



**Board of Trustees
Facilities and Infrastructure Committee | June 28, 2023**

DISC-1: Space Utilization Study

Information

Discussion

Action

Meeting Date for Upcoming Action: N/A

Purpose and Issues to be Considered:

The purpose of this discussion is to inform the board of the results of the university’s campus-wide space utilization study aimed at leveraging our significant investment in physical space. The study goals included the following:

- Gain a deep understanding of current office, classroom, and lab (teaching and research) space utilization.
- Recommend policies to improve space utilization (assuming constant enrollment and flexible work arrangements).
- Increase opportunities for underutilized space to be repurposed, including to generate potential rental revenue.
- Implement process improvements to increase real time accuracy of space use data.

The space utilization study focused on the UCF Main Campus (including Research Park), Downtown Campus, Academic Health Sciences (Lake Nona) Campus, and Rosen Campus in partnership with an experienced consultant team consisting of DLR Group and Comprehensive Facilities Planning.

The completed study provides the university with data on how instructional, research, and office spaces are being used. Further, the study validated key data points (room use, department, capacity, square footage), documented classroom and teaching lab utilization, preliminarily assessed research space, and conducted college and administrative unit focus groups and interviews. The study team analyzed the collected data, reviewed personnel counts, and organizational structures to ensure alignment with the space data. This analysis was also supported through multiple verification processes of personnel and space data by the college and administrative units.

Appropriate and aggressive utilization of the university space is required to fully realize success of the ***Unleashing Potential – Becoming the University for the Future*** strategic plan. By capturing space for re-purposing, we’re able to accommodate research and faculty growth, create operational savings, increase lease revenues, and accommodate other space needs that support our strategic plan. It can also ensure that available resources are directed to meet the most pressing needs within the plan.

Background Information:

While we have identified significant opportunities to leverage space to meet strategic goals, our current utilization compares favorably to our Florida and R1 peers. Implementing the opportunities identified in this space study would not only address pressing strategic needs but also put us in a leadership position within higher education utilization.

The following is a high-level overview of the potential impact from implementing the space guidelines summarized in this document.

- Potential reduction of annual reoccurring rental obligations of **\$4.5 million** in primarily UCF Foundation-owned buildings in Research Park.
 - Making available ~170,000 sf for expansion of research programming and/or increase revenue from 3rd party leases (potential **\$4.3 million** annually).
- Potential reduction of annual reoccurring rental and operating obligations of **\$1.5 million** associated with the UCF Downtown Campus.
- **550,000 available square feet** for reassignment and/or programmatic growth on all study campuses (170,000 square feet is currently vacant and available).
 - Potential project cost avoidance of new construction of **\$412 - 660 million** based on total gross square feet.
 - Potential annual operation & maintenance cost of **\$6.6 – 9.9 million** based on total gross square feet.

The process to capture these spaces and financial savings will take time and careful planning. As further outlined below, some action items will happen quickly and others will take several years to accomplish.

Key Findings:

The following key findings from the study represent critical data points and analysis that reinforce the suggested action items to achieve the desired results:

- Excess capacity of **classroom space** can be utilized more effectively, particularly with universal centralized scheduling and scheduling classes outside of peak hours.
 - Based on the recommended utilization target, a potential for up to **91 classrooms** could be repurposed for other uses or serve as an opportunity for enrollment and programmatic growth.
- Because **teaching labs and open labs** are generally discipline specific, there are limited opportunities to increase utilization and therefore will not have a direct impact on the ability to repurpose or reassign for other use.
- The utilization of the current **research space** can be improved through flexible working and collaborative spaces (shift from dedicated lab benches to spaces that can be shared and/or “rented” by researchers on an ad-hoc basis).
- Applying the UCF draft **workspace** guidelines indicates the opportunity to reduce the workspace need by approximately **350,000-400,000** assignable square feet (ASF) across all locations and free up 123,000 ASF in the Research Park (including space currently assigned to Nursing) for future research activity or monetization strategies targeting non-UCF rental revenue.

- Modification and expansion of existing **space management policies and procedures** are needed to provide a more comprehensive approach to effective utilization of the campus resources.

Classroom Analysis

Classroom utilization is determined using three (3) primary measures:

- **Average Weekly Room Hours (WRH):** Average Weekly Room Hours is the average number of hours that classrooms are scheduled per week. This number of hours is considered an all-hours computation and therefore, includes all hours scheduled regardless of time or day. (i.e., daytime, evening, weekend)
- **Station Occupancy Percent (SO%):** Station Occupancy is the percent of seats that are filled on average while a room is in use.
- **ASF/Station:** the square foot amount allocated per student station in a classroom.

The assessment of classroom utilization includes the application of minimum targets. These targets provide a context to compare the current measures against to prescribe a level of acceptable or efficient utilization. The process for identifying these targets examined similar public state university system guidelines and standards (such as Florida’s State Requirements for Educational Facilities - SREF). These minimum targets are presented below:

	NEW YORK	CALIFORNIA	TENNESSEE	VIRGINIA	GEORGIA	TEXAS	FLORIDA	UCF
WRH	35.4	53.0	30.0	40.0	40.0	35.0	40.0	40.0
SO%	80%	66%	60%	70%	100%	67%	60%	80%

The analysis reviewed the current utilization using Fall 2022 semester data with the following results:

Campus	Total Number of Classrooms	Classrooms In Use Fall 2022	Avg. WRH	SO%	ASF per Seat	Rooms Required @ 40 WRH	Rooms in Excess of Target
Main (1)	196	186	32.2	76%	16.6	150	46
Research Park (2)	8	3	12.0	95%	26.3	1	7
Rosen	18	18	10.4	37%	20.7	5	13
Lake Nona	3	3	11.1	68%	18.4	1	2
Downtown (3)	36	35	15.8	53%	22.7	13	23
Totals	261	246				170	91
Target			40.0	80%	20-24		

- (1) Includes both centrally scheduled and 42 departmentally scheduled classrooms.
- (2) Includes 3 classrooms used by Continuing Education with no reported use.
- (3) Includes 9 classrooms shared with Valencia College.

The Room versus Class Size table shows class enrollment versus the scheduled room seat capacity thereby depicting where there may be an imbalance of class size to room size. The cells are the percentage of class hours meeting in the rooms in a size range. The shaded areas are a perfect match of class size to room size while the cells to the left of the shaded cells are where class sizes are less than optimal for the size of the room. As a rule of thumb, class enrollments one cell to the left of the optimum size room (the shaded cells) are still utilizing the seats well while class enrollments two cells or more to the left of the shaded cell indicate an underutilization of seats.

Size Range (Seats)	Room Count	Class Size								
		1-19	20-29	30-39	40-59	60-79	80-99	100-149	150-249	>=250
1-19	4	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
20-29	24	38.8%	57.7%	3.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
30-39	44	52.2%	28.9%	18.1%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
40-59	57	27.0%	18.7%	20.0%	33.8%	0.5%	0.0%	0.0%	0.0%	0.0%
60-79	26	11.0%	11.0%	12.9%	37.5%	24.4%	0.5%	1.6%	1.1%	0.0%
80-99	7	6.9%	13.7%	12.7%	23.5%	25.5%	17.6%	0.0%	0.0%	0.0%
100-149	6	11.8%	8.2%	8.2%	8.2%	21.2%	25.9%	16.5%	0.0%	0.0%
150-249	7	0.0%	0.0%	0.9%	3.5%	7.9%	13.2%	25.4%	44.7%	4.4%
>=250	11	0.0%	0.0%	0.0%	0.6%	4.3%	1.8%	12.2%	34.8%	46.3%

- More than half of the classes in rooms with 30-39 seats have less than 20 students.
- Almost 46% of the class hours meeting in the room with 40-59 seats had a class size of less than 30 students.
- The chart suggests that much of the current supply of classrooms seems to be oversized for the current class enrollments.

Main Campus Classroom Analysis

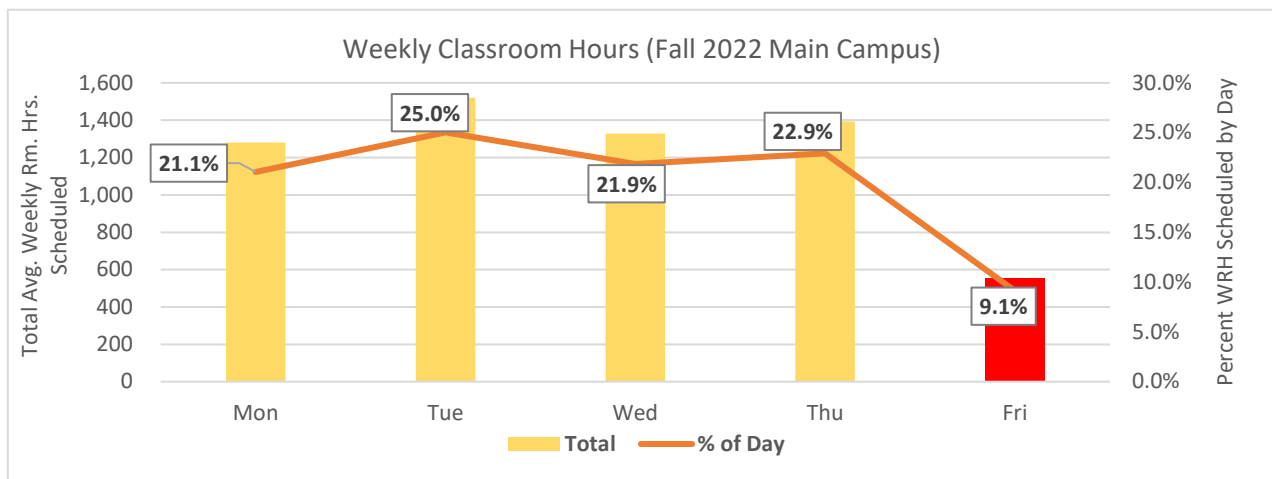
- Departmental classrooms are scheduled 11.7 hours less than centrally scheduled classrooms on an average week.
- Classrooms are not fully scheduled before 9:00 a.m., after 4:00 p.m., and on Fridays and weekends.
- Seats in centrally scheduled classrooms are generally full (75%), but less so for departmentally scheduled classrooms. (63%) Overall there is a mismatch between classroom capacities and section sizes with many smaller sections being scheduled in larger classrooms.
- Existing average of 17.6 sq. ft. per seat is below the Florida SREF standard of 20-24 sq. ft. per seat.

Other Campuses Classroom Analysis

- The 37% station occupancy for the Rosen Campus indicates that the classrooms are oversized for current enrollments.
- Downtown classrooms are scheduled at 36% of 40-hour minimum target, Rosen classrooms at 25% of target.

- Station occupancy is lower than the recommended target for all locations except for Research Park indicating a possible mismatch of course enrollments to room size.
- The Lake Nona classrooms are currently used only by the College of Medicine and show utilization well below the target. With efforts taking place to consolidate additional Health Sciences programming at this campus, these rooms should become more of a shared resource and available to address these new programmatic needs.

The opportunity for utilizing classrooms at the 40-hour target suggests a significant reduction in classrooms may be possible. The dramatic reductions at the main campus (reducing the supply from 196 to 150) would require re-distributing classes throughout the day and evening especially the 7:30 AM and 4:30 PM time slots, as well as better utilization of Friday.



Teaching Laboratory Utilization

The assessment of teaching lab utilization includes the application of the same comparative target metrics as those used for classrooms. Because labs are discipline specific and some address a student’s instructional level (i.e., upper division/major) the potential pool of students accessing these resources are more restricted. Thus, two sets of utilization targets, one for lower division and computer labs and one for upper division have been applied to address these differences.

These targets are presented below:

Teaching Labs Minimum Targets			
Lower Division WRH	Upper Division WRH	SO%	ASF/Station
40	30	85%	Varies

Main Campus Analysis

The following table summarizes utilization of the Main Campus:

Inventory Data					Fall 2022	
	Teaching Lab Count	ASF	Inventory Capacity	Teaching Stations	Total WRH Avg.	SO%
COMPUTER LABS						
Totals	23	31,237	1,154	1,195	24.7	78%
Target					40.0	85%
LOWER DIVISION LABS						
Totals	21	29,660	768	647	40.7	87%
Target					40.0	85%
UPPER DIVISION LABS						
Totals	56	64,892	1,798	1,643	22.9	72%
Target					30.0	85%

- Lower division labs are scheduled above the 40-hour minimum target.
- Upper division labs are scheduled below the 30-hour minimum target.
- Average station occupancy in lower division labs is above the minimum target of 85% (except for computer labs).
- Average station occupancy in upper division labs is 10% below the minimum target.
- Utilization of computer labs that are more general purpose should be at the same level as lower division labs. Current use patterns indicate these types of labs are used about 40% below expectations.

Other Campuses Analysis

The following table summarizes the utilization for the other four (4) campus locations:

Campus	Current Inventory		Fall 2022		
	Teaching Lab Count	Scheduled Labs	Avg. WRH	SO%	Utilization Capacity
Downtown	10	10	18.6	79%	44%
Research Park	16	2	12.5	95%	47%
Rosen	10	2	17.3	55%	31%
Lake Nona (1)	8	0	N/A	N/A	N/A
Target			40	85%	

(1) No scheduled use was provided to analyze lab utilization.

- Except for the Lake Nona campus, all other labs are lower division or computer labs.
- Utilization at all four (4) of these campuses are significantly below the WRH target.

Research Laboratory:

Research laboratory metrics vary based on the institution's research goals and priorities. There is no generally accepted methodology to measure research space utilization due to the diverse range of needs. Several institutions have developed utilization metrics that center on expenditures and personnel contrasted with assigned square feet including MIT, Washington University, University of Utah Health, and Colorado University. The following are the metrics for research labs used as part of the study:

- **Expenditures by square feet:** Total external and internal expenditures compared to net assignable square feet of space.
- **Average expenditure per personnel by college:** Average expenditures by total number of personnel evaluated at the college level.
- **Grant activity by building:** Total expenditures of research actively occurring by building.
- **Internal research:** Documented internal research work occurring in space that may or may not have established funding.

The data collection of active research grant locations was difficult to obtain due to the variation of responses from colleges. Of the 2,000 active grants, 78% had a location reported. These grants were assigned to just 41% of UCF's research laboratory space. Therefore, additional data verification is ongoing to confirm the locations of all active grants, better understand the data gap between active research activities and research space, and document where internal research is occurring that may not have assigned grant data.

The following points have been developed through the analysis completed to date:

- Each research lab is unique and utilization data does not tell the full story.
- Highest grossing grants occur primarily in Research Park.
- Utilization inefficiencies can be reduced through shared research support space and equipment.
- Space in the partnership buildings provide a high return on investment but are not all fully utilized.

Since research data fluctuates regularly, future data processes to obtain a more accurate research space inventory and improve utilization are recommended as follows:

- Integration of research grant and space data systems with regular updates when grants are awarded and deactivated.
- Internal research data should be collected during the annual space survey.
- Review of research space assignment and activity a minimum of every three years to verify use.

Workspace Utilization

For workspace, the following two (2) target utilization measures were developed: **Workstation per FTE** and **ASF/FTE**. For example, if a department’s workstations per FTE is within or beyond the 0.7 to 1.0 range, it is an indicator that there may be more stations than personnel which signals that the space may be inefficiently used. Stations per on-campus FTE is based on self-reported remote work

Workstation Maximum Targets	
Stations per FTE	ASF per FTE
0.7 to 1.0	90

information provided by each unit for those FTE’s needing a workstation.

UCF draft space guidelines as identified below, were applied for the workspace utilization analysis:

- Office space will be a combination of “Me” Space (efficiently sized and functionally furnished workstation to support focused work) plus a component of “We” Space (collaborative workspace to support interdepartmental and interdisciplinary collaboration and interaction).
- All dedicated offices (Me Space) will be like-sized. UCF standardizes offices for tenured and tenure-track faculty, lecturers, instructors, and other educators with a full teaching load; and all exempt staff (Administrative Professional).
- These like sized “Me” Spaces will be 90 square feet on average, exclusive of the 25 square foot complement of shared collaborative workspace “We” Space located nearby.
- There will be differences in the construction and furnishing of “Me” Space – configurations will include hard-walled offices and open office (tall, medium, or short systems cubes) based on work requirements.
- Departments will be free to assign their allocation of “Me” Spaces, unrestricted by any mandate based on status or title.

Position Category	Assumed “Me” Space (Sq. Ft.)	Assumed “We” Space (Sq. Ft.)	Combined “Me” + “We” Space (Sq. Ft.)	Assumed Metric (Includes Additional 15% Support Space)
Senior Executive Staff	225	25	250	288
Executive Staff	200	25	225	259
Administrative Staff	125	25	150	173
Full-Time Faculty	90	25	115	132
Part-Time Faculty	60	0	60	69
Professional Staff	90	25	115	132
Clerical/Technical Staff	60	25	85	98
Graduate Student	30	0	30	35
Student Worker	25	0	25	29

Workplace Analysis:

- 1,414,758 existing ASF of workspace (me + we).
- 56% of the workspace is administrative.
- 10-13% of existing workstations are currently vacant.
- Average workstation size is above the target for both faculty and administrative positions.
- Nearly 50% of employees were reported as being on-campus five (5) days a week. Of this, 76% of faculty were reported as being on-campus five (5) days a week.
- Applying the workspace guidelines reveals a surplus of more than 213,000 ASF of workspace on the Main Campus.
- New workspace and policy guidelines will allow for better management of workspace utilization and provide a consistent guide for future design/renovations.
- The entire “we” space allowance concept should be revisited when put into practice with specific capital remodeling projects to evaluate efficiency.

Action Items:

Based upon the data and analysis, the following short-term and mid-term recommendations listed below provide a road map to guide the next steps for each campus:

Short Term Impact:

- Facilitate a Provost-led initiative for enhanced course scheduling to achieve the 40 WRH target. This initiative should include the following elements:
 - Commit to centrally schedule all classrooms and computer labs and most conference rooms.
 - Implement neighborhood concept for scheduling rooms to improve efficiency for faculty.
 - Identify classrooms to be refreshed, right sized, and/or repurposed.
 - Implement a full five-day classroom utilization strategy, including better utilization during off peak times and Fridays.
- Adopt updated space management policy thereby implementing space guidelines and empowering the revised University Space Committee.
- Implement a technology solution to monitor space activity and use.
- Identify additional staff needed to improve data management, data collection, and to implement ongoing surveys.
- Initiate workspace consolidations from Research Park to Main Campus and the Downtown Campus with the potential to reduce annual reoccurring rental obligations by \$6M.
- Evaluate monetization strategies for vacated space in UCF Foundation-owned buildings.
- Conduct targeted space needs assessments for specific units or space types where growth is projected, or low utilization has been identified.
- Pilot new workspace concepts found within the updated space guidelines, including in design efforts for buildings like Howard Philips Hall renovation.

Mid Term Impact

- Identify additional academic anchor(s) for the Downtown Campus. Additionally, explore reducing square footage at the Downtown Campus to minimize lease and operating costs.
- Occupy or monetize available space in the Lake Nona Cancer Center.
 - Consolidate College of Medicine research activities to Lake Nona campus from Main Campus and Research Park.
- Create additional central storage capacity (potential annual savings of \$450k on existing leases) while also creating an opportunity to provide additional lab/research space by reducing on-site storage occurring in the lab/research spaces.
- Leverage Rosen campus investment to improve utilization of existing space while meeting the projected programmatic demands.
- Integrate findings of this study into Research Building 2 and Discovery & Innovation Hub including the centralization of core research services (clean rooms) and shared approach to research labs.
- Continued workspace consolidation from Research Park to the Main Campus and Downtown Campus.

We will plan to update the board on these actions at future meetings and the conversations develop on campus. Additionally, included in your board packet are the slides that support the recommendations and offer further background information as needed.

Recommended Action: For discussion only.

Alternatives to Decision: N/A

Fiscal Impact and Source of Funding: N/A

Authority for Board of Trustees Action: N/A

Contract Reviewed/Approved by General Counsel N/A

Committee Chair or Chair of the Board has approved adding this item to the agenda

Submitted by:

Jon Varnell, Vice President for Facilities and Business Operations
Jon Bates, Assistant Vice President for Real Estate

Supporting Documentation:

Attachment A: Space Utilization Study Presentation

Facilitators/Presenters:

Jon Varnell, Vice President for Facilities and Business Operations
Jon Bates, Assistant Vice President for Real Estate



SPACE UTILIZATION STUDY

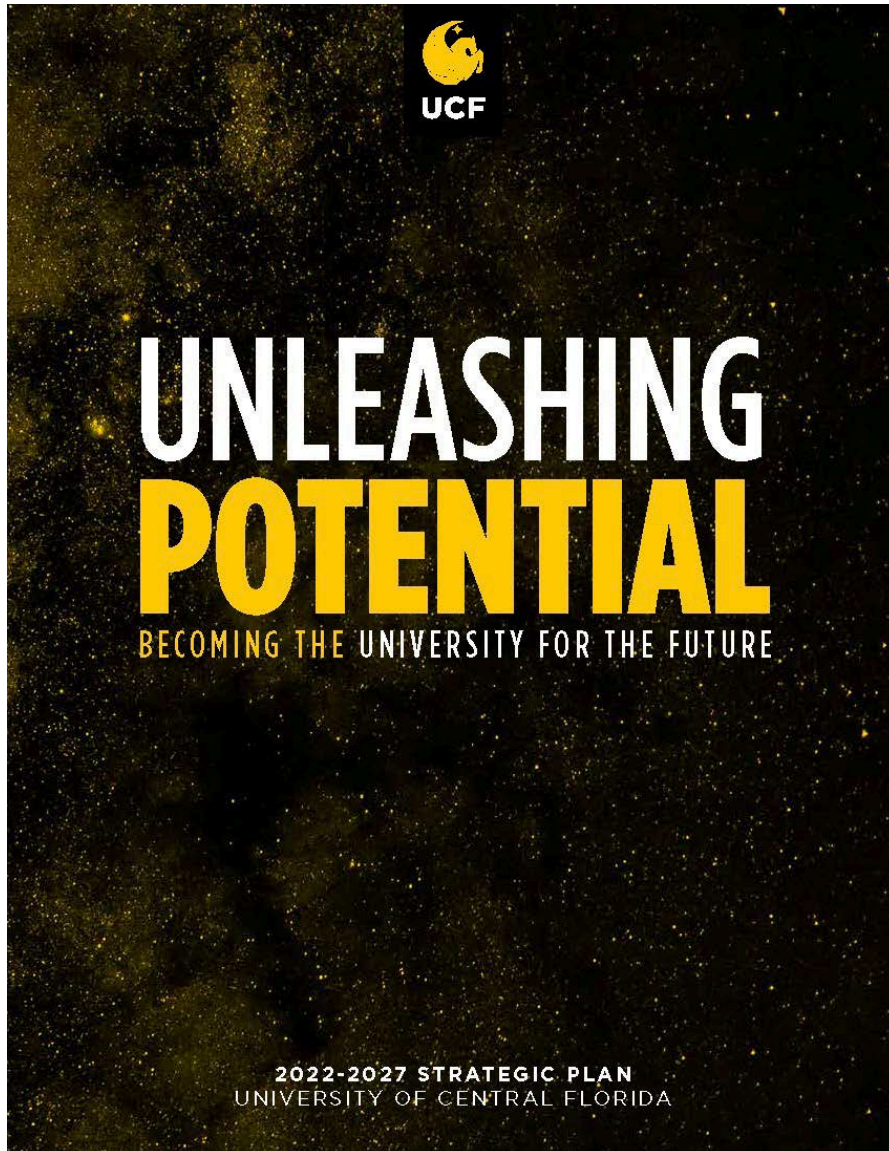
Board of Trustees Summary Presentation

June 28, 2023



Overview

- Overall Takeaways and Key Opportunities
- Action Items
- Space Utilization and Metrics by Room Type
 - Classroom Utilization
 - Teaching Laboratory Utilization
 - Research Laboratory Utilization
 - Workspace Utilization

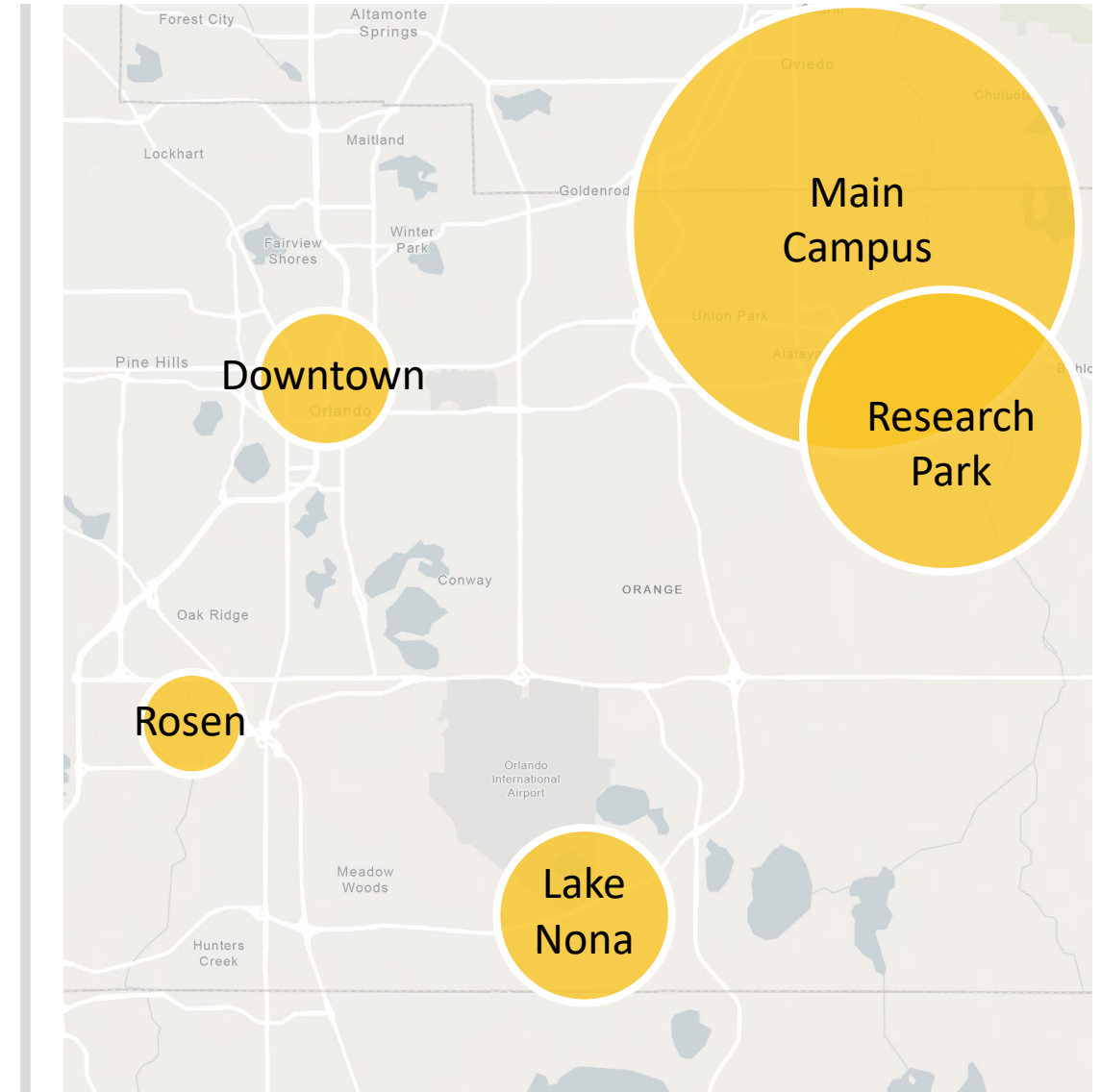


STUDY GOALS

- Gain a deep understanding of current office, classroom, and lab (teaching and research) space utilization
- Recommend policies to improve space utilization (assuming constant enrollment and flexible work arrangements)
- Increase opportunities for underutilized space to be repurposed, including to generate potential rental revenue
- Implement process improvements to increase real time accuracy of space use data

SPACE INCLUDED IN STUDY BY CAMPUS

Campus	ASF in Study
Main Campus	1,585,000
Research Park	599,000
Lake Nona	234,000
Downtown	165,000
Rosen	83,000
Total	2,666,000



