HIGHER EDUCATION FACILITY STUDY

Prepared for the Washington State Office of Financial Management

August 2019
Revised: April 2020

NAC ARCHITECTURE

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EXECUTIVE SUMMARY

The goal of this study is to provide the Office of Financial Management, the Legislature, the State Board for Community and Technical Colleges, and the public four-year institutions of higher education with updated methods and outcomes to prioritize the development, construction, and planning of future higher education facilities.

INTRODUCTION

In December 2008, Berk & Associates completed a Higher Education Capital Facilities Financing Study (Berk Report). The primary goal of the Berk Report was to provide the government with a comprehensive review of revenue source and cost management strategies used in the State of Washington and the Washington Learns Global Challenge States. The Berk Report also served to identify potential new revenue sources and cost saving strategies for higher education capital facilities. The analysis and recommendations in the Berk Report addressed the establishment of expected cost ranges by facility type.

This study builds upon and updates portions of the Berk Report and informs the October 1994, Facilities Evaluation and Planning Guide (FEPG). The FEPG was originally completed in 1976 by representatives from each of the four-year colleges and universities, with assistance from OFM and the now dissolved Higher Education Coordinating Board (HECB) and SBCTC. It was later revised in 1994 by the Interinstitutional Committee of Space Officers representing the public four-year colleges and universities. The facilities classification put forward in this guide was modeled after the National Center for Educational Statistics, Facilities Inventory and Classification Manual, 1992 revision (FICM). This study makes recommendations to the FEPG in terms of classification strategies, classroom and class laboratory utilization, and for some space allocations.

This study analyzes six overarching space categories along with a scope and cost range analysis. Each space category is analyzed uniquely with a proposed space allocation. The scope and cost range analyzes the reasonableness of cost by facility type and life cycle costs. The objectives and scope of work are described in ESSB 6095 Section 1023 (http://leap.leg.wa.gov/leap/budget/lbns/2018Cap6095-S.SL.pdf) and outlined in Section 1.1 of this study.

Multiple meetings, in person and via conference call, were held in order to understand the scope of the project thoroughly. These meetings were held with representatives of OFM, the legislative staff. Meetings were also held with the institutions of higher education to garner additional input into the process, fully understand data the institutions provided, and to talk through the proposed standards.

In order to test a variety of hypotheses, a thorough data collection effort was created. In some cases, more data than necessary was collected in order to help explain various findings and examine if there was enough consistency of data between the institutions. The ultimate goal is to use data that is already generated by the institutions for other reporting processes. The room inventory was normalized so that it was easy to compare space between

campuses. Not all campuses were included from the community and technical colleges as they are in process of updating their inventory and not all institutions were finished with their space audits.

INTENTIONS OF THE OFM SPACE ALLOCATIONS

The budgeted space allocations are intended to be a tool by which to measure—in a standardized manner—how a project will affect space on a campus. Contrary to popular belief, there is not a set of national standards or metrics when it comes to space in higher education. Less than 50% of the states have space guidelines, and of those that do, most of those guidelines are outdated. Therefore, using the consultant teams' experience, best practices, and current design thinking, a set of space allocations have been established for this study. The space allocations are not intended to be space design guidelines or metrics. While supported by current design thinking, there is no way that one set of simplistic space allocations can determine the amount of space needed for a particular college/campus, but it can provide a general rule of thumb.

There are recommendations within this report that could be used to update the FEPG especially as it concerns various room use classifications. One such recommendation is to give internal suite circulation its own room use code within the different room series such as research laboratories, office, and vivaria, so that it can be easily removed as assignable square footage. While it is important to track internal suite circulation for indirect cost recovery purposes for research, space allocations cannot be robust enough to encompass an outcome of design efficiency or building limitations. Another is the utilization targets and the recommended classroom net assignable square feet (NASF) per seat. The recommendations here could replace the HECB and FEPG targets.

Many of the space allocations recommended in this study are at a higher level than the FEPG space guidelines meaning that they lack specificity to replace the FEPG guidelines holistically. That said, the FEPG guidelines are now 25 years old; how an institution and the people it serves use space today is different from 25 years ago. The quantity of space required to deliver academic programs has increased due to pedagogical changes, libraries have evolved, and how students use space is different due to technology. A more in-depth review of the FEPG guidelines is warranted. Space use classifications should also be changing. That said, there is not a federal initiative to do so. Therefore, if the space classifications change then the ability to compare to other institutions outside the state of Washington will diminish.

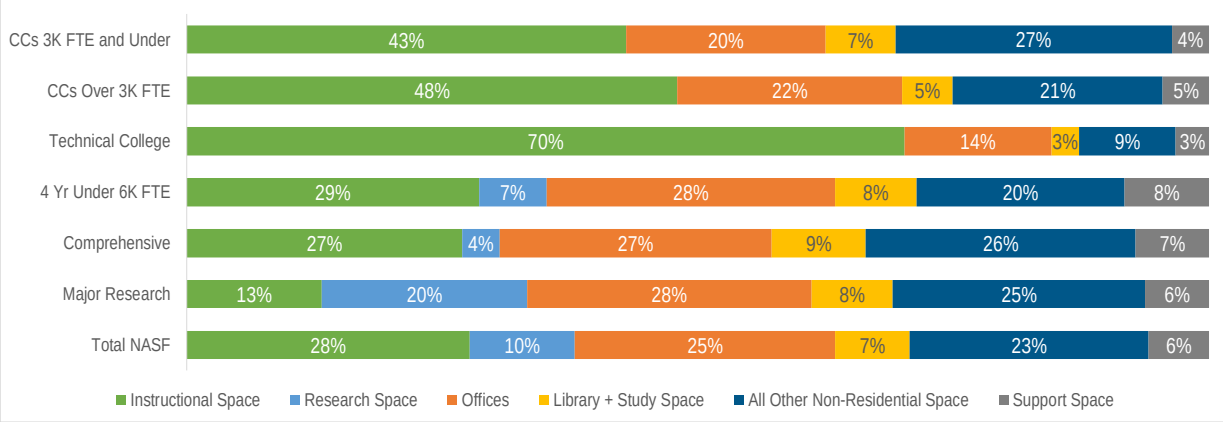
KEY FACTORS THAT INFLUENCED THE STUDY

The colleges/campuses were classified based on type and size of college/campus. This was critical in reviewing space amounts per college/campus type. There is a direct correlation between student density and scale of campus. Examining mission and academic program mix in conjunction with student density and scale, the space requirements for each type of college or campus start to vary. The college/campus classifications created for this study are:

- Community Colleges under 3,000 FTE *(Range in Enrollment from 1,013 FTE to 2,908 FTE)*
- Community Colleges over 3,000 FTE *(Range in Enrollment from 3,265 FTE to 8,252 FTE)*
- Technical Colleges *(Range in Enrollment from 1,740 FTE to 2,902 FTE)*

- Four Year (6,000 FTE and Under) *(Range in Enrollment from 212 FTE to 5,561 FTE)*
- Four Year Comprehensive *(Range in Enrollment from 10,895 FTE to 15,051 FTE)*
- Major Research Institutions *(Range in Enrollment from 20,277 FTE to 48,941 FTE)*

Figure 1 Distribution of Existing Non-Residential Space between College/Campus Classifications



Note: Not all space was included in the analyses. Residential space, hospital space, and leased space were not included.

The additional factor that impacted space allocations were high space demand programs (HSDP). These programs include Agriculture, Engineering, Industrial + Vocational Programs, and Veterinary Medicine. Programs in these disciplines can have a very large impact on space.

OVERARCHING SPACE CATEGORIES

The space categories used in this study are consistent with the FEPG and have been grouped as follows:

- Instructional Space – classrooms, class labs, and open labs; while each one is analyzed separately, they are all calculated together on the same form.
- Research Space – research labs and vivaria space.
- Offices Space – offices, office service, and conference room space.
- Library + Study/Collaboration Space – this includes study spaces within the formal context of a library as well as collaboration and informal learning spaces outside the library.
- All Other Non-Residential Space – all other spaces not specifically covered in these definitions plus intercollegiate athletics, medical clinics, animal quarters and health care; and greenhouse space used for extensive research.

- Support/Physical Plant Space – includes most support space except central computer and telecommunications and unit storage space.

KEY FINDINGS

The following figures and table summarize the space findings. While a total line is provided, it masks inequities between the colleges/campuses. Of particular note:

- There is a significant need for research space, mainly at UW Seattle.
- There is a statewide need for Library + Study Space, namely collaboration space that is decentralized throughout the college/campus supporting active learning pedagogies.
- Classroom space shows a significant need reflecting the need to increase the space per student seat and not necessarily the number of classrooms.
- Class laboratories show a need for space.
- The major research universities, mainly UW Seattle has a need for space as do the comprehensive universities.

Figure 2 Space Outcomes by Space Category

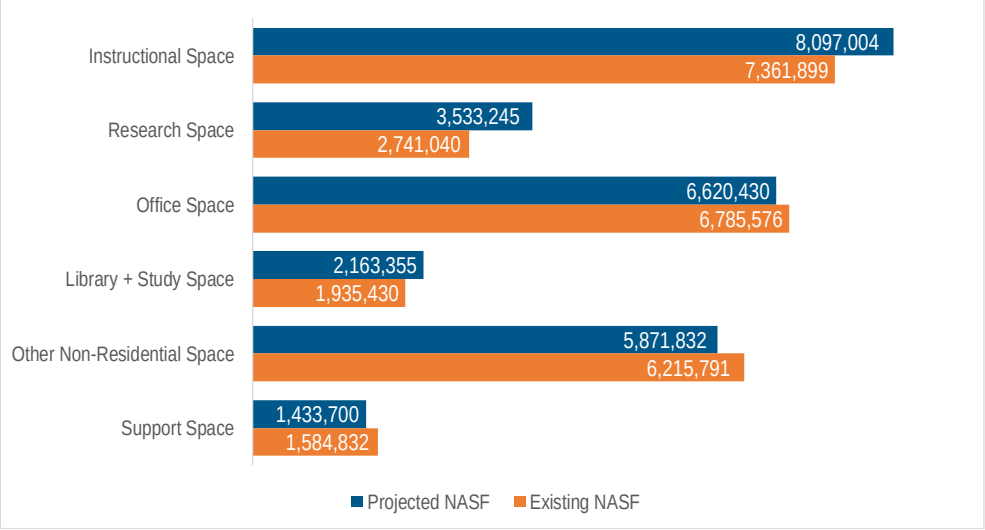


Figure 3 Space Outcomes by College/Campus Type

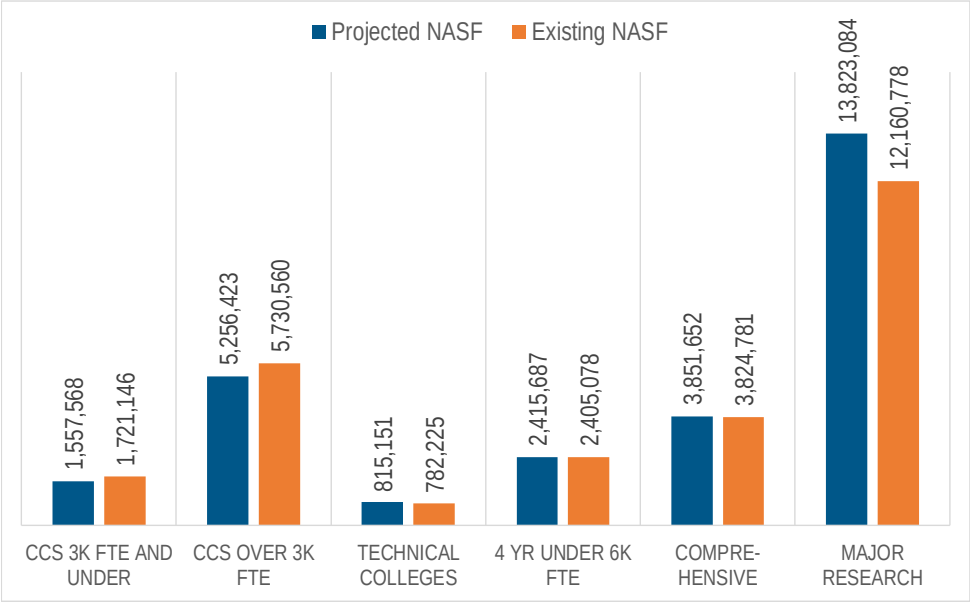


Table 1 Space Allocation Outcomes by College/Campus

	Projected NASF	Existing NASF	Overage / (Need)
Community Colleges (3,000 FTE and Under)			
Cascadia College	262,316	146,687	(115,629)
Centralia College	292,134	268,070	(24,064)
Peninsula College	177,573	281,861	104,288
Skagit Valley College	401,998	520,366	118,368
Yakima Valley College	423,547	504,162	80,615
College/Campus Classification Total	**1,557,568**	**1,721,146**	**163,578**
Community Colleges (Over 3,000 FTE)			
Bellevue College	704,141	773,102	68,961
Clark College	618,816	642,519	23,703
Columbia Basin College	483,077	643,250	160,173
Edmonds Community College	470,107	418,316	(51,791)
Everett Community College	552,964	619,275	66,311
Highline College	497,500	456,752	(40,748)
Shoreline Community College	384,530	393,728	9,198
Spokane Community College	915,548	869,243	(46,305)
Spokane Falls Community College	351,850	655,713	303,863
Whatcom Community College	277,890	258,662	(19,228)
College/Campus Classification Total	**5,256,423**	**5,730,560**	**474,137**
Technical College			
Bates Technical College	465,837	451,826	(14,011)
Bellingham Technical College	349,314	330,399	(18,915)
College/Campus Classification Total	**815,151**	**782,225**	**(32,926)**
Four Year (Under 6,000 FTE)			
The Evergreen State College	563,973	713,968	149,995
UW - Bothell Campus	457,926	309,783	(148,143)
UW - Tacoma Campus	440,112	350,192	(89,920)
WSU Everett	26,210	56,570	30,360
WSU Spokane	363,139	441,315	78,176
WSU Tri-Cities	220,692	220,911	219
WSU Vancouver	343,635	312,339	(31,296)
College/Campus Classification Total	**2,415,687**	**2,405,078**	**(10,610)**
Comprehensive			
Central Washington University	1,102,720	1,323,129	220,409
Eastern Washington University Main Campus	1,199,158	1,149,982	(49,176)
Western Washington University	1,549,773	1,351,670	(198,103)
College/Campus Classification Total	**3,851,652**	**3,824,781**	**(26,871)**
Major Research			
UW - Seattle Main Campus	9,664,182	7,305,584	(2,358,598)
WSU Pullman	4,158,903	4,855,194	696,291
College/Campus Classification Total	**13,823,084**	**12,160,778**	**(1,662,306)**
TOTAL	**42,977,852**	**43,092,430**	**114,578**

REASONABLENESS OF COST

The reasonableness cost component of this study was completed using project information for all capital projects for both four-year baccalaureate institutions and community and technical colleges completed within the last decade. Maximum Allowable Construction Costs (MACC) for each project were brought to 2019 dollars and regional factors were applied prior to the data analysis (see Section 8.2). National data sources and construction cost estimating experts were also used as a reference to the Washington State project data; however, these data points were not included in the data analysis.

Based on analysis of these data sources, Table 4 summarizes the proposed expected cost ranges in addition to the number of data points per program, weighted average, median, mean and standard deviation for seven program types.

The range of expected cost per square foot values for each program type provided are based on one standard deviation from the mean. Due to the low sample size and relatively large variance among the cost/sf data, the standard deviation and expected cost ranges are relatively large. This is why the additional descriptive statistics of median and weighted average have been provided as supplemental evaluation criteria. There are a number of ways to determine the expected cost range; however, the cost ranges provided represent a starting point that could be supplemented by data that are more robust in the future.

Table 2 Summary of Data

Program Types	Number of Data Points	Weighted Average	Median	Mean	Standard Deviation	Expected Construction Cost Range (MACC)
Classroom	31	$410	$396	$405	$100	$305 - $505
Instructional Labs	34	$396	$378	$397	$99	$298 - $497
Research Labs	8	$528	$562	$545	$136	$409 - $681
Administration	38	$410	$418	$406	$96	$310 - $503
Libraries	5	$335	$312	$340	$65	$275 - $405
Athletic Program	3	$418	$361	$385	$82	$304 - $467
Assembly, Exhibit and Meeting Room Program	8	$427	$432	$428	$69	$360 - $497

PROPOSED UPDATES TO THE OFM HIGHER EDUCATION CRITERIA DEFINITIONS + SCORING STANDARDS

The development of the OFM space allocations and examination and update to reasonableness of cost standards updates the criteria scoring and prioritization matrix used in the OFM Capital Projects Evaluation System for Four-year Higher Education Institutions per RCW 43.88D.010. It provides the Legislature and decision makers with a better understanding of expected higher education project costs. Also, it provides the Interinstitutional Committee of Space Officers, who updated the FEPG, with a consistent, objective evaluation of space use and space planning. This system enables OFM to produce a single prioritized list of four-year higher education capital projects for the Legislature. This study did not review and does not recommend changes to the capital project evaluation system used by the State Board for Community and Technical Colleges to create their prioritized list of projects.

Resultant of this study, changes to the criteria listed below are recommended as well as the scoring associated with these criteria. These criteria apply to the Growth, Renovation, Replacement, and Research areas of the criteria.

- Availability of Space (Growth, Renovation, Replacement, Research)
  The consultant team adjusted the weekly room hour (WRH) targets based on the college/campus classification as defined in this study. A seat fill target was added as well as a standardized NASF per seat. The combination of these three factors creates a NASF per weekly student contact hour (WSCH). By adjusting the focus to NASF per WSCH, space is now a part of the utilization equation, which changes the outcome from needing to know how many seats are required to how much space is needed.
- Efficiency of Space Allocation – Proposed space allocation are consistent with OFM space allocations or other standards or benchmarks (Growth, Renovation, Replacement)
- Efficiency of Space Allocation – Proposed space allocations are consistent with building efficiency guidelines (ASF/GSF) (Growth Renovation, Replacement)
- Reasonableness of Cost – Consistency with OFM cost standards (Growth, Renovation, Replacement, Research)
- Reasonableness of Cost – Cost-effective Enrollment Access (not recommended)
- Reasonableness of Cost – Additional Cost Considerations (Growth, Renovation, Replacement, Research)
- Program-related space allocation – Assignable square feet (Growth, Renovation, Replacement)

For a more detailed description of the changes, refer to Section 9 of this report.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OVERVIEW + CONSIDERATIONS

The team of NAC Architecture and Ayers Saint Gross was selected by the Office of Financial Management to prepare a Higher Education Facility Study as required by the 2018 Legislature in ESSB 6095. The purpose of the study is to examine and develop learning space measures and reasonableness of cost standards for higher education facilities.

1.0 INTRODUCTION

In December 2008, Berk & Associates completed a Higher Education Capital Facilities Financing Study (Berk Report). The primary goal of the Berk Report was to provide the government with a comprehensive review of revenue source and cost management strategies used in the State of Washington and the Washington Learns Global Challenge States. The Berk Report also served to identify potential new revenue sources and cost saving strategies for higher education capital facilities. The analysis and recommendations in the Berk Report addressed the establishment of expected cost ranges by facility type.

This current study builds upon and updates portions of the Berk Report and informs the October 1994, Facilities Evaluation and Planning Guide (FEPG). The goal is to provide the Office of Financial Management (OFM), the legislative staff, the state board for community and technical colleges, and the public four-year institutions of higher education with updated methods and data, with regard to the development, construction, and planning of future higher education facilities. In addition to learning space and reasonableness of cost standards, the consultant team has recommended changes to the criteria definitions and scoring standards used by OFM to prioritize the four-year higher education institutions' capital facility requests.

OFM implements a scoring process for the four-year institutions, which is separate from the scoring process used by the Washington State Board for Community and Technical Colleges (SBCTC). This study is not intended to change the SBCTC tool, just the space utilization standards and the OFM scoring process for the four-year institutions. The outcome of the OFM scoring process is a prioritized list of capital requests that is used by budget decision-makers.

The FEPG was originally completed in 1976 by representatives from each of the four-year colleges and universities, with assistance from OFM and the now dissolved Higher Education Coordinating Board (HECB) and SBCTC. It was later revised in 1994 by the Interinstitutional Committee of Space Officers representing the public four-year colleges and universities. The facilities classification put forward in this guide was modeled after the National Center for Educational Statistics, Facilities Inventory and Classification Manual, 1992 revision (FICM). This study makes recommendations to the FEPG in terms of classification strategies and for classrooms and class laboratory utilization, as this manual is now 25 years old. The recommendations allow the institutions to total existing space quantities uniformly for purposes of comparison to the recommended space allocations for each space category of this study. Additionally, some of the modifications reflect current thinking about how to compare existing space to the proposed space allocation.

1.1 OBJECTIVES + SCOPE OF WORK

Per ESSB 6095 Section 1023 (http://leap.leg.wa.gov/leap/budget/lbns/2018Cap6095-S.SL.pdf), this study must include:

- An examination of learning space standards for higher education facilities. The standards may include, but are not limited to:

    a) the percentage of hours utilized per scheduling window;
    b) the percentage of seats utilized;
    c) square feet per seat; and
    d) the type of technology utilized in learning space

- An examination of reasonableness of cost standards for higher education capital facilities. The standards may include, but are not limited to:

    a) costs per square feet per type of facility;
    b) expected life-cycle costs; and
    c) project schedules that result in realistic, balanced, and predictable expenditure patterns over the ensuing three biennia

- The development of a criteria scoring and prioritization matrix to produce single prioritized lists of higher education capital projects for use by four-year higher education institutions and other decision makers, consisting of two components:

    1. a numeric rating scale that assesses how well a particular project satisfies higher education capital project criteria; and
    2. a numeric measure to weigh the importance of those criteria

1.2 PROJECT APPROACH

Multiple in-person and conference call meetings were held in order to understand the scope of the project in its entirety. These meetings were held with representatives of OFM and the legislative staff. Meetings and phone conversations were also held with the institutions of higher education to garner additional input into the process, fully comprehend data provided by the institutions, and talk though the proposed space allocations.

1.2.1 Data Collection

Before a data request could be sent out to the institutions, a preliminary methodology to the standards needed to be developed. This initial thinking allowed the consultant team to request only information essential to the process and eliminate false starts, minimizing the impact on the institutions.

A goal of learning space standards is to request data that is already created on an annual basis for other types of reporting, as secured data allows for the testing of the proposed OFM budgeted space allocations. It is difficult to develop a statewide system for learning space standards that encompasses all nuances of higher education and the

unique characteristics and program mix of each institution and campus. However, it is possible to create a set of standards that works for the majority of the institutions.

Data collected for the reasonableness of cost standards was sourced from recent capital projects completed throughout the state in the last 10 years. This data allowed the consultant team to run comparative analyses between capital projects. Data collection for the reasonableness of cost standards was for four-year baccalaureate, community, and technical college capital projects completed within the past decade in the state of Washington. Data points such as project gross square footage, maximum allowable construction cost, delivery method, majority, secondary and tertiary program square footages, and others were collected for each project. The data points were then brought to current dollars, with an applied regional factor based on variances in construction costs throughout the state. Once this summary of data was complete, a range of expected cost per square foot values for each provided program type are based on one standard deviation from the mean.

A wide range of data was requested from the institutions to enable the consultants to test a variety of hypotheses and verify consistency of data between institutions (see Appendix D for the Data Request Forms). The data requested from each institution and campus included:

- on-campus student enrollments (headcount and FTE);
- headcounts for certain professional programs such as Law, Medicine, and Veterinary Medicine;
- weekly student contact hours for courses held in classrooms or classroom-style seating;
- weekly student contact hours for courses held in class laboratories and specific weekly student contact hours generated in class laboratories for Agriculture, Engineering, Veterinary Medicine, and Industrial + Technology programs;
- library collection data for the main institutional library and other specific libraries, such as Law and Medicine;
- employee data as provided to IPEDS;
- research data such as principal investigators, R+D expenditures, the number of undergraduates participating in research activities, and the number of graduate students participating in research activities;
- a complete building and room inventory without residential facilities;
- the number of undergraduate students involved in research by discipline;
- the number of masters and doctoral students by discipline;
- the number of full-time tenured/tenure-track faculty by discipline; and
- the number of principal investigators by discipline (unduplicated)

In analyzing this data, it proved that some of this data was not consistently captured between the institutions. Trends could be found at certain levels, but no trends were found at detailed levels or for other datasets. There was dialogue with the institutions about their space and outcomes. Participating institutions did their best to comply with the request; however, some were not able to supply complete data, as they do not collect data at the level of detail needed. As a result, the space allocations may not have produced enough space for the institution in that space category.

In each separate set of analyses surrounding a particular group of spaces, outliers exist. These outliers wind up creating a surplus or deficit of space. As the institutions are accustomed to supplying the necessary information, the data will start to align more accurately, reflecting truer needs or overages of space.

1.2.2 Use of Existing Forms

To the degree possible, the consultants were cognizant to use existing forms and formats that the different parties are accustomed to using. The two modified spreadsheet forms include HE2019-21 Space Allocation.xlsx and HE2019-21 Space Availability.xlsx. These forms have been merged into one Microsoft Excel workbook (see Appendix D for the sample forms).

1.3 INTENTIONS OF THE OFM SPACE ALLOCATIONS

The budgeted space allocations are intended to be a model by which to measure how a project addresses space needs on a college/campus in a standardized manner. The space allocations are not intended to be space design guidelines or metrics. Although supported by current design-thinking, one set of simplistic space allocations cannot determine the amount of space needed for a particular project—but they can provide a general rule of thumb.

