can philanthropy be managed differently?
- A.Raucher feels fundraising priorities need to be set at a high level as university funds can't pay for everything. Campus development is not about faculty decisions, it's about institutional direction.
- G. Janks asked whether an update to the Grounds Plan would help define the larger picture, providing a framework for future decision-making
  - A.Raucher noted the danger of planning fatigue, understanding that decisions need to be made and that you can't plan forever

Key question: How do you establish a framework to contextualize decision making while avoiding planning paralysis?

Subject: Space Working Group
Present: DJ Team, R. Minturn, W. Stuart, J. Wise, J. Monteith, J. Heckman, W. Palmer, A. Towns, J. Notis, C. Warnock, B. Lewis, T. Romer

- G. Janks reviewed key space findings, noted that time shifting likely won't satisfy growing demand for 60/90/120-seat active learning classrooms
- W. Stuart noted that the Steelcase Ethos chair was rejected due to seat size – UVA preference is for the KI L2 chair
  - Further noted that faculty are having trouble embracing the optionality of the L2 chair
- A.Towns stated that a significant impediment to more active learning is overcrowding chairs in rooms – need to reduce capacity and remove chairs to provide sufficient circulation space
  - Existing furniture can support active learning if there's less of it
- Regarding schedule balancing, W. Stuart feels she can only do so much and that at a certain point the directive to balance the schedule will need to come from above ("faculty can always say no")

- J. Notis suggested that all space needs can be scheduled in a more centralized way (class instruction, TA sessions, student use)
- G. Janks observed that one way to really move the needle is though the reduction of office space
- A.Towns requested the addition of Whitehead to the opportunity map
- J. Notis feels that the diagram needs to communicate the time scale of different opportunities
- How does student demand play into this?
  - T. Romer noted that students use what's available and that space is not necessarily serving specific needs
  - R. Minturn described the university's approach to what is needed as being a network of student space, not a center – spaces are and should continue to be geographically distributed, however need to avoid spreading too thin
- B. Lewis described that for McIntire, it *is* about more space
- B. Lewis brought up Wilson Boulevard in Northern Virginia (Darden, A&S, McIntire involved) along with Inova research facility as two parallel initiatives to consider
- A.Cyphers noted that there's only so much time for new projects – mentioned that Inova has required a significant investment of resources
- T. Romer noted that when considering the menu of opportunities looking ahead, it is important to consider where students live and travel times

Next steps:

1. **Revisit UVA mapping sequence – add additional opportunity areas as needed**

DUMONTJANKS