ASF = assignable square feet

SPACE TYPES STUDIED

(clinic space analysis in process)

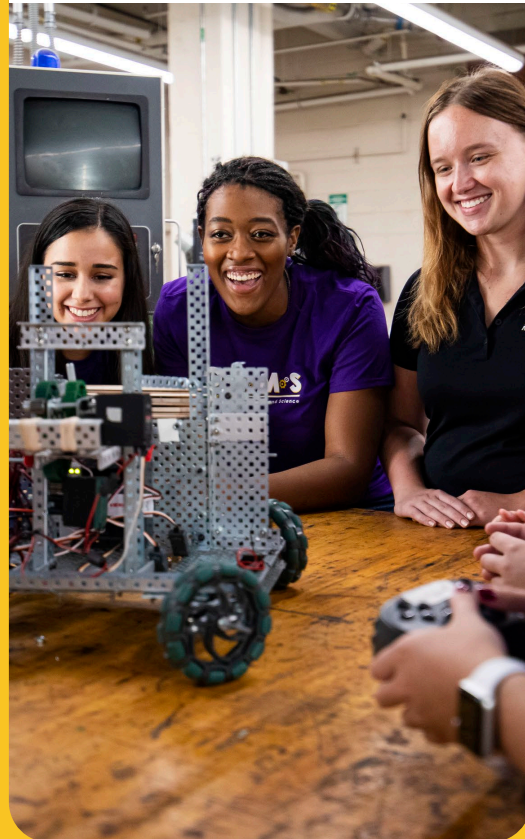
CLASSROOMS

329,000 ASF



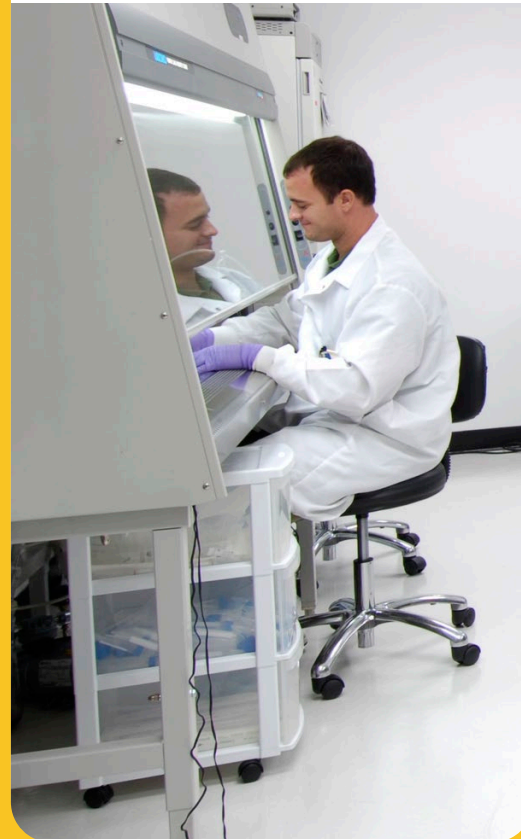
TEACHING LABS

328,000



RESEARCH LABS

552,000 ASF



WORKSPACE

1,416,000 ASF

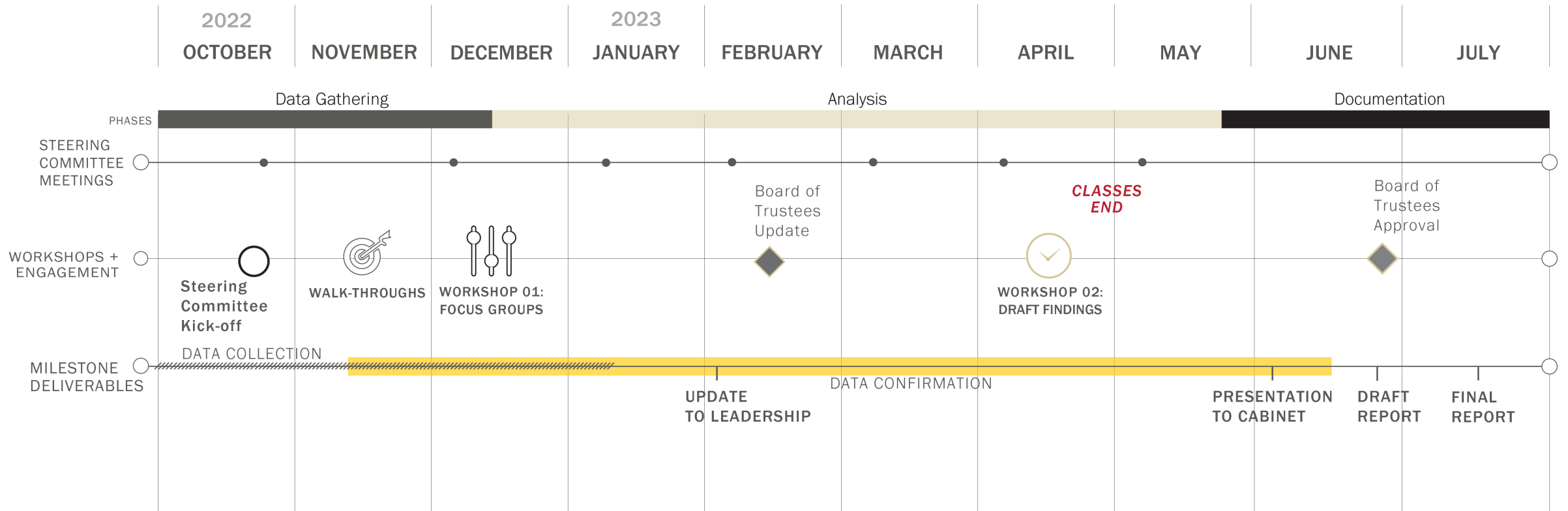


DATA COLLECTED



- Room data showing use, square feet, and station count for all space types included in study
- Data confirmed during walk-through and via data verification request
- Fall 2022 and Spring 2022 complete course schedule indicating course type, day, time, enrollment, and location
- Employee roster showing titles, department, occupancy, and FTE for all UCF employees
- Context provided during focus groups, workshops, and by Steering Committee Review

STUDY TIMELINE



OVERALL TAKEAWAYS

Opportunities to Reduce Leased Portfolio

\$4.5M

potential annual rent savings by relocating or consolidating space in primarily Foundation-owned buildings in Research Park

\$4.3M

potential increased revenue from 3rd party lease in Foundation-owned buildings in Research Park

\$1.5M

potential annual rent and operational savings by consolidating space on Downtown campus

OVERALL TAKEAWAYS

550,000+ ASF

available for reassignment based on applied classroom and workplace utilization metrics

170,000+ ASF

current inactive space and **vacant offices** that can be reassigned now

\$412-660M

equivalent construction project cost based on total gross square feet

\$6.6-9.9M

existing annual operation & maintenance cost based on total gross square feet

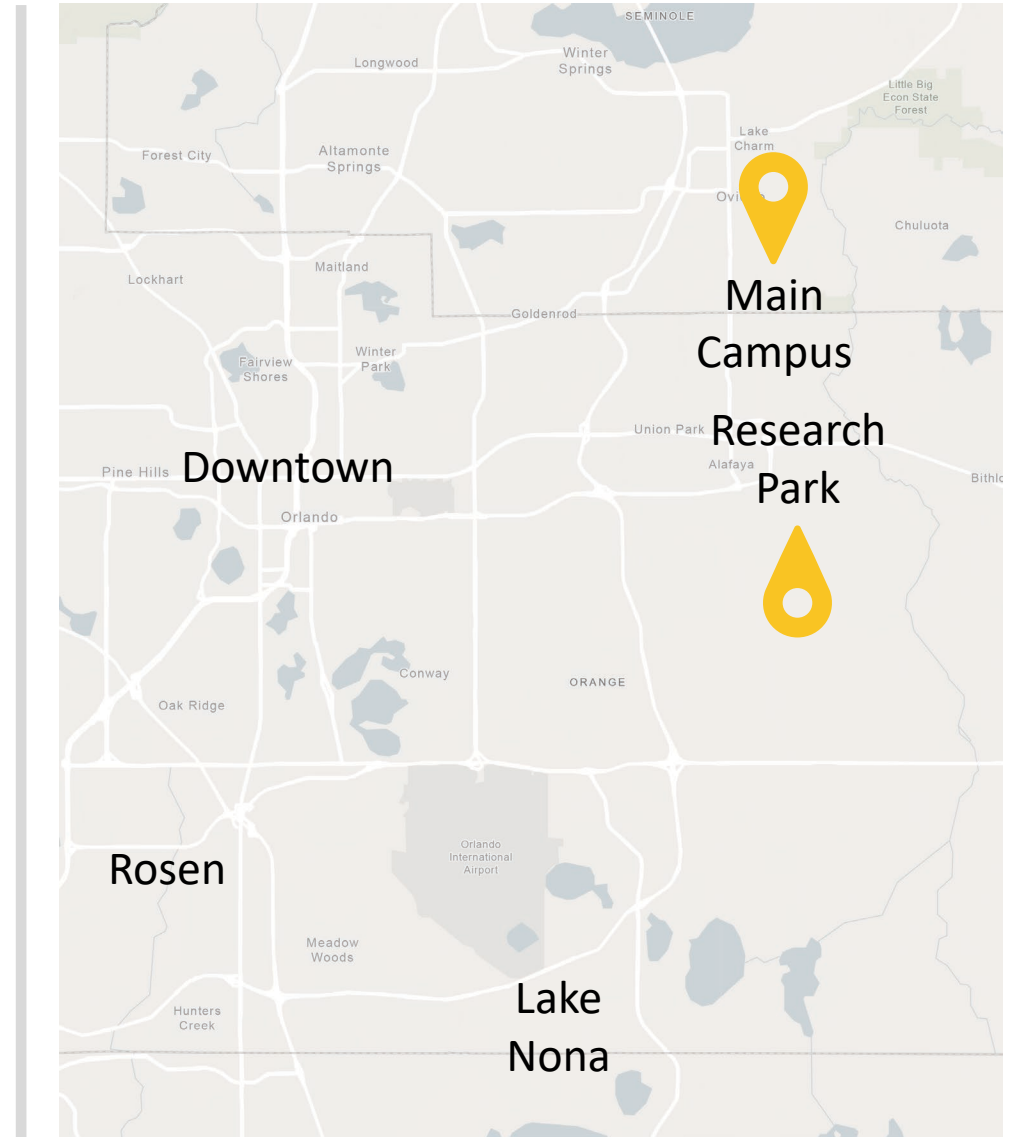
KEY OPPORTUNITIES

Main Campus

- Surplus of 46 classrooms (54,876 ASF)
- Surplus of 2,130 workstations (212,900 ASF)

Research Park

- Surplus of 7 classrooms (6,436 ASF)
- Surplus of 975 workstations (97,400 ASF)



KEY OPPORTUNITIES

Academic Health Sciences (Lake Nona)

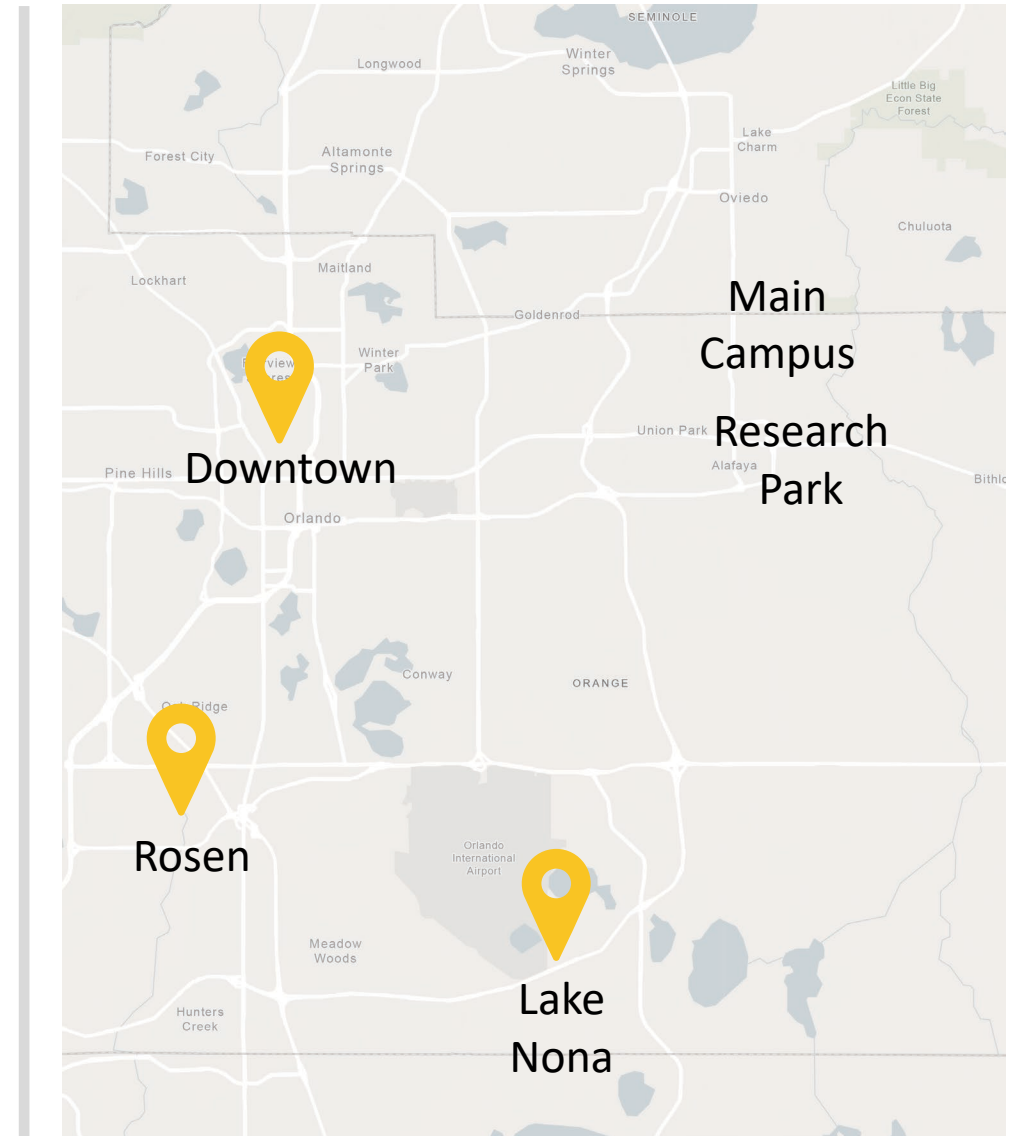
- Surplus of 2 classrooms (4,466 ASF)
- Surplus of 215 workstations (21,500 ASF)

Rosen College of Hospitality Management

- Surplus of 13 classrooms (18,865 ASF)
- Surplus of 99 workstations (9,850 ASF)

Downtown Campus

- Surplus of 23 classrooms (24,030 ASF)
- Surplus of 215 workstations (21,370 ASF)

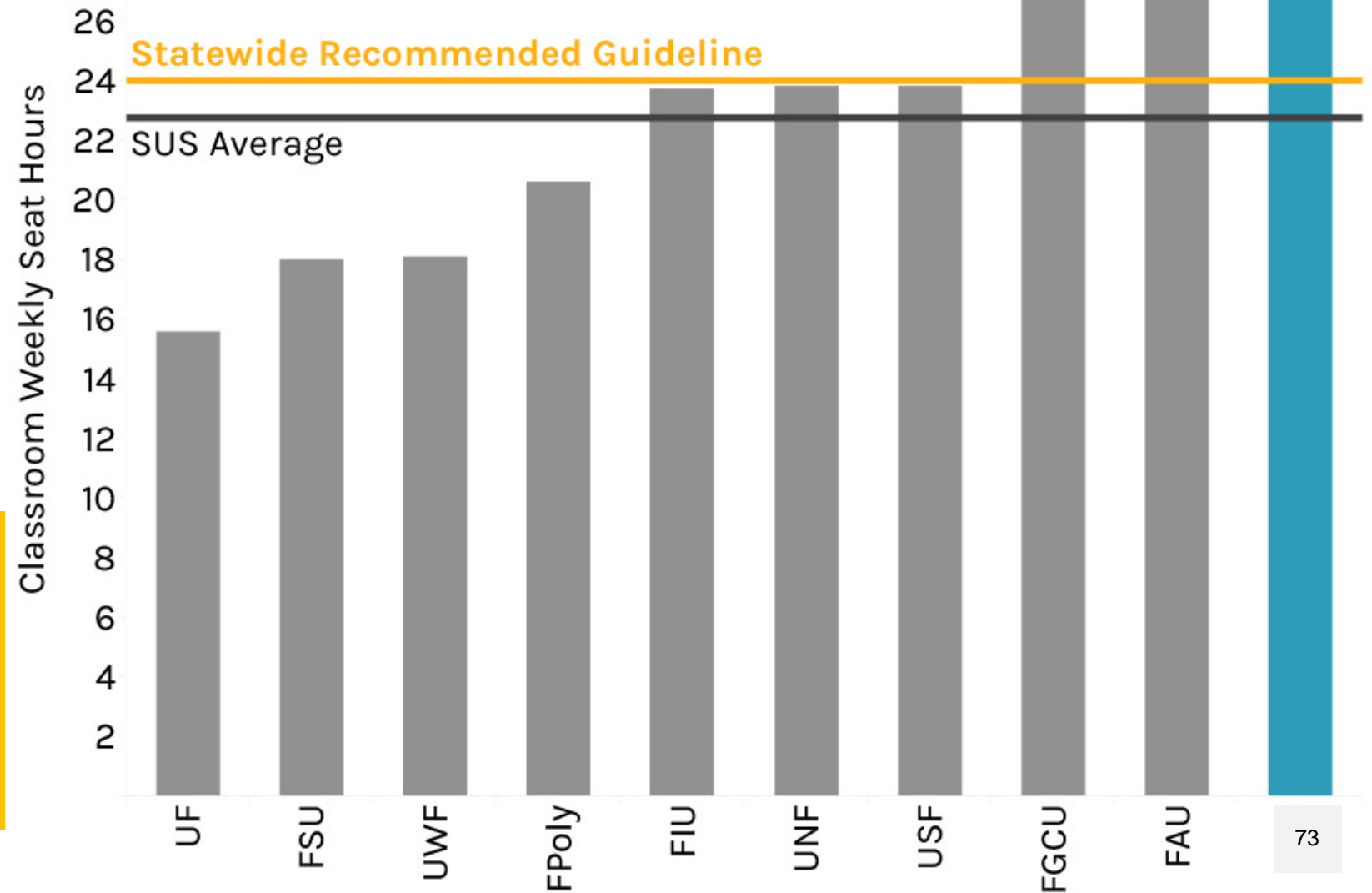


Peer Comparisons

WEEKLY SEAT HOUR UTILIZATION

30 Note: FAMU excluded due to data anomalies.

28 NCF excluded due to data unavailability.



Source: Review of the Capital Outlay
Facilities Space of Florida's State University
System, SmithGroup

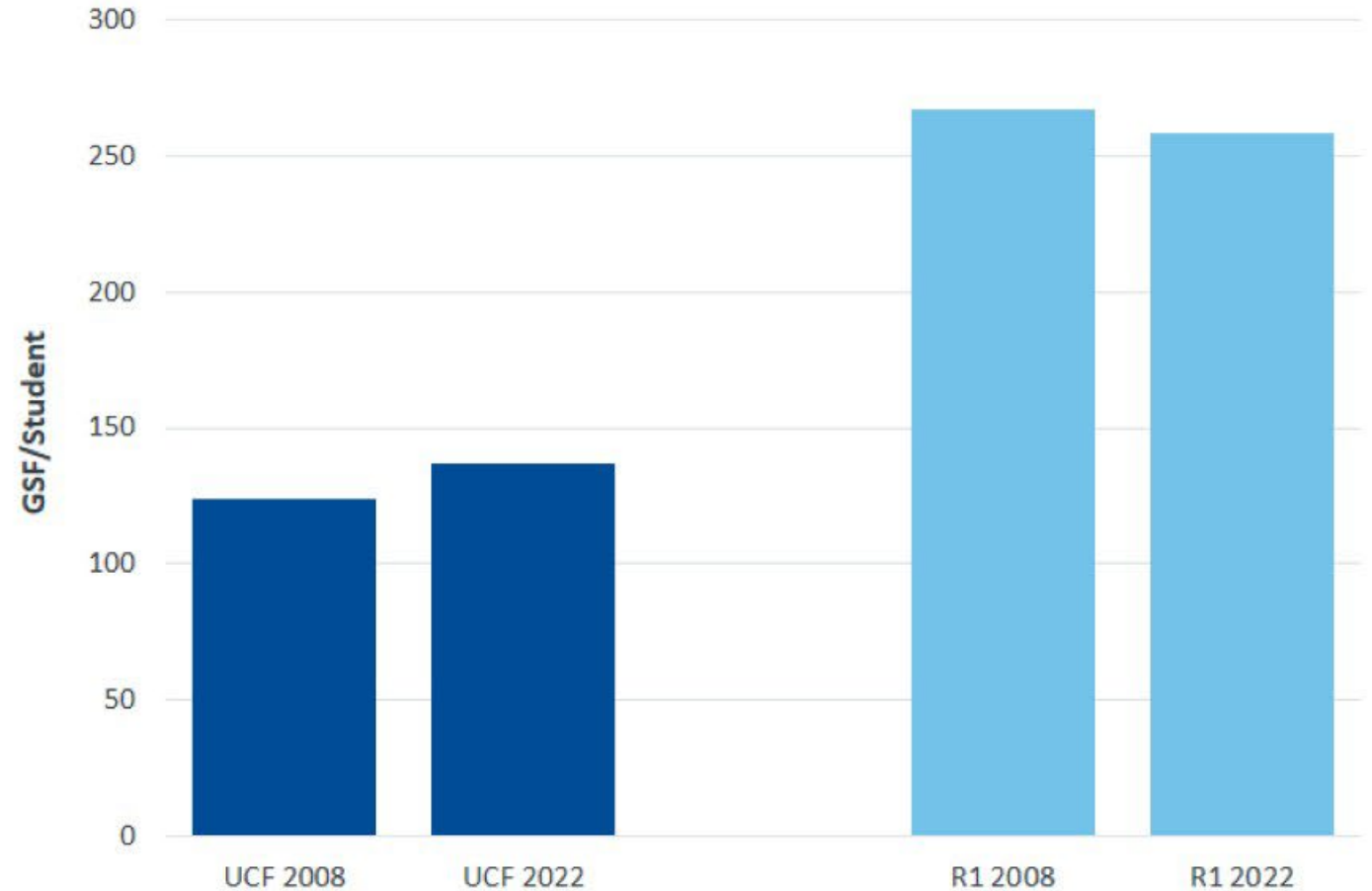
Note: This data was provided by a different consultant and a study with a separate methodology and approach and is based on a different assumed ASF of classroom space. This data uses a different evaluation metric and is based on SREF standards. Data presumably includes all UCF campuses.

Despite Larger Space Increase, UCF Has Less GSF/Student



R1 Peers: Louisiana State University, University of Alabama at Birmingham, University of Mississippi, University of Tennessee – Knoxville, University of Arkansas, University of Georgia, University of Missouri – Columbia, University of North Texas, University of Texas at Austin

Space (GSF) Per On-Campus Student FTE



Classroom Utilization

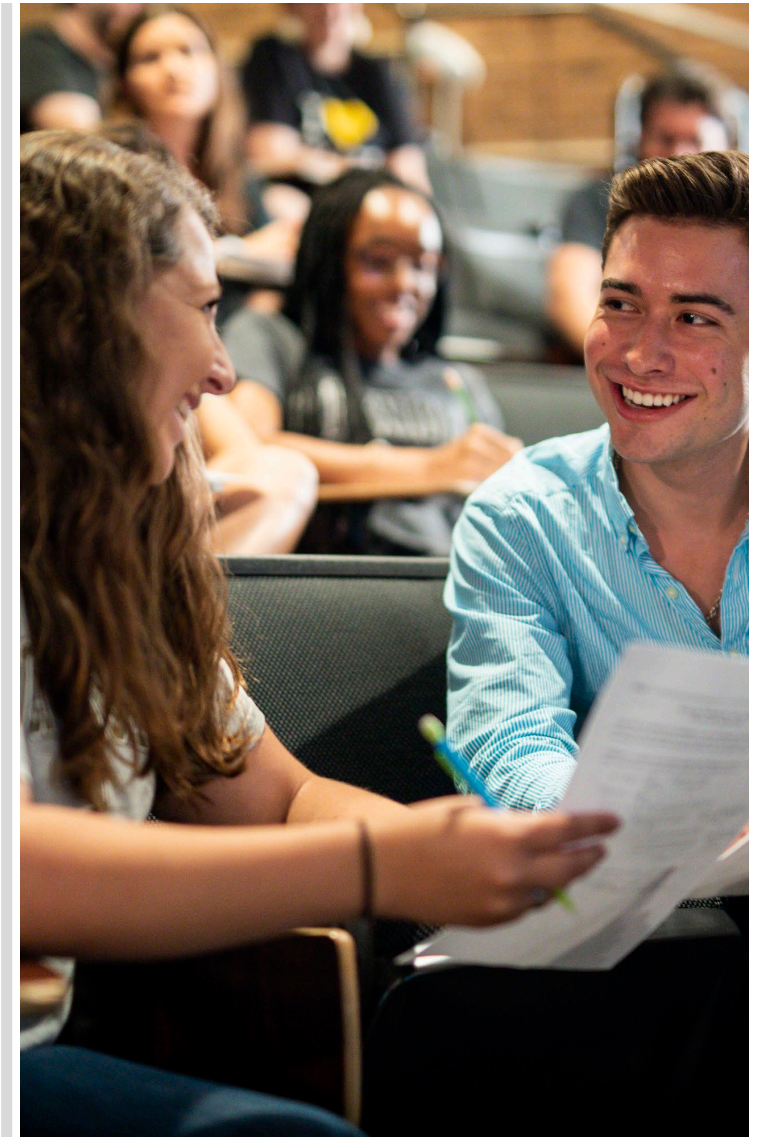
INSTRUCTIONAL UTILIZATION DEFINITIONS

Average Weekly Room Hours (WRH) the number of minutes a class meets each week, including class change time converted to hours. The sum for all sections is the WRH utilization for that room.

Station Occupancy Percent (SO%) the percentage of the number of seats or stations occupied when the room is in use divided by the teaching capacity of the classroom or laboratory.

Assignable Square Feet per Station (ASF/Seat) the square foot amount allocated per student station in a classroom or laboratory.

Teaching Capacity assumed to be the section limit as reported in the class file. If all section limits in a laboratory are not the same then the maximum was used as the teaching capacity of the laboratory.