Over the last decade, higher education has been in a transformative mode. In addition to distance and online learning modalities, learning occurs throughout the college/campus in purposeful and expanded spaces due to pedagogical changes and various initiatives, such as living/learning communities. Spaces that were once earmarked for a specific purpose have been turned into flexible spaces, which more often than not includes learning. As a result, good space planning does not consider any single issue in isolation. To that end, topics considered during the development of budgeted space allocations included:

- Best practices in instructional spaces to accommodate current pedagogies notably active learning, team-based learning, and problem-based curricula
- Variety of scheduling practices between institutions, disciplines (i.e. Medicine), classrooms, and instructional laboratory types
- Increases in classroom and class laboratory utilization
- Increases in the amount of space needed per student seat to accommodate current pedagogies
- Demand for an assortment of maker spaces (part of open laboratories)
- Academic program mix, as some disciplines require more space than others and the delivery for a program can vary widely between institutions
- Interdisciplinary and transdisciplinary activities not only for research but in instructional activities
- Interprofessional activities in Medicine and the health sciences
- Increase in student success programs
- Increase in online, hybrid courses
- Desire to break down silos between colleges and schools
- Scale of the college/campus
- Incorporation of undergraduate students in research programs

- Level of sponsored research activity at an institution while respecting that tenure is achieved by engaging in research
- Institutions engaged in higher levels of sponsored research activity are presumed to have higher levels of efficiencies with sophisticated research cores
- Modularity in laboratory design
- Emerging open-office landscapes within workplace design as well as telework and other flexible workplace strategies and policies
- The transformation of libraries from collector of books to curators of knowledge (informationists and research collaborators) and academic learning commons with an assortment of spaces, including group study spaces, single study pods, media study space areas, quiet zones, loud zones, and coffee shops/food kiosks
- Conversion of physical collections to digital collections and remote storage facilities
- The need for more study/collaboration spaces not only within the library (centralized), but throughout college/campus in all academic and research buildings (decentralized)
- Flexibility in space design
- The desire for more multi-purpose spaces

1.4 ASSUMPTIONS + GENERAL METHODOLOGY

1.4.1 Colleges/Campuses Included and Excluded from the Study

The following colleges/campuses were included in the study:

- Central Washington University
- Eastern Washington University – Main Campus only
- The Evergreen State College
- University of Washington – Seattle, Bothell + Tacoma
- Washington State Community and Technical Colleges

  All colleges are included except:

  Big Bend Community College
  Clover Park Technical College
  Grays Harbor College
  Green River College
  Lake Washington Institute of Technology
  Lower Columbia College
  North Seattle College
  Olympic College
  Pierce College
  Renton Technical College
  Seattle Central College
  Seattle Vocational Institute
  South Seattle College
  South Puget Sound Community College
  Tacoma Community College
  Walla Walla Community College
  Wenatchee Community College

- Washington State University
  Pullman, Everett, Spokane, Tri-Cities, Vancouver are included
  Seattle and Extension Sites are excluded
- Western Washington University – Main Campus only

1.4.2 College/Campus Classifications

In order to establish a standardized method of evaluating the institutions and after analyzing enrollments as well as space trends related to enrollment, the colleges and campuses were split into six groups. There is a direct correlation between student density and scale of college/campus. Examining mission and academic program mix in conjunction with student density and scale, the space requirements for each type of college or campus start to vary. These factors that influence space are studied in Section 1.4.3. The college/campus classifications for this study are as follows:

College/Campus Classification	College/Campus Classification Abbreviation
Community Colleges (3,000 FTE and Under)	CCs 3K FTE and Under
Community Colleges (Over 3,000 FTE)	CCs Over 3K FTE
Technical Colleges	Technical Colleges
Four Year (Under 6,000 FTE)	4 Yr Under 6K FTE
Four Year Comprehensives	Comprehensive
Major Research Institutions	Major Research

The range in enrollment for each classification is as follows:

College/Campus Classification	Range in Enrollment
Community Colleges (3,000 FTE and Under)	1,013 FTE to 2,908 FTE
Community Colleges (Over 3,000 FTE)	3,265 FTE to 8,252 FTE
Technical Colleges	1,740 FTE to 2,902 FTE
Four Year (Under 6,000 FTE)	212 FTE to 5,561 FTE
Four Year Comprehensives	10,895 FTE to 15,051 FTE
Major Research Institutions	20,277 FTE to 48,941 FTE

1.4.3 Factors that Influence Space

To every degree possible, the selected space allocations reflect the needs of each college or campus at a high level. While mission, program mix, the density of college/campus or economy of scale, and the extent of the research enterprise were taken into consideration, every nuance is impossible to capture. The goal of the space allocation is to find a reasonable average that works for each group of institutions. Some factors that influence space include:

- Student full-time equivalent (FTE) to Headcount Ratios

  This is important because the consultant team uses student FTE to generate space needs for some categories (i.e. classrooms), while other categories (i.e., libraries) use student headcount, as those spaces serve people and not FTEs. The SBCTC excluded online, corrections, and community service/continuing education students from their counts since they do not include those groups in their internal assessment for classroom and class lab space needs. Community service/continuing education has a high headcount but does not generate any FTEs. Figure 1.1 and Table 1.1 illustrate the Student FTE to Headcount ratios:

Figure 1.1 Student FTE to Student Headcount Ratios

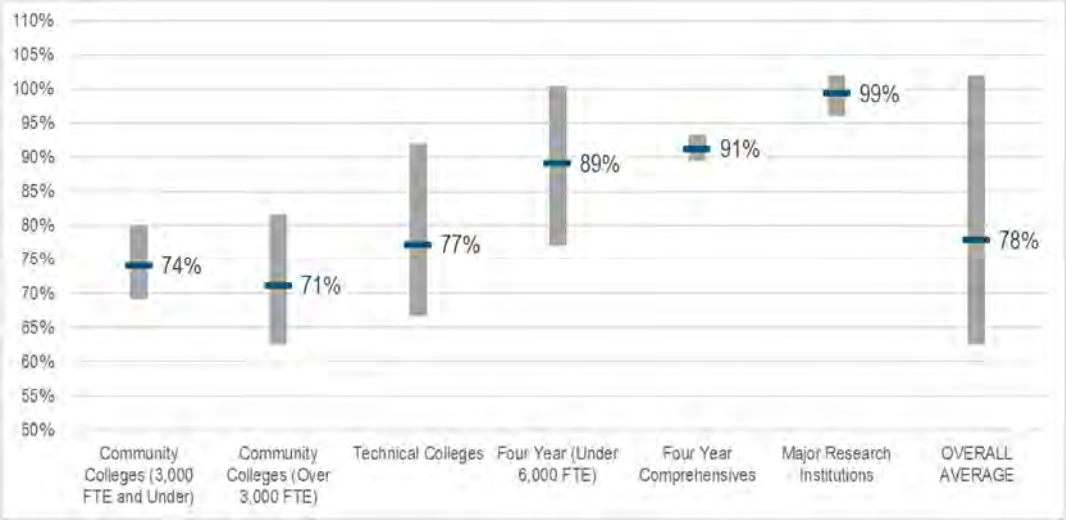
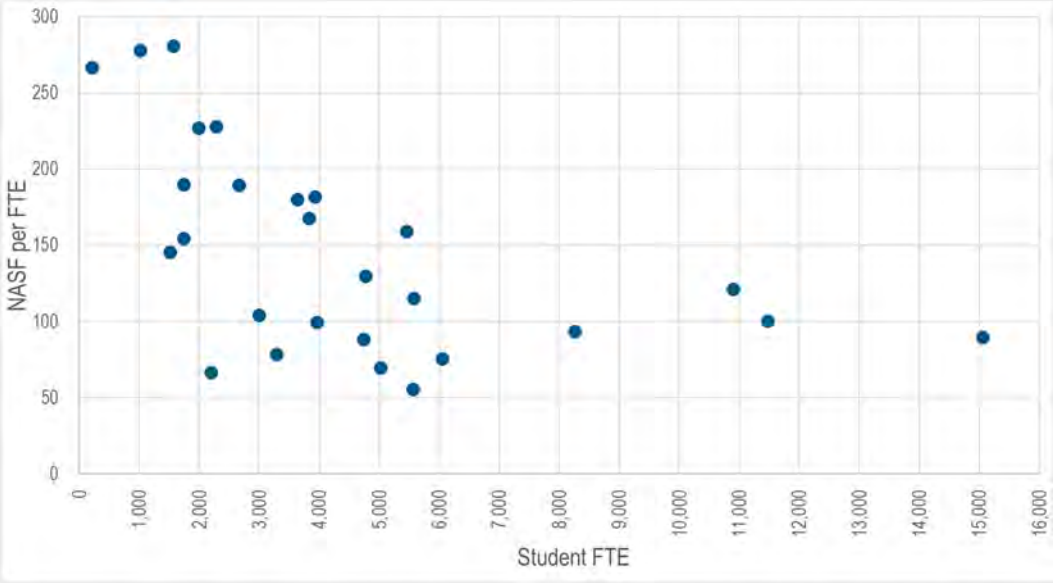


Table 1.1 Student FTE to Student Headcount Ratios

College/Campus Classification	FTE to HC Percentage	Low	High
Community Colleges (3,000 FTE and Under)	74%	69%	80%
Community Colleges (Over 3,000 FTE)	71%	63%	82%
Technical Colleges	77%	67%	92%
Four Year (Under 6,000 FTE)	89%	77%	100%
Four Year Comprehensives	91%	89%	93%
Major Research Institutions	99%	96%	102%
OVERALL AVERAGE	**78%**	**63%**	**102%**

Figure 1.2 Space per Student FTE

Note: Graph does not include the Major Research institutions, as it would make the graph illegible.



- Size of Student Body
  Space per Student FTE is important and helps to determine density and scale of college/campus. Smaller colleges/campuses typically require more space per student than larger colleges/campuses because there is a lack of economy of scale. For example, if a small institution requires a gymnasium a full gymnasium is constructed, not a half-size or a quarter-size gymnasium. A student population of 200 could use the gym or 2,000 could use the same gym. The square footage per student would be much higher for 200 students than it would be for 2,000 students. Figure 1.2 and Table 1.2 illustrate this fact.

- Academic Program Mix

- Curriculum / Pedagogy
  Prime Teaching Times – Day vs. Evening

- Research Intensity

- Intercollegiate Athletics

- High Space Demand Programs (HSDP) identified in this study as:

  Agriculture
  Engineering
  Veterinary Medicine
  Industrial + Vocational Programs

Table 1.2 Space per Student FTE

College/Campus	Student FTE	NASF per FTE
WSU Everett	212	267
Peninsula	1,013	278
WSU Tri-Cities	1,518	146
WSU Spokane	1,570	281
Centralia	1,735	154
Bellingham	1,740	190
Bates	1,988	227
Cascadia	2,196	67
Skagit Valley	2,279	228
Yakima	2,659	190
WSU Vancouver	2,997	104
Whatcom	3,283	79
Columbia	3,831	168
Spokane Falls	3,639	180
Evergreen	3,924	182
Shoreline	3,960	99
Edmonds	4,733	88
Everett	4,774	130
UW - Tacoma	5,019	70
Spokane Falls	5,453	159
UW - Bothell	5,561	56
Clark	5,574	115
Highline	6,051	75
Bellevue	8,252	94
CWU	10,895	121
EWU	11,469	100
WWU	15,051	90
WSU Pullman	20,277	239
UW - Seattle	48,941	149

There is a direct correlation between space and HSDPs on a college/campus. The FTEs taught in these programs were totaled and this sum was then divided by the total FTE for the entire college/campus. Figure 1.3 and Table 1.3 illustrate this correlation.

Figure 1.3 Correlation of Space per Student FTE to High Space Demand Program FTEs as a Percent of Total Student FTE

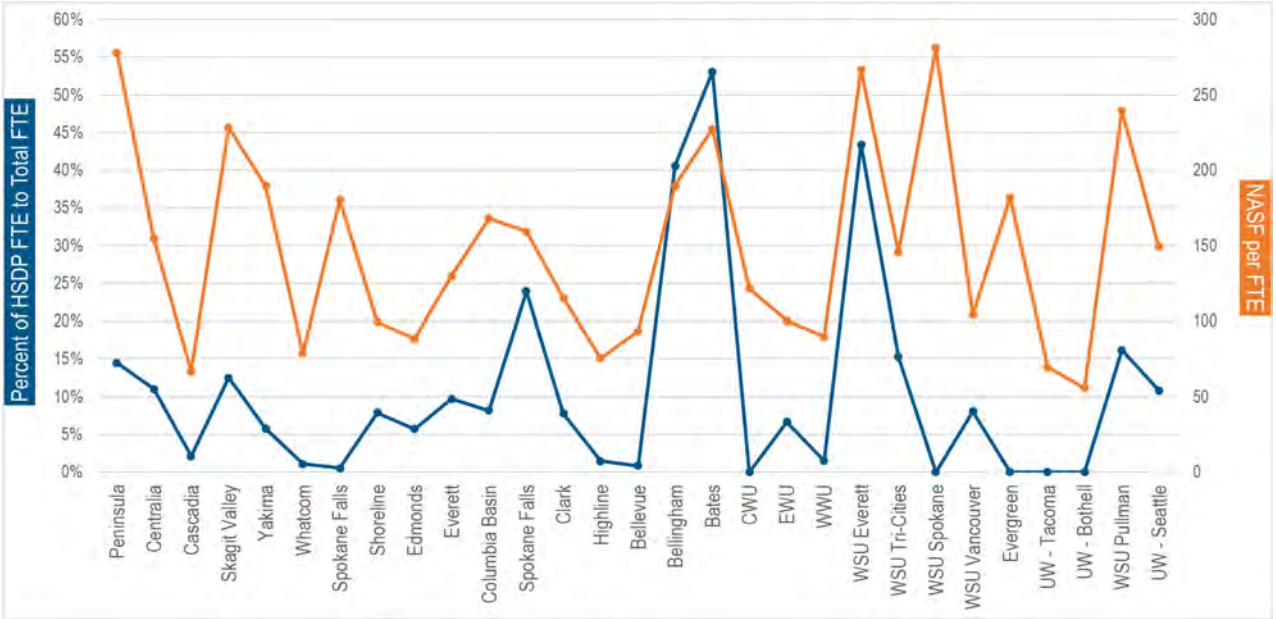


Table 1.3 Space per Student FTE and Percent of FTE in High Space Demand Programs

College/Campus Classification	% of FTE in High Space Demand Programs	Avg NASF per Student FTE	Low	High
Community Colleges (3,000 FTE and Under)	9%	183	67	278
Community Colleges (Over 3,000 FTE)	7%	119	75	180
Technical Colleges	47%	209	190	227
Four Year (Under 6,000 FTE)	10%	158	56	281
Four Year Comprehensives	3%	104	90	121
Major Research Institutions	14%	194	149	239
OVERALL AVERAGE	**11%**	**149**	**56**	**281**

- Mission

Mission drives both the type(s) of space that a college/campus needs and the way in which space is distributed across different space categories. Figure 1.4 displays the space distribution for each of the college/campus classifications.

Figure 1.4 Distribution of Existing Space between College/Campus Classifications

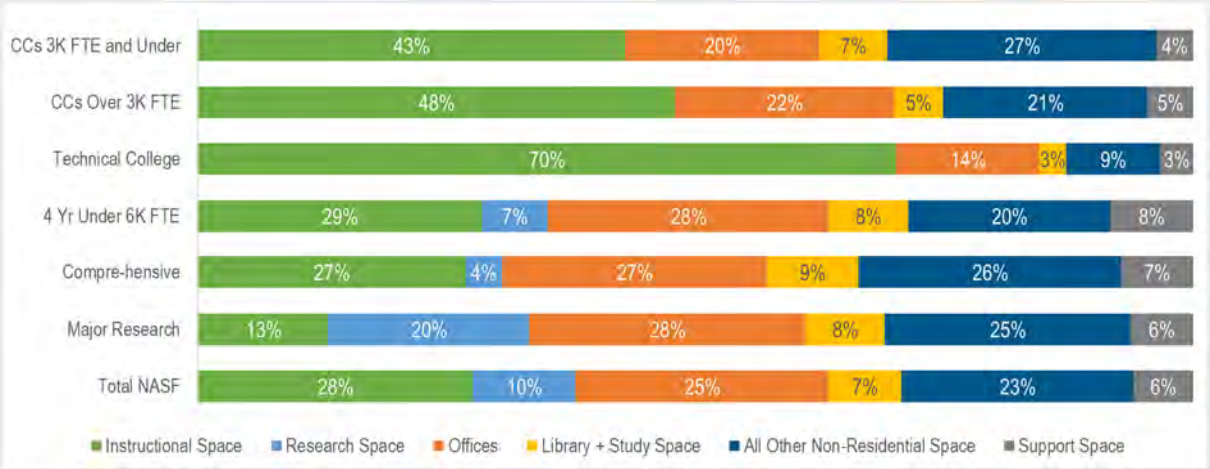


Table 1.4 Distribution of Space between College/Campus Classifications

Space Summary Category	Community Colleges (3,000 FTE and Under)	Community Colleges (Over 3,000 FTE)	Technical College	Four Year (Under 6,000 FTE)	Compre-hensive	Major Research	Total NASF
Instructional Space	739,356	2,749,326	549,150	687,524	1,030,163	1,606,380	7,361,899
Research Space				159,148	139,800	2,442,092	2,741,040
Offices	336,366	1,260,028	112,308	678,295	1,017,804	3,380,775	6,785,577
Library + Study Space	117,127	284,000	21,193	191,876	352,275	968,958	1,935,430
All Other Non-Residential Space	465,499	1,177,108	74,021	488,613	1,009,588	3,000,962	6,215,791
Support Space	62,798	260,098	25,553	199,622	275,150	761,611	1,584,832
TOTAL	**1,721,146**	**5,730,560**	**782,225**	**2,405,078**	**3,824,781**	**12,160,778**	**26,624,568**

1.4.4 Space Categories

The space categories used in this study include:

- Instructional Space – classrooms, class labs, and open labs; while each one is separately analyzed, they are all calculated together on the same form; internal laboratory suite circulation should be excluded
- Research Space – research labs and vivaria space; internal suite circulation should be excluded
- Offices – office space, office service, and conference room space; internal office suite circulation should be excluded
- Library + Study Space – all spaces in the 400 series of the FEPG. This includes study spaces within the formal context of a library as well as collaboration and informal learning spaces outside the library
- All Other Non-Residential Space – all other spaces not specifically covered in these definitions
- Support Space – also known as physical plant space; it covers all space in the support space classification codes except for 710-715 – central computer or telecommunications and 780-785 – unit storage

1.4.5 Normalization of the Room Inventory

Upon receipt of the room inventories from each institution, there were clear variances of space classifications between institutions. Normally, a room inventory documents the room number, its square footage, the occupant, the number of seats, and the primary space use code or room use code. Sometimes there are additional codes, such as a function code. Within the state, some institutions created additional space use codes, while others did not have codes. There was also a great inconsistency in the way each institution interpreted use codes. In order to bring some continuity to the inventory, the consultant team was cognizant to normalize the inventory based upon additional room descriptors provided and utilized each institution's website to research the facilities they house.

Resultant of normalizing the room inventory, the consultant team found that documenting the standardization process was important so the institutions could use that basis to recreate the process. Appendix F shows how the inventory was normalized.

CLASSROOMS + INSTRUCTIONAL LABORATORIES

This category includes classrooms (100s FEPG room use codes) and class laboratories (210-215 FEPG room use codes) and expanded to include open laboratories (220-235 FEPG room use codes). Utilization targets are established for both classrooms and class laboratories; however, open laboratories, by definition, do not have utilization targets. These three space types comprise the instructional space category in the outcomes for each college/campus.

2.1 PURPOSE – UTILIZATION + AVAILABILITY OF SPACE

The original OFM Utilization + Availability of Space was based upon the dissolved Higher Education Coordinating Board (HECB) 2000 Master Plan utilization targets. The HECB utilization targets (one for classrooms and one for class laboratories) focus on weekly seat hours only and apply to each institution without regard to scale or mission of college/campus. Weekly seat hours are the product of a weekly room hour (WRH) target and a seat fill target.

Based upon the college/campus classification as defined in Section 1.4.2, the consultant team adjusted the targets and better defined the targets by specifically delineating WRHs and seat fill targets for both classrooms and class laboratories. Adding a standardized net assignable square footage (NASF) per seat creates a combined utilization target/space allocation represented as NASF per weekly student contact hour (WSCH). By adjusting the focus to NASF per WSCH, space is now part of the utilization equation, which changes the outcomes from needing to know how many seats are required to how much space is needed. Adding space to the equation meets the incorporation of modern learning space standards per the mandate of this study.

Weekly Room Hours (WRH) X Seat Fill Rate = Weekly Seat Hours (WSH)

NASF per Seat / Weekly Seat Hours = NASF per WSCH

NASF = Net Assignable Square Feet
WSCH = Weekly Student Contact Hour

Using NASF per WSCH as the space allocation allows the college/campus to understand how they compare to the space allocation. This is done by dividing the existing classroom NASF by the total WSCH. If the outcome is less than the space allocation then the institution is meeting the utilization targets and/or has less than the recommended space per seat. By explicitly stating all utilization targets, the institution has the means to diagnose where they may not be meeting or exceeding the measures—weekly room hours, seat fill rate, or space per seat.

Existing Classroom NASF / Total WSCH = Existing NASF per WSCH

2.1.1 Classrooms

Table 2.1 shows the set utilization targets and how the space allocation of NASF per seat was scaled for each college/campus classification. The targeted NASF per seat, times one, plus the service space factor, divided by the WSH, equals the NASF per WSCH. Notice that the smaller the institution, the larger the NASF per WSCH. This is because smaller institutions do not have the density to meet the utilization targets that larger institutions should be able to meet with the volume of sections it teaches.

$$\frac{(\text{NASF per Seat} \times (1 + \text{Service Factor}))}{\text{Weekly Seat Hours}} = \text{NASF per WSCH}$$

NASF = Net Assignable Square Feet
WSCH = Weekly Student Contact Hour

Table 2.1 Classroom Utilization Expectations + Space Allocation

Metric	CCs 3K and Under	CCs Over 3K	Technical Colleges	4 Year Under 6,000 FTE	Compre-hensive	Major Research
Weekly Room Hours	28	32	28	32	32	35
Percent Seats Filled	70%	70%	70%	70%	70%	70%
Weekly Seat Hours	19.6	22.4	19.6	22.4	22.4	24.5
NASF per Seat	30	28	30	28	25	25
Service Space	5%	5%	5%	5%	5%	10%
NASF per WSCH	**1.61**	**1.32**	**1.61**	**1.32**	**1.18**	**1.13**

Example Calculation

$30 \text{ WRH} \times 70\% \text{ Seat Fill Rate} = 21.0 \text{ WSH}$

$$\frac{(30 \text{ NASF per Seat} \times (1 + 0.05 \text{ Service Space}))}{21.0 \text{ WSH}} = 1.50 \text{ NASF per WSCH}$$

2.1.1.1 Classroom Weekly Room Hours

The utilization expectations—WRH and percent of seats filled—were set based upon usage patterns observed by the consultant team of the various types of public institutions and trends that are occurring within higher education. Keep in mind that WSH is a product of WRH and percent of seats filled.

Within the United States, fewer than 50% of the states/higher education (HE) systems have established utilization targets. Of the states/HE systems that do have utilization targets, only a small percentage have updated their utilization rates within the last decade or so. When the utilization rates have been updated, the trend is to increase both the WRH and percent of seats filled. Very few have updated the space per seat; however, those that have did so to accommodate flexible, active learning classrooms. The observed WRH increases range between 35 and 40 hours per week for four-year institutions where the older WRH targets were between 28 and 32 hours per week. Some systems have even exceeded the 40 hours per week to as high as 53 weekly room hours. Even though the WRH targets have increased, very few large institutions (25K+ students) actually reach these high bars much less the smaller institutions (6K students and under).

To further compound the issue, block-scheduling trends have shifted in response to collaborative and active learning modalities. It is difficult to deliver an engaged learning curriculum in 50 minutes, three times per week; therefore, there is a shift to 75-90 minute sessions, twice a week. At institutions where the Office of the Registrar is empowered to establish and enforce a common scheduling grid for undergraduate students, higher scheduling efficiencies and actual weekly room hour use can be reached.

The WRH targets set in this study take into account the trends seen in higher education, scale of the college/campus, and the investment that needs to be made to create flexible, active learning classroom environments. This includes not only the space needed per seat (see Section 2.1.1.3), but the investment in flexible, moveable, and stackable, furnishings as well as technology (see Section 2.5). In other words, greater investment, better usage. At institutions

where investment was made in flexible, active learning classroom environments, more scheduled use has been realized.

2.1.1.2 Classroom Percent of Seats Filled

Older targets for seat fill rates have ranged between 60% and 67%. Some states/HE systems have increased these targets to between 70% and 75%. With today's computerized scheduling systems, higher occupancy rates can be achieved. The reason higher seat fill rates (over 75%) are not established for classrooms is that at the beginning of the semester before the drop/add period ends, course enrollments can fluctuate significantly, particularly for undergraduate lower division courses. The consultant feels that 70% seat fill rate is achievable for all institutions, especially if investment is made to create flexible, active learning classroom environments.

2.1.1.3 Classroom NASF per Seat

The NASF per seat recommended for this study is a culmination of a variety of analyses and concerns. The initial concern is that the recommendation represents an average to achieve for the college/campus. How the institution achieves the average depends on how many classrooms there are to average against. In other words, the larger colleges/campuses will have 100 to 250+ classrooms with a large range of capacities (20 students to 200+ students), whereas the smaller colleges/campuses may only have 20 to 25+ classrooms with a smaller range of capacities (12 students to 60 students). For the colleges/campuses with a lot of classrooms, the average NASF per seat will include larger lecture halls where the NASF per Seat could be as low as 9 NASF per seat; a healthy number of traditional classrooms where the NASF per seat will be around 18-20 NASF; and finally, a small number of flexible classrooms where the range is 35 to 40 NASF per seat. This variety of classrooms causes a dramatic range of space per seat (9 to 40 NASF per seat). The smaller colleges/campuses will tend not to have a large variety of classrooms, and thereby, the range variance. Because of the tighter range variance, the NASF per seat should be larger for the smaller colleges/campuses.

The other consideration is the challenge that many institutions face in today's academic climate of creating active learning classrooms, or classrooms with a high degree of flexibility, that accommodate a variety of teaching pedagogies. Flexible spaces do however require a greater amount of space per seat than traditional classrooms—in some cases twice as much, depending on the size of the space. Traditional classrooms are normally around 18 to 25 NASF per seat whereas flexible modern classrooms require between 30 and 40 NASF per seat. As such, the NASF per seat target was set at an amount that will allow the institutions to create active learning spaces. Although didactic-style teaching in more traditional spaces furnished with tablet armchairs will inherently persist, the suggested space allocation provides for modernized environments. (Further discussion of today's trends in classrooms and classroom technology can be found in Section 2.5).