CLASSROOM UTILIZATION GUIDELINES APPLIED

Utilization Metric	SREF	UCF Minimum Target
Average Weekly Room Hours	40	40
Station Occupancy	60%	80%
ASF/Station	20-24	20-24

The State Requirements for Educational Facilities (SREF) establish the requirements for public educational facilities in the State of Florida including inventory guidelines, recommended square feet allocation per room type, and utilization metrics

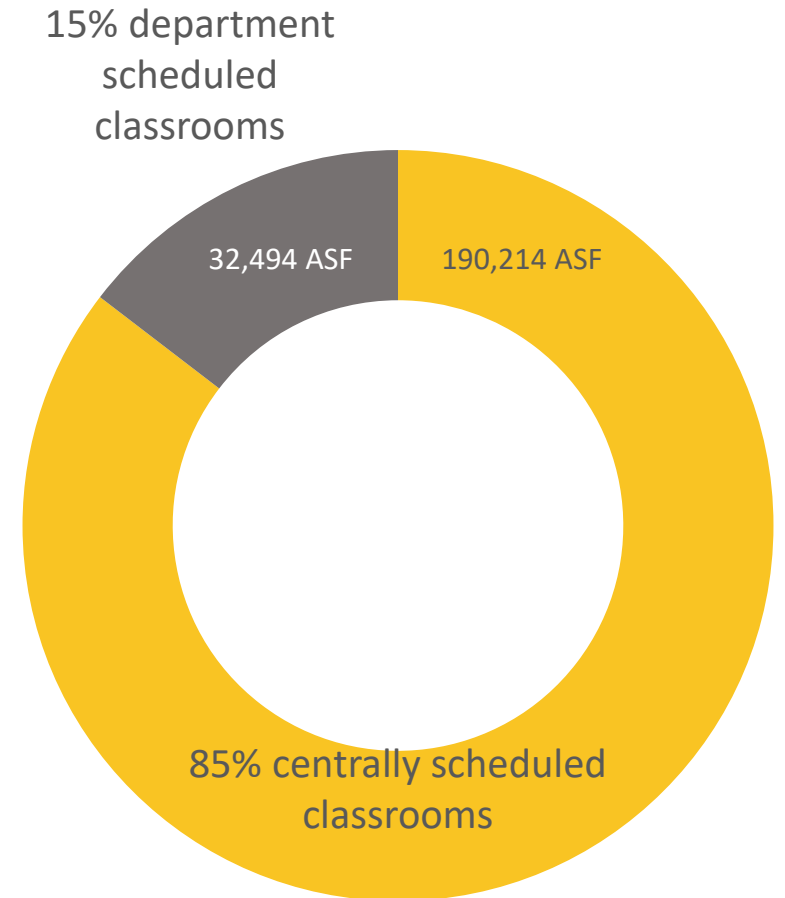
Classroom Utilization Benchmark Comparison

STATE	WRH	SO%
NEW YORK	35.4	80%
CALIFORNIA	53	66%
FLORIDA	40	60%
TENNESSEE	30	60%
VIRGINIA	40	70%
GEORGIA	40	100%
TEXAS	35	67%

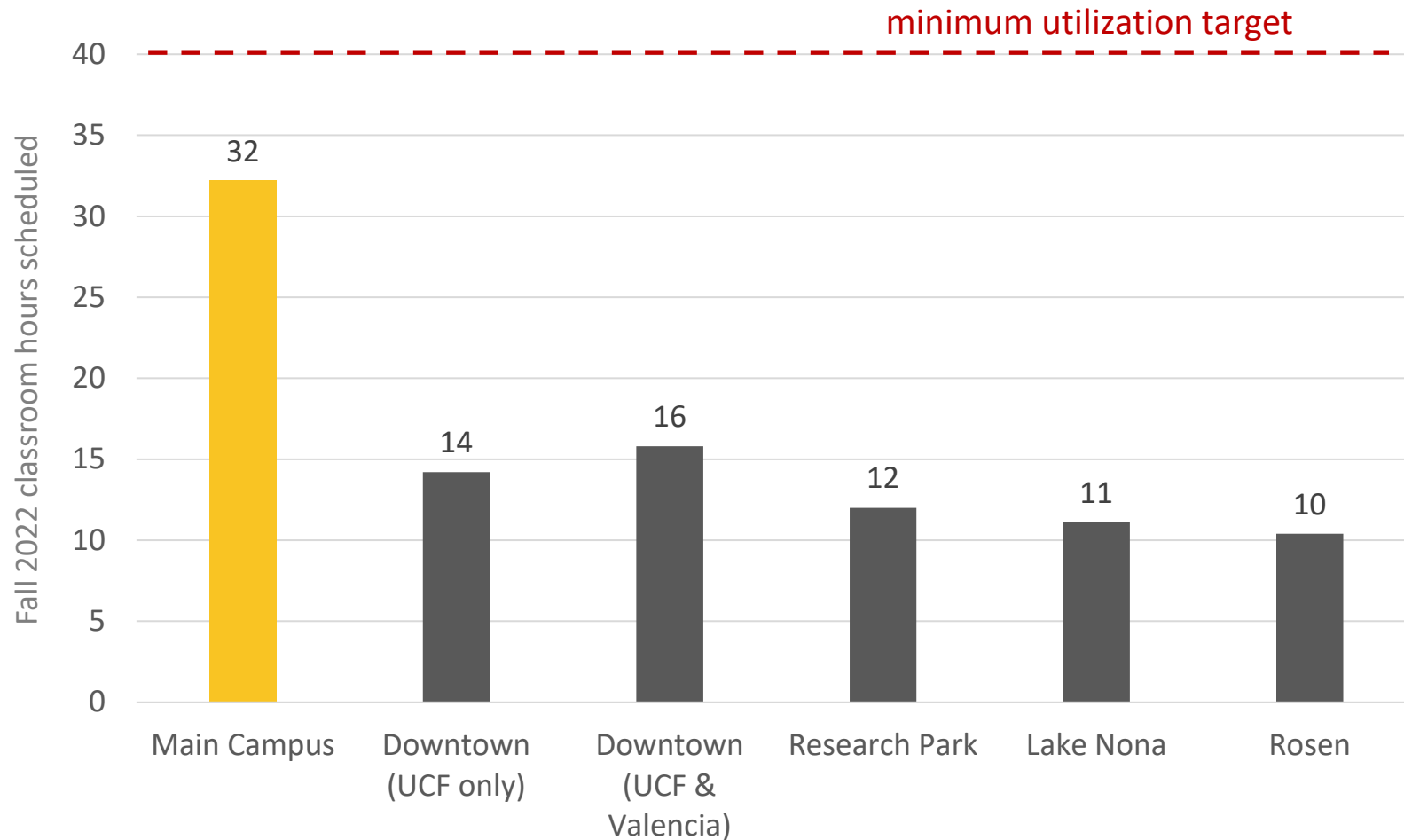
EXISTING CLASSROOM INVENTORY

Campus	Rooms	Seats	ASF
Main	243	13,748	233,819
Research Park	8	384	10,092
Rosen	19	1,452	30,037
Lake Nona	7	416	7,850
Downtown	54	2,047	47,313
Total	331	18,047	329,111

ASF numbers include classroom service space



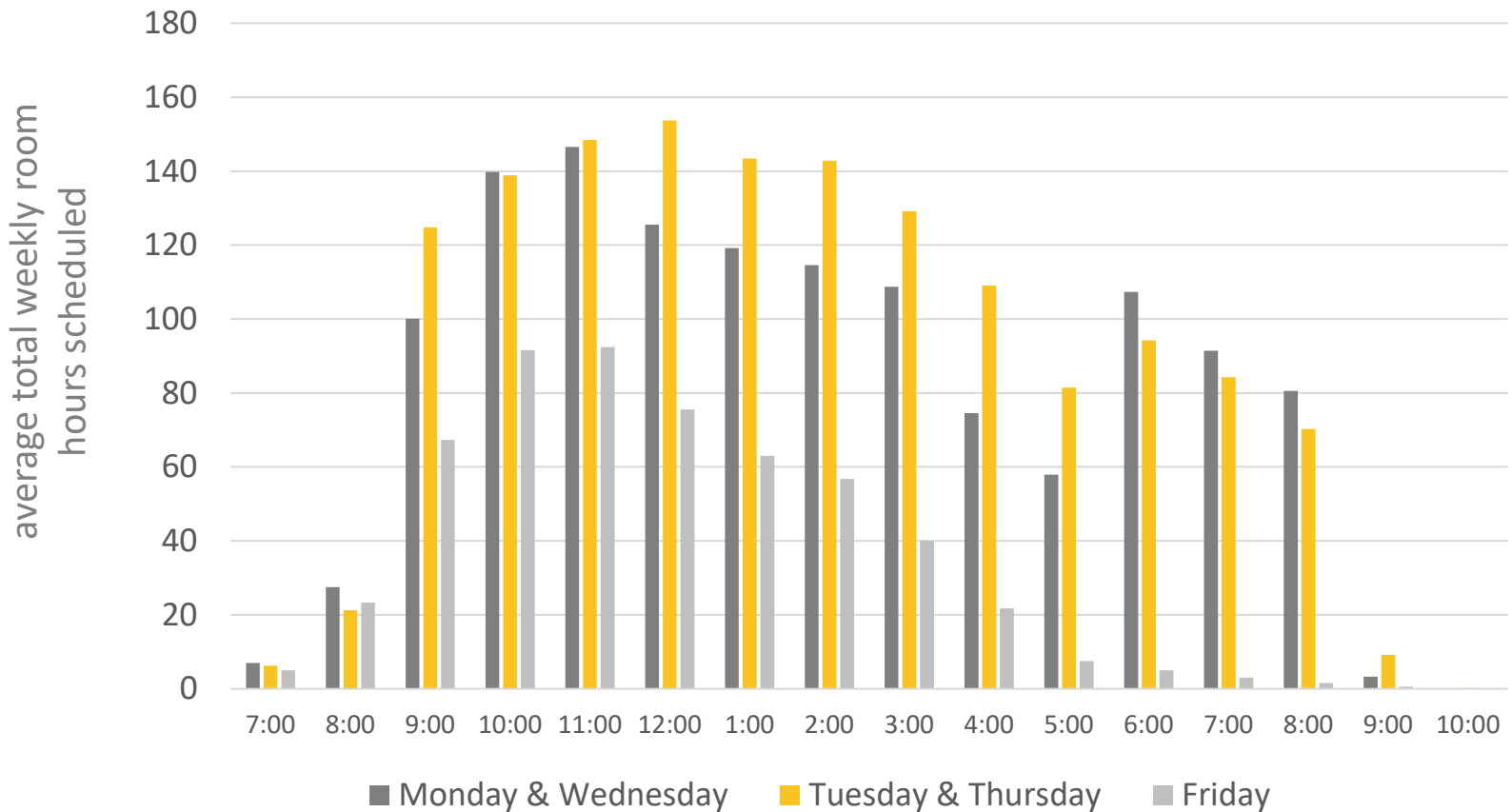
AVERAGE WEEKLY ROOM HOURS BY CAMPUS: FALL 2022



Findings

- Utilization is significantly lower beyond the Main Campus
- The unique scheduling of medical courses, impacted by clinicals, is not identified in UCF's reporting system (this is typical in medical schools given their non-standard class times)

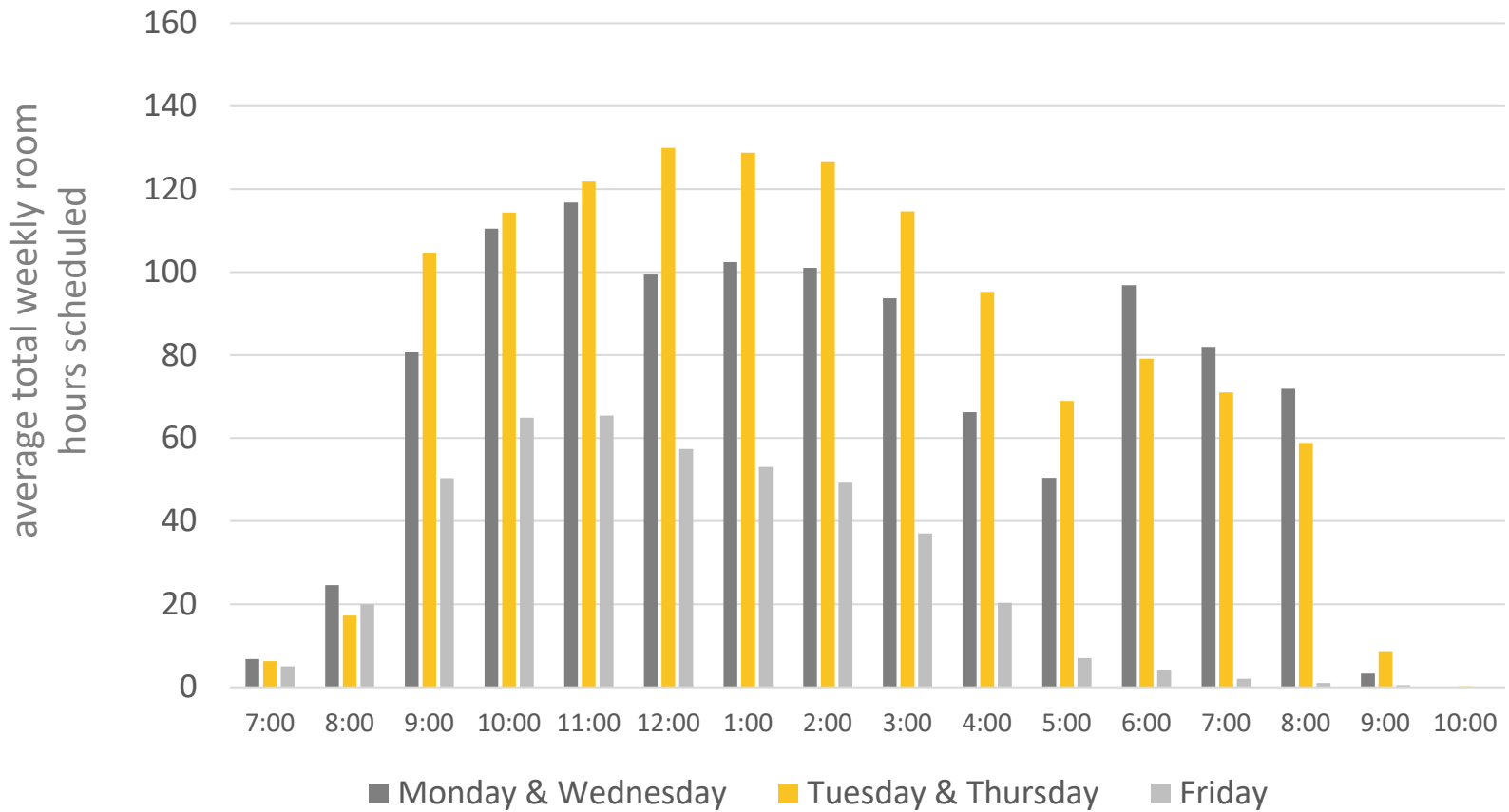
MAIN CAMPUS CLASSROOMS AVG. WRHs BY TIME & DAY: FALL 2022 (ALL CLASSROOMS)



Findings

- Utilization is higher throughout the day Monday-Thursday
- Utilization is low before 9:00 a.m. and after 8:00 p.m. Monday-Thursday, as well as after 4:00 p.m. and all day on Friday
- Scheduling more classes in early morning, late afternoon, or on Fridays & weekends, could free up 46 classrooms for other uses
- 300+ courses could be scheduled early mornings and Fridays on Main Campus

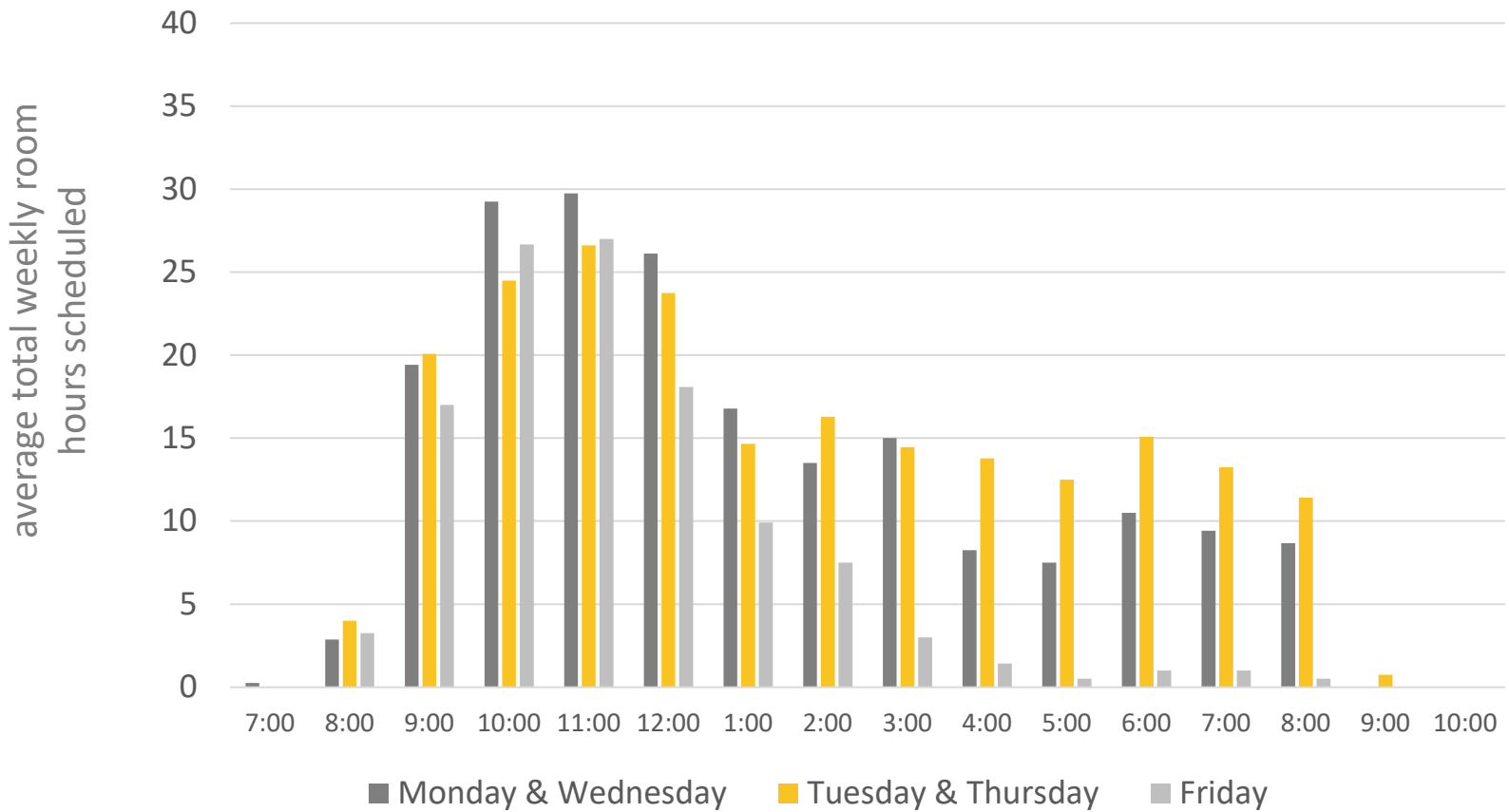
MAIN CAMPUS CLASSROOMS AVG. WRHs BY TIME & DAY: FALL 2022 (CENTRALLY SCHEDULED CLASSROOMS)



Findings

- 149 scheduled classrooms
- 23% of the total average WRHs taught occur Monday through Thursday
- Friday is only 9% of the total average WRHs

MAIN CAMPUS CLASSROOMS AVG. WRHs BY TIME & DAY: FALL 2022 (DEPARTMENT SCHEDULED CLASSROOMS)

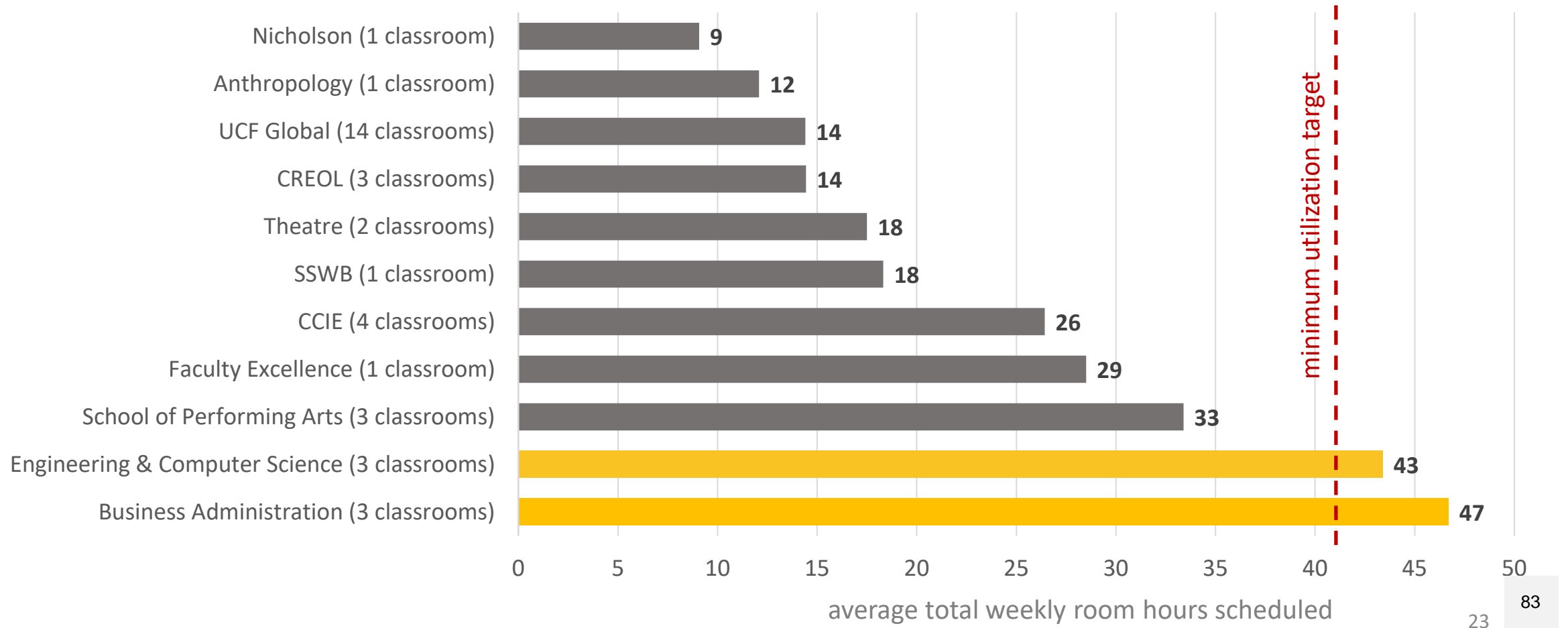


Findings

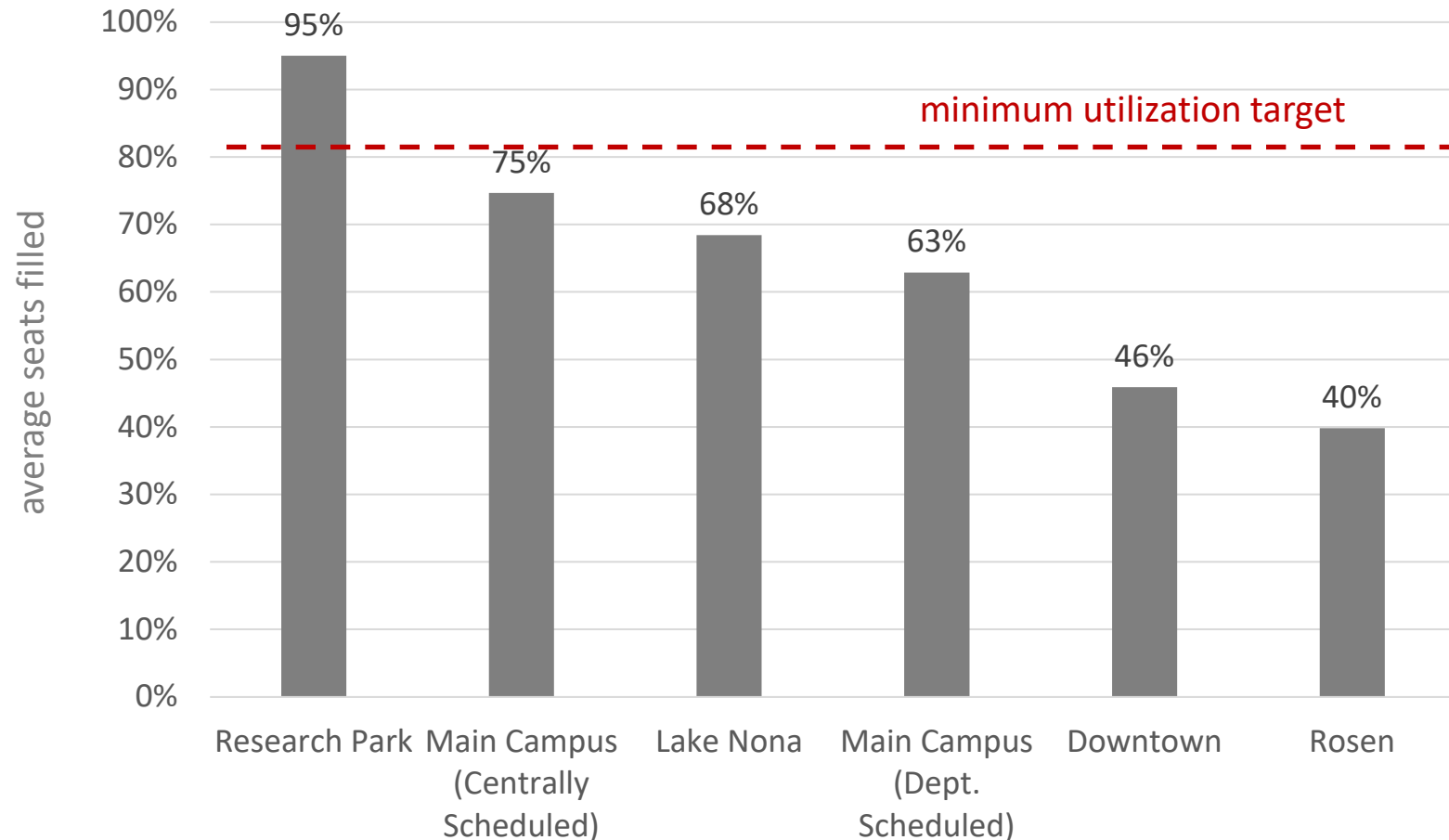
- 37 scheduled classrooms
- 23% of the total average WRHs taught occur on Monday through Thursday
- Friday use is higher than for centrally scheduled classrooms, but is only 13% of the total average WRHs

MAIN CAMPUS DEPARTMENTALLY SCHEDULED CLASSROOMS

AVG. WRHs: FALL 2022



CLASSROOM SEATS FILLED BY CAMPUS: FALL 2022



Findings

- All campuses except Research Park are below the 80% target
- Research Park percentage may indicate that some room capacities or enrollments are incorrectly reported

MAIN CAMPUS CLASSROOM ENROLLMENT VERSUS CLASSROOM CAPACITY: FALL 2022

Capacity (Seats)	No. of Rooms	Section Size								
		1-19	20-29	30-39	40-59	60-79	80-99	100-149	150-249	>=250
1-19	4	100%	0%	0%	0%	0%	0%	0%	0%	0%
20-29	24	39%	58%	3%	0%	0%	0%	0%	0%	0%
30-39	44	52%	29%	18%	1%	0%	0%	0%	0%	0%
40-59	57	27%	19%	20%	34%	1%	0%	0%	0%	0%
60-79	26	11%	11%	13%	38%	24%	1%	2%	1%	0%
80-99	7	7%	14%	13%	24%	26%	18%	0%	0%	0%
100-149	6	12%	8%	8%	8%	21%	26%	17%	0%	0%
150-249	7	0%	0%	1%	4%	8%	13%	25%	45%	4%
>=250	11	0%	0%	0%	1%	4%	2%	12%	35%	46%

Cells show the percentage of class hours meeting in the rooms within that size range