The consultant team conducted various analyses to determine the best space allocation to apply to each college/campus classification. The first analysis entailed using the provided seat counts to understand average square footage per seat within a classroom. Looking at the range of NASF per seat in Table 2.2, classrooms with square footages over 45 NASF per seat may be incorrectly classified. If these spaces were combination classrooms and class laboratories, they would be more appropriately classified as laboratories due to the amount of square feet needed to support the number of students in the room.

Table 2.2 Existing NASF per Seat + Service Space Percentages for Classrooms

College/Campus Classification	Avg. NASF per Seat	Low NASF/ Seat	High NASF/ Seat	Service Space as a % of Total Classroom Space
Community Colleges (3,000 FTE and Under)	27	10	70	4%
Community Colleges (Over 3,000 FTE)	25	11	63	3%
Technical Colleges	32	18	58	3%
Four Year (Under 6,000 FTE)	25	12	67	4%
Four Year Comprehensives	20	10	40	4%
Major Research Institutions	20	9	63	9%
OVERALL AVERAGE	**24**			**4%**

The second analysis the team conducted started with a review of each campus' existing NASF per WSCH, which was then compared to the proposed space allocation (see Table 2.3 and Figure 2.1). In many cases, the proposed allocation is less than the institution's existing average. This means that the college/campus is not meeting the utilization targets and/or the NASF per seat is greater than the proposed space allocation. With the exception of the Technical Colleges, the overall average per seat is less than the proposed NASF per seat; therefore, the utilization targets are not being met—WRH or seat fill rate.

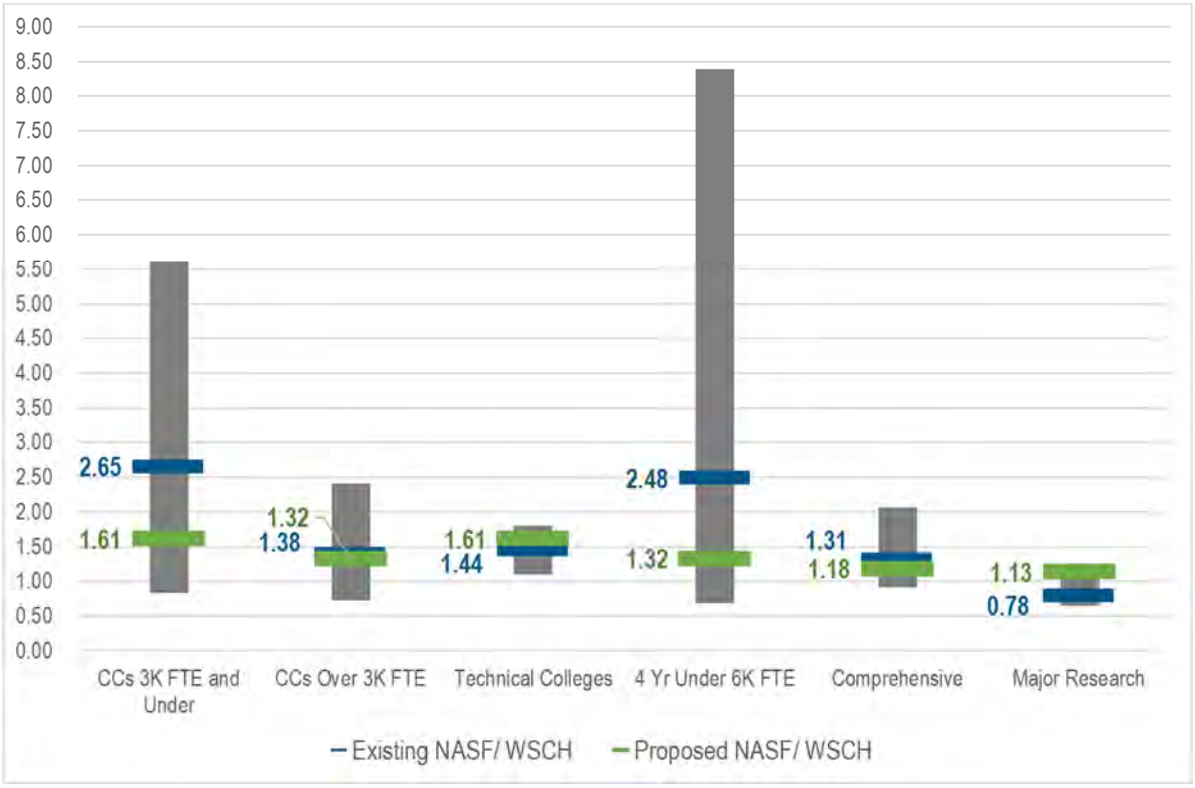
For major research institutions, the proposed NASF per WSCH is greater, which correlates to a need for more space. In cases where the institutions show a need for additional space, the issue may not necessarily be a need for more classrooms, but a need for more space in each room. A good way for the institution to determine whether it is a need for more classrooms or for more space in each room is to take the total weekly room hours taught and divide by the WRH target. That should give a rough estimate as to the number of classrooms needed. If the institution has over ten percent more rooms than this method suggests, then the need is for more space in each room. If under, then there is a need for additional classrooms.

There are two ways to create more space in each room—remove the number of seats in the room thus creating more space per seat or make the room larger. More than likely, it is a combination of both of these strategies. The first, removing seats within the room, should only be done if the average seat fill rate is known for the entire college/campus and then for the rooms in question. The goal of removing seats within the room is to ultimately replace the seating with stackable, movable tables and chairs (preferably on casters) to create a more flexible environment which encourages active learning pedagogies. (See Section 2.5 on Classroom Trends + Classroom Technology).

Table 2.3 Classrooms – Existing NASF per WSCH

College/Campus Classification	Existing NASF/ WSCH	High NASF/ WSCH	Low NASF/ WSCH	Proposed NASF/ WSCH
CCs 3K FTE and Under	2.65	5.62	0.83	1.61
CCs Over 3K FTE	1.38	2.41	0.72	1.32
Technical Colleges	1.44	1.80	1.09	1.61
4 Yr Under 6K FTE	2.48	8.38	0.68	1.32
Comprehensive	1.31	2.06	0.91	1.18
Major Research	0.78	0.92	0.65	1.13

Figure 2.1 Existing Space per WSCH compared to Proposed Classroom Space Allocation



The second strategy of enlarging the room requires an in-depth examination of floor plans and current locations of classrooms. Look for renovation opportunities to combine two smaller under-utilized classrooms to create one larger classroom. In some cases when larger capacity classrooms (seating capacities of over 60 students) are needed for active learning, the only way to create them is through new construction. When programming a new academic building, consideration should be given to the overall classroom needs of the institution not just the classroom needs of the targeted academic programs. It is always easier to create smaller classrooms, but much more difficult to create the larger classroom spaces.

2.1.1.4 Departmental Classrooms

Most institutions have departmental classrooms. Departmental classrooms are those spaces that are occupied by a specific department and are not under the purview of the Office of the Registrar. These classrooms come into being for a variety of reasons: a donor gifts the technology in the space; the classroom has specific audio/video requirements such as for Art History; the room is set aside for distance education; or a classroom is dedicated for graduate instruction, to name a few reasons. Occasionally these classrooms look more like laboratories than classrooms as the definition for a departmental classroom can be broad. The major reason for naming the rooms as departmental classrooms is so they do not negatively influence the utilization outcomes as they generally have very little scheduled use. Schools or Colleges of Business are generally the exception to this rule where one would see a lot of scheduled utilization of their classrooms. At some institutions, departmental classrooms are the equivalent of a third of the total number of classroom spaces.

In the past, the OFM form and the institutions have excluded the reporting of departmental classrooms for all the reasons stated above. The truth is that this space is not "free", and they should be included. Most programs who have this type of space also use general-purpose classrooms (those rooms under the purview of the Registrar). Through space management policy, these rooms could have greater use—maybe not to the level of general-purpose classrooms but at an increased level. Some institutions require that those rooms be scheduled at least 20 hours per week before the program can tap into the use of general-purpose classrooms. For programs who control all of their classrooms, a utilization rate equal to the expectations of general-purpose classrooms should be required. For those rooms that look more like specialty spaces, maybe the room use classification should be reconsidered. Regardless of classification, these spaces contribute to the instructional experience of the students.

2.1.2 Class Laboratories

Although a bit more complicated, class labs work in a similar fashion as classrooms except that the amount of space needed per seat as well as the weekly room hour expectation varies by discipline. The disparity in the range of square footage per seat is great. With computer labs requiring about 40-50 NASF per seat (depending on monitor count) and others requiring 300 NASF per seat or greater (i.e. mechatronics or structural engineering labs), it is difficult to develop an average of NASF per seat. The variance in weekly room hours is attributed to the dense scheduling of lower division labs versus upper division labs, where one or two courses may be offered. Some labs or studios must also be available for unscheduled practice time, such as an art studio. The normal rule of thumb is that for every hour of scheduled use a student spends in the lab or studio, an additional two hours need to be spent practicing their craft in the lab or studio. In the case of graduate level labs, an experiment may involve a team of students and be of a larger scale, so it is not reasonable to expect others to utilize the lab without disturbing the experiment. To achieve a good average of class lab use, the consultant team recommends using the higher utilization rates in the lower division labs to offset the upper division labs where scheduled use is much lower.

For the above reasons, it is important to understand how many WSCH are spent in the high space demand programs (HSDP). For this study, the following programs qualify as HSDPs: Agriculture, Engineering, Veterinary Medicine, Industry and Technological labs mainly found in the community or technical colleges. All of these disciplines require various types of labs, including those requiring a great amount of space per seat; therefore, a separate allocation was determined to calculate those WSCH. This allocation is referred to as an "Add-on for High Space Demand Programs".

Both the weekly room hours and the NASF per seat were adjusted based on the scale of each institution, the ability to achieve higher utilization rates, and the variety of lab types typically found in each college/campus classification.

2.1.2.1 Class Laboratory Weekly Room Hours

The utilization expectations—WRH and percent of seats filled—were set based upon usage patterns observed by the consultant team of the various types of public institutions and trends that are occurring within higher education. Like Classroom utilization, WSH is a product of WRH and percent of seats filled.

Within the United States, fewer than 50% of the states/higher education (HE) systems have established utilization targets. Of the states/HE systems that do have utilization targets, only a small percentage have updated their utilization rates within the last decade or so. When the utilization rates have been updated, the trend is to increase both the WRH and percent of seats filled. Very few have updated the space per seat. The observed WRH increases between a range 20 and 24 hours per week for four-year institutions, where the older WRH targets were between 18 and 20 hours per week. Some systems have even exceeded the 24 hours per week to as high as 28 weekly room hours. Even though the WRH targets have increased, very few large institutions (25K+ students) actually reach these high bars, much less the smaller institutions (6K students and under).

The reasons that small institutions have a hard time reaching the WRH targets is that for some programs, the sub-disciplines are quite varied, and if they are going to offer the discipline it follows that a laboratory space is required. For example, you cannot teach ceramics in a drawing or printmaking lab and you cannot teach organic chemistry in an inorganic chemistry lab. For community and technical colleges, if you are going to teach an auto mechanics course, you need an auto mechanics lab—no matter how small or large the class size.

It is important that whenever possible, laboratory spaces be designed as flexibly as possible to accommodate variable demands. For example, the demand for chemistry may decrease but the demand for an anatomy and physiology lab may increase. With cloud computing, computer labs should also be made as flexible as possible; but it is understood that some computer labs should be discipline specific such as what may be needed for computer and information sciences or computer engineering.

The WRH targets set in this study take into account the trends seen in higher education, scale of the college/campus, and the investment required to make good instructional labs.

2.1.2.2 Class Laboratories Percent of Seats Filled

Older targets for seat fill rates have ranged between 70% and 80%. Some states/HE systems have increased these targets to between 80% and 85%. Because there is usually a safety issue with the use of class laboratories, most institutions monitor the size of the laboratory sections closely. Laboratories are also some of the most expensive spaces that are constructed at an institution. For these reasons, the consultant regularly promotes achieving an 80% seat fill rate regardless of level or type of laboratory. While it may make sense to achieve an 85% seat fill rate for upper division labs, this removes the teaching flexibility. In some cases, an 85% seat fill rate means that there are only two seats available.

2.1.2.3 Class Laboratory NASF per Seat

As with classrooms, the class laboratory NASF per seat recommended for this study is a culmination of a variety of analyses and concerns. The initial concern is that again, this number represents an average. The variety of class laboratories at any institution is staggering, and the range of space per seat can be anywhere from 40 to over 500+ NASF per seat (including service space). This is why understanding the impact of HSDPs is critical. The truth is that the space allocations recommended cannot be all encompassing, so correct room use classification is important.

Even though a space may be used for instruction, its appropriate room use code may not be class laboratory (210). For example, an airplane hangar may be better to classify the space as vehicle storage, room use code 740, rather than a 210 as the majority of the space or its primary purpose is to store the airplane. In the health sciences, simulation labs should be classified as open laboratories (220) and clinics such as what may be found in dental hygiene, psychology, social work, or speech and audiology should be classified as clinic space, room use code 540. While the point may be debatable, the OFM worksheets allow for explanation of extraordinarily large spaces by describing other benchmarks or space standards needed to justify existing space or proposed needed space.

Similar to classrooms, some styles of labs require more space per seat than traditional labs of the same type. Sometimes, the requirement is set to accommodate additional equipment or technology in the room. For other disciplines, the requirement allows for the creation of flexible lab/studio space. These spaces are a combination of a lab and classroom environment with movable furniture and equipment and are sometimes enabled by technology, but they are spacious enough for students to work on experiments and projects together.

Table 2.4 Class Laboratory Utilization Expectations + Space Allocation

Metric	CCs 3K and Under	CCs Over 3K	Technical Colleges	4 Year Under 6,000 FTE	Compre-hensive	Major Research
Weekly Room Hours	12	15	12	18	18	24
Percent Seats Filled	80%	80%	80%	80%	80%	80%
Weekly Seat Hours	9.6	12.0	9.6	14.4	14.4	19.2
NASF per Seat*	65	65	65	65	70	75
Baseline NASF per WSCH	**6.78**	**5.42**	**6.78**	**4.52**	**4.87**	**3.91**
Add on for High Space Demand Programs (HSDP):						
Weekly Room Hours	12	12	12	12	15	18
Percent Seats Filled	80%	80%	80%	80%	80%	80%
Weekly Seat Hours	9.6	9.6	9.6	9.6	12.0	14.4
NASF per Seat*	190	190	170	80	100	120
Add on for HSDP NASF per WSCH	**19.80**	**19.80**	**17.71**	**8.34**	**8.34**	**8.34**

**Includes service space*

Disciplines eligible for Add-On:
Agriculture, Engineering, Vet Medicine, Technical + Industrial (CC/TC)

Example Calculation

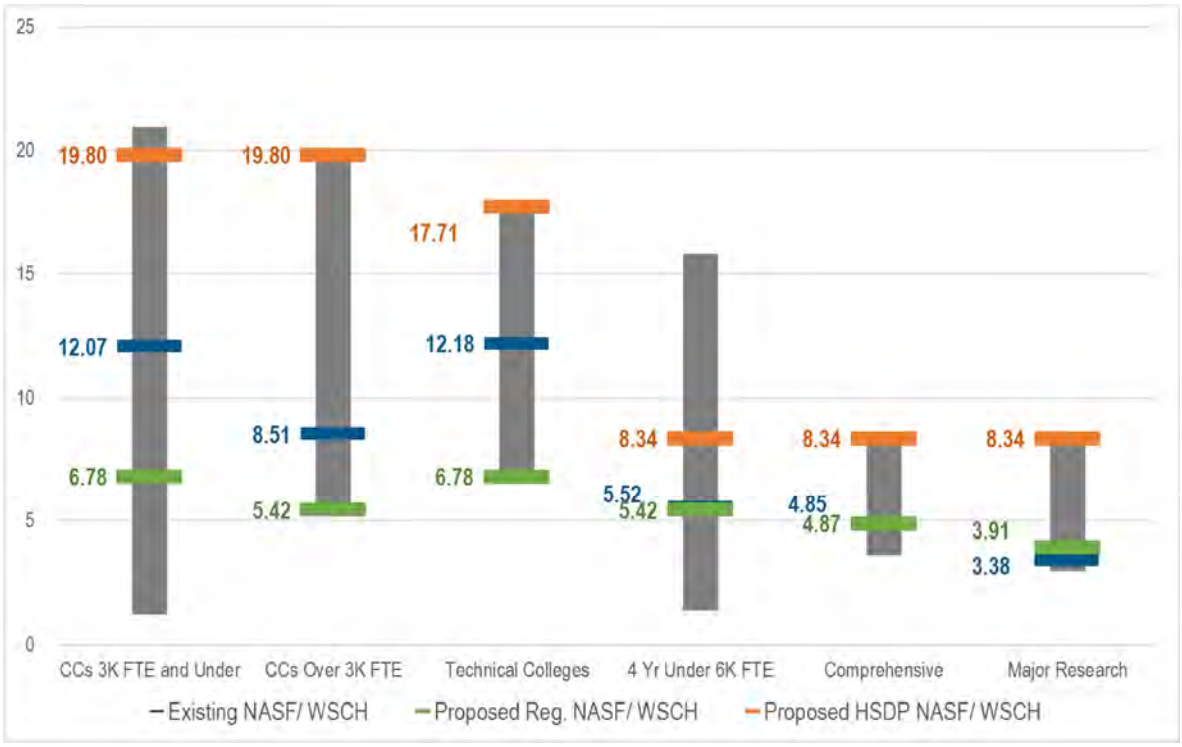
24 WRH X 80% Seat Fill Rate	=	19.2 WSH
75 NASF per Seat / 19.2 WSH	=	3.91 Baseline NASF per WSCH
(1,500 Total WSCHs – 500 HSDP WSCHs) X 3.91 NASF per WSCH	=	3,910 Baseline NASF
18 WRH X 80% Seat Fill Rate	=	14.4 WSH
120 NASF per Seat / 14.4 WSH	=	8.34 Add on NASF per WSCH
500 HSDP WSCHs X 8.34 NASF per WSCH	=	4,170 Add on NASF
Baseline – 3,910 NASF + Add on – 4,170 NASF	=	8,080 NASF

The recommended space allocation for class laboratories and the HSDP add-on was calibrated based on the above factors, modern lab design, and the consultants experience in the development of space allocations for other systems (see Table 2.4). As with classrooms, an analysis was done to compare the existing NASF per WSCH to the proposed values (see Table 2.5 and Figure 2.2). With the exception of the comprehensive and major research institutions, the proposed regular NASF per WSCH is less than what currently exists but the proposed HSDP NASF per WSCH is much greater than what currently exists; however, it is applied only to a portion of an institution's WSCH.

Table 2.5 Class Laboratories – Existing NASF per WSCH

College/Campus Classification	Existing NASF/ WSCH	High NASF/ WSCH	Low NASF/ WSCH	Proposed Reg. NASF/ WSCH	Proposed HSDP NASF/ WSCH
CCs 3K FTE and Under	12.07	20.95	1.22	6.78	19.80
CCs Over 3K FTE	8.51	11.30	5.31	5.42	19.80
Technical Colleges	12.18	13.39	10.97	6.78	17.71
4 Yr Under 6K FTE	5.52	15.84	1.37	5.42	8.34
Comprehensive	4.85	7.00	3.61	4.87	8.34
Major Research	3.38	3.80	2.97	3.91	8.34

Figure 2.2 Existing Space per WSCH compared to Proposed Class Laboratory Space Allocation



2.1.3 Open Laboratories

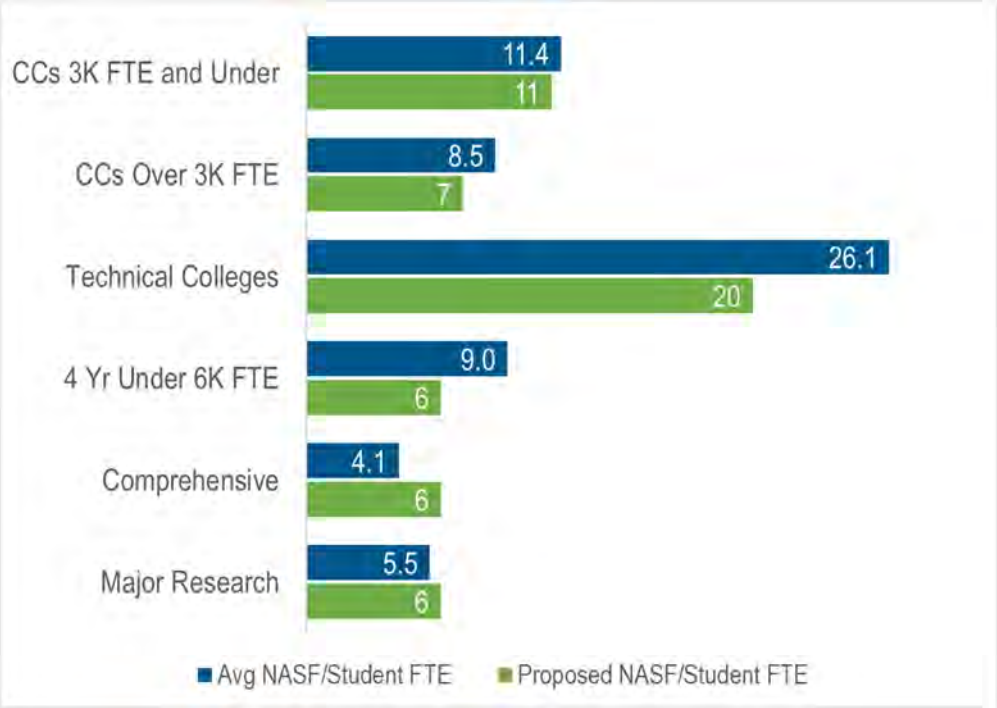
Unlike class labs, open labs are irregularly scheduled, if they are scheduled at all; therefore, there was no data to review to see how they are being used. Examples of open labs include maker spaces, music practice rooms, open access computer labs, simulation labs, labs for capstone projects, and rooms for specialized equipment (such as an NMR, or nuclear magnetic resonance spectrometer). Because there is no data to measure space use, a very common practice is to determine the square footage per student FTE for the campus.

Table 2.6 Open Laboratories – Existing NASF per WSCH

Metric	CCs 3K and Under	CCs Over 3K	Technical Colleges	4 Year Under 6,000 FTE	Compre-hensive	Major Research
NASF per Student FTE	11	7	20	6	6	6

This square footage is carefully considered through a thorough review of the program mix and scale of the campus. In most cases, the proposed allocation is less than existing averages. For comprehensive and major research universities, proposed allocations are slightly higher so that the need for maker spaces and senior capstone spaces can be accommodated.

Figure 2.3 Comparison of Existing NASF per Student FTE to Proposed Space per Student FTE



2.2 INSTITUTION DATA NEEDED

The institutional data needed to project needs in these instructional space categories for the OFM workbook are as follows:

- Room inventory by college/campus, summarized for each of the three space uses;
- WSCH taught in classroom space;
- WSCH taught in class laboratories;
- WSCH taught in high space demand program labs; and
- On-campus student FTE

2.3 FORM – UTILIZATION + AVAILABILITY OF SPACE

UTILIZATION + AVAILABILITY OF SPACE

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

Project Name:

College/Campus Location:

College/Campus Classification:

(a) General University Classroom Utilization

Fall 2019 Weekly Student Contact Hours (WSCH)	
Multiply by % FTE Increase Budgeted	0%
Expected Fall 2021 WSCH	0
OFM Utilization Space Standard (NASF per WSCH)	**0.00**
Projected Classroom NASF	0
Existing Classroom NASF (100s)	
Overage / (Need)	**0**
Existing NASF per WSCH	**0.00**

If there is an overage of space, describe how the institution plans to meet the OFM utilization expectations and budgeted space allocation.

(b) Instructional Lab Utilization

Fall 2019 Weekly Student Contact Hours (WSCH)	
Multiply by % FTE Increase Budgeted	0%
Expected Fall 2021 WSCH	0
WSCH for Engineering, Indst'l + Techn'l (CC+TC)	0
WSCH for Agriculture	0
WSCH for Veterinary Medicine	0
OFM Baseline Space Standard (NASF per WSCH)	**0.00**
OFM Add-on HSDP Space Standard (NASF per WSCH)	**0.00**
On-Campus Student FTE	
OFM Open Laboratory NASF per FTE	**0**
Projected Instructional Laboratory NASF	0
Existing Instructional Laboratory NASF (210s - 230s)	
Overage / (Need)	**0**

If there is an overage of space, describe how the institution plans to meet the OFM utilization expectations and budgeted space allocation.

2.4 OUTCOMES

Table 2.7 Classroom Space Allocation

	Proposed NASF per WSCH	WSCH	Projected NASF	Existing NASF	Overage/ (Need)
Community Colleges (3,000 FTE and Under)					
Cascadia College	1.61	32,046	51,594	26,619	(24,975)
Centralia College	1.61	21,235	34,189	42,121	7,932
Peninsula College	1.61	11,051	17,792	62,111	44,319
Skagit Valley College	1.61	27,851	44,840	86,949	42,109
Yakima Valley College	1.61	35,005	56,358	58,497	2,139
		Total	**204,772**	**276,297**	**71,525**
Community Colleges (Over 3,000 FTE)					
Bellevue College	1.32	110,686	146,105	170,852	24,747
Clark College	1.32	71,275	94,083	128,414	34,331
Columbia Basin College	1.32	52,558	69,377	126,417	57,040
Edmonds Community College	1.32	61,410	81,061	52,470	(28,591)
Everett Community College	1.32	59,363	78,359	85,959	7,600
Highline College	1.32	81,935	108,155	96,846	(11,309)
Shoreline Community College	1.32	51,887	68,491	55,679	(12,812)
Spokane Community College	1.32	116,267	153,473	83,980	(69,493)
Spokane Falls Community College	1.32	45,581	60,167	113,239	53,072
Whatcom Community College	1.32	43,781	57,790	46,866	(10,924)
		Total	**917,060**	**960,722**	**43,662**
Technical College					
Bates Technical College	1.61	11,758	18,931	12,814	(6,117)
Bellingham Technical College	1.61	19,414	31,257	34,879	3,622
		Total	**50,188**	**47,693**	**(2,495)**
Four Year (Under 6,000 FTE)					
The Evergreen State College	1.32	47,097	62,168	84,743	22,575
UW - Bothell Campus	1.32	76,233	100,628	51,779	(48,849)
UW - Tacoma Campus	1.32	78,118	103,116	70,209	(32,907)
WSU Everett	1.32	2,171	2,865	18,200	15,335
WSU Spokane	1.32	19,085	25,192	37,642	12,450
WSU Tri-Cities	1.32	18,550	24,486	30,016	5,530
WSU Vancouver	1.32	29,057	38,356	58,516	20,160
		Total	**356,810**	**351,105**	**(5,705)**
Comprehensive					
Central Washington University	1.18	98,225	115,905	202,392	86,487
Eastern Washington University Main Campus	1.18	117,977	139,213	107,579	(31,634)
Western Washington University	1.18	176,916	208,761	167,589	(41,172)
		Total	**463,879**	**477,560**	**13,681**
Major Research					
UW - Seattle Main Campus	1.13	746,355	843,381	483,050	(360,331)
WSU Pullman	1.13	253,317	286,248	233,023	(53,225)
		Total	**1,129,629**	**716,073**	**(413,556)**
		TOTAL	**3,122,338**	**2,829,450**	**(292,888)**

Table 2.8 Class Laboratory Space Allocation

	Proposed NASF per WSCH	Proposed HSDP NASF per WSCH	Class Lab WSCH	Class Lab HSDP WSCH	Projected NASF	Existing NASF	Overage/ (Need)
Community Colleges (3,000 FTE and Under)							
Cascadia College	6.78	19.80	1,900	74	13,845	16,926	3,081
Centralia College	6.78	19.80	6,942	2,340	77,532	8,451	(69,081)
Peninsula College	6.78	19.80	3,210	1,379	39,718	67,255	27,537
Skagit Valley College	6.78	19.80	6,460	3,421	88,340	99,840	11,500
Yakima Valley College	6.78	19.80	11,198	1,082	90,010	154,785	64,775
				Total	**309,446**	**347,257**	**37,811**
Community Colleges (Over 3,000 FTE)							
Bellevue College	5.42	19.80	14,562	168	81,342	147,589	66,247
Clark College	5.42	19.80	19,139	5,125	177,427	195,765	18,338
Columbia Basin College	5.42	19.80	23,163	3,942	182,229	122,975	(59,254)
Edmonds Community College	5.42	19.80	12,228	1,909	93,729	107,984	14,255
Everett Community College	5.42	19.80	19,484	4,938	176,609	220,211	43,602
Highline College	5.42	19.80	8,397	148	47,642	80,239	32,597
Shoreline Community College	5.42	19.80	10,806	1,771	84,032	77,775	(6,257)
Spokane Community College	5.42	19.80	37,552	14,620	413,765	251,080	(162,685)
Spokane Falls Community College	5.42	19.80	14,086	40	76,921	136,757	59,836
Whatcom Community College	5.42	19.80	7,518	40	41,323	46,528	5,205
				Total	**1,375,019**	**1,386,903**	**11,884**
Technical College							
Bates Technical College	6.78	17.71	19,709	14,558	292,739	216,141	(76,598)
Bellingham Technical College	6.78	17.71	13,768	8,745	188,930	184,328	(4,602)
				Total	**481,669**	**400,469**	**(81,200)**
Four Year (Under 6,000 FTE)							
The Evergreen State College	5.42	8.34	18,721	0	101,468	85,900	(15,568)
UW - Bothell Campus	5.42	8.34	4,240	0	22,981	24,504	1,523
UW - Tacoma Campus	5.42	8.34	4,775	0	25,881	19,590	(6,291)
WSU Everett	5.42	8.34	792	587	6,007	12,543	6,536
WSU Spokane	5.42	8.34	7,288	0	39,502	21,165	(18,337)
WSU Tri-Cities	5.42	8.34	6,168	2,481	40,676	8,473	(32,203)
WSU Vancouver	5.42	8.34	10,881	2,658	66,735	43,888	(22,847)
				Total	**303,249**	**216,063**	**(87,186)**
Comprehensive							
Central Washington University	4.87	8.34	21,987	0	107,074	153,887	46,813
Eastern Washington University Main Campus	4.87	8.34	23,765	0	115,736	93,503	(22,233)
Western Washington University	4.87	8.34	37,304	2,352	189,832	134,821	(55,011)
				Total	**412,642**	**382,211**	**(30,431)**
Major Research							
UW - Seattle Main Campus	3.91	8.34	93,432	11,059	414,310	354,968	(59,342)
WSU Pullman	3.91	8.34	67,823	26,732	383,612	201,099	(182,513)
				Total	**797,923**	**556,067**	**(241,856)**
				TOTAL	**3,679,947**	**3,288,970**	**(390,977)**

Table 2.9 Open Laboratories

	Proposed NASF per FTE	Projected NASF	Existing NASF	Overage/ (Need)
Community Colleges (3,000 FTE and Under)				
Cascadia College	11.00	24,153	0	(24,153)
Centralia College	11.00	19,090	1,384	(17,706)
Peninsula College	11.00	11,145	14,374	3,229
Skagit Valley College	11.00	25,069	70,000	44,931
Yakima Valley College	11.00	29,247	30,044	797
	Total	**108,704**	**115,802**	**7,098**
Community Colleges (Over 3,000 FTE)				
Bellevue College	7.00	57,765	42,660	(15,105)
Clark College	7.00	39,019	24,541	(14,478)
Columbia Basin College	7.00	26,817	49,310	22,493
Edmonds Community College	7.00	33,133	13,401	(19,732)
Everett Community College	7.00	33,417	43,612	10,195
Highline College	7.00	42,356	26,811	(15,545)
Shoreline Community College	7.00	27,720	19,442	(8,278)
Spokane Community College	7.00	38,171	101,828	63,657
Spokane Falls Community College	7.00	25,473	72,420	46,947
Whatcom Community College	7.00	22,984	7,676	(15,308)
	Total	**346,856**	**401,701**	**54,845**
Technical College				
Bates Technical College	20.00	39,760	81,330	41,570
Bellingham Technical College	20.00	34,792	19,658	(15,134)
	Total	**74,552**	**100,988**	**26,436**
Four Year (Under 6,000 FTE)				
The Evergreen State College	6.00	23,544	49,212	25,668
UW - Bothell Campus	6.00	33,368	8,645	(24,723)
UW - Tacoma Campus	6.00	30,114	6,676	(23,438)
WSU Everett	6.00	1,272	4,321	3,049
WSU Spokane	6.00	9,420	28,153	18,733
WSU Tri-Cities	6.00	9,108	11,518	2,410
WSU Vancouver	6.00	17,982	11,830	(6,152)
	Total	**124,808**	**120,355**	**(4,454)**
Comprehensive				
Central Washington University	6.00	65,370	5,159	(60,211)
Eastern Washington University Main Campus	6.00	68,814	47,342	(21,472)
Western Washington University	6.00	90,306	117,891	27,585
	Total	**224,490**	**170,392**	**(54,098)**
Major Research				
UW - Seattle Main Campus	6.00	293,646	187,252	(106,394)
WSU Pullman	6.00	121,662	146,988	25,326
	Total	**415,308**	**334,240**	**(81,068)**
	TOTAL	**1,294,719**	**1,243,478**	**(51,241)**

Table 2.10 Instructional Laboratory Summary – Class Laboratories + Open Laboratories

	Projected NASF	Existing NASF	Overage/ (Need)
Community Colleges (3,000 FTE and Under)			
Cascadia College	37,999	16,926	(21,073)
Centralia College	96,622	9,835	(86,787)
Peninsula College	50,862	81,629	30,767
Skagit Valley College	113,409	169,840	56,431
Yakima Valley College	119,257	184,829	65,572
Total	**418,150**	**463,059**	**44,909**
Community Colleges (Over 3,000 FTE)			
Bellevue College	139,107	190,249	51,142
Clark College	216,446	220,306	3,860
Columbia Basin College	209,046	172,285	(36,761)
Edmonds Community College	126,862	121,385	(5,477)
Everett Community College	210,026	263,823	53,797
Highline College	89,998	107,050	17,052
Shoreline Community College	111,752	97,217	(14,535)
Spokane Community College	451,936	352,908	(99,028)
Spokane Falls Community College	102,394	209,177	106,783
Whatcom Community College	64,307	54,204	(10,103)
Total	**1,721,875**	**1,788,604**	**66,729**
Technical College			
Bates Technical College	332,499	297,471	(35,028)
Bellingham Technical College	223,722	203,986	(19,736)
Total	**556,221**	**501,457**	**(54,764)**
Four Year (Under 6,000 FTE)			
The Evergreen State College	125,012	135,112	10,100
UW - Bothell Campus	56,349	33,149	(23,200)
UW - Tacoma Campus	55,995	26,266	(29,729)
WSU Everett	7,279	16,864	9,585
WSU Spokane	48,922	49,318	396
WSU Tri-Cities	49,784	19,991	(29,793)
WSU Vancouver	84,717	55,718	(28,999)
Total	**428,058**	**336,418**	**(91,640)**
Comprehensive			
Central Washington University	172,444	159,046	(13,398)
Eastern Washington University Main Campus	184,550	140,845	(43,704)
Western Washington University	280,138	252,712	(27,426)
Total	**637,132**	**552,603**	**(84,528)**
Major Research			
UW - Seattle Main Campus	707,956	542,220	(165,736)
WSU Pullman	505,274	348,087	(157,187)
Total	**1,213,231**	**890,307**	**(322,924)**
TOTAL	**4,974,666**	**4,532,448**	**(442,217)**

Table 2.11 Instructional Space Summary – Classrooms, Class Laboratories + Open Laboratories

	Projected NASF	Existing NASF	Overage/ (Need)
Community Colleges (3,000 FTE and Under)			
Cascadia College	89,593	43,545	(46,048)
Centralia College	130,811	51,956	(78,855)
Peninsula College	68,654	143,740	75,086
Skagit Valley College	158,249	256,789	98,540
Yakima Valley College	175,615	243,326	67,711
Total	**622,922**	**739,356**	**116,434**
Community Colleges (Over 3,000 FTE)			
Bellevue College	285,212	361,101	75,889
Clark College	310,530	348,720	38,190
Columbia Basin College	278,423	298,702	20,279
Edmonds Community College	207,923	173,855	(34,068)
Everett Community College	288,385	349,782	61,397
Highline College	198,152	203,896	5,744
Shoreline Community College	180,243	152,896	(27,347)
Spokane Community College	605,409	436,888	(168,521)
Spokane Falls Community College	162,561	322,416	159,855
Whatcom Community College	122,097	101,070	(21,027)
Total	**2,638,935**	**2,749,326**	**110,391**
Technical College			
Bates Technical College	351,430	310,285	(41,145)
Bellingham Technical College	254,979	238,865	(16,114)
Total	**606,409**	**549,150**	**(57,259)**
Four Year (Under 6,000 FTE)			
The Evergreen State College	187,180	219,856	32,676
UW - Bothell Campus	156,977	84,928	(72,049)
UW - Tacoma Campus	159,110	96,475	(62,635)
WSU Everett	10,144	35,064	24,920
WSU Spokane	74,114	86,960	12,846
WSU Tri-Cities	74,270	50,007	(24,263)
WSU Vancouver	123,072	114,234	(8,838)
Total	**784,868**	**687,524**	**(97,344)**
Comprehensive			
Central Washington University	288,349	361,438	73,089
Eastern Washington University Main Campus	323,762	248,424	(75,338)
Western Washington University	488,899	420,301	(68,598)
Total	**1,101,010**	**1,030,163**	**(70,847)**
Major Research			
UW - Seattle Main Campus	1,551,338	1,025,270	(526,068)
WSU Pullman	791,522	581,110	(210,412)
Total	**2,342,860**	**1,606,380**	**(736,480)**
TOTAL	**8,097,004**	**7,361,899**	**(735,106)**

2.5 CLASSROOM TRENDS + CLASSROOM TECHNOLOGY

Today's millennial and Generation Z students have grown up as digital natives with access to information at their fingertips. Learning is active, connected, and social. As response to this generational shift, classroom spaces are no longer front-facing, textbook-based, lecture environments, rather they are active, flexible, and engaging learning spaces. However, due to the rapid-changing pace of technology, student demands, faculty interests, high life cycle cost, and the phasing of installation across university environments, standardization is often an unachievable goal. Universities must maintain a balance between departmental standardization and allowing for differentiation, and it is pertinent to remain flexible in providing specialization when it is required or beneficial to a program. Flexible campus technology efforts that accommodate program deviations influence best practices and cross-pollination of ideas and innovations.

Image from Kent State University – Integrated Sciences Building

In order to maintain an effective, long-term campus technology strategy, a balance of standardization versus differentiation must be understood, supported, and appropriately funded. With contemporary pedagogies, needs and requirements of today's students are constantly evolving, which challenges the ability to sustain a balance. Universities need to continue to adapt technological solutions to meet the evolving needs and teaching styles in the learning environment, extending to room acoustics, lighting, and furniture, as well as transforming the role of the instructor. Modern technology must be seamless, agile, and user-friendly, as the instructor is oftentimes the novice when it comes to the fluent use of enhanced learning technologies. Such technology excites an active-learning environment where students are able to transition from lecture, to group, to socratic-style seating during one module. Therefore, learning spaces must be easily adaptable to new equipment and modes of teaching and learning.

In support of creating collaborative and engaging learning environments, all campus spaces must be wireless and available technology should allow for easy connection to remote learners and other learning opportunities.

Image from Duke University – School of Nursing

Hardware and software should support multiple personal devices per student and be capable of display, annotation, and documentation in both large and small-group models. Although digital annotation and documentation should be made available, it should not compete with or impede on whiteboard space for instructors and students. Power should be easily accessible and located waist-height, whether on the wall or through mobile outlets. Within learning spaces, screens must be visible to all students and should be generously sized, maximum resolution, and automated. Larger rooms require multiple screens or LCD displays on different walls with the ability to display different information on each. Screen size(s) should coordinate with ceiling height and power access. Rooms with higher ceilings can accommodate larger screen and image size, and the installation of an AC power duplex outlet attached by flexible conduit to a junction box in the ceiling allows

for the future installation of data projector(s). When possible, rooms that seat 40 or more students should have dual-image projection or mobile display abilities. Technology has a tremendous impact on sightlines, and spaces with multiple fronts-of-room have varying sightlines that need to be accommodated. To that end, depending on the room's dimensions and physical size, flexible classrooms need anywhere between 25 and 40 NASF per student seat. Rooms that have capacities of over 120 students would be on the lower end of this range and rooms with lower capacities of 40 students or less would be on the upper end of this range.

Image from University of Delaware – Interdisciplinary Science + Engineering

In the current electronic world, media capture is also of importance. Lecture-capturing capabilities help to create equity in the learning environment as they allow students with varying learning abilities to tailor lessons to fit their personal learning style and pace. Lecture capture and retrieval tools have proven to have a positive influence on students' grades and course retention. There are inherent challenges in supporting media capture and indexing for future use, such as faculty adoption and training, securing intellectual property, storage, network bandwidth, indexing and use of metadata, and general maintenance. Hardware and software tools that create online instructional materials that can be viewed outside of the classroom must also be available, accessible, and scalable. Many universities are installing "one-button studios" for both faculty and students to record and edit learning content.

As learning spaces become more active and flexible, proper acoustics is key to muting excessive background noise or reverberation in the classrooms that otherwise interferes with speech communication and presents an acoustical barrier to learning. When considering the acoustics of technology, it is important to consider the noise associated with powering and utilizing the tools. Noise reduction and absorption must also be considered when specifying fixtures, furniture, and finishes. Teamed with good technology, proper acoustics allows students to listen and participate in both instructor- and peer-led activities, enhances the learning experience of those with hearing difficulties, and can be utilized to compensate for suboptimal existing acoustic conditions.

Image from University of Maryland – Edward St. John's

For proper classroom-lighting design, it is important to know and understand the technology that goes into each learning space and how it will be utilized. Classroom lighting should include access to both natural daylight and multi-modal lighting, both of which should be easily controlled and of optimal energy performance. Rooms can be zoned based on access to natural light, with each fixture responsive to the amount of light at any time and location. Although natural daylight optimizes learning, it can often compete with digital tools. Therefore, operable shades should be provided at all glazing to support glare control and to provide another layer of flexibility for instructors. In addition, overhead lighting should be a mix of direct, indirect, and task lighting to accommodate different means and methods of instruction.

Furniture is a vital component of an active learning environment, and the way in which furniture integrates with available instructional technology is important in today's learning spaces. To allow for flexibility, furniture must be mobile, versatile, durable, and adjustable. Learning spaces need to be large enough to accommodate both analog and digital supplies and allow for team-based activities. The location and availability of power should not dictate furniture placement or mobility. Aside from student seating, the instructor's footprint should be considered when

coordinating furniture with technology. To promote active and adaptive learning environments, faculty must not be tied to a large, tethered, technology platform, and hardware should be stored in credenzas along the wall in places that do not interfere with the instructor's ability to teach and access individual students. Technology should be coordinated with furniture design in consideration of sightlines, travel distance, acoustics, and flexibility.

Image from University of Maryland – Edward St. John's Learning Center

The role of the instructor has changed over time from a disseminator of knowledge to a facilitator of learning. To provide instructors with a cohesive environment, neither technology nor furniture should create barriers between teaching and learning. Digital media access allows students to quickly navigate course material, discover content, and actively share experiences with those students both inside and outside of the classroom. It is important for instructors to have training with available instructional technologies and learn how to enhance teaching and learning both inside and outside of the classroom. As new models and methods are released, it is pertinent to provide continuing education on classroom technologies in order to maximize students' learning experiences and maximize financial investments in the equipment. As the instructor's role transitions, the ability to move around the classroom and interact with technology and students influences sightlines, pathways, and audiovisual capabilities and drives the need for more square feet per student, all of which support instructor-student and student-student learning.

Students in today's digital age are excited by technology and the tools that make learning accessible and digestible. As technology continues to adapt at a rate that far outpaces the shelf life of a classroom environment, it is pertinent to maximize the efficiency of learning spaces and create flexible and adaptable learning spaces that are enough to complement pedagogies of today and tomorrow.

2.6 DEFINITION OF TERMS

2.6.1 General University Classroom Utilization

Current Weekly Student Contact Hours (WSCH) – a unit of measure that represents the number of hours of scheduled instruction each week multiplied by the number of enrolled students for the most recent fall semester.

Multiply by % FTE Increase Budgeted – the fiscal growth factor by which the current academic year state-supported enrollments are budgeted.

Expected Next Biennium Fall WSCH – a WSCH projection for the biennia, determined by multiplying the current WSCH by the % FTE Increase Budgeted.

OFM Utilization Space Standard (NASF per WSCH) – a calculation of projected classroom space need based on campus type and utilization expectations. The net assignable square feet per weekly student contact hour can be found by dividing the expected NASF per student seat by the expected weekly seat hours.

Projected Classroom NASF – a projection of how much space should be allocated to classrooms. The projection is determined by multiplying the expected most recent Fall WSCH by the OFM Utilization Space Standard.

Existing Classroom NASF – the total net assignable square footage of the institution's existing classrooms. Net assignable square feet can be found by measuring inside wall to inside wall.

Overage / (Need) – the difference between the projected classroom NASF and the existing classroom NASF is the classroom space deficit or surplus.

Existing NASF per WSCH – this calculation measures the existing classroom NASF divided by the Current or Next Biennium expected Fall WSCH to provide an indication of how well existing space meets the OFM Utilization Space Standard.

2.6.2 Instructional Lab Utilization

Current Weekly Student Contact Hours (WSCH) – a unit of measure that represents the number of hours of scheduled instruction each week multiplied by the number of enrolled students for the most recent fall semester.

Multiply by % FTE Increase Budgeted – the fiscal growth factor by which the current academic year state-supported enrollments are budgeted.

Expected Next Biennium Fall WSCH – a WSCH projection for the ensuing biennia, determined by multiplying most recent Fall WSCH by the % FTE Increase Budgeted.

WSCH for Engineering, Industrial and Technical (Community College + Technical College) – the total weekly student contact hours derived from scheduled Engineering and/or Industrial + Technical Programs instruction.

WSCH for Agriculture – the total weekly student contact hours derived from scheduled Agriculture instruction.

WSCH for Veterinary Medicine – the total weekly student contact hours derived from scheduled Veterinary Medicine instruction.

OFM Baseline Space Standard (NASF per WSCH) – a baseline space standard based on campus type and OFM utilization expectations. The baseline is found by dividing the expected class laboratory NASF per student seat by the expected weekly seat hours.

OFM Add-on HSDP Space Standard (NASF per WSCH) – high space demand programs receive additional space metric allocations. Disciplines eligible for Add-On metrics: Agriculture, Engineering, Vet Medicine, Technical + Industrial Programs (Community College + Technical College).

On-Campus Student FTE – full-time equivalency of on-campus students.

OFM Open Laboratory NASF per FTE – expected NASF of open laboratory space per full-time equivalency student, based on campus type.

OFM Open Laboratory Add-on NASF per FTE – additional NASF per FTE metric for the eligible disciplines: Agriculture, Engineering, Vet Medicine, Technical + Industrial (Community College + Technical College).

Projected Instructional Laboratory NASF – a projection of how much space should be allocated to instructional laboratories. This projection is determined by applying the instructional laboratory space metrics to the Next Biennium Expected Fall WSCH and the open laboratory metrics to the On-Campus Student FTE.

- The **OFM Baseline Space Standard** metric is applied to the percentage of WSCH not allocated for the specified disciplines.
- The **Add-On Space Metric** is applied to the percentage of WSCH allocated for the specified disciplines.
- The **OFM Open Laboratory NASF per FTE** metric is applied to the percentage of On-Campus FTE not enrolled in specified discipline programs.
- The **Open Lab Add-On Space Metric** is applied to the percentage of On-Campus FTE enrolled in the specified discipline programs.

Existing Instructional Laboratory NASF – the total net assignable square footage of the existing class laboratory space. Net assignable square feet can be determined by measuring inside wall to inside wall.

Overage / (Need) – the difference between the projected instructional laboratory NASF and the existing instructional laboratory NASF is the existing instructional laboratory space deficit or surplus.

Existing NASF per WSCH – this calculation measures the existing instructional space NASF divided by the expected Fall 2021 WSCH to provide an indication of how well existing space meets the OFM Utilization Space Standard.

2.6.3 Classroom Utilization Expectations + Budgeted Space Metrics

Weekly Room Hours (WRH) – the number of hours a room is utilized for scheduled instruction each week.

Calculation: number of days a week the course meets multiplied by the course duration in hours

Percent Seats Filled – the number of students enrolled in the course as a percentage of the total number of student seats in the room.

Calculation: number of students enrolled in the course divided by the number of student seats in the room

Weekly Seat Hours – a unit of measure that combines the weekly room hours and percent of seats filled.

Calculation: weekly seat contact hours divided by the number of student seats in the room

Net Assignable Square Feet (NASF) per Seat – the amount of space allotted in a room for each potential student.

Calculation: a room's NASF divided by the number of student seats in the room

Service Space – percentage of classroom NASF allocated for service space. Classroom service space directly serves one or more classrooms as adjacent extension of the activities in that space.

NASF per WSCH – the amount of space in a room per weekly student contact hour.

Calculation: NASF per Seat divided by Weekly Seat Hours

2.6.4 Class Laboratory Utilization Expectations + Budgeted Space Metrics

Weekly Room Hours (WRH) – the number of hours a room is utilized for scheduled instruction each week.

Calculation: number of days a week the course meets multiplied by the course duration in hours

Percent Seats Filled – the number of students enrolled in the course as a percentage of the total number of student seats in the room.

Calculation: number of students enrolled in the course divided by the number of student seats in the room

Weekly Seat Hours – a unit of measure that combines the weekly room hours and percent of seats filled.

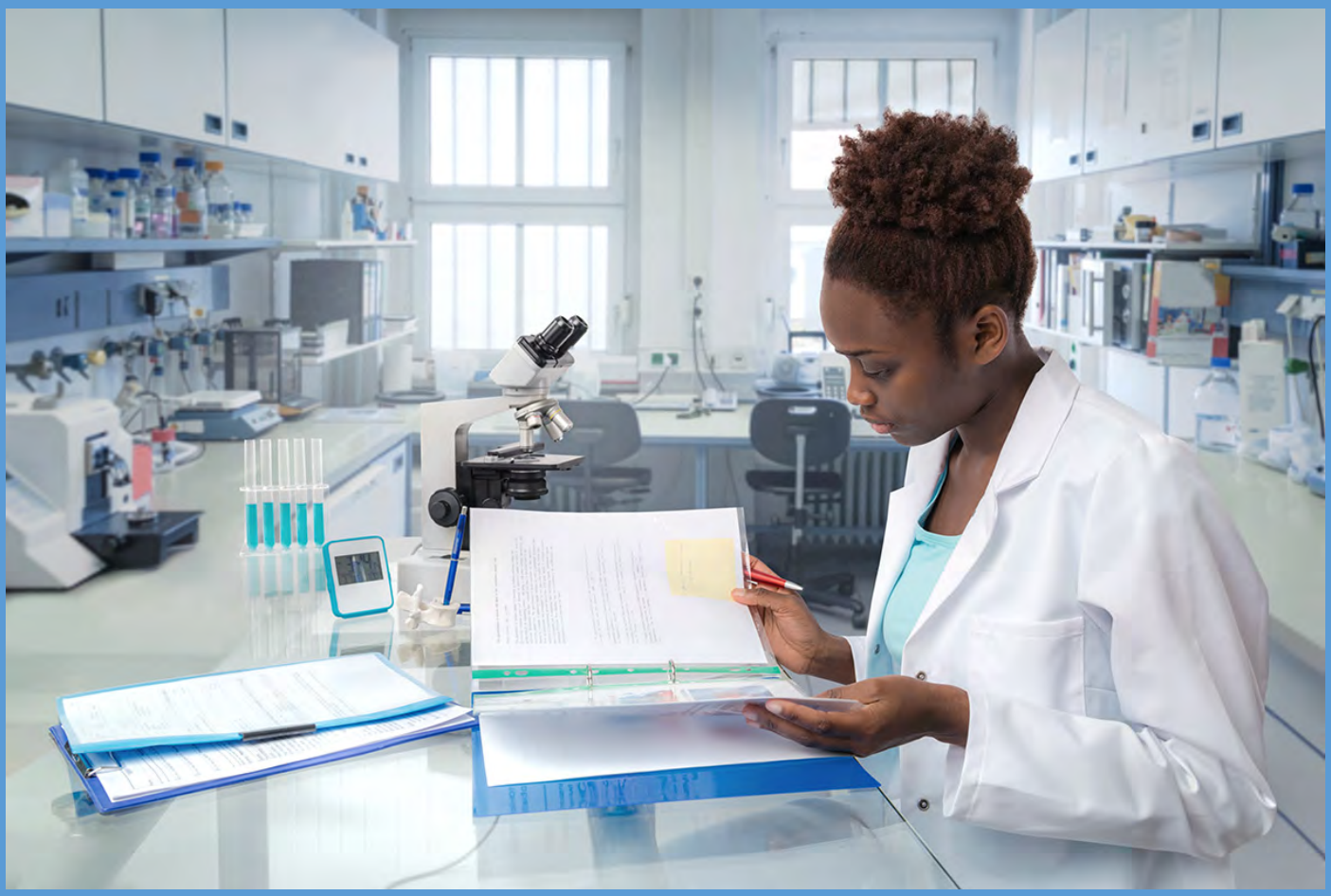
Calculation: weekly seat contact hours divided by the number of student seats in the room

Net Assignable Square Feet (NASF) per Seat – the amount of space allotted in a room for each potential student.