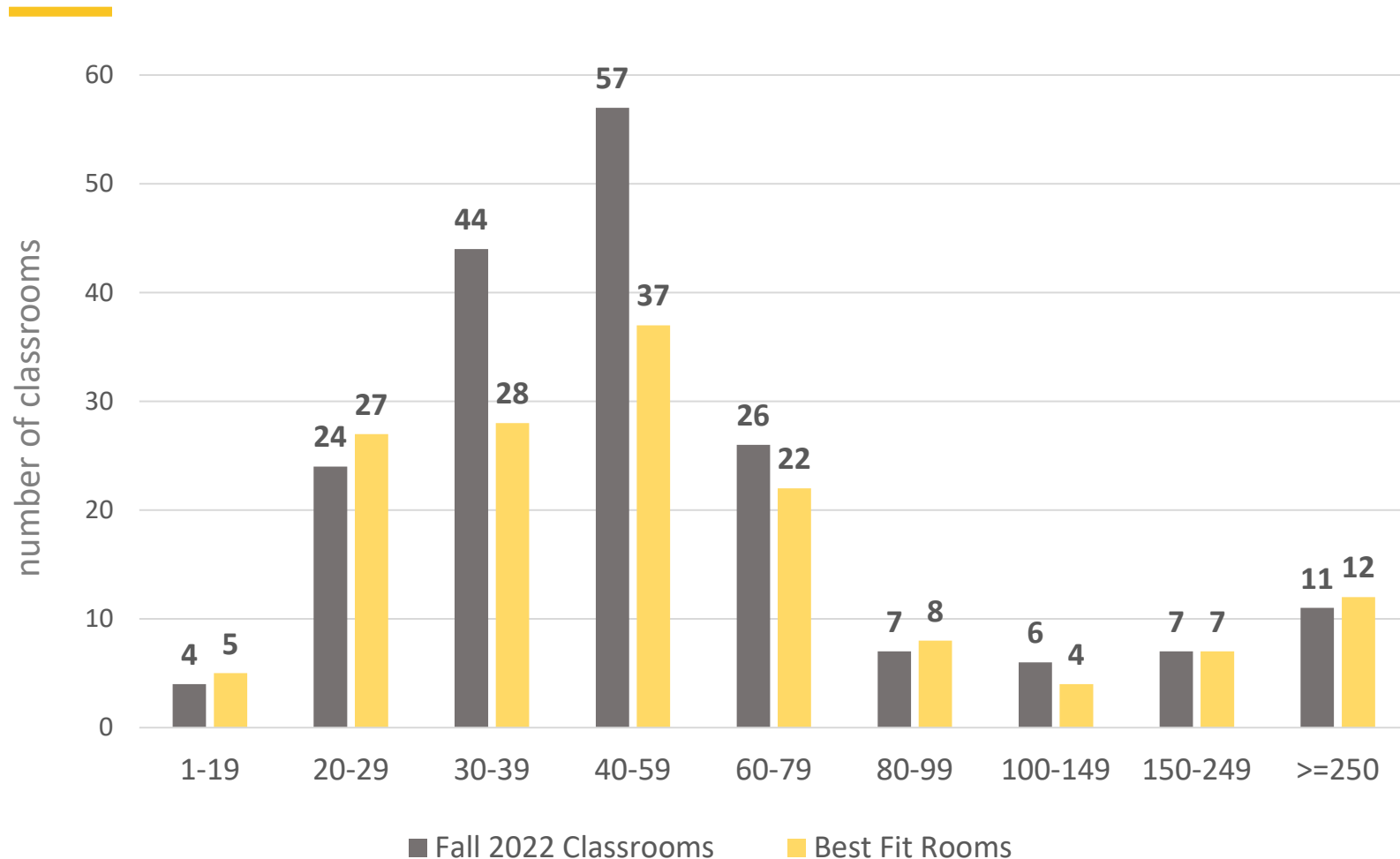
Class enrollments in the highlighted cells and one cell to the left utilize the seats fairly well

Class enrollments two cells or more to the left of the optimum highlighted cell indicate an underutilization of the seats

Findings

- About half of classes meeting in rooms with 30-39 seats have less than 20 students enrolled
- About half of classes meeting in rooms with 40-59 seats have less than 30 students enrolled
- This chart suggests that much of the current supply of classrooms seems to be oversized for the current enrollments

MAIN CAMPUS CLASSROOM BEST FIT COMPARISON BY SIZE (ALL CLASSROOMS)



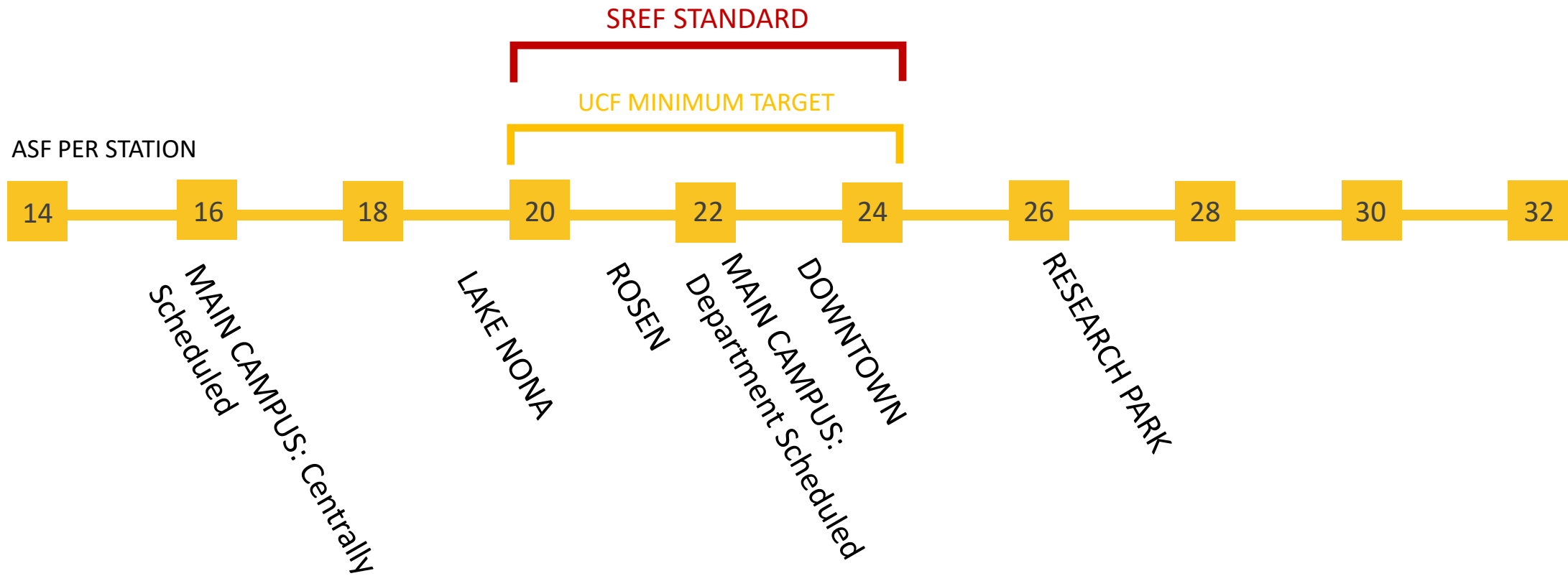
Notes

Includes all centrally scheduled and department scheduled classrooms

Best fit is determined by comparing class enrollments to room size and applying min. target of 40 WRH

- Existing: 186 total classrooms
- Best fit: 150 total classrooms

CLASSROOM SIZING: AVERAGE ASF PER STATION



CLASSROOM UTILIZATION BY CAMPUS: FALL 2022

Campus	Classrooms Total Rooms	Classrooms In Use Fall 2022	Avg. WRH	SO%	ASF / Seat	Rooms Required @ 40 WRH	Rooms in excess of target
Main	196	186	32.2	76.2%	16.6	150	46
Research Park	8	3	12.0	95.0%	26.3	1	7
Rosen	18	18	10.4	37.3%	20.7	5	13
Academic Health	3	3	11.1	68.4%	18.4	1	2
Downtown	36	35	15.8	52.9%	22.7	13	23
Target			40.0	80.0%	30		91



CLASSROOM UTILIZATION OVERVIEW

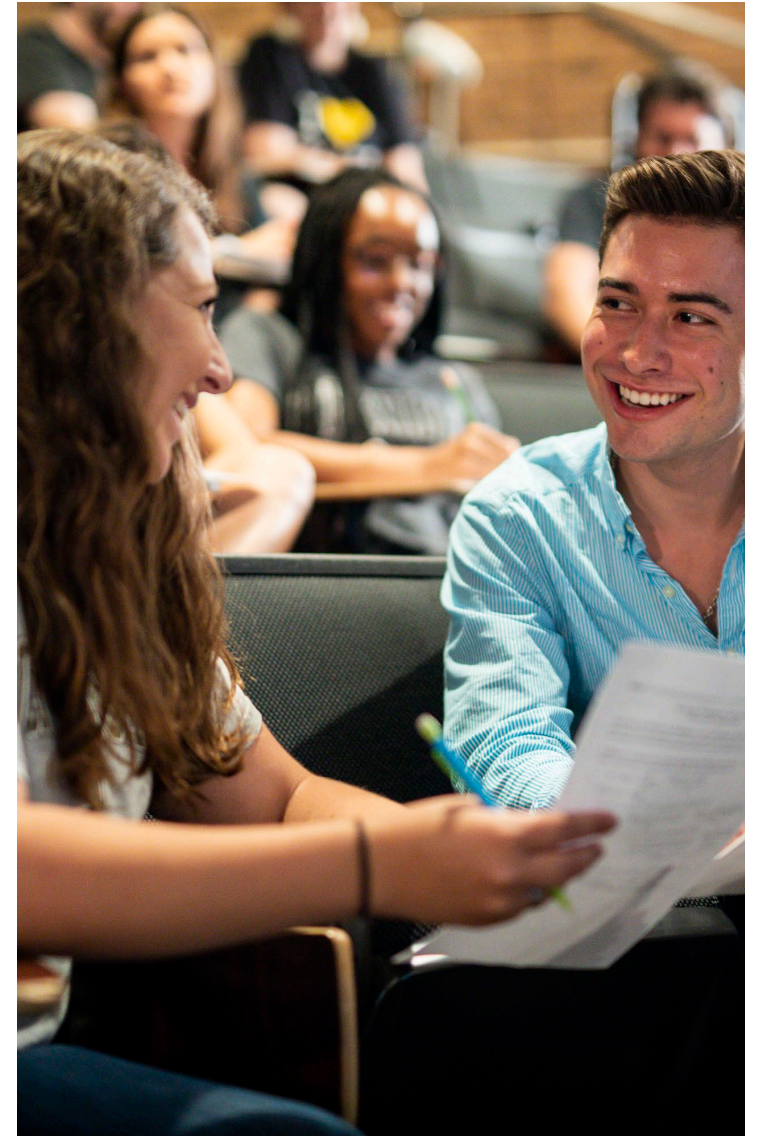
Metric	Findings
Scheduled use	Weekly hours are below the minimum target, especially for dept. scheduled classrooms
Time of day	Classes are not fully scheduled throughout the day and week
Seats filled	Dept. scheduled classrooms are below the minimum target
Station size	Existing area per seat is below SREF standard

Conclusion

Surplus of 91 classrooms (46 on Main Campus), could save \$81.5M (\$41M on Main Campus) by repurposing these spaces rather than building new

CLASSROOM UTILIZATION FINDINGS

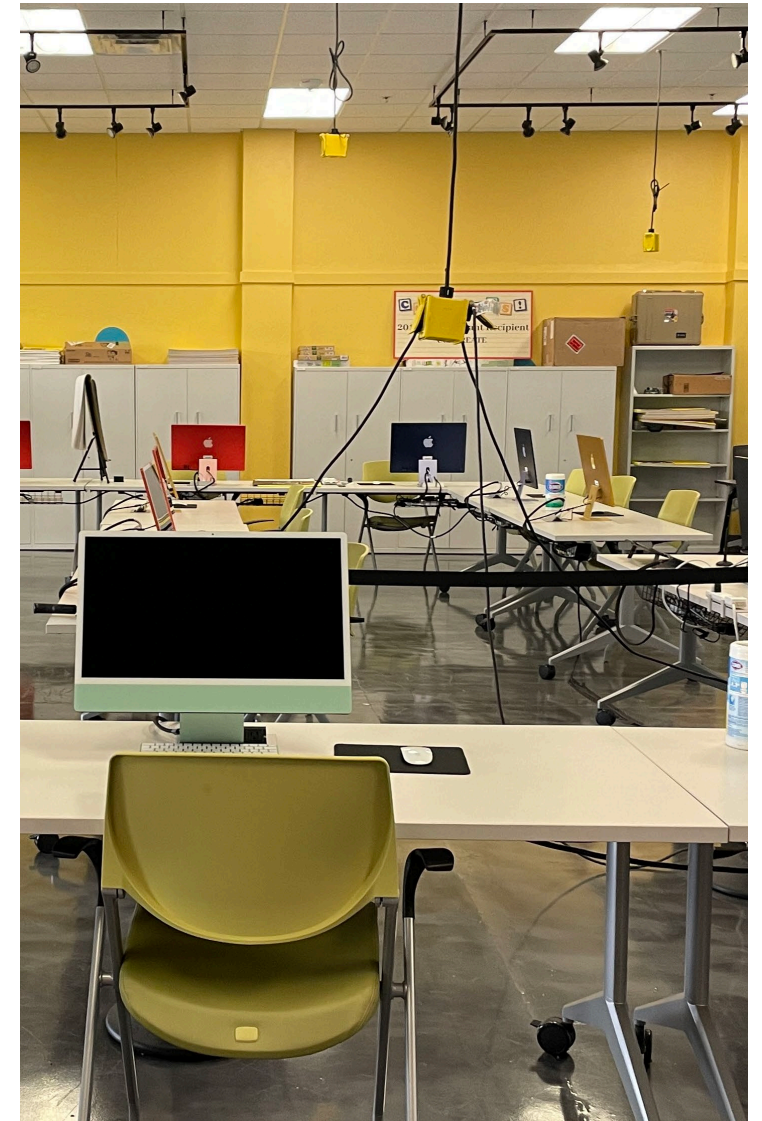
- Department-scheduled classrooms are scheduled 11.7 hours less than centrally scheduled classrooms on an average week
- Seats in centrally scheduled classrooms are generally full (75%), but less so for departmentally scheduled classrooms (63%)
- Mismatch between classroom capacities and section sizes, many smaller sections are being scheduled in larger classrooms
- Main Campus classrooms are scheduled at 80% of 40-hour minimum target
 - *Downtown classrooms at 36% of target*
 - *Research Park classrooms at 30% of target*
 - *Lake Nona classrooms at 28% of target*
 - *Rosen classrooms at 25% of target*



Teaching Lab Utilization

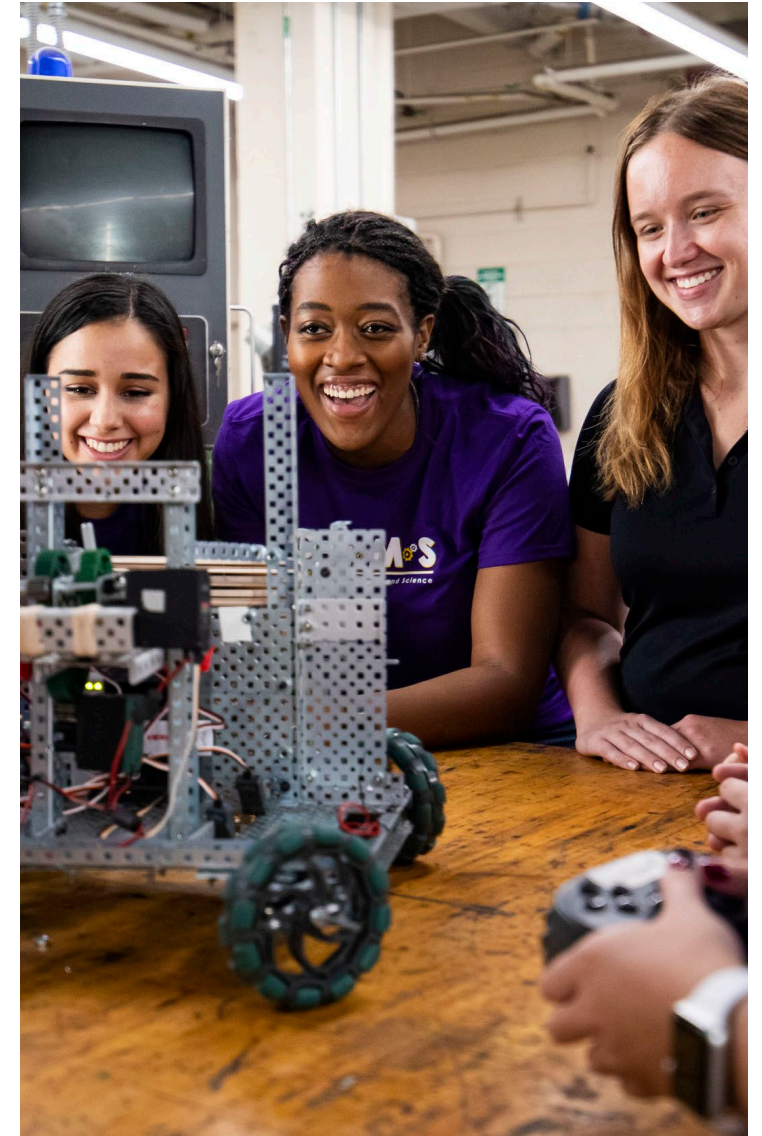
TEACHING LAB UTILIZATION GUIDELINES APPLIED

Utilization Metric	SREF	UCF Minimum Target
Average WRH (Lower Division)	30	40
Average WRH (Computer Labs)	30	40
Average WRH (Upper Division)	30	30
Station Occupancy	80%	85%
ASF/Station	varies	varies



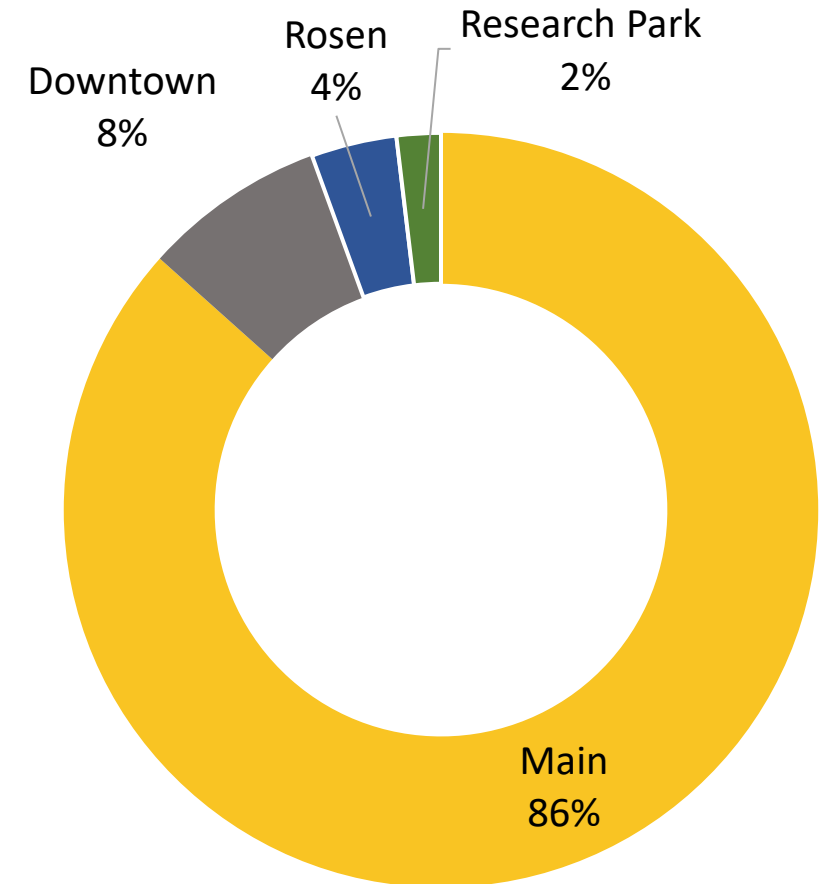
TEACHING LAB OBSERVATIONS

- Unlike classrooms that may be shared, teaching labs are often specialized facilities with less consistent utilization
- Unique labs must be available in the inventory, even if to satisfy demand for only a single section
- Due to limited interchangeability across departments, some labs cannot meet the utilization targets
- Issues of curriculum design and faculty availability often place an uneven demand on labs across semesters



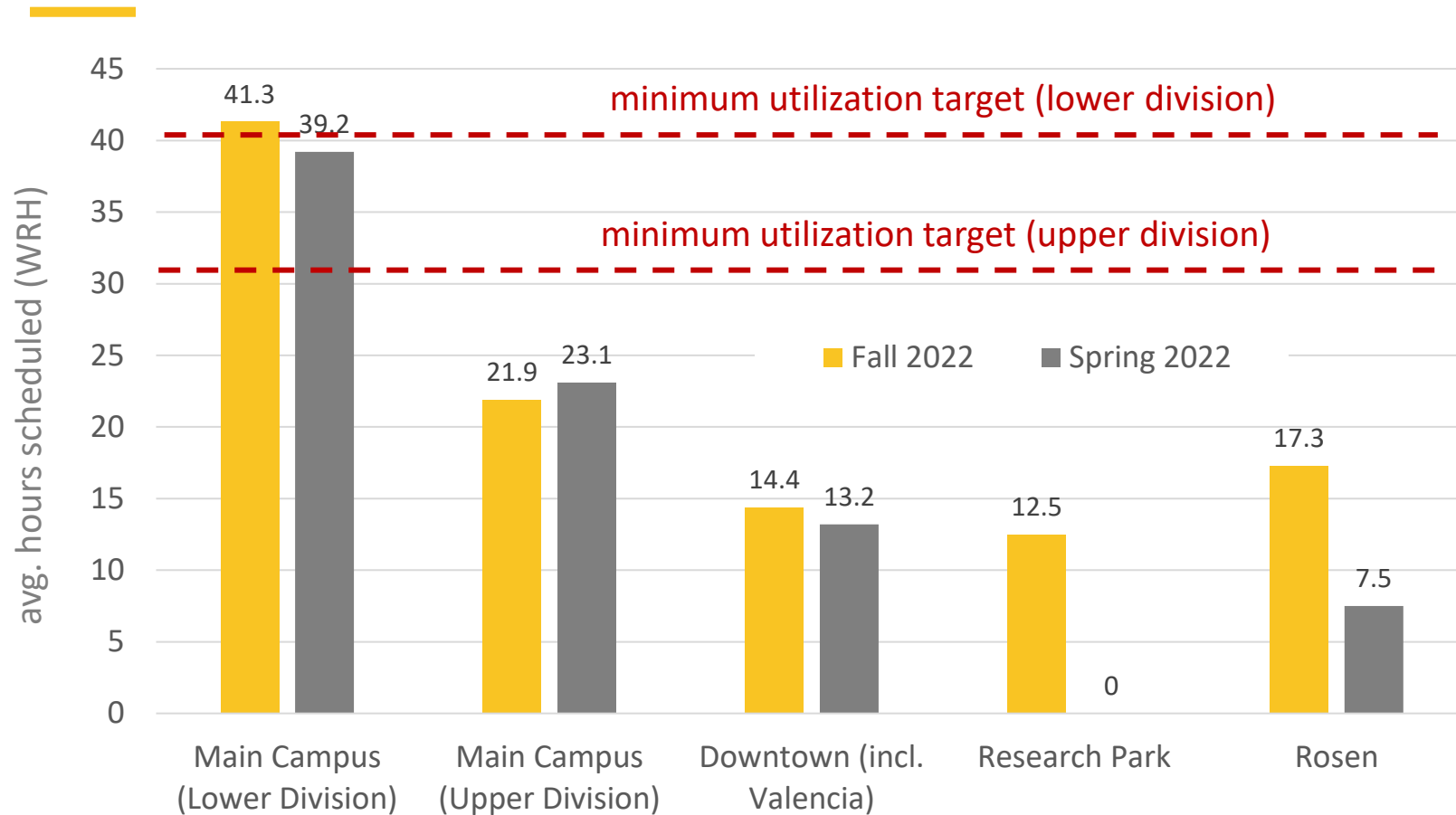
EXISTING SCHEDULED TEACHING LABORATORY INVENTORY BY CAMPUS

Campus	Rooms	Stations	ASF
Main	100	3,485	125,789
Research Park	2	48	2,748
Downtown (UCF Only)	4	163	5,185
Downtown (Shared with Valencia College)	6	167	6,183
Rosen	2	90	5,323
Total	114	3,953	145,288



ASF numbers do not include lab service space, Lake Nona Campus has no scheduled teaching labs, Research Park classrooms are Nursing classrooms

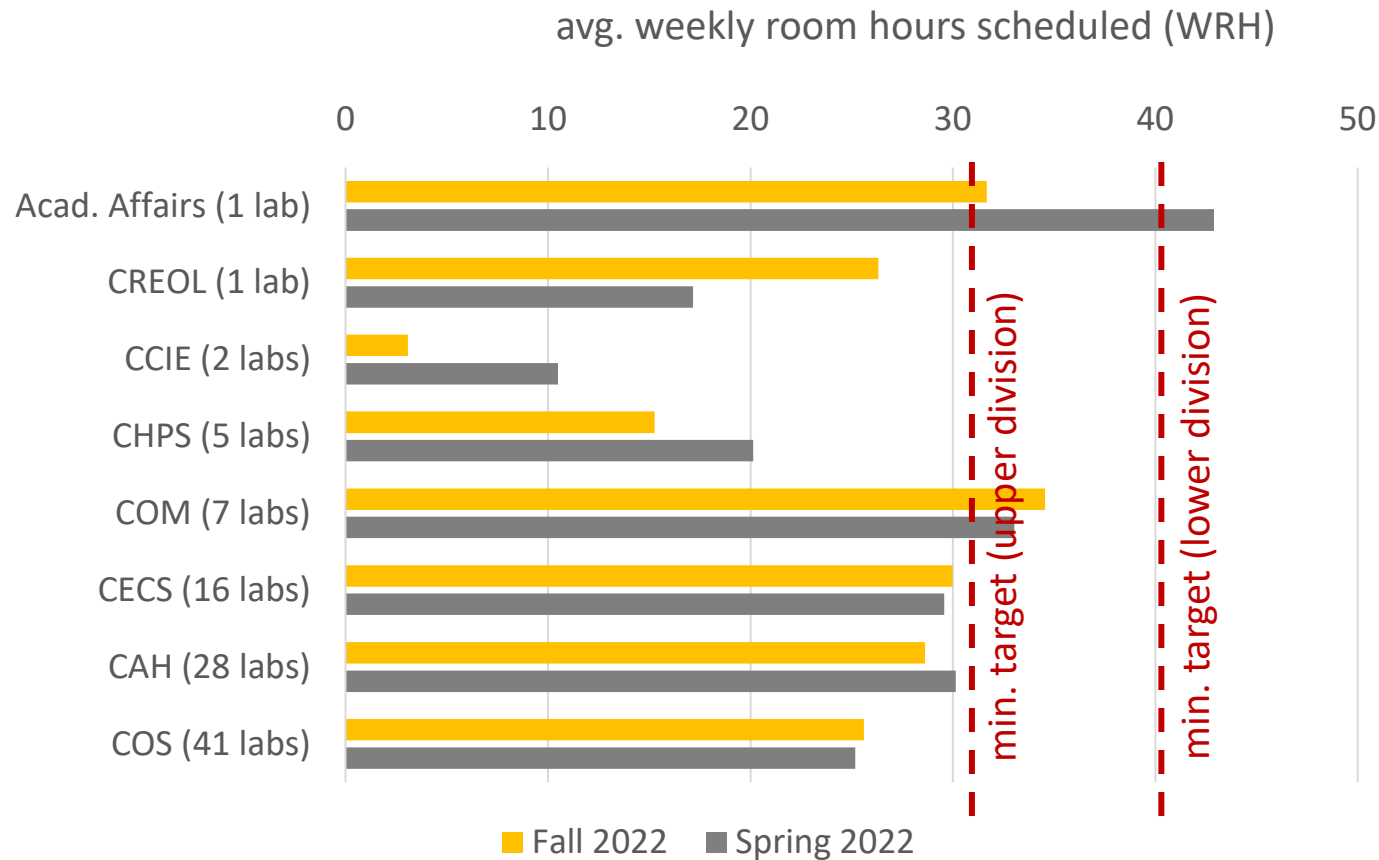
AVG. WEEKLY TEACHING LABORATORY HOURS SCHEDULED BY CAMPUS



Findings

- Utilization is significantly lower outside the Main Campus
- The unique scheduling of medical courses at Lake Nona, impacted by clinicals, is not identified in UCF's reporting system (this is typical in medical schools who have non-standard class times)