Calculation: a room's NASF divided by the number of student seats in the room

Baseline Space Standard (NASF per WSCH) – a baseline space standard based on campus type and utilization expectations. The baseline is found by dividing the expected class laboratory NASF per student seat by the expected weekly seat hours.

Open Laboratories NASF per FTE – expected NASF of open laboratory space per full-time equivalency student, based on campus type. Includes service space.



RESEARCH SPACE

Unlike instructional space, there are no clear trends with research laboratories. Research laboratories include the 250-255 FEPG room use codes. Two other space considerations beyond the laboratory itself are core laboratories (with a business plan, and coded as 250-255 space) and vivaria space (animal quarters, coded as 570-575 space). The maturity level of the research enterprise helps determine the degree to which core laboratories exist, and the type of research conducted determines whether there is a need for vivaria space.

3.1 SPACE ALLOCATION CONSIDERATIONS

3.1.1 General Research Discussion

Research labs are spaces used for experimentation or training in research methods and observation, and they are not typically scheduled. The consultants requested a large quantity of data regarding research activity on the campuses, most of which was used as backup material to test a variety of assumptions. At this level of space analyses, broad generalities were considered to effectively understand existing data and when proposing space allocations.

Research is inherently complicated. When most people think of research space, they picture a scientific wet lab, meaning a space where biological matter, chemicals, or other materials are tested. The lab usually is equipped with benches, running water, ventilation (fume hoods), various scopes and equipment, gases, and piped utilities. Realistically, research takes on many forms, all of which require numerous lab types. As such, the traditional nomenclature of wet lab and dry lab is not always adequate in describing many of the labs needed today. The term dry lab is commonly used to reference faculty that only require an office to conduct their research. While that may have been true years ago, today those researchers need additional collaboration space (different from study/collaboration space), which is often termed as a collaboratorium. The current push towards collaborative and interdisciplinary activity creates a need for those types of space. While an allocation per principal investigator (PI) would over-generate the need for space, a pure allocation of ~850 NASF would be adequate for an entire interdisciplinary group or a mathematics department. In addition, disciplines that are normally seen as needing only dry lab space (i.e. computational labs) now have a need for wet lab space (i.e. wet labs in bioinformatics). Because research data is not always available, wet labs are required to create the data needed to run the analyses. Social scientists are also increasingly requiring wet lab space.

Research lab sizes can be inconsistent, especially when considering disciplines like Engineering, Agriculture, and Veterinary Medicine. Lab space ranges from the typical allocation of ~1,000 NASF, to structures requiring 25,000 NASF or more. Agriculture research can take the form of a traditional wet lab, but others look like a manufacturing plant, barn, greenhouse, winery, and the like. Veterinary Medicine labs also range in size, dependent upon the size of the animals the space houses—this can vary from small animals to horses and large farm animals.

A principal investigator (PI) is the person who writes the grant submission and subsequently wins the grant award to conduct the specified research outlined in the grant submission. Quite often, the PI is a tenured/tenure-track (T/TT) faculty member. Other times they are a research faculty member whose primary focus is research and not instruction. It is import to understand the PI count in order to determine research needs rather than just the T/TT faculty count.

When faculty are first hired they may be at the beginning of their career, and so a modest lab setup is sufficient. However, when key PIs are hired, they may be accompanied by 30 or more persons on their research team. To complicate the research issue further, a proven fact is that undergraduate students who engage in research early in their academic tenure have a greater chance of completing their degree. For this reason, many institutions want to provide undergraduates with research experiences, consequently creating an additional research space demand.

Research space is normally sized around the research team. A general rule of thumb is a PI plus six, which includes the PI, scientists, post-docs and graduate research students. It is understood that there are exceptions to this rule; however, it would be impossible to reach specificity at this level of analysis.

The interdisciplinary and transdisciplinary nature of research creates the need for third spaces. For example, a PI can have their own research lab, but they also may be part of other research endeavors, including interdisciplinary activities, research centers, and institutes. These activities may be virtual (needing no additional space), but others take place in reality and have physical space needs. This need may take the form of only an office environment with lab needs (if any) provided by departmental labs. Others may require specific research labs.

Faculty pursuing tenure require research, and in turn, many require research space. This is one reason why research space may be seen in a non-research-intensive campus—while teaching could be the institution's primary focus, it is not to the exclusion of conducting research.

As a final point of discussion, large institutions with satellite campuses, such as the Washington State University, move research activities to satellite campuses to decompress the main campus or expand research opportunities. When this occurs, the primary program and mission of the main institutional campus are infused at the satellite campus. Thus, while the enrollment at a satellite campus may be small, there could be significant space dedicated to research.

3.1.2 Related Space Needs

Core facilities involve units that have a business plan developed for charging back the use of the facility, generally being non-profit entities. As a research enterprise becomes more developed, the probability of core facilities increases.

Ultimately, these facilities save institutions money and space because not every PI needing specific equipment has to purchase their own with a space requirement to house the equipment. Institutions that do not have a robust research enterprise do not have an immediate need for core facilities. In fact, it is only after their research grows when the demand for specific pieces of equipment and the need to create core lab(s) is realized. Other examples of core facilities include spectrometry labs, freezer farms, and NMRs (nuclear magnetic resonance spectrometers). At this level of analysis, only a percentage of research space needs is typically used to estimate core facility needs.

The need for vivaria space depends on the types of research programs at an institution. Biological Sciences, Medicine, Biomedical Engineering, Veterinary Medicine, Agriculture, and Pharmacology are all examples of programs that require vivaria space. Most of these facilities need to be accredited, and there are specific requirements dictating the placement of certain facilities within the vivaria. There are also air exchange and lighting control requirements, amongst others. Many research-intensive institutions have multiple vivaria for specific species or sizes of animals. There are fish farms, mice and rats, aviaries, and the like, all of which require unique spaces. As with core facilities, a percentage of the research space needs is typically used to estimate vivaria needs.

3.1.3 Research + Development Expenditures

Quite often, the need for research space is based on the research and development (R+D) expenditures generated within the space, wherein productivity is measured in R+D dollars per square foot. In the consultant's experience, this method is questionable because R+D dollars cannot determine the need for space, and dollar amounts are not necessarily representative of how much the campus truly spent. There are many programs that bring in a good portion of R+D money that do not require any space on campus, a good example being Education programs. Conversely, there are programs that bring in very little money but require a lot of space; a common example is the Physics programs. There are also dollar-driven programs that are capable of being very efficient with space, such as Colleges and Schools of Medicine. The natural sciences are often not as largely funded as Medicine, but the unit has many research needs—Engineering is sometimes found in the same situation. Some institutions outsource many of their research activities, meaning there is no space or personnel implications onsite. The money that pays for the outsourcing is referred to as pass-through money.

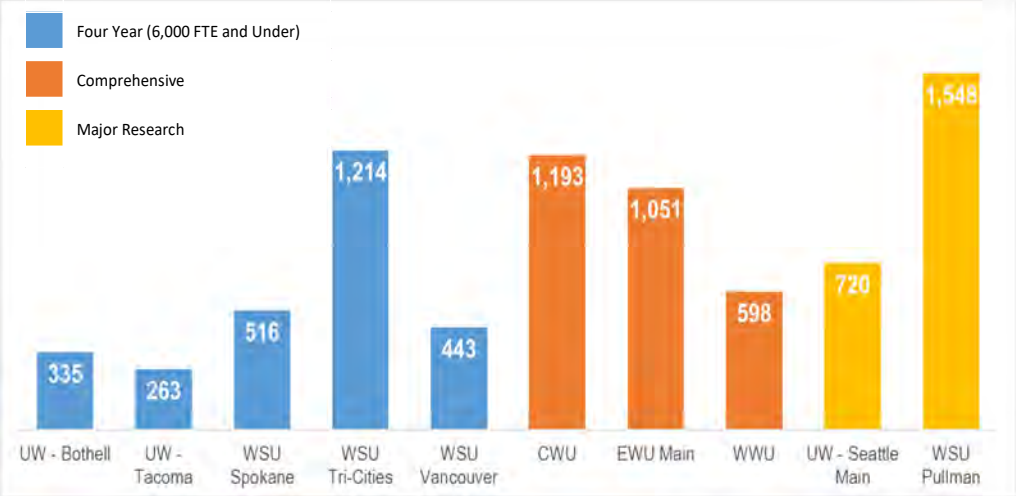
That said, while the consultant team requested expenditure information from each institution, it was only used to compare the institutions.

3.2 RECOMMENDED SPACE ALLOCATION

Modern research lab facilities are based on a 320 NASF module (10'8" x 30', inside wall to inside wall), with as much as 100% or more of the lab module needed for research support and service spaces. In keeping with this dimension, proposed space allocations represent increments of this square footage. That said, the following recommendations are not design guidelines but are a general rule of thumb or average. In analyzing the average NASF per PI, there was not a strong trend line.

In addition to the preceding factors, another reality is the inconsistency of how space is classified. For example, greenhouses should be classified as 580 room use code, regardless of whether the greenhouse is used for instruction, research, or to support the campus. A function code helps to delineate its purpose, and the need for greenhouse space would then be justified as a separate space allocation, apart from the research lab category (much like the need for vivaria space). The same can be said for barn structures, which have yet another room use code.

Figure 3.1 Average NASF per Principal Investigator



In consideration of the above nuances, Table 3.1 displays recommended space allocations for research labs, core facilities, and vivaria space. The space allocation is based on square feet per PI, with additional allocations for specific disciplines, core facilities, and vivaria space. These allocations do not include office space commonly referred to as dry lab space as this is included under Office Space. It does include write-up space for graduate research associates/assistants and post-docs.

Table 3.1 Recommended Space Allocations for Research

Metric:	4 Year Under 6,000 FTE	Compre-hensive	Major Research	Formula
Space Per PI	640	1,280	960	(PI) * (Space per PI)
Add-on: Percentage for Agriculture + Veterinary Medicine, if needed	30%		30%	((PI) * (Space per PI))* (1+ .30)
Percentage for Core Facilities			10%	(Space per PI + Add-on if needed) * (% for Core)
Percentage for Vivaria	15% or 1,500 minimum	10%	10% if Existing Research NASF > 1M; 15% if Existing Research NASF <1M	(Space per PI + Add-on if needed) * (% for Vivaria)

Example Calculation

Research Labs 10 PIs X 960 NASF = 9,600 NASF Agriculture + Vet Med = Yes 9,600 NASF X (1 + 0.30)	=	12,480 NASF
Core Facilities, if needed 12,480 NASF X 10%	=	1,248 NASF
Vivaria, if needed 12,480 NASF X 15%	=	1,872 NASF
Total Research Need 12,480 NASF for Labs 1,248 NASF for Core Labs 1,872 NASF for Vivaria	=	**15,600 NASF**

3.3 INSTITUTION DATA NEEDED

To determine the space allocation and subsequent availability of space, the following data was required:

- Room inventory summarized for each of the two space uses—research labs and vivaria; this should exclude internal laboratory or vivaria suite circulation space.
- The number of principal investigators who are tenured/tenure-track faculty; this should be an unduplicated headcount.
- The number of non-tenured/tenure-track faculty who are principal investigators; this should be an unduplicated headcount.

The total number of T/TT faculty and researchers are required in order to have a suitable point of comparison. The consultant team does not expect the numbers to represent 100% or more of these counts.

3.4 FORM – AVAILABILITY OF SPACE

AVAILABILITY OF SPACE - Research Laboratories

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

	Total	Principal Investigators*	Increase in No. of PIs	Future PIs
Full-time Tenured/ Tenure-Track Faculty	0	0	0	0
Full-Time Researchers that are not Tenured/Tenure-Track Faculty	0	0	0	0

*Unduplicated

Total		**0**	**0**	**0**
Agriculture or Vet Medicine	Yes or No		Vivaria	Yes or No
Space Allocation per PI				
Add-on for Agriculture + Vet Medicine		0%		0%
Percentage for Core Facilities		0%		0%
Percentage for Vivaria		0%		0%
Total Proposed NASF		**0**		**0**
Existing NASF (250-255)**		0	** Should exclude interior lab/vivaria circulation space.	
Existing Vivaria NASF (570-575)**		0		
Total NASF		**0**		
Overage / (Need)		**0**		**0**

3.5 OUTCOMES

The following table illustrates the outcomes.

Table 3.2 Research Space Allocation + Availability of Space

College/Campus	Space per PI	Add-on for Agriculture + Vet Med	Percent -age for Core	No. of PI's	Projected NASF for Research Labs	Existing Research Lab NASF	Research Lab Overage/ (Need)	Percent age for Vivaria	Projected NASF for Vivaria	Existing Vivaria NASF	Vivaria Overage/ (Need)	Projected NASF	Existing NASF	Overage/ (Need)
Four Year (Under 6,000 FTE)														
UW - Bothell Campus	640	0%	0%	33	21,120	11,062	(10,058)	0%	0	0	0	21,120	11,062	(10,058)
UW - Tacoma Campus	640	0%	0%	33	21,120	8,666	(12,454)	0%	0	0	0	21,120	8,666	(12,454)
WSU Spokane	640	30%	0%	101	84,032	52,153	(31,879)	15%	12,605	14,051	1,446	96,637	66,204	(30,433)
WSU Tri-Cities	640	30%	0%	37	30,784	44,928	14,144	0%	0	0	0	30,784	44,928	14,144
WSU Vancouver	640	0%	0%	61	39,040	27,003	(12,037)	15%	5,856	1,285	(4,571)	44,896	28,288	(16,608)
				Total	**196,096**	**143,812**	**(52,284)**		**18,461**	**15,336**	**(3,125)**	**214,557**	**159,148**	**(55,409)**
Comprehensive														
Central Washington University	1,280	0%	0%	41	52,480	48,925	(3,555)	10%	5,248	5,354	106	57,728	54,279	(3,449)
Eastern Washington Main Campus	1,280	0%	0%	20	25,600	21,017	(4,583)	10%	2,560	1,785	(775)	28,160	22,802	(5,358)
Western Washington University	1,280	0%	0%	102	130,560	60,961	(69,599)	10%	13,056	1,758	(11,298)	143,616	62,719	(80,897)
				Total	**208,640**	**130,903**	**(77,737)**		**20,864**	**8,897**	**(11,967)**	**229,504**	**139,800**	**(89,704)**
Major Research														
UW - Seattle Main Campus	960	0%	10%	2,017	2,129,952	1,452,414	(677,538)	10%	193,632	145,919	(47,713)	2,323,584	1,598,333	(725,251)
WSU Pullman	960	30%	10%	500	672,000	773,939	101,939	15%	93,600	69,820	(23,780)	765,600	843,759	78,159
				Total	**2,801,952**	**2,226,353**	**(575,599)**		**287,232**	**215,739**	**(71,493)**	**3,089,184**	**2,442,092**	**(647,092)**
				TOTAL	**3,206,688**	**2,501,068**	**(705,620)**		**326,557**	**239,972**	**(86,585)**	**3,533,245**	**2,741,040**	**(792,205)**

PI = Principal Investigator

3.6 DEFINITION OF TERMS

Existing Principal Investigators (PI) who are Tenured/Tenure-Track – all full-time tenure/tenure-track faculty who are principal investigators, defined as someone who pursued and then won an award to conduct research.

Existing Principal Investigators who are not Tenured/Tenure-Track – all full-time principal investigators who are not considered tenure/tenure-track faculty. A principal investigator is defined as someone who pursued and then won an award to conduct research.

OFM Space Allocation per PI – the total amount of space allocated per PI based upon college/campus classification.

Existing NASF (250s) – total existing net assignable square feet coded in the FEPG 250 series (research laboratory and research laboratory service) excluding circulation.

Existing Vivaria NASF (570s) – total existing net assignable square feet coded in the FEPG 570 series (animal quarters and animal quarters service) used for research excluding barns and excluding circulation.

Overage / (Need) – the difference between the total space allocation and the existing NASF of 250 and 570 space is the research space overage or need.

OFFICE SPACE

Of all the space categories, this space category is the easiest to determine and yet the hardest to scale. This space category encompasses the entire 300 room use code series in the FEPG, excluding internal suite circulation. The space allocation recommendations are not design guidelines as they are larger than modern office design guidelines; rather, they are an acknowledgement that there are legacy spaces on campus constructed in a different era where the size of the office has some equivalency to the stature of the person occupying the office. The allocation includes office space, office service, and conference room space.

4.1 SPACE ALLOCATION CONSIDERATIONS

4.1.1 Office Design + Open-Office Landscapes

Office space is one of the hottest topics in higher education in addition to active learning classrooms. The corporate world has embraced open-office landscapes at a rapid pace. Higher education, however, is not as ready to create these environments. In spite of the academic side of the house holding onto private offices, the administrative side of higher education have reverted to open-office landscapes, such as in administration and finance or in certain student service areas.

Some of the initial thinking was that there would be a space savings when creating open-office environments. However, when one considers the amount of internal suite circulation space, collaboration space, and private spaces, there is little space savings unless the department is of larger size (over 30 full-time employees). Even though it may not save on space, it does create more multi-user spaces rather than single-user spaces. This is known as more “we” space than “me” space. To confuse the issue further, there are studies that have made the case that open-office landscapes degrade concentration, productivity, and inhibit the original goal of collaboration. Therefore, while open offices may be good for some disciplines, they may not necessarily be good for all.

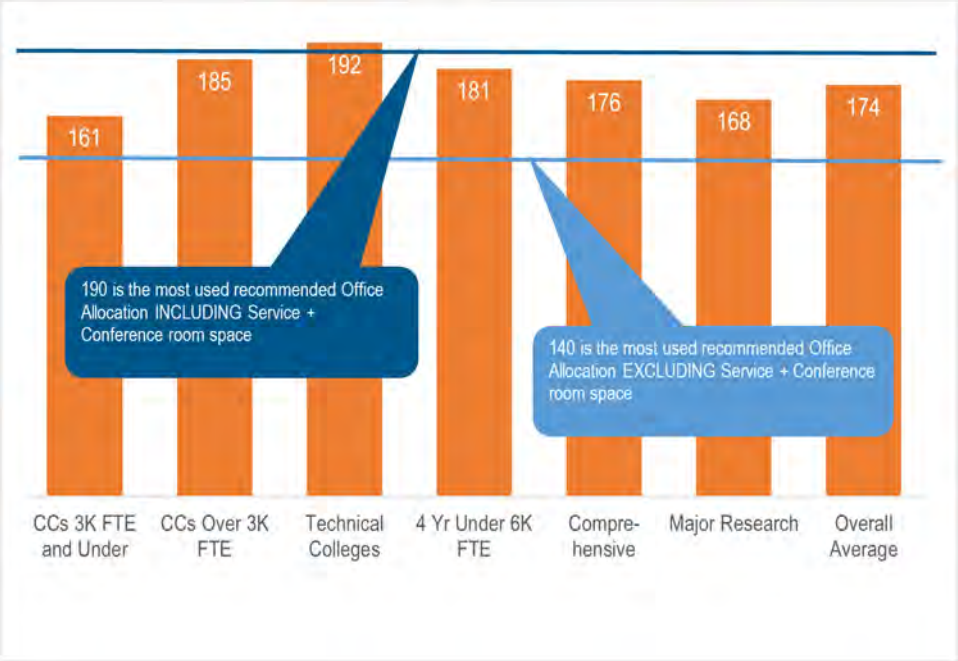
As a final note on office design, daylight equity is important in office environments. So rather than having windows accessible only in the private offices, good design suggests that private offices belong on the interior using materials that will allow for natural daylight access within the private offices as well as in the open-office interiors. These materials can include glass doors, glass walls, transom windows, etc. This transformation in office design has proven quite effective for the occupants.

The space allocations recommended for office space are intended to be design agnostic. For example, while 65 NASF is the recommended allocation for part-timers, this could be interpreted as two people sharing a private office or a single open office space.

4.1.2 Legacy Space

Today's office space metrics are less than historical space metrics. A couple of decades ago, it was common to see 140 to 150 NASF per full-time faculty or professional, non-faculty person. At most public institutions, this number has dropped to around 110 to 120 NASF per full-time faculty or professional, non-faculty person. While designing for new construction or renovation, lower space per person allocations is appropriate. However, there is a reality that a lot of existing office spaces will not be renovated or cannot be downsized without significant capital investment. To apply smaller space allocations per person would incorrectly show that most campuses have a surplus of office space. To that end, the space allocations have been set higher to accommodate the legacy office spaces at an institution. Figure 4.1 shows the average office room size for each campus classification and compares them to the recommended space allocation. In all cases, the existing office room size averages exceed the proposed allocation.

Figure 4.1 Comparison of the Proposed Office Allocation to Existing Office Room Size Average



4.1.3 Space Classification Issues

A few issues with office space classification consequently produce what may seem like office space overages. The first issue is that the FEPG promotes the coding of internal suite circulation space as office service space. The problem with this practice is that there are not space metrics or allocations that can uniformly provide for this space. Normally, internal suite circulation is scaled based upon the size of the suite or the existing building structure. The consultant typically recommends that this space be assigned a unique space code that allows for the removal of this space for a study of this nature. For office suites, this internal circulation can range between 20% and 40% of the total amount of space allocated as office space.

The other issue is that some offices have resource centers, testing centers, or other additional space allocations that are required to serve a designated institutional population. Units that have these types of space include, but are not limited to, Career Development Centers, Testing Centers, Tutoring Centers, International Student offices, Study

Abroad offices, LGBTQ offices, and Diversity offices. The FEPG suggests coding this as office service space. As with internal suite circulation, coding this space to office service will demonstrate that the unit has too much office space. Office space allocations are not designed to deal with these exceptions. Other space codes to consider would include meeting space (680), open laboratory space (220), study space (410), or media production (530).

4.2 RECOMMENDED SPACE ALLOCATION

The proposed space allocation includes space for offices, office service, and conference rooms. Office service includes spaces such as workrooms, office supply closets, departmentally assigned printer/copy rooms, and break/lounge rooms. Conference rooms includes departmentally assigned or shared conference rooms. This category should not include boardrooms (typically found in the Office of the President and some Schools/Colleges of Business) and large meeting rooms that are rented out or used for events.

On average, about 30% of the existing office space category is attributed to service space and conference room. For the most common used space allocation of 190 NASF, 140 NASF is allocated to offices and the remaining 50 NASF is allocated to service and conference room space. At this level of an assessment, the 50 NASF may over-generate need in these categories. This type of space is typically shared between departments or allocated on a floor-by-floor basis. The degree to which this space is shared cannot be ascertained at this level of analysis but is determined during a building program-level exercise. Part-time workers were assigned a workstation of 65 NASF and graduate teaching assistants were assigned 40 NASF. These space allocations are within normal ranges of most guidelines.

There is not an allocation of space for the following employee positions: Service Occupations; Sales and Related Occupations; Natural Resources, Construction, and Maintenance; and Production, Transportation, and Material Moving. These individuals are normally skilled crafts and service workers who normally do not receive an office as

they are working around the campus or in the shops. Creating a space allocation for these workers would over-generate the need for office space.

The consultants determined that it was not necessary to develop a set of space allocations based upon the type of institution; therefore, there is only one set of space allocations. It is assumed that each person is allocated one office allocation. Table 4.1 shows the space allocation per employee type.

Table 4.1 Recommended Space Allocation for Office Space

Employees by Assigned Position:	Space Allocation per Person	
	Full-Time	Part-Time
Management	300	190
Instructional Staff	190	65
Research	190	65
All Others (non-student)	190	65
Support Staff	160	65
Healthcare Practitioners and Technical	190	65
Graduate Assistants Teaching		40
Service Occupations	0	0
Sales and Related Occupations	0	0
Natural Resources, Construction, and Maintenance	0	0
Production, Transportation, and Material Moving	0	0

4.3 INSTITUTION DATA NEEDED

In order to make the collection of employee data easier, the consultants decided to use a form that the institutions have to fill out on an annual basis for the Integrated Postsecondary Education Data System (IPEDS). IPEDS is the core data collection program for

the National Center for Educational Statistics (NCES). IPEDS uses the Standard Occupational Classification (SOC) system to collect occupational activity. Table 4.2 displays the IPEDS Occupational Categories and shows how they translate to the Availability of Space form for Offices.

Exceptions

The employee category of Healthcare Practitioners and Technical should exclude hospital employees, as hospital space should not be included in the existing square footages. During the study, it also came to the attention of the consultant team that not all employees may be captured in the IPEDS report. If that is the case, those employees should be captured in the data request keeping with the IPEDS definition for each occupational category. Additionally, if there are offices assigned to outside organizations such as for food service or information technology (IT), one of two things should occur:

- Include the employees in the IPEDS report; OR
- Remove the office space as outside organization space

The consultant team's recommendation would be to remove the office space as outside organization space, as this would be quicker and no mistakes can be made about which contract laborers require office space.