MAIN CAMPUS TEACHING LABORATORY AVG. WRHs BY COLLEGE

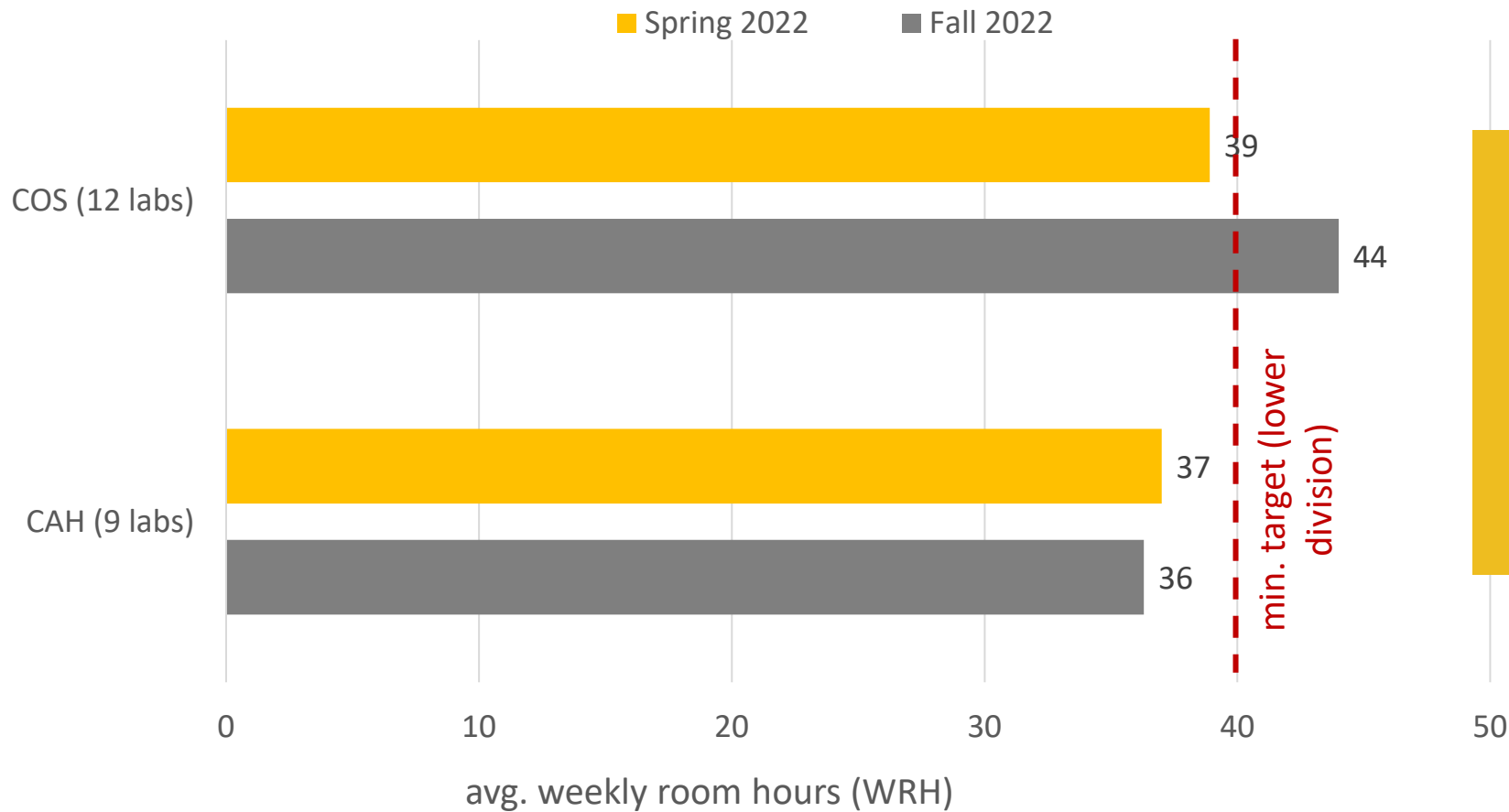


Notes

- 100 total teaching labs
- 99 labs scheduled in Fall
- 98 labs scheduled in Spring
- 125,789 total ASF
- 3,485 total stations based on course section limits

Upper and lower division labs are combined in this chart

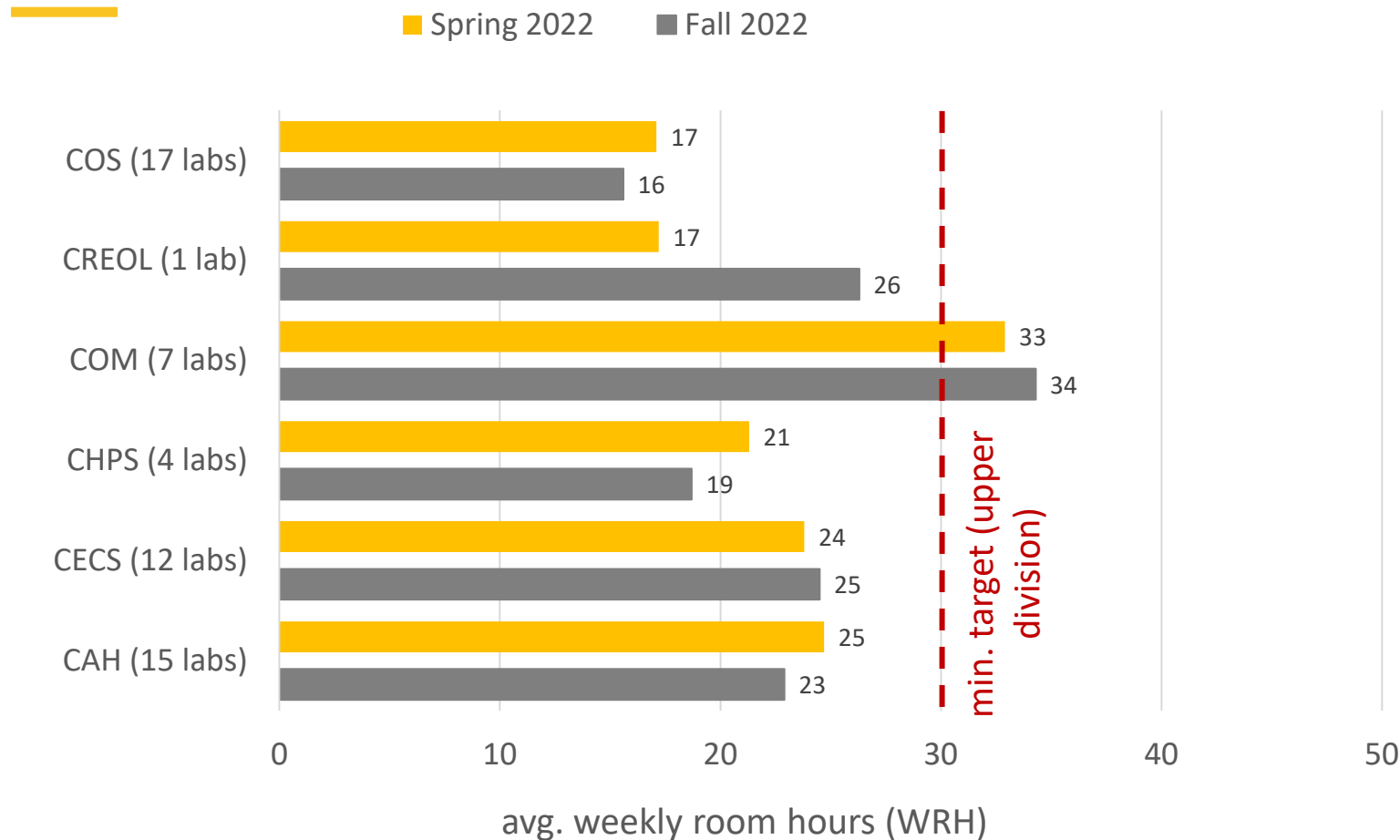
MAIN CAMPUS LOWER DIVISION TEACHING LABORATORY AVG. WRHs BY COLLEGE



Notes

- 21 total teaching labs
- 29,660 total ASF
- 647 total stations based on course section limits

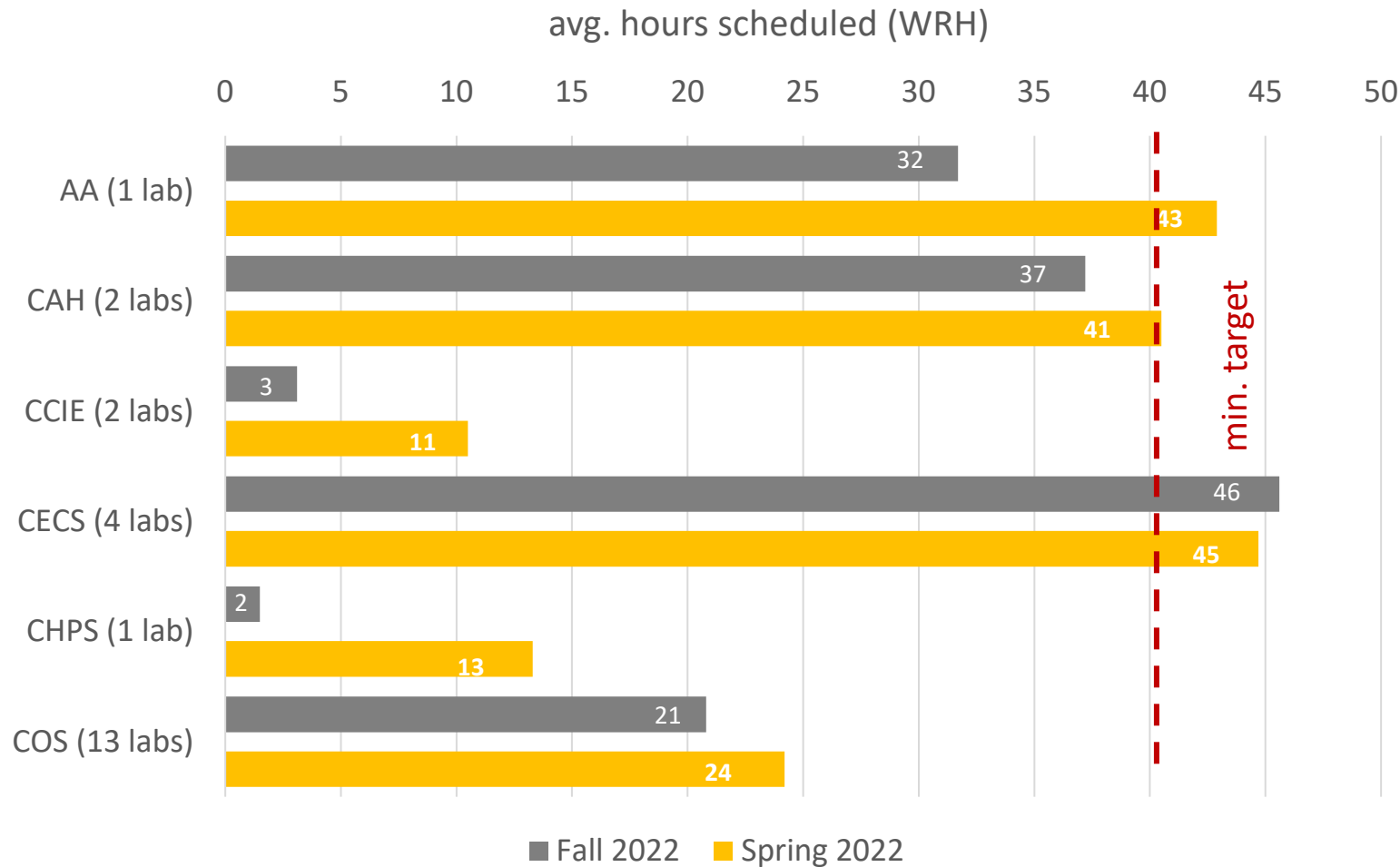
MAIN CAMPUS UPPER DIVISION TEACHING LABORATORY AVG. WRH's BY COLLEGE



Notes

- 56 total teaching labs
- 64,892 total ASF
- 1,643 total stations based on course section limits

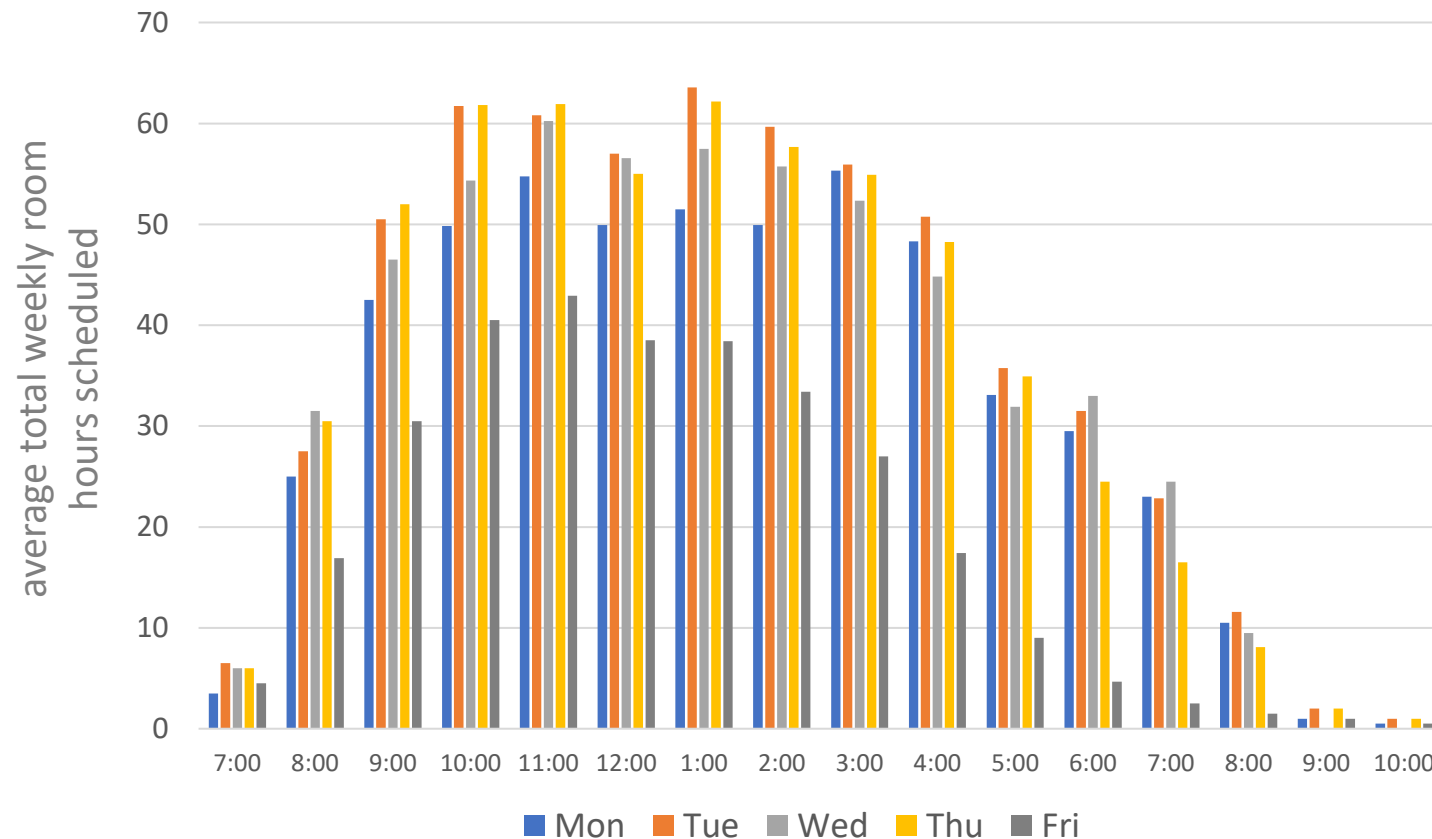
MAIN CAMPUS COMPUTER LABORATORY AVG. WRHs BY COLLEGE



Notes

- 23 total computer labs
- 31,237 total ASF
- 1,195 total stations based on course section limits

MAIN CAMPUS TEACHING LABORATORY TIME BY DAY FALL 2022

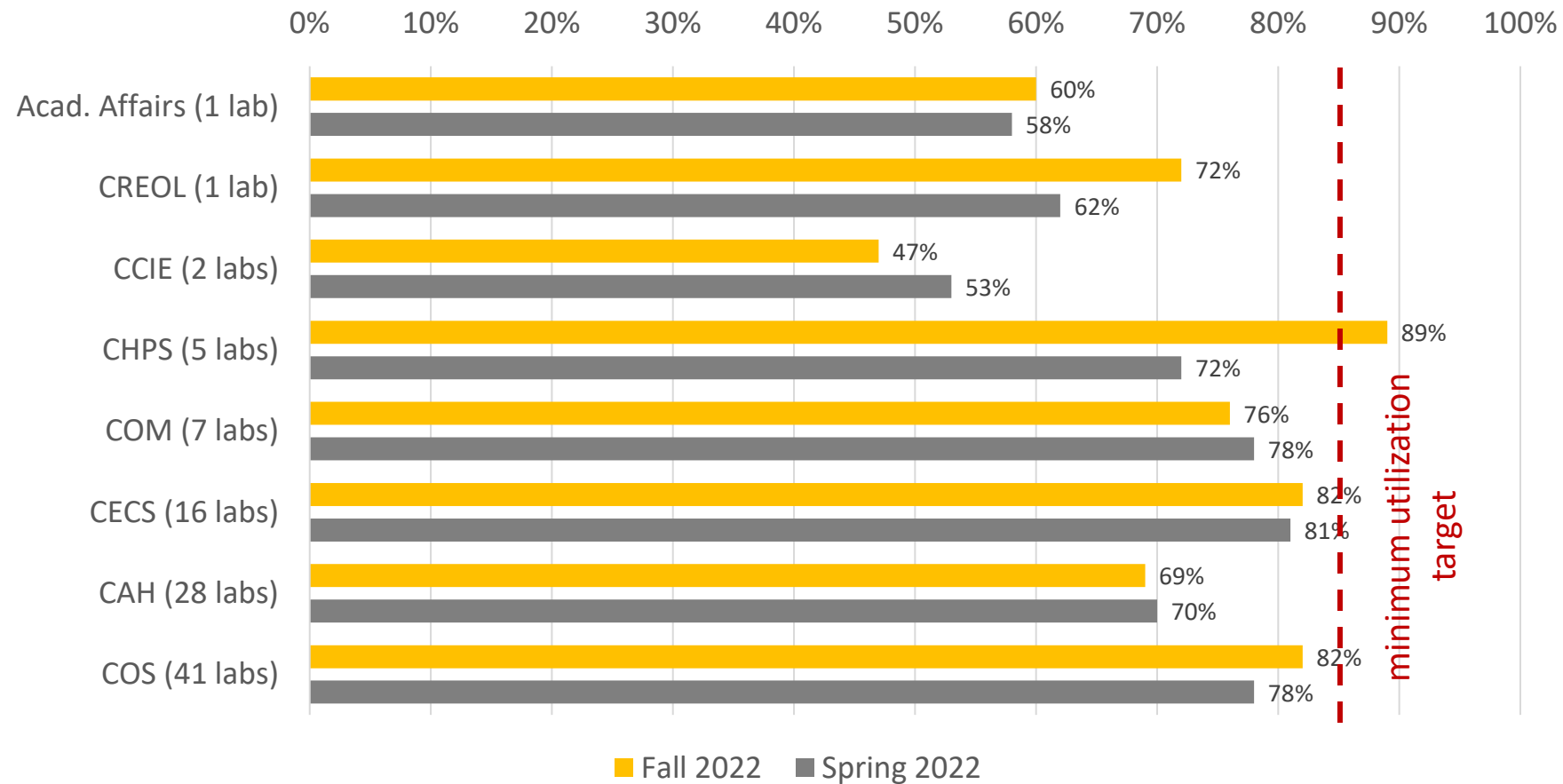


Upper and lower division labs are combined in this chart

Notes

- Spring 2022 has a similar pattern of distribution by day and time
- Similar low use on Friday as with classrooms

MAIN CAMPUS TEACHING LABORATORY AVG. STATION OCCUPANCY BY COLLEGE



Finding

- Most colleges are below the station occupancy target of 85% with the exception of CHPS

MAIN CAMPUS TEACHING LABORATORY SUMMARY

COMPARISON BY TYPE

Inventory Data					Fall 2022	
	Teaching Lab Count	ASF	Inventory Capacity	Teaching Stations	Total WRH Avg.	SO%
COMPUTER LABS						
Totals	23	31,237	1,154	1,195	24.7	78%
Target					40.0	85%
LOWER DIVISION LABS						
Totals	21	29,660	768	647	40.7	87%
Target					40.0	85%
UPPER DIVISION LABS						
Totals	56	64,892	1,798	1,643	22.9	72%
Target					30.0	85%

Notes

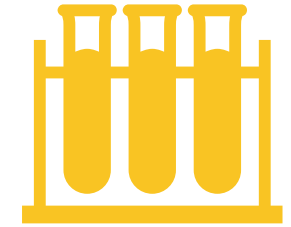
- Lower division labs are scheduled near the 40-hour minimum target.
- Upper division labs are scheduled below the 30-hour minimum target.
- Average station occupancy in lower division labs is above the minimum target of 85% (except for computer labs).
- Average station occupancy in upper division labs is 10% below the minimum target.
- Utilization of computer labs that are more general purpose should be at the same level as lower division labs. Current use patterns indicate these types of labs are used about 40% below expectations.

OTHER CAMPUS TEACHING LABORATORY SUMMARY COMPARISON

Campus	Current Inventory		Fall 2022		
	Teaching Lab Count	Scheduled Labs	Avg. WRH	50%	Utilization Capacity
Downtown	10	10	18.6	79%	44%
Research Park	16	2	12.5	95%	47%
Rosen	10	2	17.3	55%	31%
Lake Nona (1)	8	0	N/A	N/A	N/A
Target			40	85%	

Notes

- Except for the Lake Nona campus, all other labs are lower division or computer labs.
- Utilization at all four (4) of these campuses are significantly below the WRH target.



TEACHING LAB UTILIZATION OVERVIEW

Metric	Findings
Scheduled use Lower Division	Weekly hours are near the minimum target for lower division labs on the Main Campus but below the minimum target at other campuses
Scheduled use Upper Division	Weekly hours are below the minimum target
Scheduled use Computer Labs	Weekly hours are 40% below minimum targets
Time of day	Classes are not fully scheduled throughout the day and week
Seats filled	Lower and upper division labs (except for computer labs) are below the minimum target of 85% seat fill

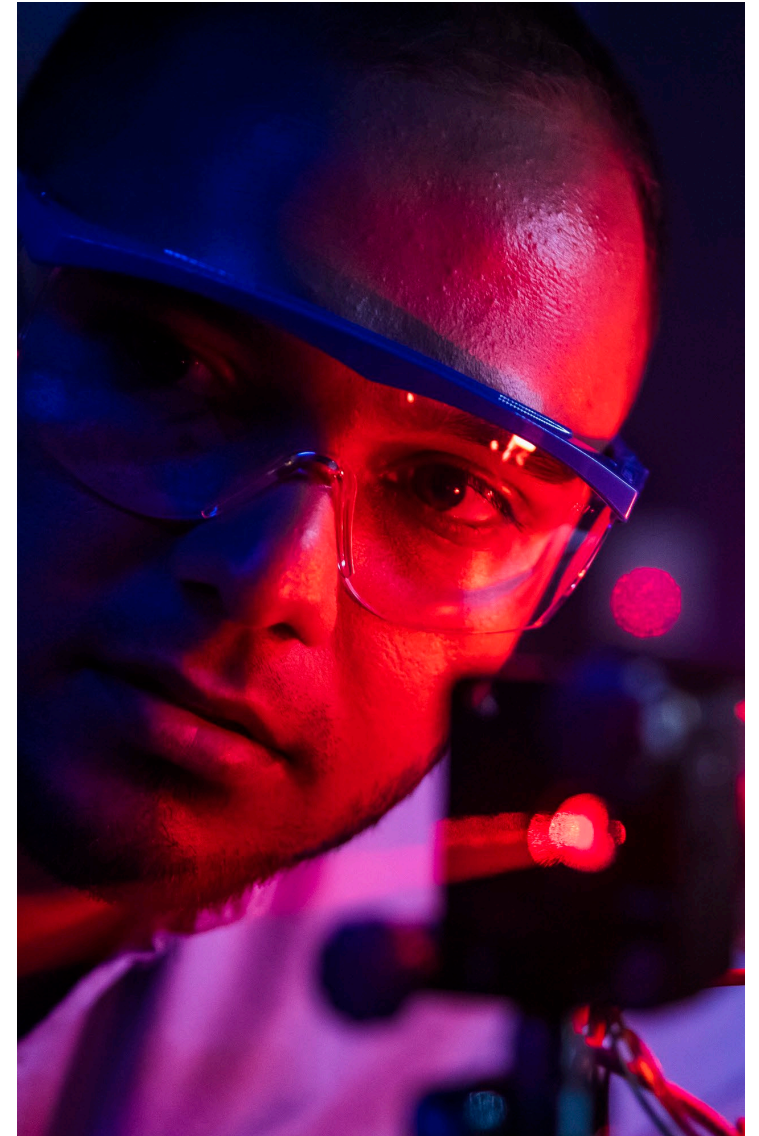
Conclusion

Teaching laboratories are generally well used but there may be opportunity to increase lab utilization by evaluating shared use potential; particularly for computer labs, upper division labs, and labs located outside of Main Campus

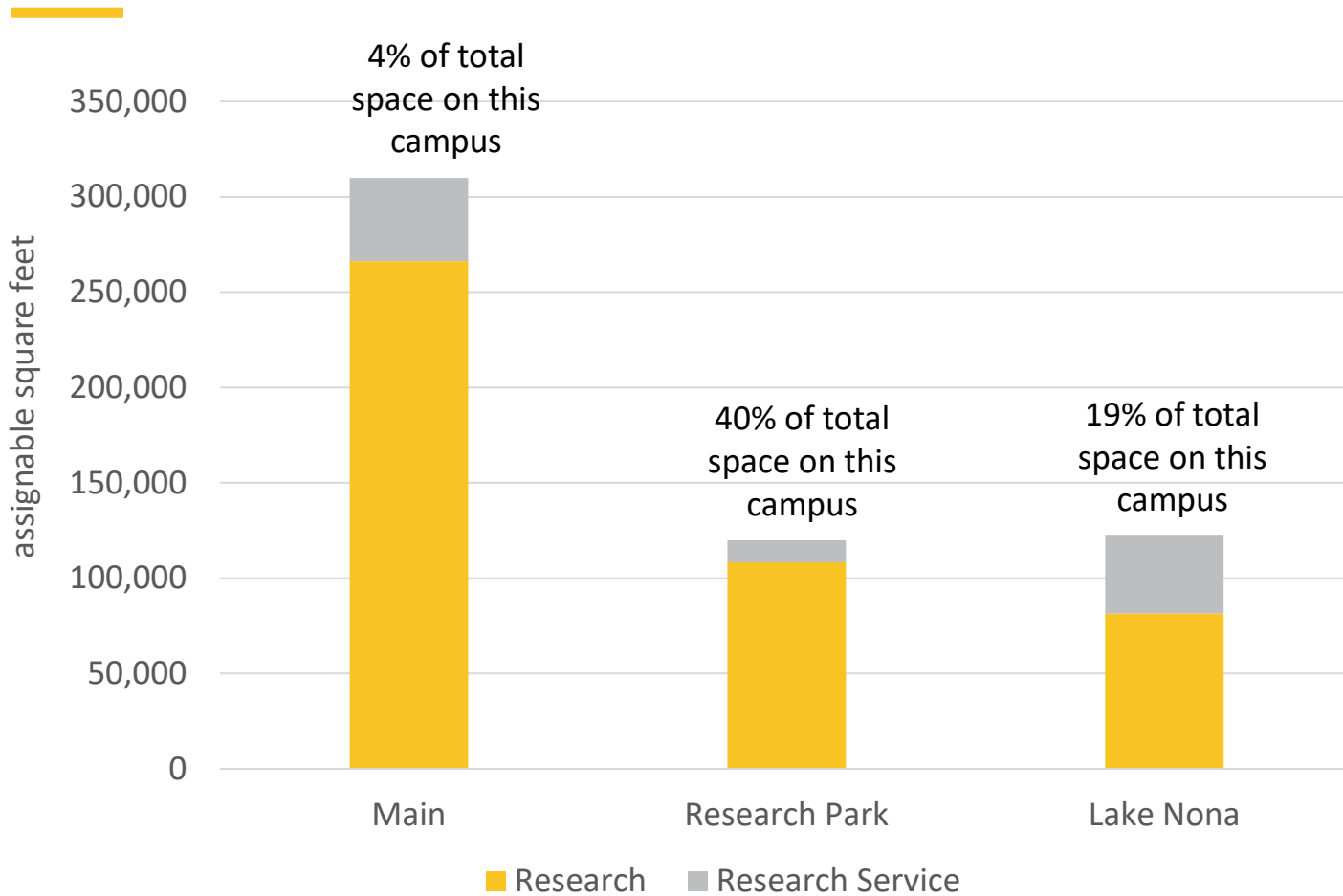
Research Lab Utilization

RESEARCH UTILIZATION GUIDELINES

- Utilization metrics vary based on research goals and priorities—these metrics were used for this study
 - *Expenditures per square foot: Total external and internal research expenditures per ASF of space where research is occurring*
 - *Average expenditures per personnel: Average expenditures by total number of personnel at the College level*
 - *Grant activity by building: Total expenditures of research actively occurring in each building*
 - *Internal research: Documented internal research work occurring in space that may or may not have established funding*