To determine the space allocation and subsequent availability of space, the following data is required:

- Room inventory summarized for each of the three office space uses—offices, office service, and conference rooms; and
- The number of full-time and part-time employees by IPEDS Occupational Category

Table 4.2 Translation of the IPEDS Occupational Category to User Input Form

IPEDS Occupational Category	Employees by Assigned Position
Instructional Staff	Instructional Staff
Research	Research
Public Service	All Others (non-student)
Librarians, Curators, and Archivists	
Archivists, Curators, and Museum Technicians	All Others (non-student)
Librarians	All Others (non-student)
Library Technicians	All Others (non-student)
Student and Academic Affairs and Other Education Services	All Others (non-student)
Management	Management
Business and Financial Operations	All Others (non-student)
Computer, Engineering, and Science	All Others (non-student)
Community Service, Legal, Arts, and Media	All Others (non-student)
Healthcare Practitioners and Technical	Healthcare Practitioners and Technical
Service Occupations	Service Occupations
Sales and Related Occupations	Sales and Related Occupations
Office and Administrative Support	All Others (non-student)
Natural Resources, Construction, and Maintenance	Natural Resources, Construction, and Maintenance
Production, Transportation, and Material Moving	Production, Transportation, and Material Moving
Graduate Assistants Teaching	Graduate Assistants Teaching
Graduate Assistants Research	Not included, addressed in Research Laboratory Space
All Other	All Other

4.4 FORM – AVAILABILITY OF SPACE

AVAILABILITY OF SPACE - Office + Service Space

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

	Current Employees			OFM Space Allocation per Person		Total Space Allocation		
Employees by Assigned Position	Full-Time	Part-Time	Total	Full-Time	Part-Time	Full-Time	Part-Time	Total
Management			**0**	300	190	0	0	**0**
Instructional Staff			**0**	190	65	0	0	**0**
Research			**0**	190	65	0	0	**0**
All Others (non-student)			**0**	190	65	0	0	**0**
Support Staff	0	0	**0**	160	65	0	0	**0**
Healthcare Practitioners and Technical			**0**	190	65	0	0	**0**
Graduate Assistants Teaching*			**0**		40	0	0	**0**
Service Occupations			**0**			0	0	**0**
Sales and Related Occupations			**0**			0	0	**0**
Natural Resources, Construction, and Maintenance			**0**			0	0	**0**
Production, Transportation, and Material Moving			**0**			0	0	**0**
Total	**0**	**0**	**0**			**0**	**0**	**0**

**Graduate Assistants Research are addressed in Research Laboratory Space*

Existing NASF (300's)

Overage / (Need) **0**

	Expected Next Biennium Employees			OFM Space Allocation per Person		Total Space Allocation		
Employees by Assigned Position	Full-Time	Part-Time	Total	Full-Time	Part-Time	Full-Time	Part-Time	Total
Management			**0**	300	190	0	0	**0**
Instructional Staff			**0**	190	65	0	0	**0**
Research			**0**	190	65	0	0	**0**
All Others (non-student)			**0**	190	65	0	0	**0**
Support Staff			**0**	160	65	0	0	**0**
Healthcare Practitioners and Technical			**0**	190	65	0	0	**0**
Graduate Assistants Teaching			**0**	0	40	0	0	**0**
Service Occupations			**0**	0	0	0	0	**0**
Sales and Related Occupations			**0**	0	0	0	0	**0**
Natural Resources, Construction, and Maintenance			**0**	0	0	0	0	**0**
Production, Transportation, and Material Moving			**0**	0	0	0	0	**0**
Total	**0**	**0**	**0**			**0**	**0**	**0**
Employee Increase / (Decrease)			0			**Projected Overage / (Need)**		**0**
Percent Increase / (Decrease)			0.0%					

4.5 OUTCOMES

Table 4.3 Office Space Allocation

	Employee Headcount Total	Employees Receiving an Allocation	Projected NASF	Existing NASF	Overage/ (Need)
Community Colleges (3,000 FTE and Under)					
Cascadia College	230	230	34,195	41,719	7,524
Centralia College	277	250	46,125	34,582	(11,543)
Peninsula College	279	268	36,445	49,634	13,189
Skagit Valley College	546	512	82,770	88,429	5,659
Yakima Valley College	499	457	66,970	122,002	55,032
		Total	**266,505**	**336,366**	**69,861**
Community Colleges (Over 3,000 FTE)					
Bellevue College	1,210	1,151	164,675	214,055	49,380
Clark College	986	929	124,840	147,342	22,502
Columbia Basin College	528	478	71,690	160,828	89,138
Edmonds Community College	857	810	116,805	111,385	(5,420)
Everett Community College	818	766	107,875	101,650	(6,225)
Highline College	825	752	115,355	107,136	(8,219)
Shoreline Community College	668	621	85,545	72,332	(13,213)
Spokane Community College	1,218	1,043	123,185	163,024	39,839
Spokane Falls Community College	627	493	66,325	130,798	64,473
Whatcom Community College	476	429	56,630	51,478	(5,152)
		Total	**1,032,925**	**1,260,028**	**227,103**
Technical College					
Bates Technical College	366	305	52,460	70,133	17,673
Bellingham Technical College	300	275	38,675	42,175	3,500
		Total	**91,135**	**112,308**	**21,173**
Four Year (Under 6,000 FTE)					
The Evergreen State College	774	674	117,150	145,774	28,624
UW - Bothell Campus	761	698	110,385	108,559	(1,826)
UW - Tacoma Campus	632	600	102,435	99,774	(2,661)
WSU Everett	40	38	7,475	16,788	9,313
WSU Spokane	681	574	100,420	138,754	38,334
WSU Tri-Cities	412	360	59,525	64,557	5,032
WSU Vancouver	568	447	77,690	104,089	26,399
		Total	**575,080**	**678,295**	**103,215**
Comprehensive					
Central Washington University	1,830	1,481	261,875	417,043	155,168
Eastern Washington University Main Campus	1,823	1,501	262,025	248,948	(13,077)
Western Washington University	2,406	1,956	331,575	351,813	20,238
		Total	**855,475**	**1,017,804**	**162,329**
Major Research					
UW - Seattle Main Campus	18,723	17,302	3,036,740	2,266,578	(770,162)
WSU Pullman	6,052	3,958	762,570	1,114,197	351,627
		Total	**3,799,310**	**3,380,775**	**(418,535)**
		TOTAL	**6,620,430**	**6,785,576**	**165,146**

4.6 DEFINITION OF TERMS

Current Employees – all full-time and part-time employees directly employed by the college/campus. Teaching Graduate Assistants should be included. Research Graduate Assistants should not be included as they are addressed in the Research Laboratory Space section. Hospital employees should also be excluded, as hospital space is not being included in the existing space.

Expected Next Biennium Employees – captures growth or reduction in employees by type for the expected next biennia.

OFM Space Allocation per Person – standard office space allocation in NASF, determined by position type and full-time or part-time status.

Total Space Allocation – organized by position type, the total space allocation is the number of employees multiplied by the OFM Space Allocation per Person.

Employees by Assigned Position – aligns directly with the National Center for Education Statistics Employees Assigned by Position occupational categories, unless otherwise noted.

- Management
- Instructional Staff
- Research
- All Others (non-student) – a grouping of the following EAP occupational categories:
  Public Service;
  Librarians, Curators, + Archivists;
  Student + Academic Affairs + Other Educational Services;
  Business + Financial Operations;
  Computer Engineering + Science;
  Community Service, Legal, Arts + Media; and
  Office + Administrative Support
- Support Staff – calculated at a factor of 50% of 'All Others' category
- Healthcare Practitioners + Technical
- Graduate Assistants Teaching
- Service Occupations
- Sales and Related Occupations
- Natural Resources, Construction + Maintenance
- Production, Transportation + Material Moving

Existing NASF (300s) – total existing net assignable square feet coded in the FICM 300 series (office, office service, conference room, conference service) excluding interior circulation space.

Overage / (Need) – the difference between the total space allocation and the existing NASF of 300 space is the office space deficit or surplus.

LIBRARY + STUDY / COLLABORATION SPACE

Library and Study Space includes informal student collaboration space that is decentralized throughout campus. This category includes the entire 400 room use code series as defined in the FEPG. The adoption of active learning pedagogies increases the need for collaboration space on campus. Most campuses are struggling to create these spaces in existing facilities, many of which lack of this type of space in general.

5.1 SPACE ALLOCATION CONSIDERATIONS

There are three categories of space required for this space category—stack or collections space, study or collaboration space (does not include research collaboration space), and service space. The amount of space needed in each of these areas varies depending on the type of institution, type of library, and the level of services performed behind the scenes in University Libraries.

5.1.1 Collection / Stack Space

As more of the library collection is moving to digital, many institutions are seeing a decreased need for collection space. That said, this does not necessarily mean that collections are not growing, especially for comprehensive and major research institutions. If an institution is a state resource for government documents, their collection size may still be increasing. Additionally, the special collections within a library are also tending to increase in size.

Table 5.1 Physical Collection to PVE Conversion Factors

Collection Type	Conversion Factor
Books, Serials, & Bound Periodicals	1.00
Manuscripts & Archives	1.00
Government Documents	1.00
Unbound Serials (Display)	0.50
Microforms	80.00
Audio/Visual Materials	5.00
Flat Materials/Cartographics	8.00

The first task is to understand the physical collections by type of collection and convert that to a physical volume equivalent (PVE). This process normalizes the collections so that a square footage per PVE can be applied to determine the amount of collection space needed. The second task is to understand what percentage of the collection is housed in compact storage, as there can be different square footage allocations based upon whether the compact storage is open compact storage (accessible by anyone) or closed compact storage (accessible by the librarians only). Another consideration is whether the institution has remote library storage known as a repository or depository. Size of the collection is also taken into account. Smaller collections may need slightly more space per PVE than larger collections. In addition, certain collections require more space per PVE based on the discipline. For example, Medical and Law libraries require more space per PVE than the main University library.

Library buildings that have stack space as an integral part of the building structure are very difficult to repurpose. In a high-level assessment, there may appear to be excess space, but the reality is that there is not excess space without significant capital investment.

5.1.2 Study / Collaboration Space

In the 1990s, the Association for College and Research Libraries (ACRL) used to have metrics as to what percentage of the student body should be housed within the library. Unless an institution was in the fortunate position of building a new library, very few libraries actually met those metrics. As a result, a lower percentage of the student body was used to determine how many study seats were needed within the library. With the adoption of active learning and problem-based pedagogies, collaboration space is needed throughout campus so that students can study with their peers or can meet with faculty after class time. These collaboration spaces tend to be frequented throughout the day and less so in the evening, with the main library being increasingly visited in the evenings. The combination of study spaces within the library, informal departmental libraries, and collaboration space has created the need to increase the percentage of the student body to determine study/collaboration space. Study/collaboration space can be found in room use codes 410, 411, 412, and 430. According to the FEPG, the 412 room use code is most desired for study and collaboration space that is not within the library.

For Law and Medical libraries, the number of students that should be accommodated within the libraries can be driven by accreditation. For Law, standards usually suggest that 50% of Law students should be accommodated in the Law library. Medical library standards are not as high, but the percentage is still relatively higher than the main library.

Collaboration spaces can be found as part of a building's circulation space. When classifying these spaces, phantom walls should be used to delineate these spaces and the number of individuals who can use the space at one time should be recorded. When constructing a new academic building, as much as 25% of the total instructional space should be added for collaboration and study spaces.

5.1.3 Service Space

Library service space includes storage and back-of-house functions. It should not include office space as this space is accounted for under Office space. The space allocation for library service space can range from 5% up to 15%. Many of the back-of-house functions are now outsourced, requiring a smaller percentage as a space allocation. At this level of analysis, it is not easy to understand or quantify these functions.

5.2 RECOMMENDED SPACE ALLOCATION

In analyzing the different types of allocations, there was not a clear correlation to college/campus classification and amount of space recorded in the space use code series 400. The following recommendations are based upon the consultant's experience.

Table 5.2 Recommended Space Allocation for Library + Study / Collaboration Space

OFM Space Allocation	CCs 3K and Under	CCs Over 3K	Technical Colleges	4 Year Under 6,000 FTE	Compre-hensive	Major Research	Law + Medical
Regular Stack Space per PVE	0.10	0.07 (0.10 for collections <60K)	0.10	0.07 (0.10 for collections <60K)	0.07	0.07	0.12
Compact Shelving per PVE	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Remote Storage Shelving per PVE	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Percent of Student Headcount for Study Space	20%	10%	10%	15%	15%	15%	50%
NASF per Study Space	35	35	35	35	35	35	35
Service Space	10%	10%	10%	10%	10%	10%	10%

5.3 INSTITUTION DATA NEEDED

The data required to apply this space allocation is as follows:

- Room inventory for the 400 space use code series;
- Student Headcount;
- The number of volumes by collection type for the main library, law library, and medical library; and
- The percent of volumes housed in regular shelving, compact shelving, and remote storage

5.4 FORM – AVAILABILITY OF SPACE

AVAILABILITY OF SPACE - Library + Study Space

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

Collections

Collection Type	Conversion Factor	No. of Physical Volumes	Physical Volume Equivalent (PVE)
Books, Serials, & Bound Periodicals	1.00	0	0
Manuscripts & Archives	1.00	0	0
Government Documents	1.00	0	0
Unbound Serials (Display)	0.50	0	0
Microforms	80.00	0	0
Audio/Visual Materials	5.00	0	0
Flat Materials/Cartographics	8.00	0	0
		Total	**0**
2-Year Percent Increase/-Decrease in Collection			
		Projected PVEs	**0**

Law + Medical Collections

Collection Type	Conversion Factor	No. of Physical Volumes	Physical Volume Equivalent (PVE)
Books, Serials, & Bound Periodicals	1.00	0	0
Manuscripts & Archives	1.00	0	0
Government Documents	1.00	0	0
Unbound Serials (Display)	0.50	0	0
Microforms	80.00	0	0
Audio/Visual Materials	5.00	0	0
Flat Materials/Cartographics	8.00	0	0
		Total	**0**
2-Year Percent Increase/-Decrease in Collection			
		Projected PVEs	**0**

Stack Space

Type of Stack Space	Percent of PVE's	OFM Space Allocation per PVE	Stack Space Allocation
Regular Stack Space	0%	0.00	0
Compact Shelving	0%	0.035	0
Remote Storage	0%	0.025	0
Total	**0%**		**0**

Law + Medical Stack Space

Type of Stack Space	Percent of PVE's	OFM Space Allocation per PVE	Stack Space Allocation
Regular Stack Space	0%	0.00	0
Compact Shelving	0%	0.035	0
Remote Storage	0%	0.025	0
Total	**0%**		**0**

Study/Collaboration Stations

Students	Current Student Headcount	Next Biennia Student Headcount	OFM Standard - Percent of Students	No. of Study Stations
Total Undergraduate, Graduate + Professional Students	0	0	0%	**0**
Percent Increase in Headcount		*0%*		
			OFM Study Space Allocation per Station	0
			Study Space Allocation	**0**
			Existing No. of Study Stations within Library (Centralized)	0
			Existing No. of Study Stations exterior to Library (Decentralized)	0
			Total No of Study Stations	0
			Current Percentage of Students Accommodated	0%

Law + Medical Study/Collaboration Stations

Students	Current Student Headcount	Next Biennia Student Headcount	OFM Standard - Percent of Students	No. of Study Stations
Total Law + Medical Graduate + Professional Students	0	0	0%	**0**
Percent Increase in Headcount		*0%*		
			OFM Study Space Allocation per Station	0
			Study Space Allocation	**0**
			Existing No. of Study Stations within Library (Centralized)	0
			Existing No. of Study Stations exterior to Library (Decentralized)	0
			Total No of Study Stations	0
			Current Percentage of Students Accommodated	0%

Library + Study Space Allocation

		Existing NASF (400s)	Total OFM Space Allocation	Projected Overage/ (Need)
Stack Space		0	0	0
Study Space		0	0	0
Stack + Study Space		**0**	**0**	**0**
OFM Standard Service Space	0%	0	0	0
LIBRARY + STUDY SPACE		**0**	**0**	**0**

Law + Medical Library + Study Space Allocation

		Existing NASF (400s)	Total OFM Space Allocation	Projected Overage/ (Need)
Stack Space		0	0	0
Study Space		0	0	0
Stack + Study Space		**0**	**0**	**0**
OFM Standard Service Space	0%	0	0	0
LIBRARY + STUDY SPACE		**0**	**0**	**0**

Combined Total Library + Study Space Allocation

	Existing NASF (400s)	Total OFM Space Allocation	Projected Overage/ (Need)
Stack Space	0	0	0
Study Space	0	0	0
Stack + Study Space	**0**	**0**	**0**
Service Space	0	0	0
LIBRARY + STUDY SPACE	**0**	**0**	**0**

If there is an overage of space, describe the special circumstances surrounding the request or how the institution plans to meet the OFM budgeted space allocation.

5.5 OUTCOMES

Table 5.3 Library + Study / Collaboration Space Allocation

	Stack Space	Study Space	Service Space	Total Projected NASF	Existing NASF	Overage/ (Need)
Community Colleges (3,000 FTE and Under)						
Cascadia College	0	22,225	2,223	24,448	12,471	(11,977)
Centralia College	2,884	16,072	1,896	20,851	320	(20,531)
Peninsula College	3,286	9,261	1,255	13,801	23,458	9,657
Skagit Valley College	6,098	22,645	2,874	31,617	53,647	22,030
Yakima Valley College	5,083	25,431	3,051	33,565	27,231	(6,334)
Total	**17,350**	**95,634**	**11,298**	**124,283**	**117,127**	**(7,156)**
Community Colleges (Over 3,000 FTE)						
Bellevue College	5,038	42,455	4,749	52,242	21,136	(31,106)
Clark College	5,893	31,164	3,706	40,762	34,464	(6,298)
Columbia Basin College	3,720	20,171	2,389	26,280	25,108	(1,172)
Edmonds Community College	2,634	25,228	2,786	30,648	31,592	944
Everett Community College	4,598	24,780	2,938	32,316	8,586	(23,730)
Highline College	6,864	30,629	3,749	41,242	31,831	(9,411)
Shoreline Community College	0	18,512	1,851	20,363	31,624	11,261
Spokane Community College	9,589	23,373	3,296	36,258	61,830	25,572
Spokane Falls Community College	0	16,436	1,644	18,080	25,773	7,693
Whatcom Community College	3,611	16,237	1,985	21,832	12,056	(9,776)
Total	**41,946**	**248,983**	**29,093**	**320,022**	**284,000**	**(36,022)**
Technical College						
Bates Technical College	634	7,648	828	9,110	7,183	(1,927)
Bellingham Technical College	1,266	8,957	1,022	11,245	14,010	2,765
Total	**1,900**	**16,604**	**1,850**	**20,355**	**21,193**	**838**
Four Year (Under 6,000 FTE)						
The Evergreen State College	25,589	20,512	4,610	50,710	60,931	10,221
UW - Bothell Campus	7,871	31,442	3,931	43,244	48,529	5,285
UW - Tacoma Campus	8,149	28,219	3,637	40,004	21,443	(18,561)
WSU Everett	0	1,444	144	1,588	226	(1,362)
WSU Spokane	4,955	8,804	1,376	15,135	20,424	5,289
WSU Tri-Cities	4,196	9,665	1,386	15,247	21,373	6,126
WSU Vancouver	2,414	18,779	2,119	23,312	18,950	(4,362)
Total	**53,172**	**118,865**	**17,204**	**189,241**	**191,876**	**2,635**
Comprehensive						
Central Washington University	51,011	63,971	11,498	126,481	106,211	(20,270)
Eastern Washington University Main Campus	66,037	66,334	13,237	145,608	113,147	(32,460)
Western Washington University	88,217	84,635	17,285	190,137	132,917	(57,220)
Total	**205,265**	**214,940**	**42,021**	**462,226**	**352,275**	**(109,950)**
Major Research						
UW - Seattle Main Campus	366,821	313,472	68,029	748,322	589,199	(159,123)
WSU Pullman	161,369	110,366	27,173	298,907	379,759	80,852
Total	**528,189**	**423,838**	**95,203**	**1,047,230**	**968,958**	**(78,272)**
TOTAL	**847,822**	**1,118,864**	**196,669**	**2,163,355**	**1,935,430**	**(227,926)**

5.6 DEFINITION OF TERMS

5.6.1 Collections

Conversion Factor – used to convert the number of physical volumes into a physical volume equivalent.

Number of Physical Volumes – count of actual physical volumes or units.

Physical Volume Equivalent (PVE) – unit of measurement that can be applied to different physical collection types so that the various types can be quantitatively combined and compared.

2-Year Percent Increase/-Decrease in Collection – the projected change in collection volume over the expected next biennia.

Projected PVEs – the existing PVE multiplied by the projected two-year rate of change in collection volume.

5.6.2 Stack Space

Percent of PVEs – the actual mix of stack space types in PVEs.

OFM Space Allocation per PVE

Stack Space Allocation – the recommended stack space allocation is calculated by multiplying the percent of PVEs allocated for the space type by the projected collections PVEs, then by the OFM Space Allocation per PVE.

5.6.3 Study / Collaboration Stations

Current Student Headcount – student headcount enrolled for the most recent fall semester.

Expected Next Biennium Student Headcount – projected student headcount for the ensuing biennia, determined by multiplying the most recent Fall student headcount by the % enrollment growth expected.

Percent Increase in Headcount – rate of change between the current headcount and the expected next biennium headcount.

OFM Standard – Percent of Students – the number of study stations should equal this percentage of the student headcount.

Number of Study Stations – the recommended number of student stations based on the OFM Standard and student headcount.

OFM Study Space Allocation per Station – the recommended NASF per study station.

Study Space Allocation – the total number of recommended study stations multiplied by the recommended NASF per study station.

Existing Number of Study Stations – number of existing study stations.

Current Percentage of Students Accommodated – number of existing study stations divided by the total student headcount.

5.6.4 Library + Study Space Allocation

Existing NASF (400s) – current square footage of library + study space by space type.

Total OFM Space Allocation – recommended library + study space allocation by space type.

Projected Overage / (Need) – the difference between the projected library + study NASF and the existing NASF is the existing library + study space deficit or surplus.

Stack Space – space used to house arranged collections of educational materials for use as a study resource. Stacks typically appear in central, branch, or departmental libraries and are characterized by accessible, arranged, and managed collections.

Study / Collaboration Space – space used by individuals to study at their convenience, the space not being restricted to a particular subject or discipline by contained equipment. Study spaces are primarily used for learning at one's convenience, although access may be restricted by a controlling unit (e.g., departmental study room). This includes formal study spaces within the library as well as informal study/collaboration spaces outside the library.

OTHER NON-RESIDENTIAL SPACE

Other Non-Residential Space includes all other space not already quantified in the other space categories. The types of this space vary greatly between college/campus classifications and types of space. Some of the types of spaces included in this category cannot be quantified through any other means except for detailed space programming; therefore, these spaces are added in their current space quantities.

6.1 SPACE ALLOCATION CONSIDERATIONS

6.1.1 Space Categories Included

The spaces included in this area that can be balanced against a square footage per student. The spaces included:

- 510-515 Armory
- 520-525 Recreation + Kinesiology Space
- 530-535 Media Production
- 540-545 Clinic
- 550-555 Demonstration
- 560-565 Field Buildings
- 570-575 Animal Quarters (excluding Vivaria)**
- 580-585 Greenhouse (excluding those used for extensive research)
- 590 Other
- 610-615 Assembly
- 620-625 Exhibition
- 630-635 Food Facility
- 640-645 Day Care (as part of an Academic Program)
- 650-655 Lounge
- 660-665 Merchandising
- 670-675 Recreation
- 680-685 Meeting Room
- 710-715 Central Computer
- 800s Student Health Care
- Uncategorized Space

Uncategorized space includes space inventory provided but did not have a space use code assigned. This category was used for the community and technical colleges.

6.1.2 Space Categories that are Included as "Add-on"

There are space categories that cannot be quantified through any of the usual means (like space per student, space per employee, etc.). These space categories include:

- Intercollegiate Athletics (includes all space categories except for office space);
- Greenhouse space used for extensive research;
- Medical clinic space (like dental and speech and hearing clinics, but not student health care); and
- Animal quarters and health care that are in support of animal health care (like barns, vet clinics, and vet hospitals).

The amount of space attributed to these categories are added to the space per student FTE space metric. For the major research institutions, this can add over 500,000 NASF.

6.2 RECOMMENDED SPACE ALLOCATION

The recommended space allocation for each college/campus type was based upon a trimmed average of existing space per student FTE. In the 4 Year Under 6,000 FTE classification, there was a great disparity between the UW and WSU secondary locations and The Evergreen State College. The rational for this difference was due to the fact that Evergreen provides housing and, therefore, has need for more student centered space and recreation space. For this reason, an allocation 25 NASF per student FTE is calculated in addition to the 20 NASF per Student FTE, equating to 45 NASF per Student FTE. For the two Major Research institutions, there was also great difference between them due to the difference in student FTE. A distinction is made at over 25,000 Student FTE level, which assumes a higher economy of scale.

Table 6.1 Recommended Space Allocation for Other Non-Residential Space

Campus Type	NASF per Student FTE
CCs 3K and Under	50
CCs Over 3K	20
Technical	20
4 Year (Under 6,000 FTE)	20 plus 25 as an Add-on for residential campus
Comprehensive	20
Major Research	25 for Student FTE<25K; 20 for Student FTE > 25K

6.3 INSTITUTION DATA NEEDED

The data required to apply this space allocation is as follows:

- Room inventory for the room use codes outlined in Sections 6.1.1 and 6.1.2 by college/campus; and
- On-Campus Student FTE.

6.4 FORM – AVAILABILITY OF SPACE

AVAILABILITY OF SPACE - Other Non-Residential Space

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

		Existing NASF			Existing NASF
510-515	Armory		620-625	Exhibition	
520-525	Recreation + Kinesiology Space*		630-635	Food Facility	
530-535	Media Production		640-645	Day Care (as part of an Academic Program)	
540-545	Clinic		650-655	Lounge	
550-555	Demonstration		660-665	Merchandising	
560-565	Field Buildings		670-675	Recreation	
570-575	Animal Quarters (excluding Vivaria)**		680-685	Meeting Room	
580-585	Greenhouse (excluding those used for extensive research)		710-715	Central Computer	
590	Other		800	Student Health Care	
610-615	Assembly		800	Animal Health Care	
				Total Existing NASF	**0**

	Current On-Campus Student FTE	0	Next Biennia On-Campus Fall FTE	0
	OFM Space Allocation	0		
	Space Allocation	**0**	**Projected Space Allocation**	**0**

Add-On Space:

	Intercollegiate Athletics (all space categories except for office space)	0	540-545	Medical Clinics (like dental and speech + hearing, but not student health clinics)	0
580-585	Greenhouses used for extensive research	0	560-565; 570-575; 800s	Animal Quarters + Health Care in support of animal health care (like barns, vet clinics, and vet hospitals)**	0
				Total Add-On Space	**0**

	Total Space Allocation	**0**	**Total Projected Space Allocation**	**0**
	Overage / (Need)	**0**	**Projected Overage / (Need)**	**0**
	Existing NASF per FTE	0.00		

* Should exclude intercollegiate athletic space unless the space is shared with an academic program

** Excludes the vivaria space included in the research tab.

6.5 OUTCOMES

Table 6.2 Other Non-Residential Space Allocation

	Student FTE	Proposed NASF per FTE	Base NASF	Add-on Space NASF	Projected NASF	Existing NASF	Overage/ (Need)
Community Colleges (3,000 FTE and Under)							
Cascadia College	2,196	50	109,787	0	109,787	45,418	(64,369)
Centralia College	1,735	50	86,773	0	86,773	165,611	78,838
Peninsula College	1,013	50	50,658	0	50,658	50,321	(337)
Skagit Valley College	2,279	50	113,950	0	113,950	114,856	906
Yakima Valley College	2,659	50	132,941	0	132,941	89,293	(43,648)
				Total	**494,108**	**465,499**	**(28,609)**
Community Colleges (Over 3,000 FTE)							
Bellevue College	8,252	20	165,044	0	165,044	143,064	(21,980)
Clark College	5,574	20	111,484	0	111,484	93,471	(18,013)
Columbia Basin College	3,831	20	76,619	0	76,619	116,671	40,052
Edmonds Community College	4,733	20	94,667	0	94,667	84,462	(10,205)
Everett Community College	4,774	20	95,477	0	95,477	118,203	22,726
Highline College	6,051	20	121,018	0	121,018	91,797	(29,221)
Shoreline Community College	3,960	20	79,200	0	79,200	126,744	47,544
Spokane Community College	5,453	20	109,060	0	109,060	170,979	61,919
Spokane Falls Community College	3,639	20	72,780	0	72,780	163,094	90,314
Whatcom Community College	3,283	20	65,670	0	65,670	68,623	2,953
				Total	**991,018**	**1,177,108**	**186,090**
Technical College							
Bates Technical College	1,988	20	39,760	0	39,760	48,302	8,542
Bellingham Technical College	1,740	20	34,792	0	34,792	25,719	(9,073)
				Total	**74,552**	**74,021**	**(531)**
Four Year (Under 6,000 FTE)							
The Evergreen State College	3,924	45	176,580	0	176,580	220,500	43,920
UW - Bothell Campus	5,561	20	111,228	0	111,228	46,354	(64,874)
UW - Tacoma Campus	5,019	20	100,380	0	100,380	114,893	14,513
WSU Everett	212	20	4,240	0	4,240	3,184	(1,056)
WSU Spokane	1,570	20	31,400	27,541	58,941	45,511	(13,430)
WSU Tri-Cities	1,518	20	30,360	0	30,360	29,248	(1,112)
WSU Vancouver	2,997	20	59,940	0	59,940	28,923	(31,017)
				Total	**541,669**	**488,613**	**(53,056)**
Comprehensive							
Central Washington University	10,895	20	217,900	65,986	283,886	266,766	(17,120)
Eastern Washington University Main Campus	11,469	20	229,380	135,182	364,562	438,696	74,134
Western Washington University	15,051	20	301,020	5,495	306,515	304,126	(2,389)
				Total	**954,963**	**1,009,588**	**54,625**
Major Research							
UW - Seattle Main Campus	48,941	20	978,820	611,601	1,590,421	1,416,903	(173,518)
WSU Pullman	20,277	25	506,925	718,176	1,225,101	1,584,059	358,958
				Total	**2,815,522**	**3,000,962**	**185,440**
				TOTAL	**5,871,832**	**6,215,791**	**343,958**

6.6 DEFINITION OF TERMS

The space types included in this section are based on the FEPG.

510-515 Armory

Space used by Reserve Officer Training Corps (ROTC) and ancillary units for military or police training and/or instructional activities. Spaces that are obviously designed or equipped for use in a military training or instructional program, such as indoor drill areas, indoor rifle ranges, and specially designed or equipped military science rooms, are included in this category. Ancillary units may include special rifle and drill teams. Includes service spaces that directly serve armory facilities as an adjacent extension of the activities in that facility.

520-525 Recreation + Kinesiology

Space used by students, staff, or the public for recreation or kinesiology activities. Scheduled or unscheduled instruction might take place in these spaces. Includes the covered seating area used by students, staff, or the public to watch events. Does not include temporary or movable seating areas or uncovered permanent seating. Service space that directly serves a recreation/kinesiology facility as an adjacent extension of the activities in that facility should be included.

530-535 Media Production

Space used for the production or distribution of multimedia materials or signals. These spaces have a clearly defined production or distribution function that serves a broader area (e.g., department, entire campus, local community) than would a typical service room. Includes service space that directly serves a media production or distribution space as an adjacent extension of the activities in that facility.

540-545 Clinic

Space used for providing diagnosis, consultation, treatment, or other services to patients or clients or subjects with a primary purpose of instruction, research, or public service. Such spaces and their related uses are typically associated with educational programs such as psychology, law, speech, and hearing. Includes service space that directly serves a clinic as an adjacent extension of the activities in that space.

550-555 Demonstration

Space used to practice, within an instructional program, the principles of certain disciplines such as teaching, childcare or development, and family and consumer science. The key criterion here is practice activity within an instructional program that closely simulates a real-world or occupational setting. This category also does not include laboratories that are used for direct delivery of instruction as opposed to practice. Includes service space that directly serves a demonstration facility as an adjacent extension of the activities in that facility.

560-565 Field Buildings

Barns or similar agricultural structures used for animal shelters or for the handling, storage, or protection of farm products, supplies, vehicles, or implements. Structures are typically of light-frame construction with unfinished interiors and are frequently located outside the central campus area.

570-575 Animal Quarters

Space that houses laboratory animals used for research and/or instructional purposes. Includes storage space that directly serves an animal quarters' facility as an adjacent extension of the activities in that facility. Excludes vivaria space that is included in the research space section.

580-585 Greenhouse

Space that is used for the cultivation or protection of plants or seedlings for research, instruction, or campus physical maintenance or improvement purposes, usually composed chiefly of glass, plastic, or other light-transmitting material. The primary criterion here is the combination of structural design as a greenhouse and the use for cultivation or protection. Includes service space that directly serves a greenhouse facility as an adjacent extension of the activities in that facility.

590 Other

A category of last resort—should have very limited use, if used at all.

610-615 Assembly

Space designed and equipped for the assembly of many persons for such events as dramatic, musical, devotional, livestock judging, or commencement activities. Seating areas, orchestra pits, chancels, aisles, and stages (if not used primarily for instruction) are included in and usually aggregated into the assembly space. Includes service space that directly serves an assembly facility as an adjacent extension of the activities in that facility.

620-625 Exhibition

Space used for exhibition of materials, works of art, artifacts, etc., and intended for general use by faculty, students, staff, and the public. Includes service space that directly serves an exhibition facility as an adjacent extension of the activities in that facility.

630-635 Food Facility

Space used for eating. The primary distinction of a Food Facility (630) area is the availability of some form of accommodation (seating, counters, tables) for eating or drinking. This category includes facilities open to students, faculty, staff, or the public at large. Includes service space that directly serves a food facility as an adjacent extension of the activities in that facility.

640-645 Day Care (as part of an Academic Program)

Space used to provide day or night, child or elderly adult care as a nonmedical service to members of the institutional community. This category also does not include demonstration houses, laboratory schools, or other facilities with a primary function of providing practice for postsecondary students as part of the instructional process (see Demonstration). Includes service space that directly serves a primary activity space in a day care facility as an adjacent extension of the activities in that space.

650-655 Lounge

Space used for rest and relaxation that is not restricted to a specific group of people, unit, or area. This general use lounge differs from an office area or break room lounge by its public availability. If a space is equipped with more than one or two seats for a seating area and intended for use by people visiting or passing through a building or area, it is categorized as a Lounge. Includes service space that directly serves a general use lounge facility as an adjacent extension of the activities in that facility.

660-665 Merchandising

A space used to sell products or services. Includes service space that directly serves a merchandising facility as an adjacent extension of the activities in that facility.

670-675 Recreation

Space used by students, staff, or the public for recreational purposes. Recreation rooms and areas are used for relaxation, amusement-type activities, whereas athletic and physical education/kinesiology facilities are typically used for the more vigorous pursuits within physical education, intercollegiate athletics, and intramural programs that typically require specialized configuration. Includes service space that directly serves a recreation facility as an adjacent extension of the activities in that facility.

680-685 Meeting Room

Space that is used by the campus community for a variety of non-class meetings. The key concept here is availability. Although it may be assigned to a specific organizational unit, a meeting space is more available and open to study

groups, boards, governing groups, community groups, various student groups, nonemployees of the institution, and various combinations of institutional and community members versus a conference room, whose use is typically limited to the direct unit or office suite it serves. Includes service space that directly serves a meeting space as an adjacent extension of the activities in that space.

710-715 Central Computer

Space used as a data or telecommunications center with applications that are broad enough to serve the overall administrative or academic primary equipment needs of a central group of users, department, college, school, or entire institution. Although the ongoing primary activity of this category is tied more closely to equipment than human activity, these areas require technical support staff, and physical access may be restricted to these personnel. It is important to distinguish between these spaces types and telecommunication rooms that service a single building. Includes service space that directly serves a central computer or telecommunications facility as an adjacent extension of the activities in that facility.

800 Student Health Care

Patient care areas dedicated to student health care that are located in separately organized and budgeted health care facilities.

800 Animal Health Care

Patient care areas dedicated to animal health care that are located in separately organized and budgeted health care facilities.


Absolutely
No
Food or Beverage
in the Lab

SUPPORT / PHYSICAL PLANT SPACE

Support space is also known as physical plant space. This space category includes FEPG room use codes 720 through 775. It includes all space required to keep the institution running—shop space, central services, and central storage.

7.1 SPACE ALLOCATION CONSIDERATIONS

This space should not include central computer/telecommunications space (room use codes 710-715), nor should it include unit storage space (room use code 780 as developed by FICM). The amount of space needed for both of these categories, 710s and 780s, should not be based upon the total amount of space for an entire college/campus. These space categories are included in the Other Non-Residential Space category. It is important that the 740 room use code, Vehicle storage, does not include parking garages used for students, employees, and visitors. This should only include parking structures used for institutional vehicles.

The space metric for this category is usually expressed as a percentage of all other space at the institution. The two factors that make the metric increase is whether or not the institution is a land grant campus and whether facilities is responsible for the maintenance and care of residential facilities. For land grant institutions and, more particularly, the main campus, the acreage and the number of buildings are greater than at non-land grant institutions. Because it is unknown whether the facilities management group needs to care for residential facilities, metrics are slightly elevated over norms.

7.2 RECOMMENDED SPACE ALLOCATION

The proposed space allocation is represented as a percent of all other space. The recommendation is based on a trimmed average of existing space. An addition of one percent is provided for the WSU main campus who has a land-grant mission.

Table 7.1 Space Allocation for Support Space

Campus Type	Percent of all Other Space	Add-on for Land Grant Mission at the main campus
CCs 3K and Under	3%	n/a
CCs Over 3K	5%	n/a
Technical	3%	n/a
4 Year Under 6,000 FTE	5%	n/a
Comprehensive	7%	n/a
Major Research	6%	1%

7.3 INSTITUTION DATA NEEDED

The data required to apply this space allocation is as follows:

- Room inventoried for the 720 – 770 space use code series; and
- Space totals for all other space categories.

7.4 FORM – AVAILABILITY OF SPACE

AVAILABILITY OF SPACE - Support Space

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

		Existing NASF
720-725	Shop	
730-735	Central Storage	
740-745	Vehicle Storage (excluding parking garages)*	
750-755	Central Service	
760-765	Hazardous Waste	
770-775	Hazardous Materials	
	Total Existing Support NASF	**0**
	Total of all other Non-Residential Space	**0**

Main Campus for Land Grant Institution: Yes or No

OFM Space Allocation	0%		
Space Allocation	**0**	**Projected Space Allocation**	**0**
Overage / (Need)	**0**	**Projected Overage / (Need)**	**0**

* The only vehicle storage that should be included is for institutional vehicles.

7.5 OUTCOMES

Table 7.2 Support Space Allocation

	Existing NASF (without support)	Support Space Metric	Projected Support NASF	Existing Support NASF	Overage / (Need)
Community Colleges (3,000 FTE and Under)					
Cascadia College	143,153	3%	4,295	3,534	(761)
Centralia College	252,469	3%	7,574	15,601	8,027
Peninsula College	267,153	3%	8,015	14,708	6,693
Skagit Valley College	513,721	3%	15,412	6,645	(8,767)
Yakima Valley College	481,852	3%	14,456	22,310	7,854
		Total	**49,750**	**62,798**	**13,048**
Community Colleges (Over 3,000 FTE)					
Bellevue College	739,356	5%	36,968	33,746	(3,222)
Clark College	623,997	5%	31,200	18,522	(12,678)
Columbia Basin College	601,309	5%	30,065	41,941	11,876
Edmonds Community College	401,294	5%	20,065	17,022	(3,043)
Everett Community College	578,221	5%	28,911	41,054	12,143
Highline College	434,660	5%	21,733	22,092	359
Shoreline Community College	383,596	5%	19,180	10,132	(9,048)
Spokane Community College	832,721	5%	41,636	36,522	(5,114)
Spokane Falls Community College	642,081	5%	32,104	13,632	(18,472)
Whatcom Community College	233,227	5%	11,661	25,435	13,774
		Total	**273,523**	**260,098**	**(13,425)**
Technical College					
Bates Technical College	435,903	3%	13,077	15,923	2,846
Bellingham Technical College	320,769	3%	9,623	9,630	7
		Total	**22,700**	**25,553**	**2,853**
Four Year (Under 6,000 FTE)					
The Evergreen State College	647,061	5%	32,353	66,907	34,554
UW - Bothell Campus	299,432	5%	14,972	10,351	(4,621)
UW - Tacoma Campus	341,251	5%	17,063	8,941	(8,122)
WSU Everett	55,262	5%	2,763	1,308	(1,455)
WSU Spokane	357,853	5%	17,893	83,462	65,569
WSU Tri-Cities	210,113	5%	10,506	10,798	292
WSU Vancouver	294,484	5%	14,724	17,855	3,131
		Total	**110,273**	**199,622**	**89,349**
Comprehensive					
Central Washington University	1,205,737	7%	84,402	117,392	32,990
Eastern Washington University Main Campus	1,072,018	7%	75,041	77,964	2,923
Western Washington University	1,271,876	7%	89,031	79,794	(9,237)
		Total	**248,474**	**275,150**	**26,676**
Major Research					
UW - Seattle Main Campus	6,896,283	6%	413,777	409,301	(4,476)
WSU Pullman	4,502,884	7%	315,202	352,310	37,108
		Total	**728,979**	**761,611**	**32,632**
		TOTAL	**1,433,700**	**1,584,832**	**151,133**

7.6 DEFINITION OF TERMS

720-725 Shop

Space used for the manufacture, repair, or maintenance of products or equipment. Includes service space that directly serves a shop facility as an adjacent extension of the activities in that facility.

730-735 Central Storage

Space that is used to store equipment or materials and that serves multiple space use categories, organizational units, or buildings. Includes service space that directly serves a central storage facility as an adjacent extension of the activities in that facility. This category is typically limited to support rooms associated with the transporting of materials in and out of large central storage facilities and warehouses.

740-745 Vehicle Storage (excluding parking garages)

A space or structure that is used to house or store vehicles. The definition of "vehicle" is broadly interpreted here to include forklifts, moving equipment, lawn equipment, and other powered transport devices or equipment, as well as automobiles and trucks. Includes service space that directly serves a vehicle storage facility as an adjacent extension of the activities in that facility.

750-755 Central Service

Space used for the processing, preparation, testing, or delivery of a complex-central or campus-wide support service (typically serves the occupants or activities of more than one building). Includes service spaces that directly serve a central service facility as an adjacent extension of the activities in that facility.

760-765 Hazardous Waste

A centralized facility used for the storage of materials planned for future use or distribution that are considered hazardous by the physical, chemical, biological, or radioactive nature of the materials. These materials are "new" in nature, in that they had been acquired for specific planned use and are not remnants or "leftovers" from other work activities.

770-775 Hazardous Materials

A centralized storage facility used for the treatment and/or disposal of hazardous or toxic waste materials as defined, classified, and controlled under government environmental regulations. Includes small storage areas distributed throughout the institution used for temporary storage of hazardous or toxic waste materials as defined, classified, and controlled under government environmental regulations.

SCOPE + COST RANGE ANALYSIS

Note: In collaboration with consulting firm NAC Architecture, Section 8: Scope and Cost Range Analysis has been revised and edited since the initial report was published in August 2019. As a result, there may be inconsistencies with other language within the document.

8.0 INTRODUCTION + OVERVIEW

8.0.1 Study Scope

Working Definition of of Expected Cost Ranges:

The term "expected cost ranges" will be used to denote comparative cost indicators in lieu of benchmarks, which have a more specific performance management implication. Section 8.0 provides background information about the report, the role of expected cost ranges within the Capital process, and the approach to the development of the cost ranges. Section 8.1 describes the data sources, provides a high-level summary of the data, and describes data adjustment factors and methodology for determining reasonableness of cost ranges. Section 8.2 provides an analysis for facilities within the State of Washington based on program type. National data sources for corresponding program types are also referenced for comparison purposes and to establish an expected cost range per square foot.

Scope + Cost Range Analysis

This study recognizes the dramatic changes that have occurred in higher education over the last decade, from how students study to the interdisciplinary nature of teaching and significant regional differences between institutions. The main departures from the Berk Report that are implemented in this study are:

- Separating proposed facilities into primary program types based on definitions found in the Facilities Education & Planning Guide (FEPG). See Section 8.1.1 for details.
- Recognizing the importance of space outside the classroom for teaching and collaborative study.
- Adding a regional difference factor to the recommended cost range based on proposed project location. The reader should note that the Berk report normalized all projects to Seattle area construction costs.

Over the last decade, most of the significant higher education projects funded by the State of Washington can be categorized into a narrow range of program types. This study has developed 7 standard program types that are examined in further detail in Section 8.2 and reflect prior funding:

- Classrooms
- Instructional Labs
- Research Labs
- Administration Spaces
- Libraries
- Athletic Facilities
- Assembly, Exhibit + Meeting Rooms

Role of Expected Cost Ranges in Capital Process

The expected cost ranges for each programmatic type in this study are intended to serve as a tool to evaluate the cost reasonableness of capital project proposals. As each project is defined by primary programmatic elements which will impact costs, the expected cost ranges described herein are to be used as references for regionally specific project costs. They are also designed to be used as a tool to identify projects whose costs are substantially higher than the norm, which may require further clarification as part of the budgeting process.

It is important to note that these cost ranges are focused specifically on capital costs and do not address operating costs. Capital decisions often affect operations and management and thus, it is recommended that a holistic life-cycle approach be considered when evaluating project costs.

On-going Data Collection

To improve the reliability of the cost ranges, it is recommended that the additional components described below be added to the final project report or additional form evaluated by OFM.

Program Type

Institutions should provide a detailed breakdown of program components, similar to that of the initial data request sent to institutions at the beginning of this study. A copy of this request form is provided in Figure 8.0.2. The reader will note that of the 18 programmatic types listed in the data request, recommended cost ranges were only provided for 7. This is due to a lack of projects in the remaining programs. As more projects are constructed, it is the intent that recommended ranges could be developed using a similar method for program types not included in this report.

Project Delivery Type

As project delivery types continue to diversify (i.e. Design Build, Lean Design, Public Private Partnership, etc.), it is recommended that the differences in cost within these methodologies be tracked. At the conclusion of this study, there was a lack of data diversity and an insufficient amount of projects to warrant an adjustment to the recommended cost range due to project delivery type.

Life-Cycle Costing

The prioritization matrix has been structured to allow for an offset of up to 4 points, the equivalent of a 20% increase in recommended cost range, when a life-cycle cost analysis is provided which justifies an increase in up-front construction costs. Analyzing the life cycle cost of a facility or property can offer significant long term monetary and operational benefits including but not limited to: mitigating deferred maintenance, lowering water and utility costs, energy conservation, and enhanced public safety. It is in the best interest of the state to increase the value of these strategies to best position higher education facilities for the future.

OFM currently utilizes a Life Cycle Cost tool that is required when completing the Predesign Checklist. It is our recommendation that completed projects be evaluated against their original Life Cycle Cost Analysis for efficacy and added value.

Project Schedules

The greatest impacts on project schedule predictability in higher education are the OFM funding cycles and legislative priorities. In addition, with the anticipated changes in delivery methodologies, institutional project schedules could increase over time. Higher Education Institutions are typically nimble enough to address expedited schedules once funding is in place. This study assumes that project funding requests in the future will be more thorough and complete in addressing the priorities of the state and lead to more predictable project schedules.

Figure 8.0.2
Recommended Data Request Form

Campus:	
Institution Type:	
Project Type:	

Programmatic Allocation (Total Net Assignable Square Footage)	**0**	**SF**
100 Classrooms		SF
210 - 230 Instructional Laboratories		SF
250 Research Laboratory		SF
300 Admin / Office		SF
400 Library / Study		SF
520 Athletic / PE		SF
530 Media		SF
560 Field Building		SF
570 Animal Quarters		SF
580 Greenhouse		SF
610 & 620, & 680 Assembly, Exhibit Space & Meeting Rooms		SF
630 Food Facility		SF
640 Daycare		SF
650 & 670 Lounge & Recreation		SF
660 Merchandising		SF
700 Support Facilities		SF
800 Student Healthcare (Excludes Medical Centers)		SF
800 Animal Healthcare		SF
Net Nonassignable Square Footage		SF
Net Usable Square Footage	**0**	**SF**
Structural Area	**0**	**SF**
Gross Square Footage		SF
Building Efficiency		
Construction Begin Date (Month/Year)		
Construction End Date (Month/Year)		
Mid-Point of Construction		
Project Delivery Method		
Building Construction Type		
Maximum Allowable Construction Cost (MACC)		
Indirect Cost		
Total Project Cost		**$0**

8.0.3 Approach to Development of Expected Cost Ranges

Approach Overview

In developing the expected cost ranges described in this report, the design team has relied on a variety of sources:

- **National**: We reviewed existing construction costs ranges for higher education facilities around the country to give perspective. We caution giving weight to this information since comparative data is often scarce and unreliable. Where possible the costing has been translated into 2019 dollars.

- **Past projects in Washington State**: The team has collected higher education facilities construction cost data from all Washington State universities, colleges and community colleges for the last ten years. This cost information has been adjusted to 2019 dollars

In this report, a project comparison estimating approach is utilized to develop the expected cost ranges. This method, typically used in early planning stages, relies on cost data from past projects of a similar building type construction materials and/or construction methods. Gross square footage and regionally adjusted maximum allowable construction cost data are used to calculate a cost per square foot and translated to current dollars using a cost index. National data are provided for reference for each program type but do not influence the cost statistics.

8.1 RESEARCH AND ASSUMPTIONS

8.1.1 Data Sources & Summary

Data and information were gathered from the following sources and helped inform the development of expected facilities cost ranges.

Office of Financial Management Higher Education Capital Facilities Financing Study
The Higher Education Capital Facilities Financing Study & Technical Appendices, December 2008; conducted by Berk & Associates with its Technical Appendices, are referenced throughout this report.

Facilities Evaluation and Planning Guide (FEPG)
The categorization method for program types outlined in The Facilities Evaluation and Planning Guide (FEPG) serve as a guideline for defining program types in this report. The categories from the FEPG are simplified into the 7 main program categories described in Section 8.1.2.

State of Washington Predesign Manual
The Predesign Manual is the first step in OFM's comprehensive review and funding process for capital projects. Its intent is to explore alternatives for proposed capital projects, and to use the information to determine whether projects should proceed to design and construction.

Public Higher Education Institutions

State Board for Community and Technical Colleges (SBCTC)

Current Cost Estimation Methods

- The State Board for Community and Technical Colleges has developed criteria for evaluating major project proposals for state funding. This system is used to determine which project requests will be prioritized in state capital requests for the community and technical colleges each biennium. Once a major project is prioritized, a project stays in the queue in rank order until funded for construction. Projects from later selections are added below projects already identified.

- Since 2008, the SBCTC has been using the middle of the expected cost ranges for each building type from the Office of Financial Management's Berk & Associates, to score college's major project proposals for reasonableness of cost. The expected project costs have been adjusted from July 1, 2008 to the construction mid-point of the proposed project using the latest Global Insight forecast for state and local government spending provided by the OFM to create a project cost standard.

- The reasonableness of cost criteria accounts for 7%, 10%, 16%, and 17% of the total points available for proposals with matching funds or renovation, replacement, and net new area, respectively. A proposal gets all of the reasonableness of cost points if the cost is equal to, or less, than the cost standard. Since college proposals for state funding are very competitive they rarely exceed the cost standard. However, if the proposal exceeds the cost standard the number of points awarded is reduced. There are no reasonableness of cost points awarded to proposals that exceed 13% of the standard.

- Once a major project is in the queue, the increase in cost is limited by the OFM allowable escalation rates and new codes and mitigations imposed on the project by local authorities having jurisdiction.

Data Summary

- 32 projects are included in the data analysis of the 44 projects provided by the SBCTC (see Section 8.1.2 for reasons for project omission).
- Project locations span across all 5 regions in Washington State.
- MACC ranges from $9M to $41M in 2019 dollars.
- Cost per square foot ranges from $217/sf to $521/sf in 2019 dollars.
- Average cost per square foot for SBCTC projects is $377 in 2019 dollars.
- Project Gross SF ranges from 28,000 – 89,000 SF.
- Project Type details:
    - 21% are Renovation projects
    - 38% are Growth projects
    - 41% are Replacement projects
- Project Delivery details:
    - 92% of projects utilized the design-bid-build project delivery method
    - 8% of projects utilized the design-build/GCCM project delivery method

Central Washington University (CWU)

Current Cost Estimation Methods

- CWU cites weather as an important factor, as the construction window in Central Washington is relatively short and any delays significantly increase costs. Costs per square foot are high because of the mechanical systems, thicker walls, and building envelopes that are necessary due to the extreme hot and cold temperatures.