EXISTING RESEARCH LAB ASF BY CAMPUS



RESEARCH DATA PROCESS

Process So Far

- Verification of rooms shown as research and research service space
- Expenditure analysis at department and college level
- Data request to determine location of active grants*

**This request had varying response levels—College of Science and others provided an extensive response, while some colleges provided limited location data*

Next Steps

- Confirmation of data request to fill in gaps in original responses
- Confirmation of PI personnel assigned to research labs
- Confirmation of research labs with non-active grants
- Capture of internal research data

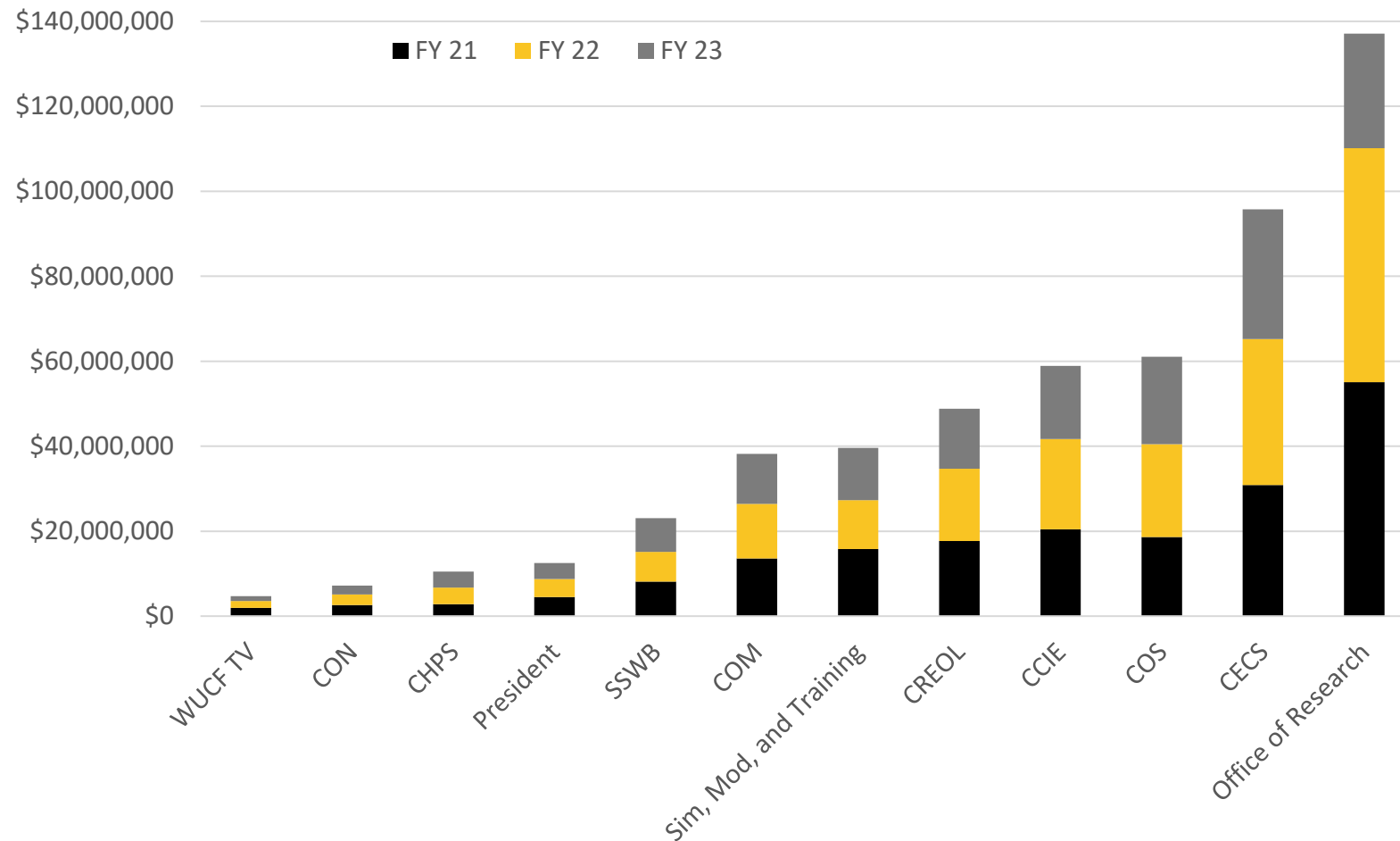
Expected Results

Following Next Steps:

- Clear dataset that ties individual assignments (researchers and grants) to room locations
- Expenditures per sq. ft. at the unit level and building level
- Documentation of active internal research in designated research spaces
- Analysis of grants with highest external expenditures and growth potential

RESEARCH EXPENDITURES FY21-23

ACADEMIC AND ADMINISTRATIVE UNITS



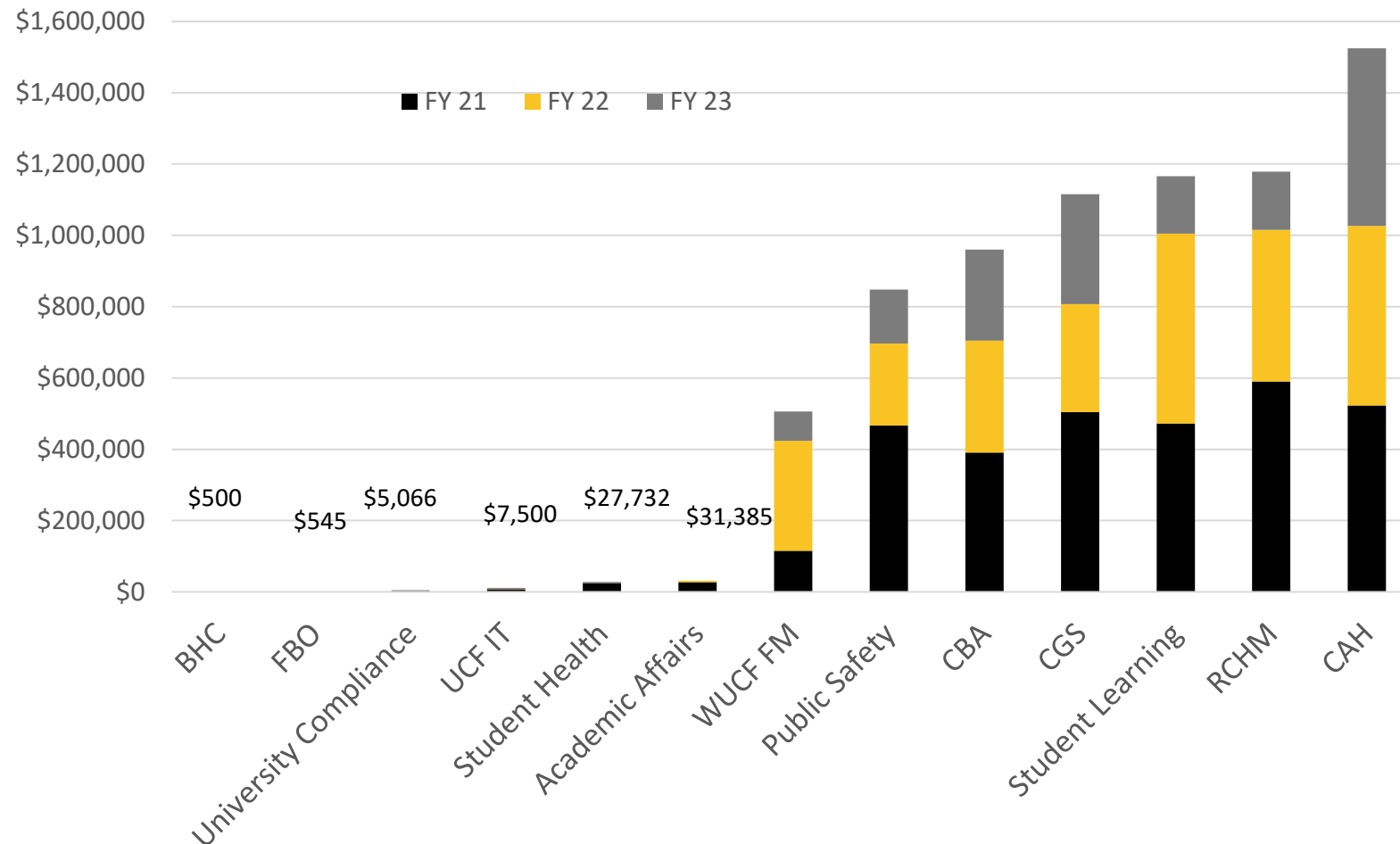
Notes

Office of Research expenditures include several high expenditure institutes:

- Florida Space Institute ≈ \$87.6M
- NanoScience Technology Center ≈ \$17.7M
- Center for Research in Computer Vision ≈ \$10M
- Florida Solar Energy ≈ \$9.5M

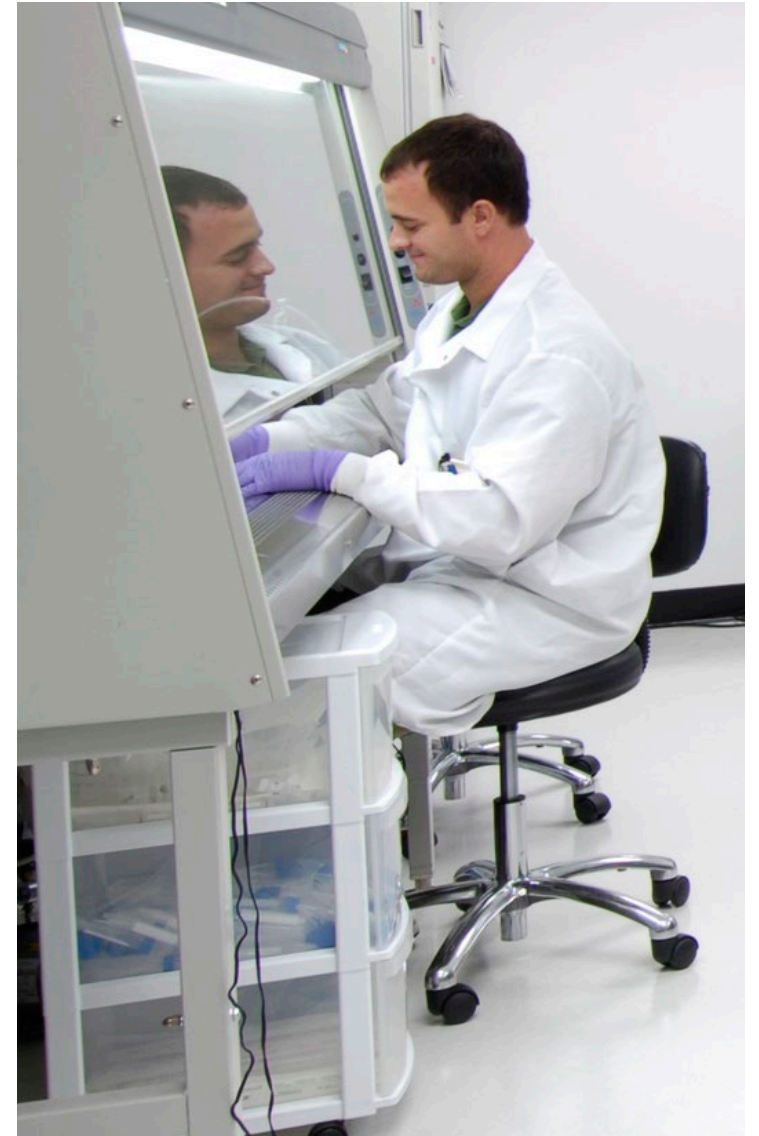
RESEARCH EXPENDITURES FY21-23

ACADEMIC AND ADMINISTRATIVE UNITS (cont.)



RESEARCH LAB UTILIZATION FINDINGS

- Data processes should be established to **integrate** research and space data resulting in an accurate research space inventory and improved utilization
- 78% of grants received a room assignment during data verification process
 - *Only 41% of research laboratory space was assigned to a grant*
 - *Additional verification is ongoing to understand use of the other 58% of research lab space without grant assignment which could be a result of limited verification response or internal research activity*
- Utilization inefficiencies can be reduced through shared research support space and equipment
- Highest grossing grants occur primarily in Research Park
- Space in Partnership buildings provides a high return on investment but are not all fully utilized



Workspace Utilization

“ME” SPACE TYPES



Individual office



Shared office



Cubicle



Hoteling station



Quiet pod



Student Station

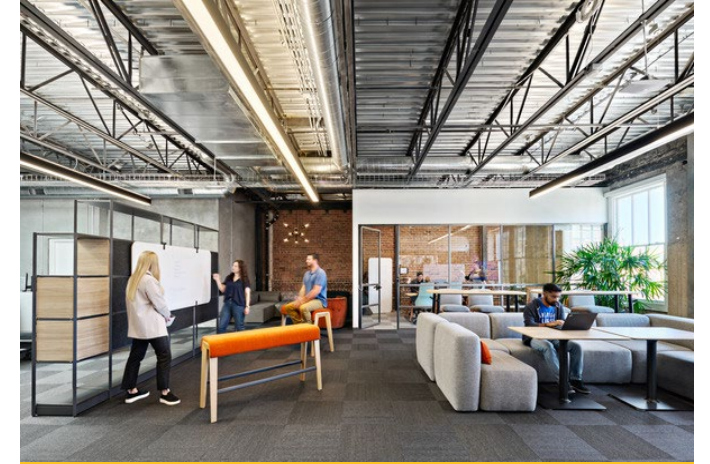
“WE” SPACE TYPES



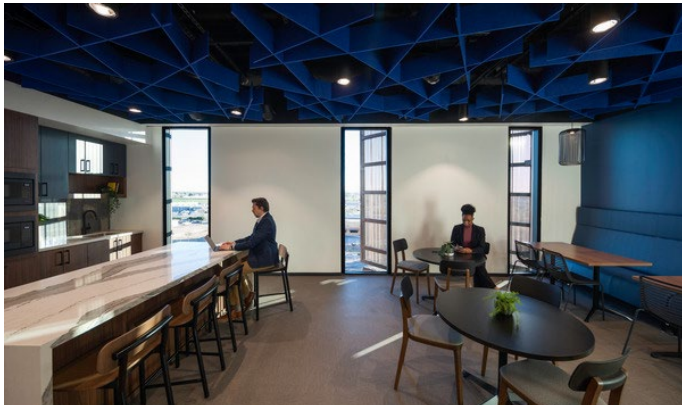
Meeting area in office



Zoom Room



Informal breakout



Break room



Formal conference



Small conference

SERVICE SPACE TYPES



Supply storage



Record/file storage



Waiting room



Equipment storage

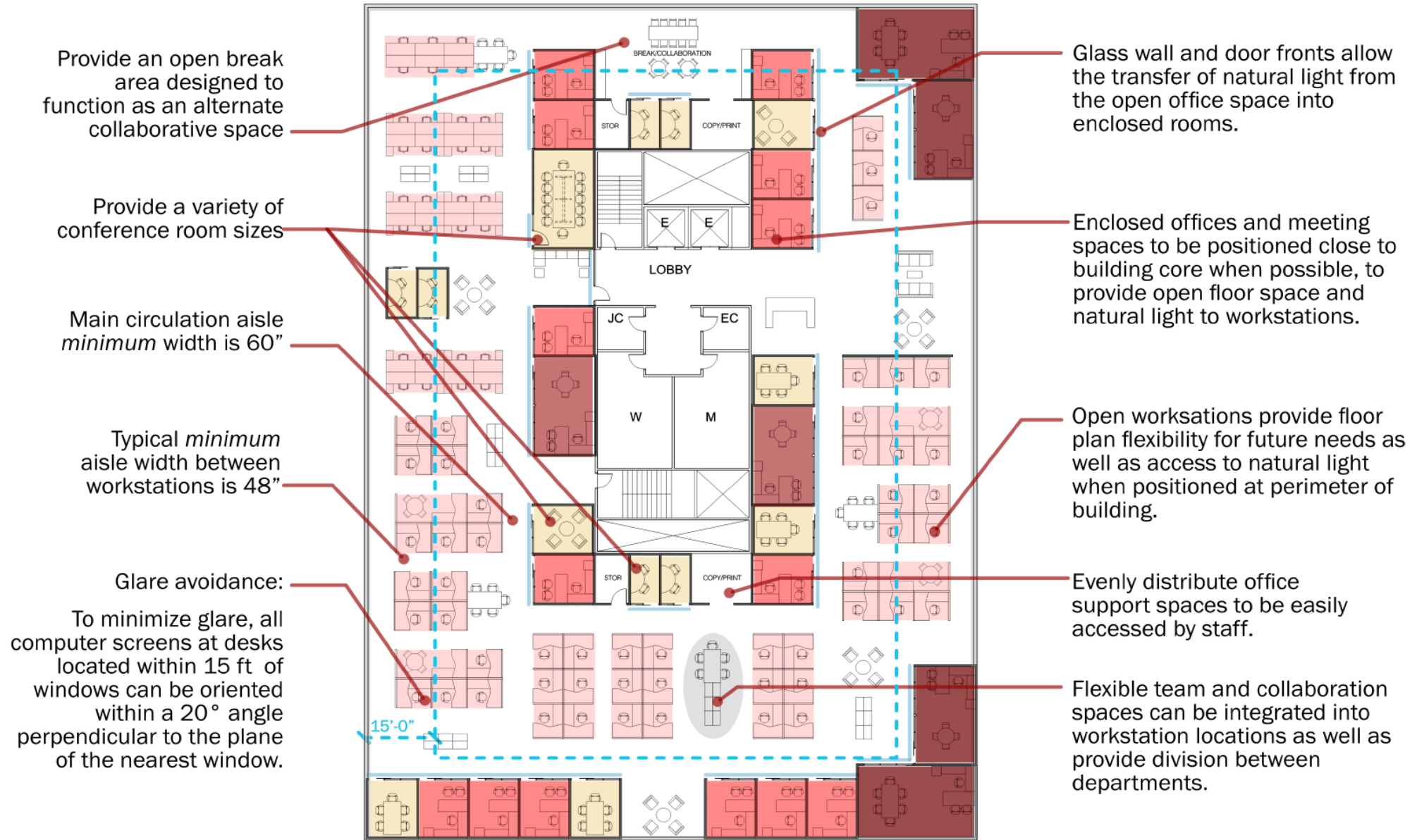


Kitchenette



Work/copy/mail room

EFFICIENT WORKSPACE DESIGN OPTIONS



Example Floor Plan Layout for 30% Private Office, 70% Open Office

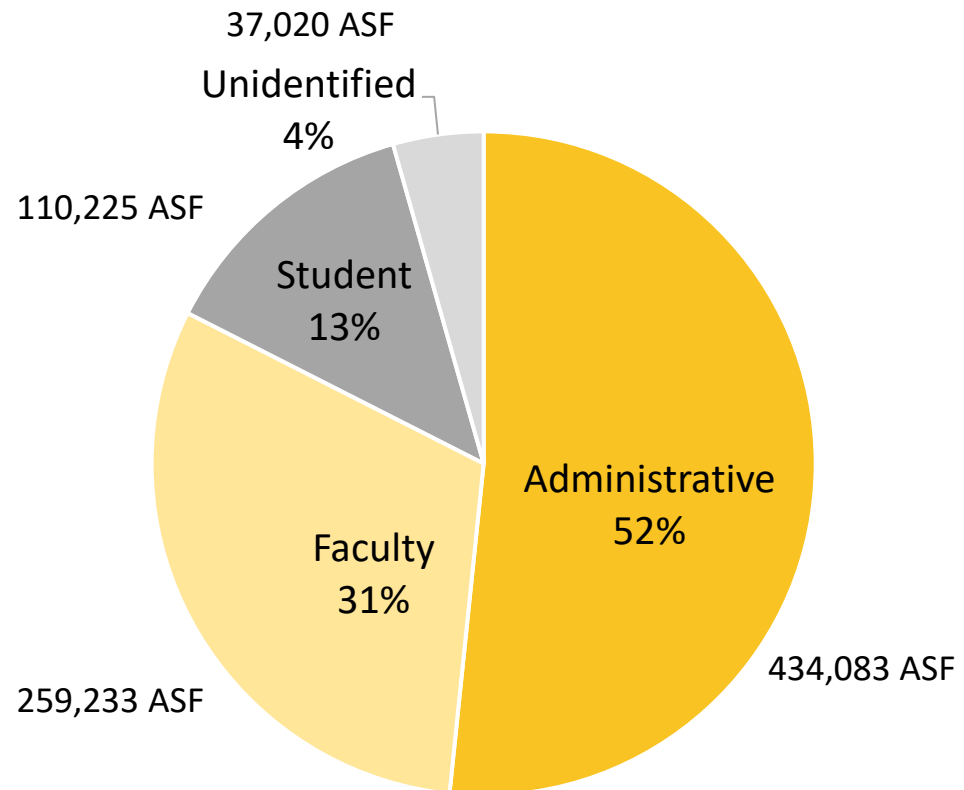
Courtesy Ohio State University

LAKE NONA NURSING OFFICE EXAMPLE

- Second floor office areas are approximately:
 - 50% “we” space
 - 50% “me” space (including hoteling desks)
- Recommended “we” space metric varies by workstation size from 15-17% for student workers and part-time faculty to 28-63% for other types of employees



EXISTING WORKSTATION INVENTORY (ALL STUDY CAMPUSES)

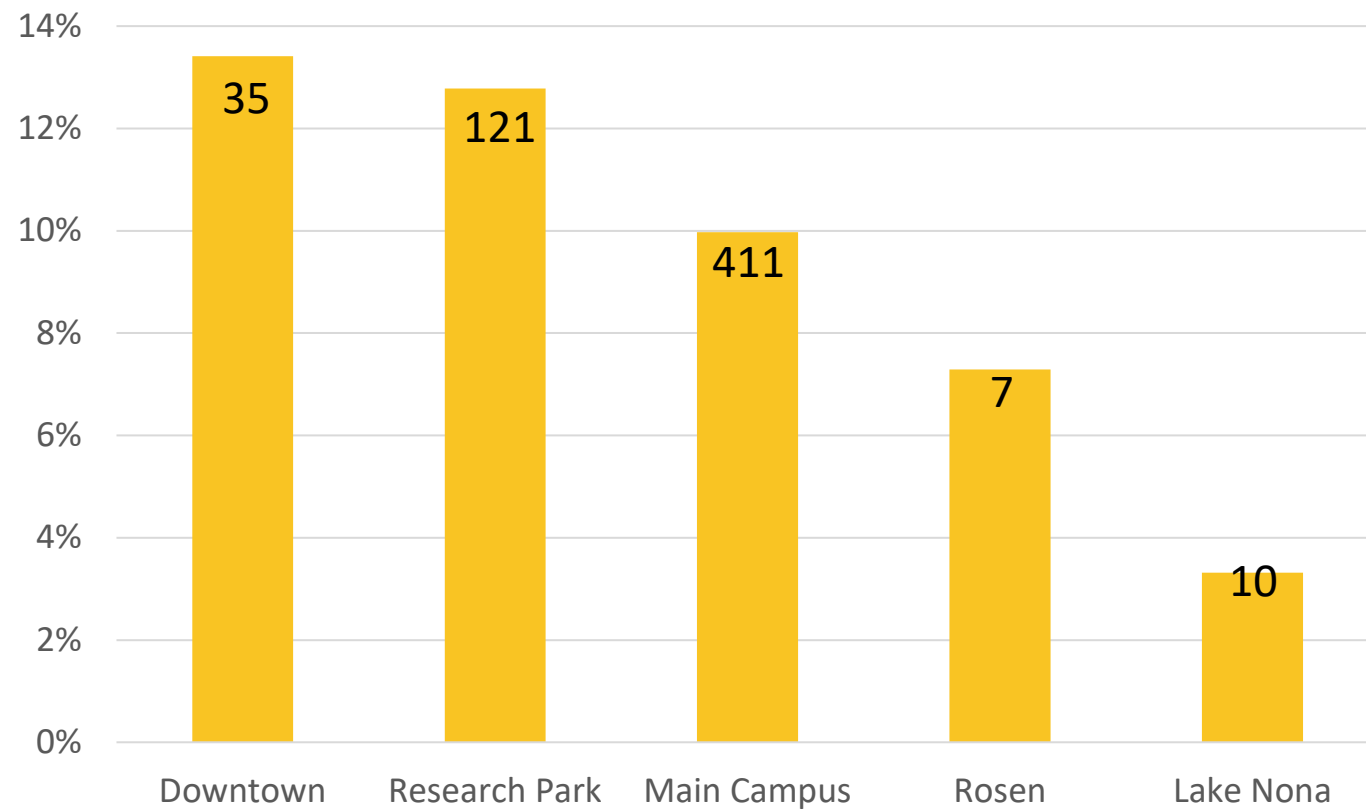


EXISTING WORKSTATION INVENTORY

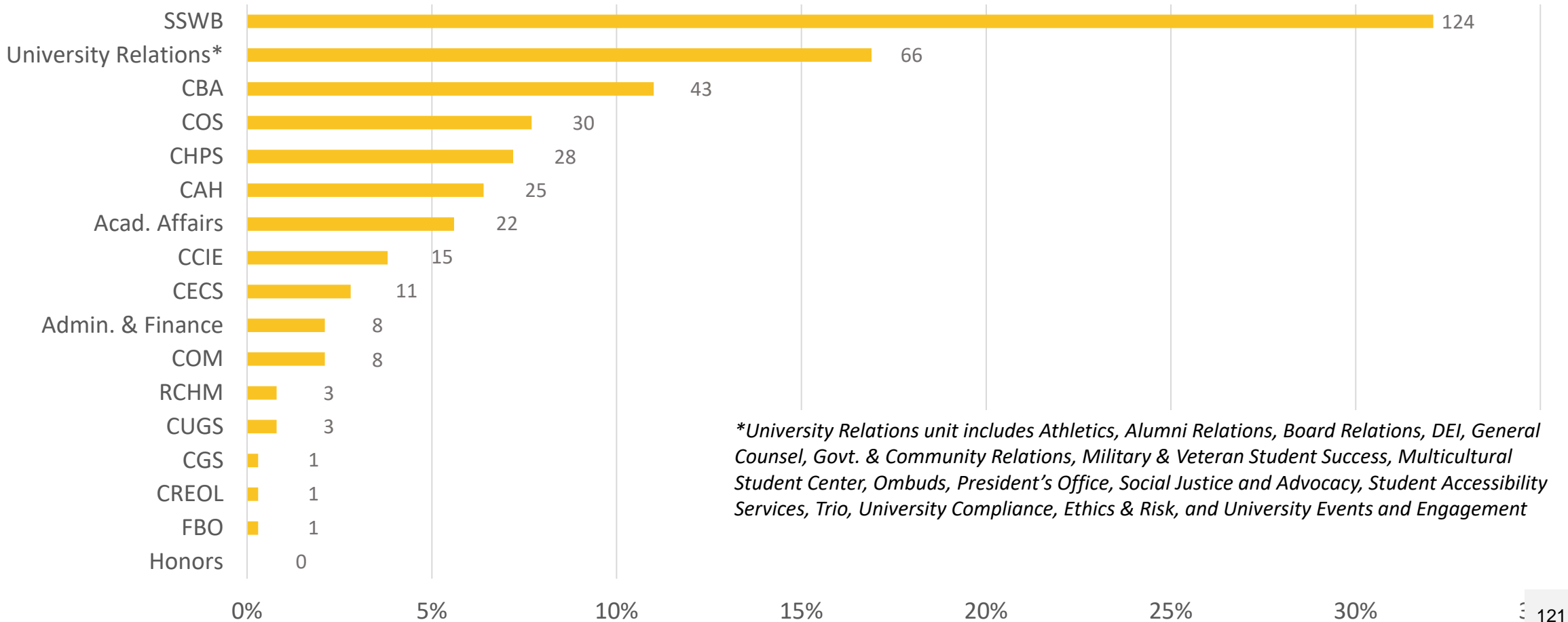
Campus	Work-stations	Assignable Sq. Ft.	Avg. ASF per Station
Main Campus	6,038	606,398	100
Research Park	1,600	175,854	109
Lake Nona	645	52,413	81
Downtown	347	34,785	100
Rosen	158	20,769	131
Total	8,788	890,219	101



PERCENT OF WORKSTATIONS REPORTED AS VACANT



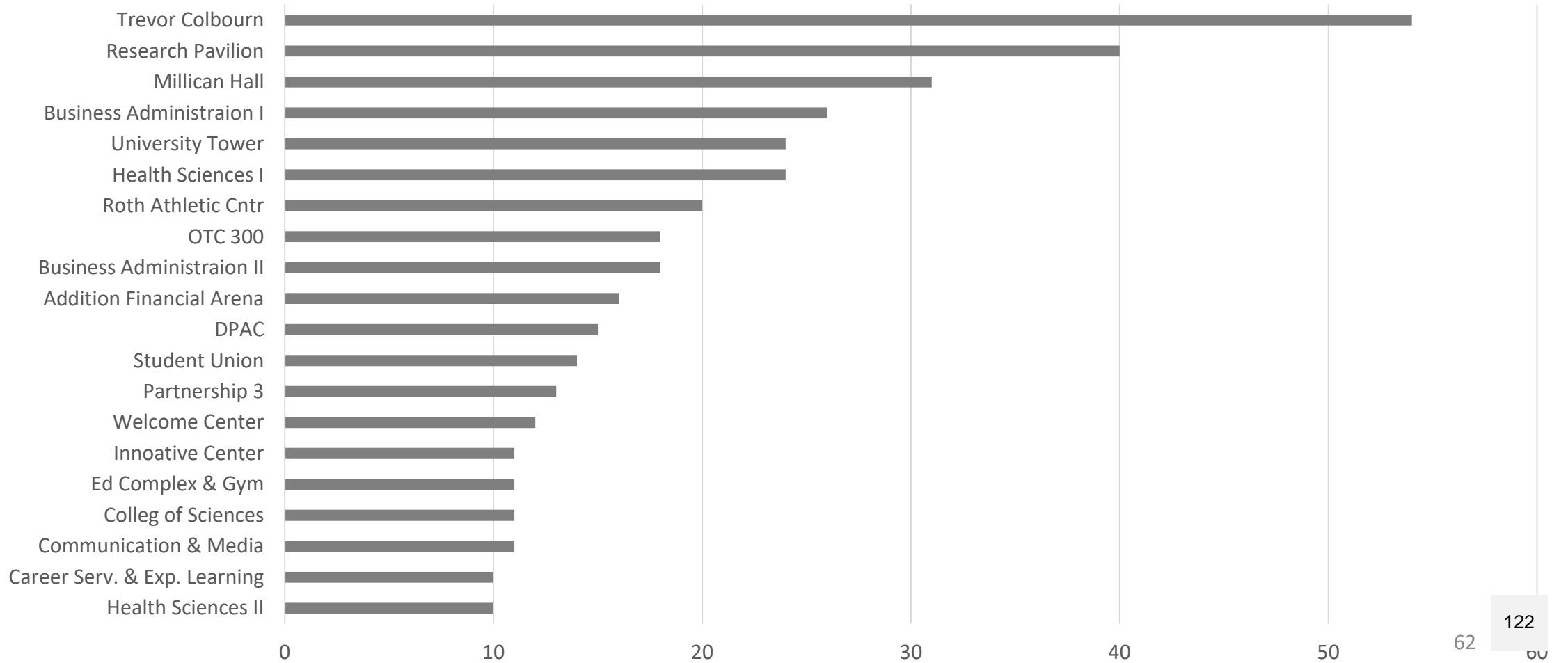
PERCENT OF WORKSTATIONS REPORTED AS VACANT BY COLLEGE AND DIVISION (MAIN CAMPUS)



*University Relations unit includes Athletics, Alumni Relations, Board Relations, DEI, General Counsel, Govt. & Community Relations, Military & Veteran Student Success, Multicultural Student Center, Ombuds, President's Office, Social Justice and Advocacy, Student Accessibility Services, Trio, University Compliance, Ethics & Risk, and University Events and Engagement

Does not include student or unclassified workstations

NUMBER OF VACANT WORKSTATIONS IN SELECT BUILDINGS

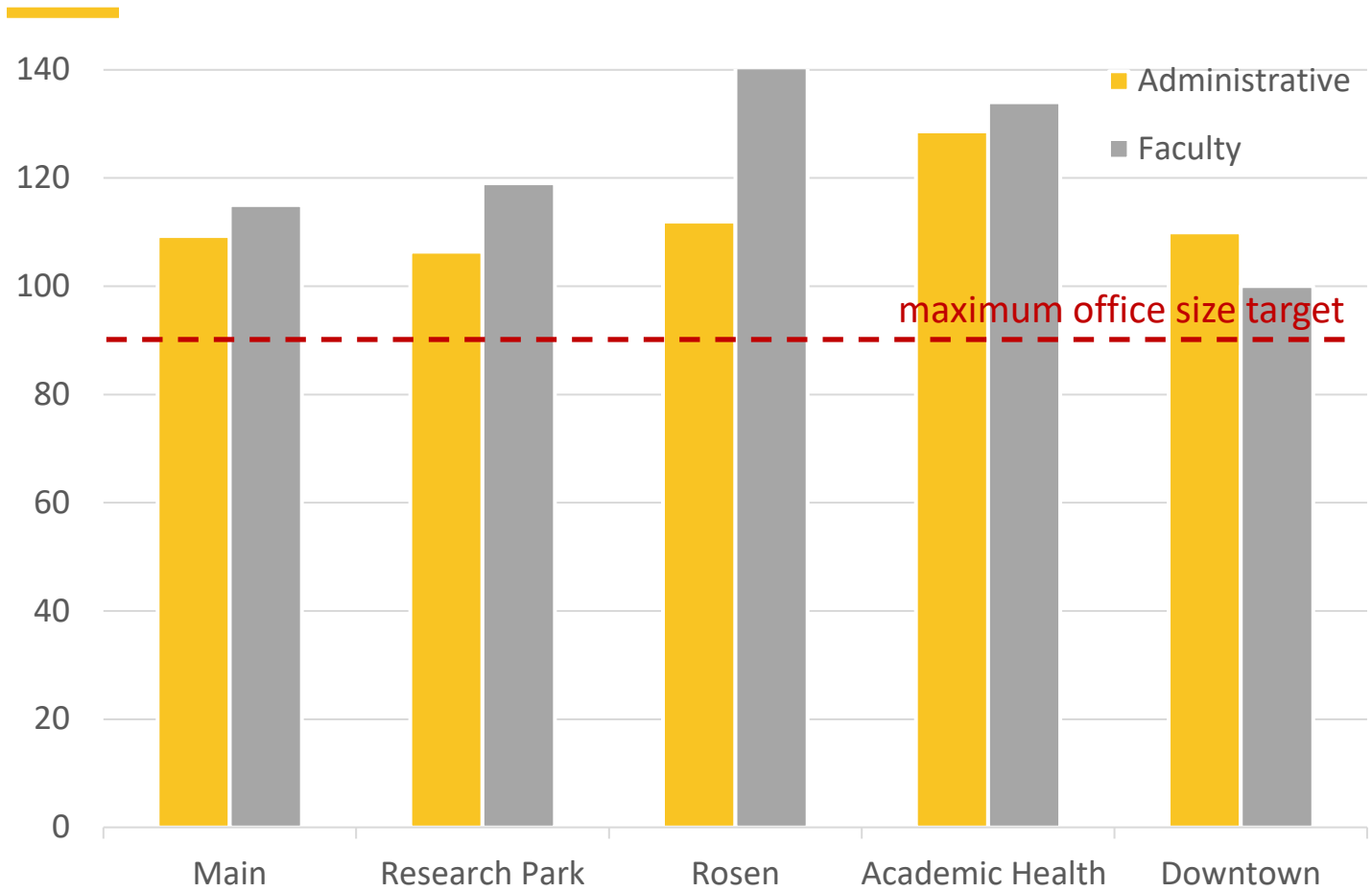


WORKSPACE DEFINITIONS AND UTILIZATION TARGET

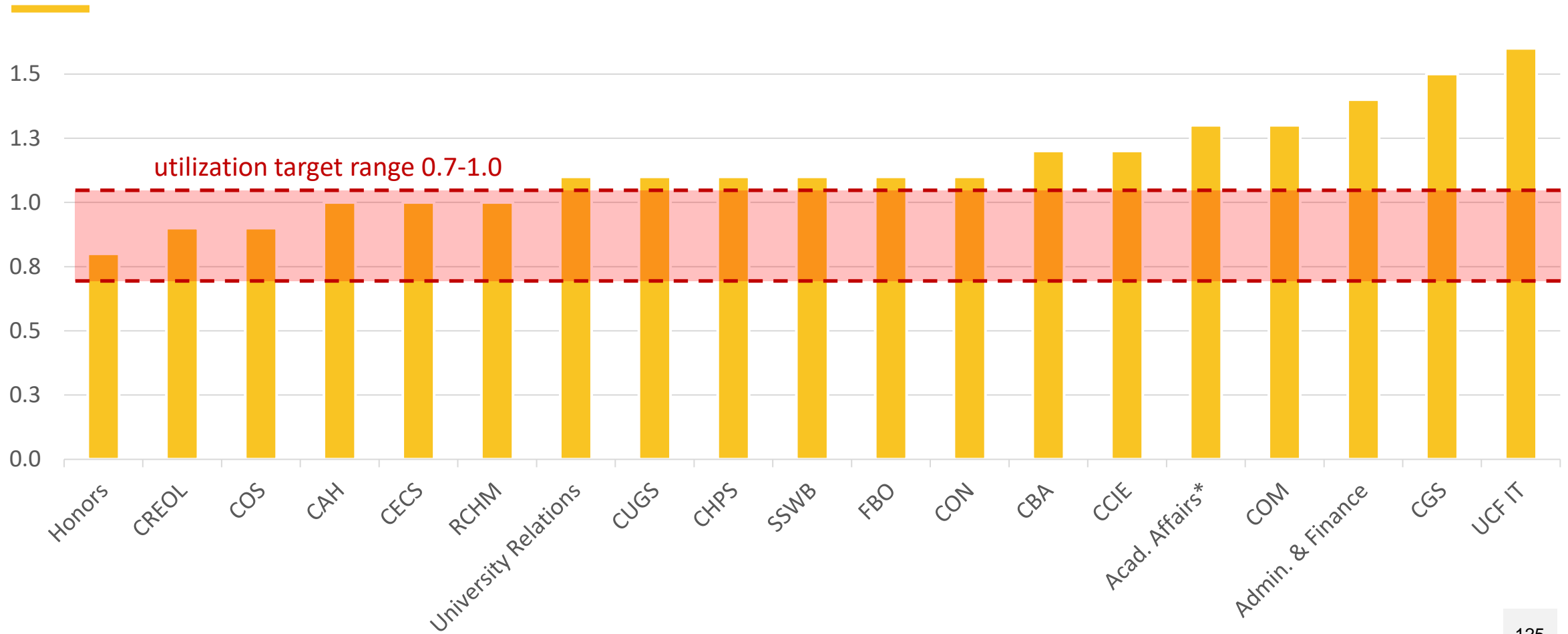
- Workspace – includes workstations as well as meeting, collaboration, storage, etc.
 - ASF/FTE = 90
- Workstation - desk where a person works
 - Stations per FTE = 0.7 to 1.0



AVERAGE WORKSTATION (“Me”) AREA BY CAMPUS



WORKSTATIONS PER FTE EMPLOYEE BY COLLEGE AND DIVISION



*Except UCF IT, which is part of Academic Affairs but broken out in this chart

Does not take remote workdays into account

WORKSPACE METRICS VS. NEEDS



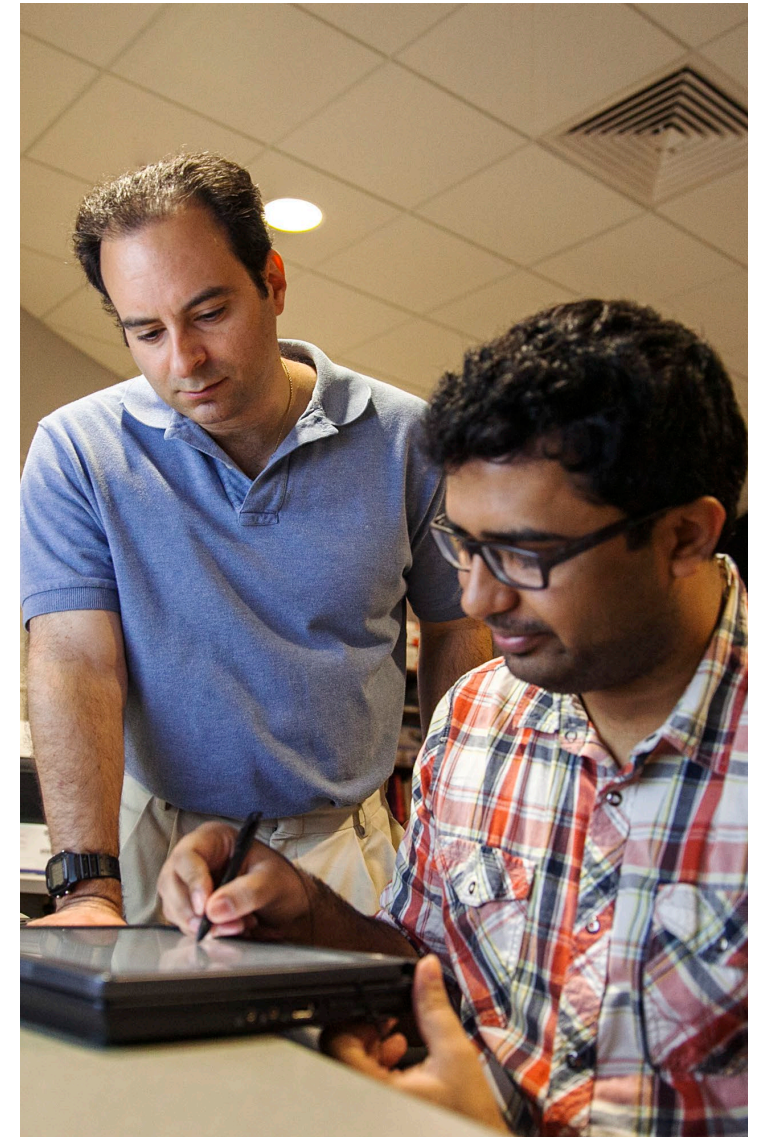
Metrics

- Used to evaluate existing utilization
- 90 ASF per work-station target
- 0.7 to 1.0 work-stations per FTE employee

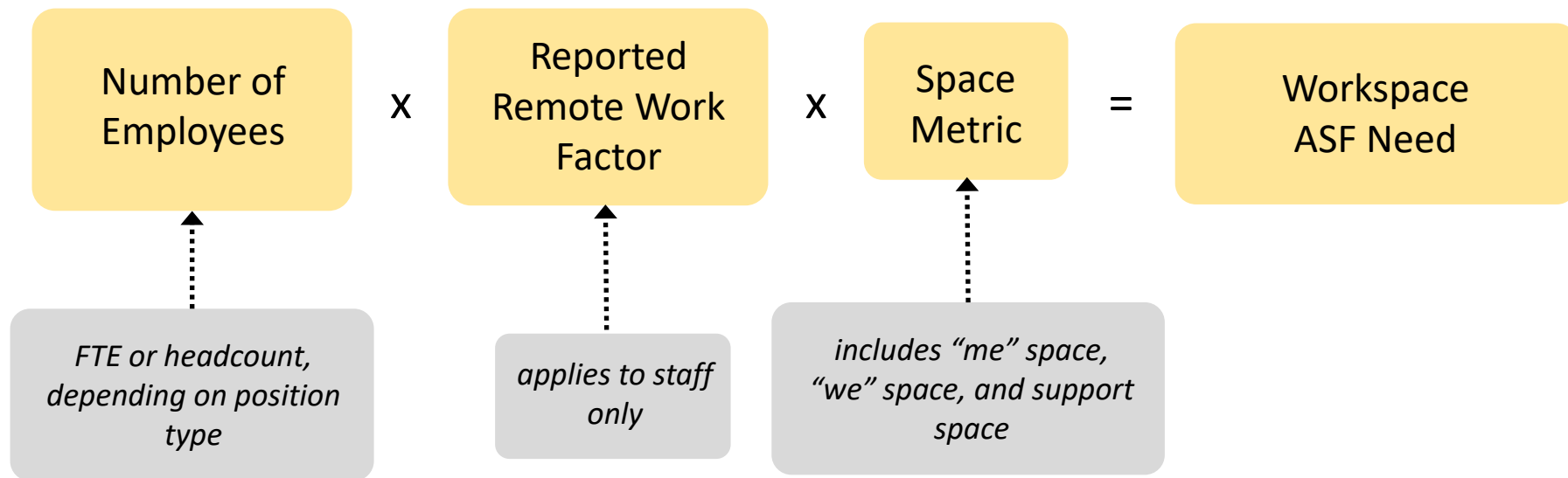


Needs

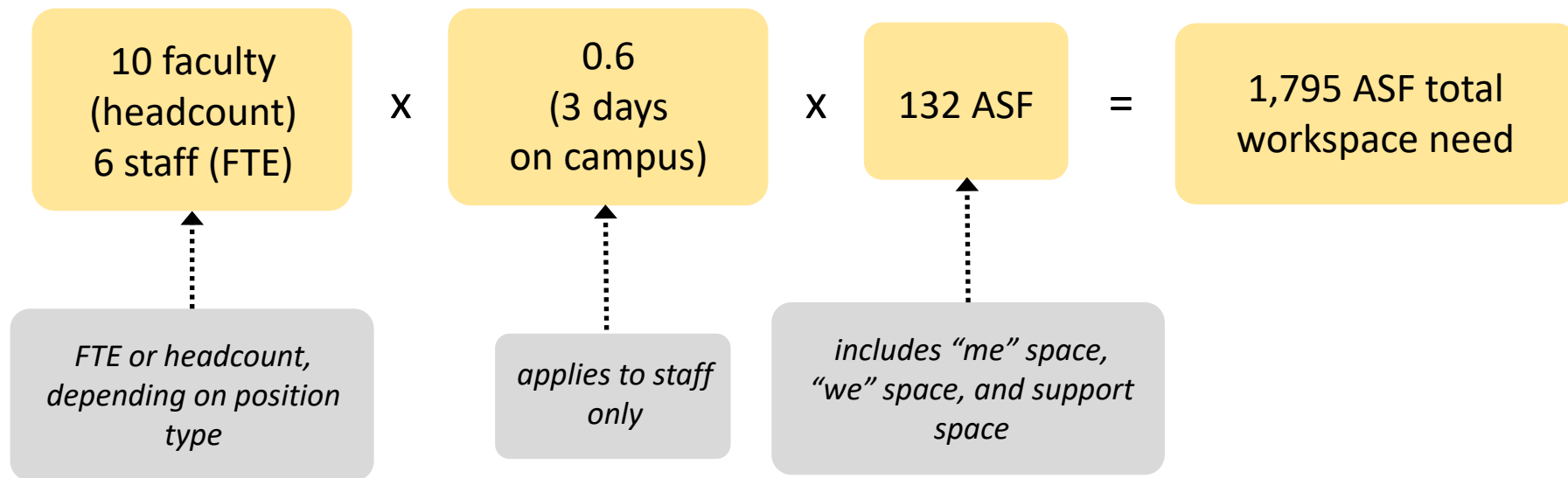
- Calculations based on employee counts
- 29-288 ASF of work-space (varies based on employee type)
- Incorporates reported remote days



WORKSPACE NEEDS CALCULATION METHODOLOGY



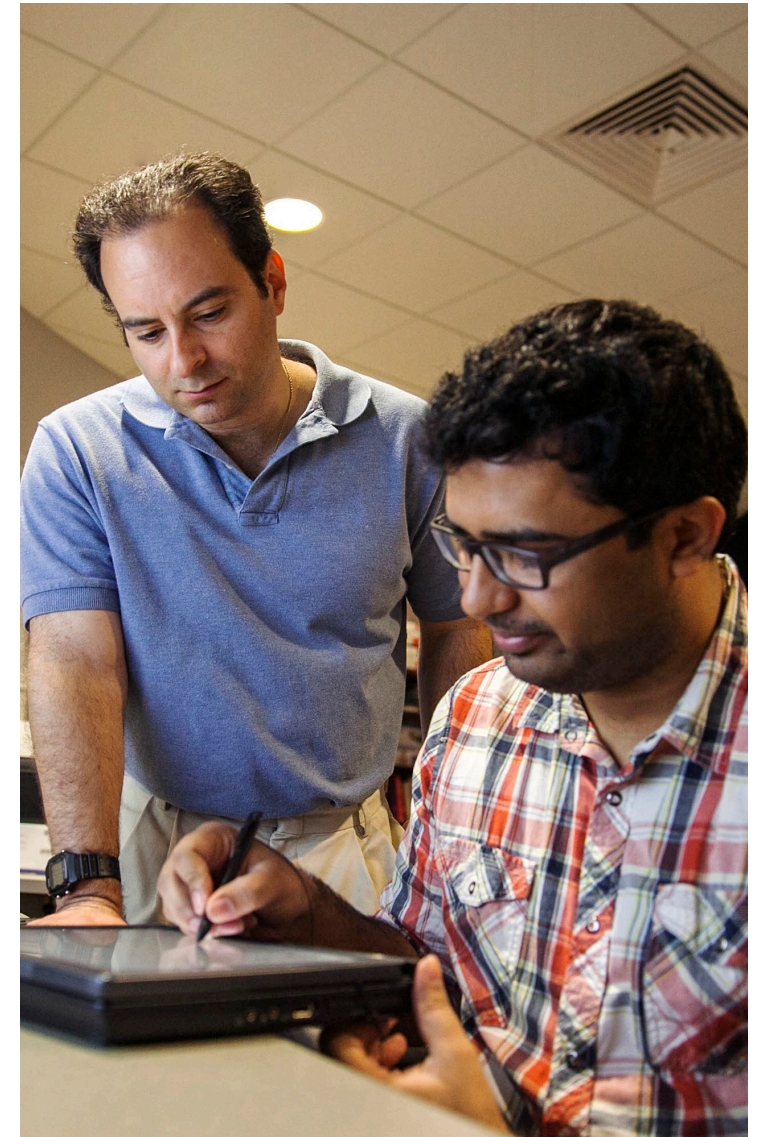
WORKSPACE NEEDS CALCULATION METHODOLOGY: HYPOTHETICAL EXAMPLE



EXISTING COUNTS OF EMPLOYEES NEEDING WORKSTATIONS

Campus	FTE Faculty	FTE Staff*	Total
Main Campus	1,610	3,144	4,754
Research Park	234	1,138	1,372
Rosen	92	37	129
Lake Nona	132	300	432
Downtown	142	90	232
Total	1,765	3,766	5,530

**Does not include student employees or personnel identified as not requiring an office*



EMPLOYEE CATEGORIZATION METHODOLOGY

Position Category	Position Types Included in Category	Basis for Office Needs Calculations*
Senior Executive Staff	President and Vice Presidents	Headcount
Executive Staff	Deans, Assistant/Associate Vice Presidents	Headcount
Administrative Staff	Directors, Academic Directors, Assistant/Associate Deans	Headcount
Full-Time Faculty	Associate Professor, Assistant Professor, and Professor	Headcount
Part-Time Faculty	Adjunct, Part Time Faculty, Emeritus Faculty, and Visiting Faculty	FTE**
Professional Staff	Assist./Assoc. Directors, Coordinators, Managers, Supervisors, Analysts	FTE**
Clerical/Technical Staff	Administrative Assistants, Secretaries, Technicians	FTE**
Graduate Student	Post Doc Students, GTA or GRA	FTE**
Student Worker	Undergraduate Students	FTE**

**only includes employees needing a workstation*

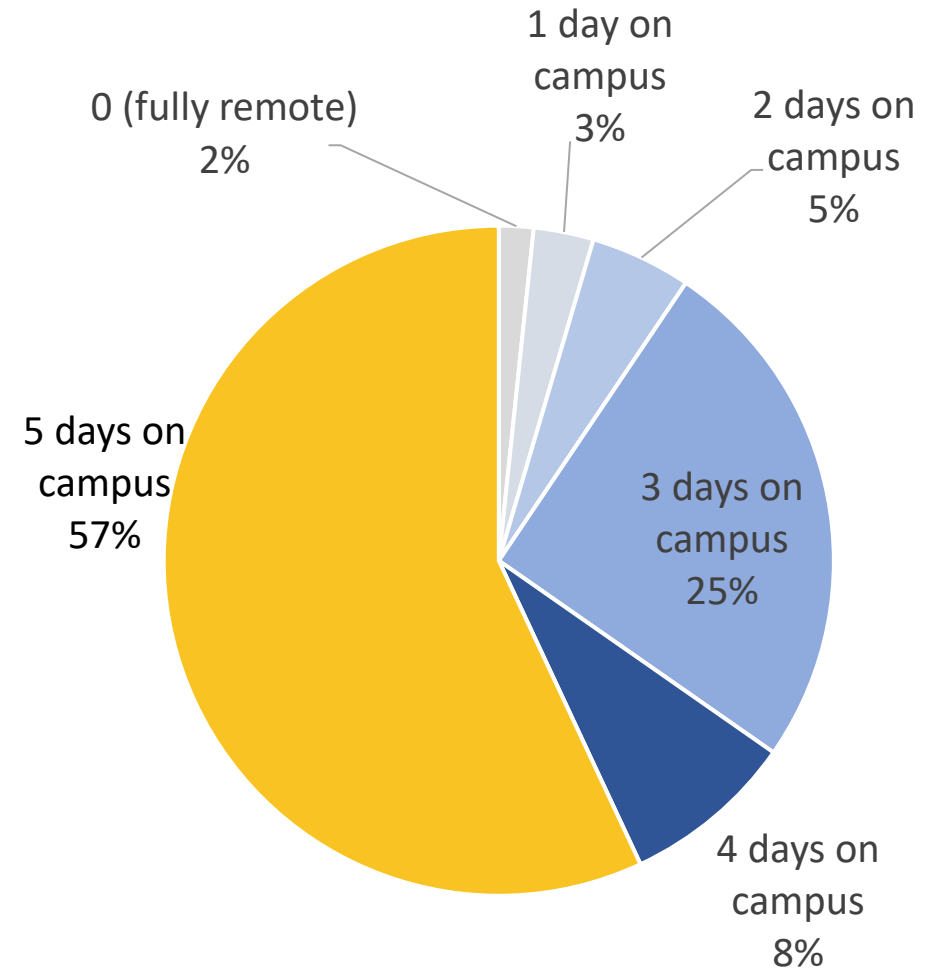
***adjusted for reported days on campus*

WORKSPACE NEEDS CALCULATION METRICS (BASED ON DRAFT UCF GUIDELINES)

Position Category	Maximum	Minimum	Combined “Me” + “We” Space (Sq. Ft.)	Assumed Metric (Includes Additional 15% Support Space)
	Assumed “Me” Space (Sq. Ft.)	Assumed “We” Space (Sq. Ft.)		
Senior Executive Staff	225	25	250	288
Executive Staff	200	25	225	259
Administrative Staff	125	25	150	173
Full-Time Faculty	90	25	115	132
Part-Time Faculty	60	0	60	69
Professional Staff	90	25	115	132
Clerical/Technical Staff	60	25	85	98
Graduate Student	30	0	30	35
Student Worker	25	0	25	29

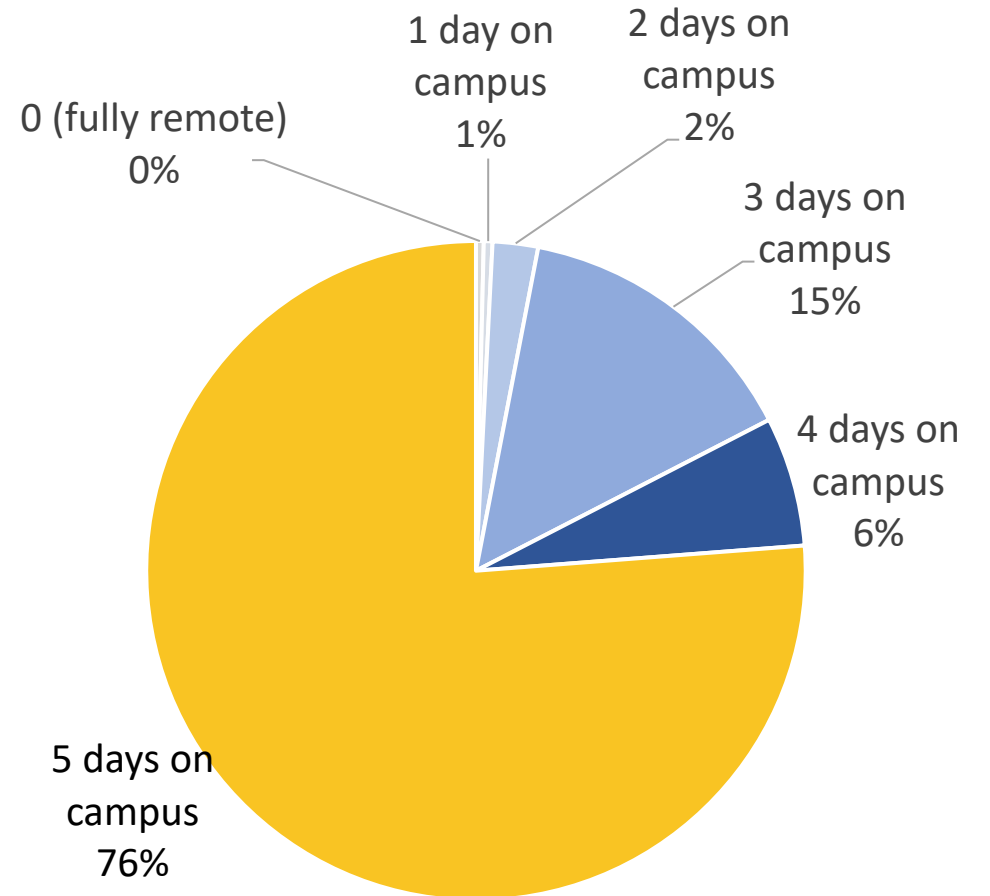
REPORTED EMPLOYEE DAYS ON SITE (ALL STUDY CAMPUSES)

Days per Week on Site	Number of Employees Reported
0 (fully remote)	88
1	153
2	257
3	1,334
4	441
5 (fully in-person)	3,007



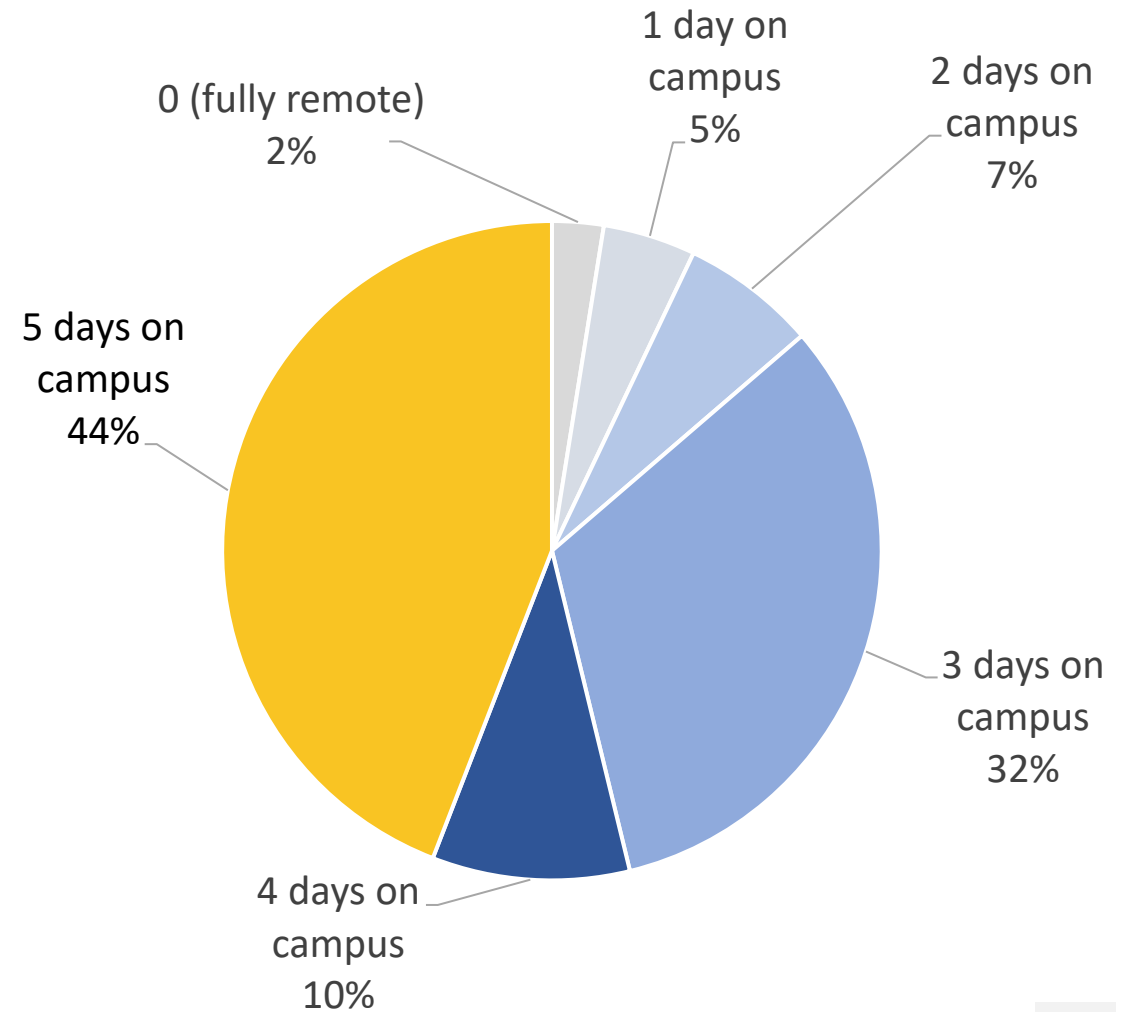
REPORTED FACULTY DAYS ON SITE (ALL STUDY CAMPUSES)

Days per Week on Site	Number of Employees Reported
0 (fully remote)	8
1	9
2	47
3	304
4	134
5 (fully in-person)	1,609

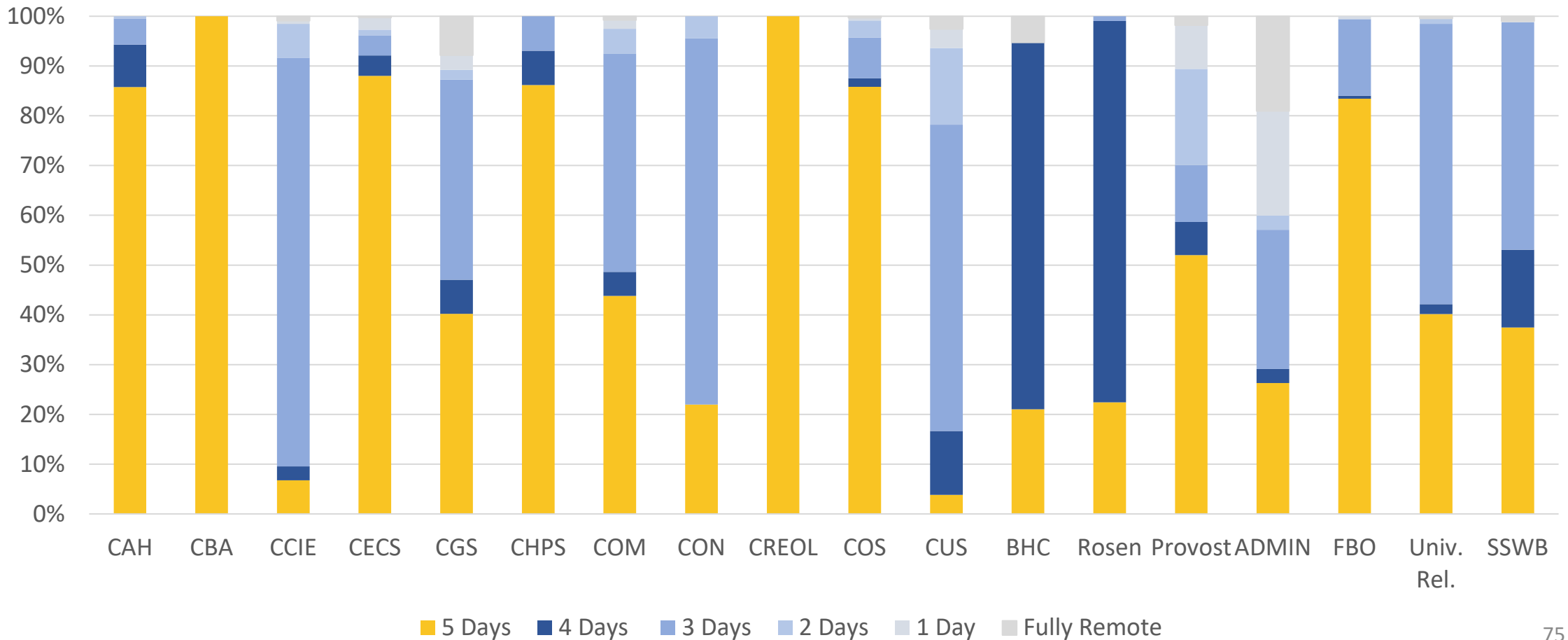


REPORTED STAFF DAYS ON SITE (ALL STUDY CAMPUSES)

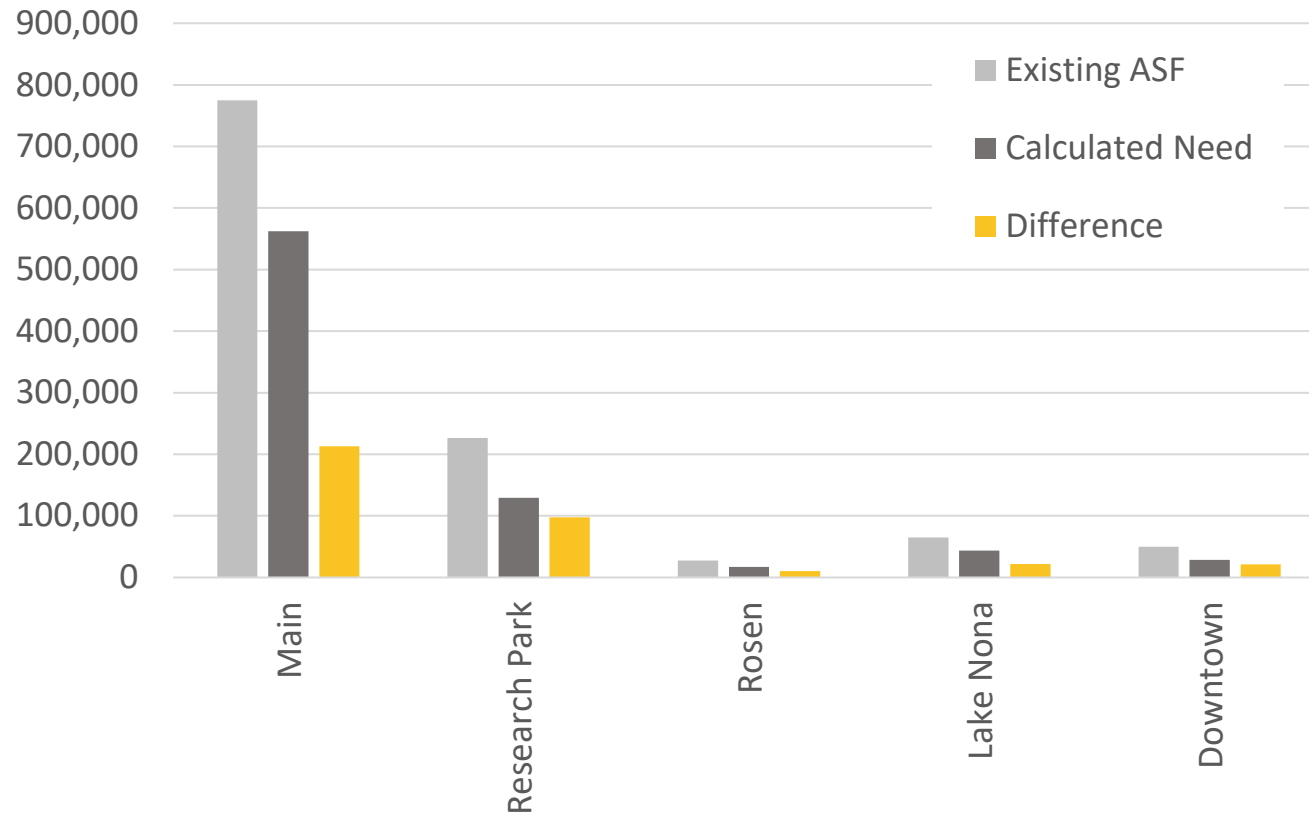
Days per Week on Site	Number of Employees Reported
0 (fully remote)	80
1	144
2	210
3	1,030
4	307
5 (fully in-person)	1,398



REPORTED EMPLOYEE DAYS ON SITE BY COLLEGE AND DIVISION (ALL STUDY CAMPUSES)



WORKSPACE NEEDS: ALL CAMPUSES



Findings

- Total Surplus: 363,528
 - *Main Campus: 212,902 ASF*
 - *Research Park: 97,396 ASF*
 - *Rosen: 10,363 ASF*
 - *Lake Nona: 21,497 ASF*
 - *Downtown: 21,370 ASF*
- Equivalent to: 545,292 GSF
- Potential cost to construct this space new: \$272-436M
- Estimated annual operating and maintenance cost for this space: \$4.4-6.5

WORKSPACE UTILIZATION OVERVIEW (ALL STUDY CAMPUSES)



Metric	Findings
Vacancy	10-13% of existing offices are vacant
Workstation size	Average workstation size is above the target
Remote work	About 1/2 of employees were reported as being on-campus 5 days a week (3/4 for faculty)
Stations per FTE	1.3 avg. workstations per employee

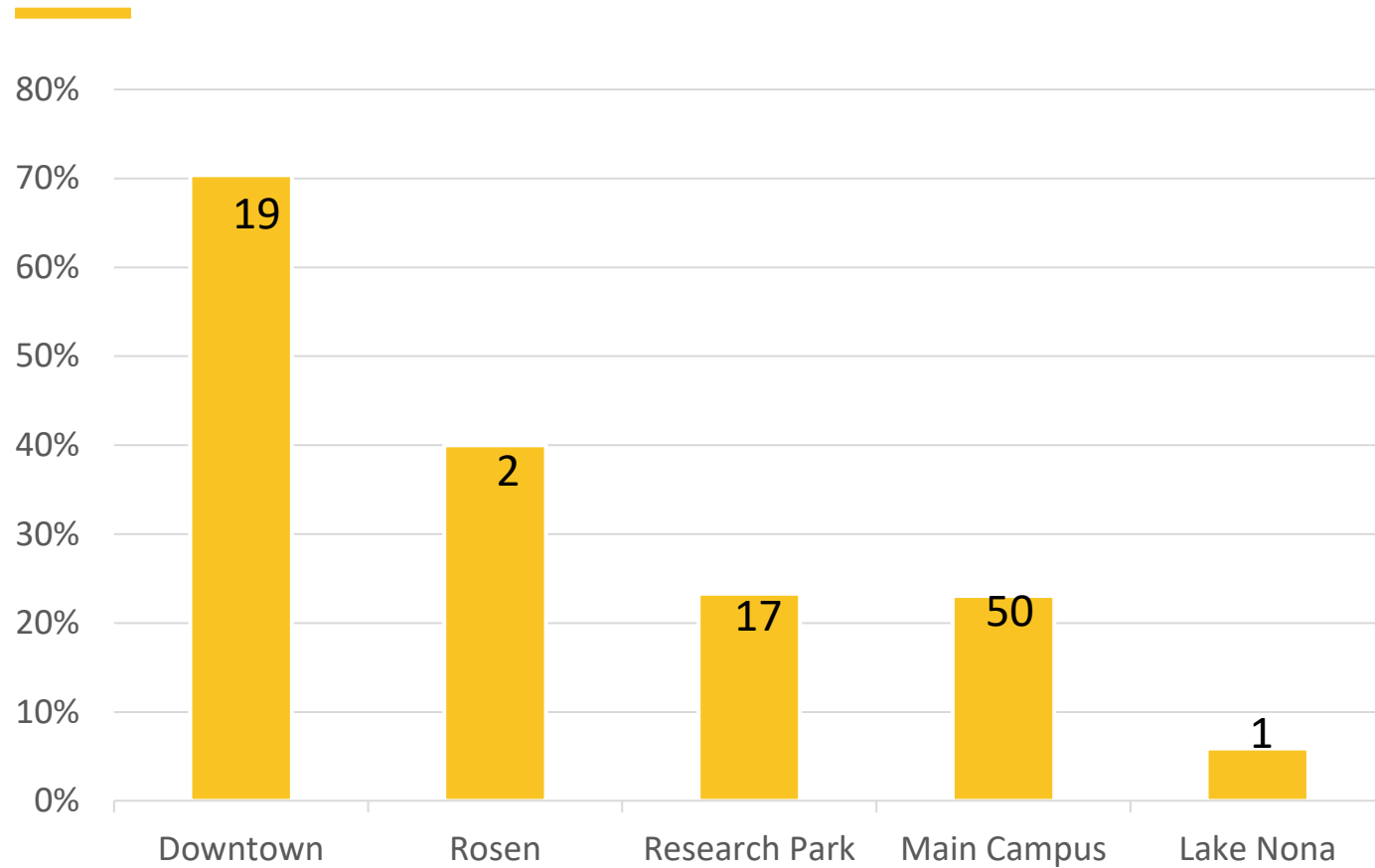
Conclusion

Surplus of more than 360,000 ASF of workspace
(213,000 ASF on Main Campus)

EXISTING CONFERENCE ROOM INVENTORY

Campus	Total Conf. Room Area	Number of Conf. Rooms	Average Conf. Room Size	Average Conf. Sf per station
Main Campus	75,707 sq. ft.	217	348 sq. ft.	28
Research Park	25,002 sq. ft.	73	342 sq. ft.	51
Lake Nona	6,053 sq. ft.	17	356 sq. ft.	41
Downtown	6,384 sq. ft.	27	236 sq. ft.	29
Rosen	3,371 sq. ft.	5	674 sq. ft.	29
Total	116,517 sq. ft.	339		

EXISTING CONFERENCE ROOMS AVAILABLE FOR SHARED SCHEDULING



Based on conference rooms with an assigned OID



Action Items

SUMMARY OF PROPOSED VACATED RESEARCH PARK SPACE

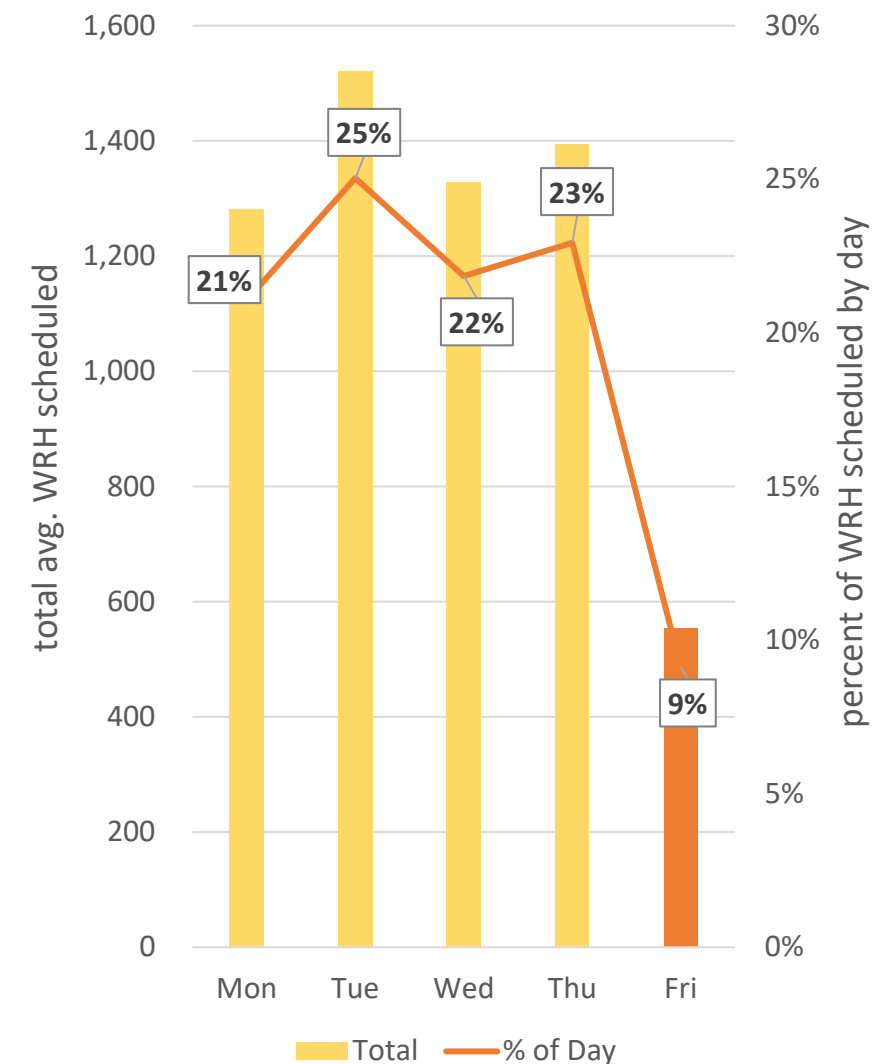
Phases	ASF Vacated
Short Term Moves	36,468
Back of House Relocations	56,212
College of Nursing Relocation	35,911
Totals	128,591



ACTION ITEMS WITH SHORT TERM IMPACT

- Facilitate a Provost-led initiative on enhancing course schedule processes and principles and improvements to the instructional space portfolio through, at a minimum, the following elements:
 - *Commit to centrally schedule all classrooms and computer labs, and most conference rooms*
 - *Implement neighborhood concept for scheduling rooms to improve efficiency for faculty*
 - *Identify classrooms to be refreshed, right-sized, and/or repurposed*
 - *Implement a full five-day classroom utilization strategy, including better utilization during off peak times and Fridays*
- Adopt updated space management policy thereby implementing space guidelines and empowering the revised University Space Committee

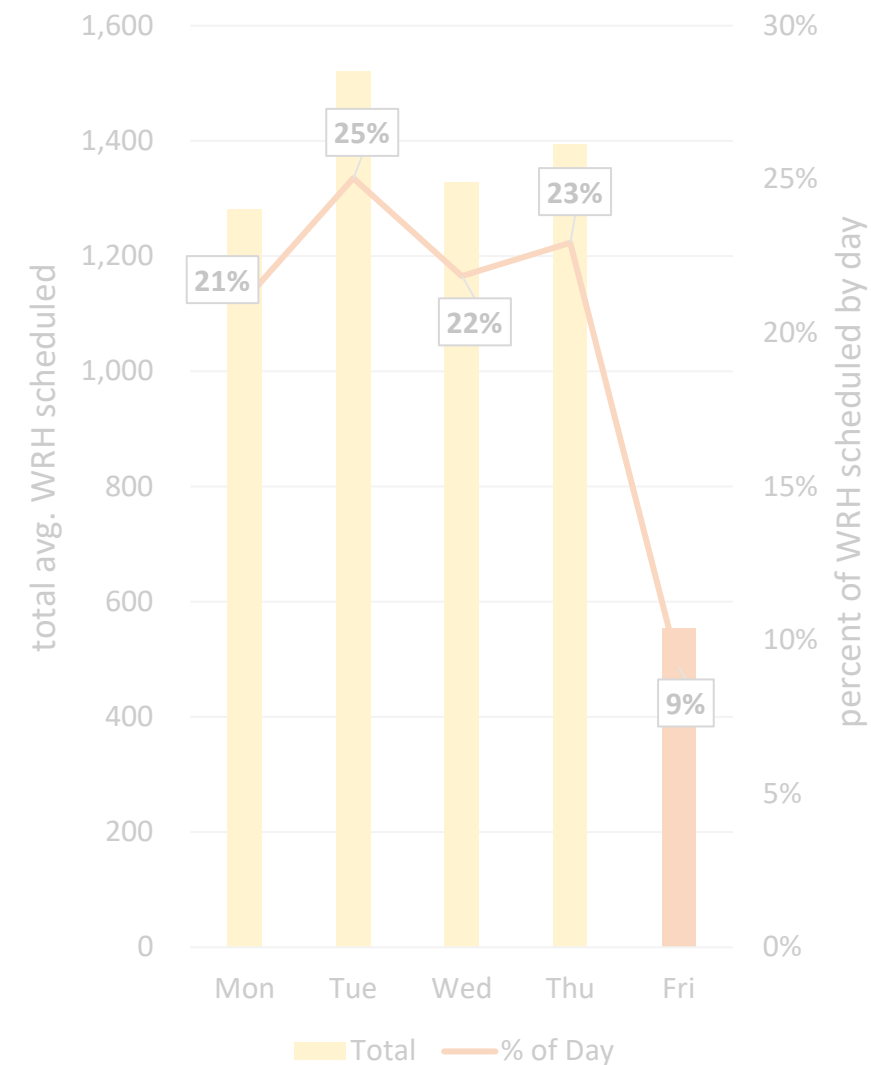
Weekly Classroom Hours (Fall 2022 Main Campus)



ACTION ITEMS WITH SHORT TERM IMPACT (cont.)

- Implement a technology solution to validate remote work
- Identify additional staff needed to improve data management, data collection, and to implement ongoing surveys
- Initiate workspace consolidations from Research Park to Main Campus and the Downtown Campus with the potential to reduce annual reoccurring rental obligations by \$6M
- Evaluate monetization strategies for vacated space in UCF Foundation-owned buildings
- Conduct targeted space needs assessments for specific units or space types where growth is projected or low utilization has been identified

Weekly Classroom Hours (Fall 2022
Main Campus)



ACTION ITEMS WITH MID TERM IMPACT

- Identify additional academic anchor(s) for the Downtown Campus. Additionally, explore reducing square footage at the Downtown Campus to minimize lease and operating costs.
- Include pilot workspace concepts found within the updated space guidelines in Howard Philips Hall renovation
- Occupy or monetize available space in the Lake Nona Cancer Center
 - *Consolidate College of Medicine research activities to Lake Nona campus from Main Campus and Research Park*
- Continued workspace consolidation from Research Park to the Main Campus and Downtown Campus



ACTION ITEMS WITH MID TERM IMPACT (cont.)

- Create additional central storage capacity (potential annual savings of \$450k on existing leases) while also creating an opportunity to provide additional lab/research space by reducing on-site storage occurring in the lab/research spaces
- Leverage Rosen campus investment to improve utilization of existing space while meeting the projected programmatic demands
- Integrate findings of this study into Research Building 2 and Discovery & Innovation Hub including the centralization of core research services (clean rooms) and shared approach to research labs