- CWU has primarily used conventional design/bid/build methods for major capital projects.

- In Pre-Design and Schematic Development phases, CWU has used a "cost-loaded model" based on room-type and square footage. This compares the cost of Office Space, Classroom, and Laboratory space, as an example. The institution makes assumptions regarding space efficiency as well as basic assumptions regarding site development and acquisition costs. As Design Development is completed a detailed estimate is performed based on material take-offs, known systems etc. This estimate is taken from the BIM model. An estimate is typically performed during CD phase which is also based on BIM take-offs.

- CWU has also used a square foot cost model in pre-design work based on building and component type.

Data Summary

- 3 projects were submitted and included in the data analysis
- All projects are located in the Central Washington region.
- MACC ranges from $24M to $46M in 2019 dollars.
- Cost per square foot ranges from $251/sf to $372/sf in 2019 dollars.
- Average cost per square foot for CWU projects is $322 in 2019 dollars.
- Project Gross SF ranges from 96,000 – 136,000 SF.
- Project Type details:
    - 67% are Renovation projects
    - 33% are Growth projects
- Project Delivery details:
    - 100% of projects utilized the design-bid-build project delivery method

Eastern Washington University (EWU)

Current Cost Estimation Methods

- EWU uses average square foot costs for facility types from national data sources, and typically makes adjustments for the region.

- Projects at EWU are typically more expensive because there are fewer large contractors who can perform the work. Because it is not a very competitive market, the same contractors tend to submit bids for most projects, particularly the larger ones. For projects whose contracts exceed $25M, there are only four contractors in the area capable of bonding such work and usually only two or three of them appear on the same project's bid list.

- EWU has experience factors with total cost of construction that are related to current local construction market dynamics, which include numbers of similar projects currently in the local bid market, availability of quality subcontractors and skilled trade's staff in the local market, and project delivery methods. These variables may cause swings in cost that are seasonal rather than annual. In some cases, these regional and seasonal impacts may not be reflected in RSMeans or other cost statistics. On larger projects the cost impact can be substantial.

Data Summary

- 2 projects are included in the data analysis of the 4 projects provided by EWU (see Section 8.1.2 for reasons for project omission).
- All projects are located in the Eastern Washington region.
- MACC ranges from $42M to $48M in 2019 dollars.
- Cost per square foot ranges from $306/sf to $470/sf in 2019 dollars.
- Average cost per square foot for EWU projects is $388 in 2019 dollars.
- Project Gross SF ranges from 101,000 – 137,000 SF.
- Project Type details:
    - 50% are Renovation projects
    - 50% are Growth projects
- Project Delivery details:
    - 50% of projects utilized the design-bid-build project delivery method
    - 50% of projects utilized a combination of design-bid-build/GCCM project delivery method
- EWU noted two of the four projects pursued LEED Gold accreditation, which added 5% to the total project cost.

Evergreen State College

Current Cost Estimation Methods

- The Guide: Building & Construction Material Prices
- RSMeans Estimating Guidelines
- Inflation factors
- Professional experience of in-house staff for projects

Data Summary

- 0 projects are included in the data analysis of the 4 projects provided by the Evergreen State College (see Section 8.1.2 for reasons for project omission).
- All projects are located in the Western Washington region.
- MACC ranges from $9M to $19M in 2019 dollars.
- Cost per square foot ranges from $77/sf to $159/sf in 2019 dollars.
- Average cost per square foot for Evergreen State College projects is $118 in 2019 dollars.
- Project Gross SF ranges from 117,000 – 122,000 SF.
- Project Type details:
    - 100% are Renovation projects
- Project Delivery details:
    - 100% of projects utilized the design-bid-build project delivery method
- Note project details are provided for reference and comparison only. No projects from Evergreen State College were included in the data analysis.

University of Washington (UW)

Current Cost Estimation Methods

- In lieu of estimating the cost of projects before design, UW locates comparable benchmark projects which are adjusted to present dollars and relevant location. This information sets expectations on what scope they can expect for the budget of a future project.
- For larger projects in particular, UW often determines a budget first, and a program is then defined based on how much the budget allows. This is further confirmed through a 'project definition' phase with the design and construction team before any design is completed, and target values for all building systems and components that roll up to a target budget are defined.
- In summary, scope is the variable and cost a fixed element, as opposed to cost being a variable.
- For smaller projects, this model isn't as easy to follow, however they often still have a cost model or concept estimate as part of an early study before design begins.

Data Summary

- 9 projects are included in the data analysis of the 24 projects provided by UW (see Section 8.1.2 for reasons for project omission).
- All projects are located in the Seattle Metro region.
- MACC ranges from $11M to $120M in 2019 dollars.
- Cost per square foot ranges from $285/sf to $806/sf in 2019 dollars.
- Average cost per square foot for UW projects is $470 in 2019 dollars.
- Project Gross SF ranges from 29,000 – 286,000 SF.
- Project Type details:
    - 33% are Renovation projects
    - 56% are Growth projects
    - 11% are Replacement projects

Western Washington University (WWU)

Current Cost Estimation Methods

- WWU maintains a thorough facilities management and backlog tracking system which includes current replacement values of all facilities and is used to calculate maintenance needs and facilities condition indices.

- WWU does operate in a space-constrained environment and obtaining surge space does affect the timing and costs of capital projects however, WWU has have an Institutional Master Plan (IMP) that defines the placement and types of buildings constructed on campus. The formulation of the IMP extensively involved and engaged the community and surrounding neighborhoods. The adaptation of the IMP has greatly simplified the process of approvals.

- WWU uses standard cost per square foot indices for pre-design, then estimates costs in greater detail for phases beyond pre-design.

Data Summary

- 4 projects submitted are included in data analysis.
- All projects are located in the Western Washington region.
- MACC ranges from $5M to $80M in 2019 dollars.
- Cost per square foot ranges from $335/sf to $550/sf in 2019 dollars.
- Average cost per square foot for WWU projects is $427 in 2019 dollars.
- Project Gross SF ranges from 14,000 – 167,000 SF.
- Project Type details:
    - 75% are Renovation projects
    - 25% are Growth projects
- Project Delivery details:
    - 50% of projects utilized the design-bid-build project delivery method
    - 50% of projects utilized the GCCM project delivery method

Washington State University (WSU)

Current Cost Estimation Methods

- WSU uses cost information from the State on various facility types and has found that the best cost estimates come from market data from recent projects.
- WSU estimates the project based on historical costs of similar projects and receives an estimate from the pre-design architect. If there is a significant discrepancy, WSU may also choose to get an independent third party estimate based upon the preliminary program.
- WSU noted that construction costs are high in Eastern WA. Contractors often move their entire crew over since the commute is too far. The subcontracting pool is more limited on the east side, and it costs more to ship materials. Challenging topography is also cited as a factor, which adds to site preparation costs. Additionally, winter weather conditions in Eastern Washington cause a big impact on construction costs and schedule.

Data Summary

- 11 projects are included in the data analysis of the 12 projects provided by WSU (see Section 8.1.2 for reasons for project omission).
- Project locations are in Seattle Metro and Eastern Washington.
- MACC ranges from $19M to $76M in 2019 dollars.
- Cost per square foot ranges from $346/sf to $618/sf in 2019 dollars.
- Average cost per square foot for WSU projects is $505 in 2019 dollars.
- Project Gross SF ranges from 40,000 – 146,000 SF.
- Project Type details:
    - 9% are Renovation projects
    - 91% are Growth projects
- Project Delivery details:
    - 92% of projects utilized the design-bid-build project delivery method
    - 8% of projects utilized the design-build/GCCM project delivery method

Other National Sources

Finding reliable and comparable data on a national level for each building type is challenging. Data is collected differently around the country, some information is not public, and most states do not keep cost benchmark statistics. Of the several national sources of cost data available, these are the most prominent and were used in this study:

- **RSMeans**. One of the most widely cited sources is RSMeans Reed Construction Data. RSMeans CostWorks has detailed facilities cost data updated on an ongoing basis with materials and labor data for 900 locations in North America.

- **Engineering News Record/Design and Construction Resources (ENR/DCR)**. The ENR/DCR Square Foot Costbook is based on costs from actual projects and includes illustrations and a narrative with background information for each project. The Architects, Contractors, and Engineers Guide to Costs provides data for material and installation costs, labor and equipment rates, and adjusted allowances for overhead and profit. It also includes prevailing wage rates for the 75 largest U.S. metropolitan areas, square foot costs, Americans with Disabilities Act costs, production and demolition rates, energy factors, purchasing costs, and equipment rental rates.

- **Rider Levett Bucknall (RLB)**. RLB is a global firm that provides cost consultancy, project management, and advisory services. RLB publishes a Quarterly Construction Cost Report for the U.S. and 12 metropolitan areas, including Seattle and Portland. The RLB Comparative Cost Index tracks the true bid cost of construction, which includes labor and materials costs, general contractor costs and fees, subcontractor overhead costs and fees, and applicable sales or use taxes. The Report includes material supply prices and a low and high cost per square foot for a variety of building types, including university buildings, for the nation and all 12 metropolitan areas.

- **College Planning & Management**. The Annual College Construction Report is published each year by College Planning & Management magazine and provides data on college construction projects completed during the previous year and discusses trends over time. College Planning and Management uses 12 regions to track projects and costs. Washington is in Region 12, along with Alaska, Idaho, and Oregon. The report includes a national summary of new buildings underway with median size, number of buildings in the sample, and low quartile, median, and high quartile costs per square foot for 10 academic building types.

- **The Texas Higher Education Coordinating Board (THECB)**. The THECB maintains expected construction cost per square foot ranges by higher education facility types that are based on a rolling average of five years of actual construction cost data. These ranges exist for new construction and renovation for 27 different facility types. They are updated annually and include only data from Texas higher education projects, consequently, some of the facility categories include very few projects that comprise the range. Indirect costs are not included in the analysis. Project data may have regional discrepancies as well.

- **Cumming**. Cumming is a national, multi-faceted construction consulting firm whose services include project management, dispute resolution, energy and sustainability solutions, project controls and project monitoring. Their construction market analysis looks at construction costs per square foot in major cities on the West Coast.

- **National Science Foundation (NSF).** NSF conducts a congressionally mandated survey of science and engineering facilities very two years, which provides data concerning science and engineering research space at US colleges and universities.

- **Statistica.** Statista is a company that provides statistics, tools, services and data within 600 industries and over 50 countries. This statistic displays the average construction cost for building one square foot of an educational building in select U.S. cities in 2017, with a breakdown by building type.

- **Building Journal.** Online construction estimating. Quickly estimate the cost of residential and commercial projects in over 160 U.S. cities.

- **Library Journal.** An American trade publication for librarians. It reports new about the library world, emphasizing public libraries, and offer feature articles about aspects of professional practice. It also reviews library-related materials and equipment.

8.1.2 Data Request & Project Selection

As noted in Section 8.1.1, not all projects provided by the Institutions were included in the analysis. Projects were omitted from the analysis for the following reasons:

- Mid-point of construction prior to 2009
- Had a maximum allowable construction cost (MACC) of less than $5M
- Incomplete or missing data for program allocation
- Extreme outlying conditions which skews the line of Best Fit and cost range recommendations
- Unreasonable data statistics

Using the data sources described in Section 8.1.1, the following data points were collected for all capital projects with a mid-point of construction falling between 2010 and 2019. A sample of the data request form for each project can be found in the appendix.

- Maximum Allowable Construction Cost (MACC)
- Indirect Project Cost
- Total Project Cost
- Mid-point month/year of construction
- Usable Square Feet
- Gross Square Feet (GSF)
- Building Efficiency
- Project Delivery Method
- Square Feet per Program
- Project Funding

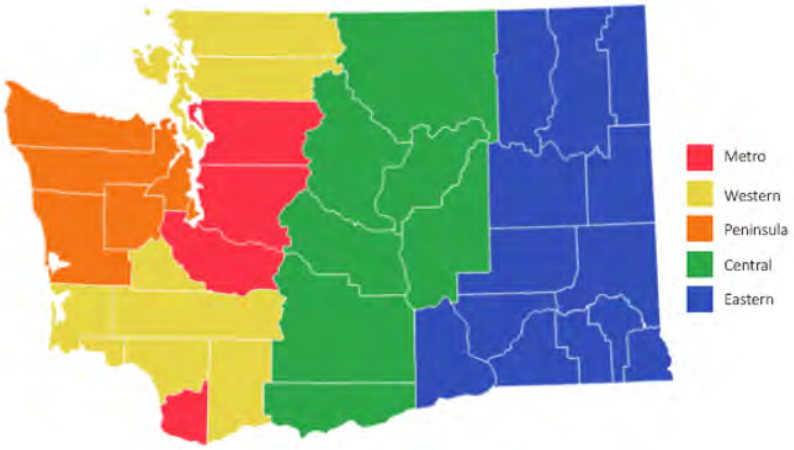
Projects included in the report included renovation, replacement and growth projects with a mid-point of construction of 2009 or later. Project types included various programs including:

- Classroom
- Instructional Labs
- Research Labs
- Admin
- Library
- Athletic Spaces
- Assembly, Exhibit and Meeting Rooms

8.1.3 Adjustment Factors

Location Factor Adjustments

The project data for this report were broken out across five regions across Washington State. These regions are:



For location factor adjustments, the project regions were analyzed by utilizing data included in RSMeans 2019. The study team took into account City/City adjustment data included in RSMeans. We then averaged these indexes for cities in each region in order to arrive at an overall regional adjustment factor. This took into account both labor and material in order to arrive at a Total Adjustment Factor. For this report, the following Region to Region Adjustment factors were determined as:

- Metro 103.5
- Western Washington 101.3
- Peninsula 101.0
- Central Washington 99.0
- Eastern Washington 93.8

From this comparison, the team further analyzed cost differences on a project by project basis by changing the region accordingly in order to recalculate both construction and project costs for each project. These adjusted project values were used in the data analysis to generate the recommended cost ranges. The Total Adjustment Factor should be applied to the recommended cost range based on where a project is located. It is our recommendation that the current C-100 form be adjusted to reflect these regional adjustment factors.

Escalation Factor Adjustments

For escalation factor adjustments, we have used the Engineering News Record (ENR) cost indices. ENR publishes both a Construction Cost Index and Building Cost index that are widely used in the construction industry to report on escalation. ENR computes its latest indexes from these figures and local union wage rates. The index applies to general construction costs, this data is gathered by price reporters covering 20 U.S. cities who check prices locally. The prices are quoted from the same suppliers each month. ENR's national indexes are updated in the first week of each month. In order to compare costs and normalize project costs data, we have escalated the projects listed in the study to January 2019 for all projects by using the ENR escalation indices.

All original project cost data can be compared to 2019 construction and project cost levels and further reviewed by adjusting projects on a region by region basis.

Washington State Market Conditions & Escalation

Construction levels remain at high levels in 2019. Capacity constraints are still evident as contractors and sub-contractors are busy and selective on their pursuits, which will maintain pressure on pricing levels and the numbers of bidders at both General and Subcontractor level this year. Price increases are more than likely to remain positive through 2022. The local market continues to face capacity constraints on the trades' side, with sub-contractors able to be selective with regard projects they pursue and pushing through price increases to bolster their margins.

Economic growth in Washington State has outpaced wider US growth in recent years on the back of a buoyant performance of the region's strong technology, maritime and aerospace industries. According to ENR data, labor cost increases in Washington, especially for common labor, significantly outpaced the national average. Average labor costs are <=12% higher than the national average depending on the trade. Plumbers and electricians saw the largest wage increases between 2017 and 2019, in excess of 10%.

Opportunistic pricing by sub-contractors has pushed up project costs significantly, as general contractors compete for skilled resources. Material costs have increased considerably in the past two years, due to strong construction demand, as well as import tariffs on key products. We expect that persisting labor shortages, especially on the sub-contractor side, will continue to place upward pressure on pricing levels in 2019. Construction escalation is forecasted between 5% and 6% in 2019.

8.1.4 Methodology for Comparative Analysis of Construction Costs

Once the project data was adjusted to reflect 2019 construction costs, construction cost and building area data were collected and analyzed to arrive at expected cost ranges on a per square foot basis. This data analysis of cost/sf values consists of the median, arithmetic mean, weighted average (where larger building areas contribute greater weight to the average cost/sf value), and standard deviation from the mean.

A range of expected cost per square foot values for each building type is provided, based on one standard deviation from the mean. Again, due to the low sample size and relatively large variance among the cost/sf data, the standard deviation and expected cost ranges are relatively large. This is why the additional descriptive statistics of median and weighted average have been provided as supplemental evaluation criteria. There are a number of different ways the expected cost range could be determined, however, the cost ranges provided represent a starting point that could be supplemented by more robust data in the future.

8.2 EXPECTED COST RANGES BY PROGRAMMATIC TYPE

This study recognizes the dramatic changes that have occurred in higher education over the last decade, from how students study to the interdisciplinary nature of teaching. The intent is to give institutions a more accurate assessment of anticipated building costs based on programmatic requirements rather than on a singular facility type.

For each program type, the following is presented:

- **An analysis of state higher education capital projects, national and state expected cost ranges.**
  A sample of capital projects from universities, four year higher education institutions, and community and technical colleges is shown. These have been limited to facilities constructed over the last ten years with construction budgets of $5 million or greater.
  Also included for the reader's reference are cost ranges from other states and national averages. In some cases, where only cost per square foot data has been accessible, the team has created data points on the graph by assuming a 50,000 SF building and obtaining a construction cost by multiplying this number with the cost per square foot.

- **Recommended Cost Range**
  In this report, a recommended cost range for higher education facilities is bounded by one standard deviation above and below the mean. Note that in this current study indirect cost rates are not being calculated.

8.2.1 Classrooms

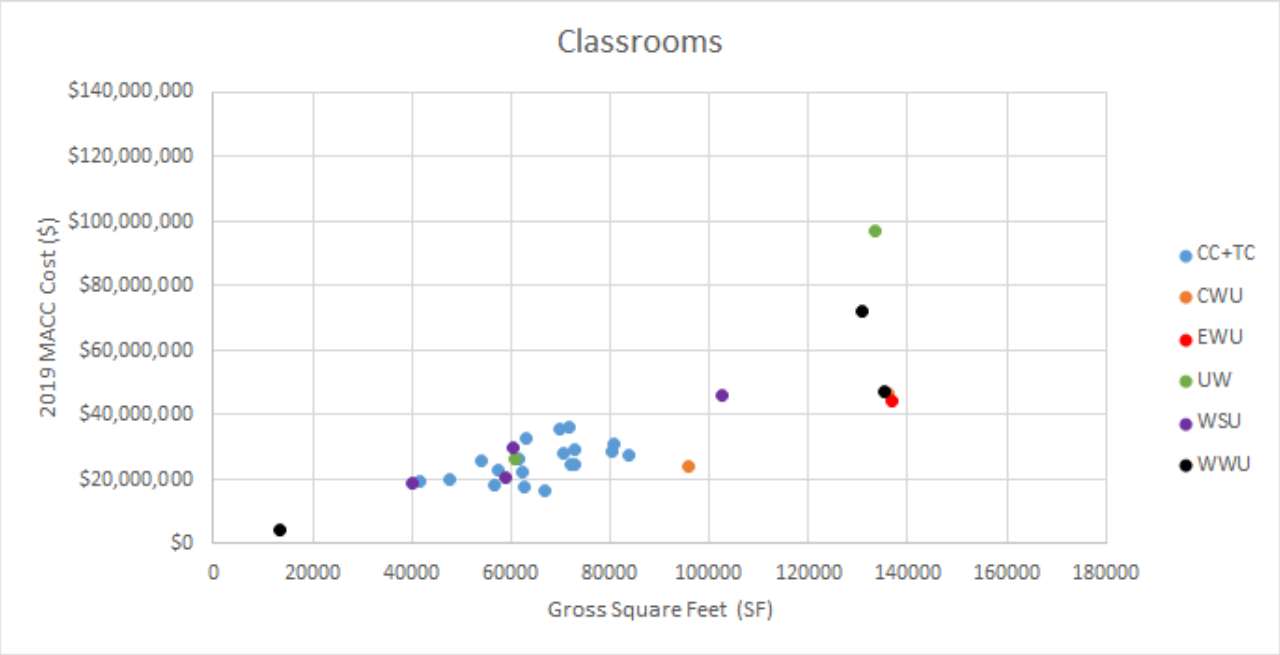
Projects with a majority Classroom program make up 21% of the 61 projects included in this study. Of these 61 projects, 31 have Classroom program greater than 10% of the GSF of the project and are therefore included in the Classroom program analysis. Table 8.2.1a presents the key data points for these projects as well as cost data points from other national sources for reference. Of the 31 projects included in the analysis, 19 are community or technical college projects, and the remaining 12 are from public higher education institutions. Figure 8.2.1b takes the data points described below and plots the 2019 maximum allowable construction costs by gross square footage. Please note national data sources are included for reference only.

Table 8.2.1a
Classroom Program – Project Data

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
SBCTC Columbia Basin	Social Science Center	Growth	DBB	66,724	53%	$15,200,691	Eastern WA	93.8	2016	3	$16,600,857.95	**$248.80**
SBCTC Spokane Falls	Campus Classrooms	Growth	DBB	62,588	45%	$15,113,000	Eastern WA	93.8	2013	6	$17,697,917.31	**$282.77**
SBCTC Grays Harbor	Science & Math Bldg.	Replacement	DBB	71,755	61%	$31,985,608	Peninsula	101	2014	5	$36,379,135.58	**$506.99**
SBCTC Skagit	Academic & Student Services Bldg.	Replacement	DBB	72,858	64%	$21,425,615	Western WA	101.3	2013	6	$24,792,574.62	**$340.29**
SBCTC Peninsula	Allied Health & Early Childhood Dev Center	Replacement	DBB	41,650	61%	$18,699,560	Peninsula	101	2017	2	$19,607,806.16	**$470.78**
SBCTC Bellevue	Health Science Bldg.	Growth	DBB	70,454	21%	$24,527,088	Metro	103.5	2014	5	$27,896,116.89	**$395.95**
SBCTC Lake Washington	Allied Health Bldg.	Growth	DBB	83,700	61%	$22,021,870	Metro	103.5	2010	9	$27,809,233.45	**$332.25**
SBCTC Clark	Health and Advanced Technologies Bldg.	Growth	DBB	69,998	63%	$31,988,396	Metro	103.5	2015	4	$35,650,954.16	**$509.31**
SBCTC Clover Park	Allied Health Care Facility	Growth	DBB	56,648	67%	$15,553,295	Western WA	101.3	2013	6	$18,282,271.57	**$322.73**
SBCTC Peninsula	Business & Humanities Center	Replacement	DBB	62,950	61%	$26,000,000	Peninsula	101	2010	9	$32,806,818.49	**$521.16**
SBCTC Lower Columbia	Health and Science Bldg.	Replacement	DBB	72,708	56%	$24,459,319	Western WA	101.3	2012	7	$29,504,090.64	**$405.79**
SBCTC Olympic	Humanities and Student	Replacement	DBB	80,521	59%	$22,437,044	Peninsula	101	2010	9	$28,398,695.54	**$352.69**
SBCTC Cascadia	Center for Arts, Tech. & Communication	Growth	GCCM	54,006	54%	$19,797,500	Metro	103.5	2009	10	$25,902,863.50	**$479.63**
SBCTC Columbia Basin	Vocational Building	Replacement	DBB	72,241	40%	$18,910,157	Eastern WA	93.8	2010	9	$24,393,928.06	**$337.67**
SBCTC Pierce Puyallup	Communication Arts/Health Building	Growth	DBB	61,597	60%	$20,070,050	Metro	103.5	2009	10	$26,170,018.35	**$424.86**
SBCTC South Puget Sound	Building 22 Renovation	Renovation	DB / GCCM	62,321	68%	$17,146,752	Western WA	101.3	2010	9	$22,147,043.21	**$355.37**

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
SBCTC Spokane Falls	Chemistry and Life Science	Replacement	DBB	47,497	59%	$15,558,290	Eastern WA	93.8	2010	9	$20,056,912.13	**$422.28**
SBCTC South Seattle	Cascade Court	Renovation	DBB	57,333	27%	$21,247,218	Metro	103.5	2016	3	$22,758,770.98	**$396.96**
SBCTC Pierce Fort Steilacoom	Science and Technology	Growth	DBB	80,645	62%	$25,726,332	Peninsula	101	2012	7	$30,863,911.06	**$382.71**
CWU	Samuelson	Renovation	DBB	135,956	58%	$44,374,392	Central WA	99	2017	2	$46,421,840.04	**$341.45**
CWU	Hogue Technology	Renovation	DBB	95,996	56%	$19,366,502	Central WA	99	2011	8	$24,074,652.18	**$250.79**
EWU	Patterson Hall Reno.	Renovation	DBB / GCCM	136,730	61%	$36,262,932	Eastern WA	93.8	2012	7	$44,224,959.58	**$323.45**
UW Seattle	Dempsey Hall	Renovation	n/a	60,878	63%	$21,200,664	Metro	103.5	2011	8	$26,530,798.83	**$435.80**
UW Seattle	Foster School Phase 1	Growth	n/a	133,348	48%	$74,543,725	Metro	103.5	2009	10	$97,364,438.85	**$730.15**
WSU Vancouver	Applied Technology & Classroom Bldg.	Growth	GCCM	60,364	56%	$23,782,907	Metro	103.5	2010	9	$29,821,506.78	**$494.03**
WSU Everett	Academic Building	Growth	DB	102,670	70%	$42,898,628	Metro	103.5	2016	3	$46,230,948.30	**$450.29**
WSU Vancouver	Undergraduate	Growth	GCCM	58,811	59%	$15,690,438	Metro	103.5	2008	11	$20,401,810.08	**$346.90**
WSU Tri-Cities	Academic Building	Growth	DB	40,000	61%	$18,689,341	Eastern WA	93.8	2020	0	$18,689,341.00	**$467.23**
WWU	Miller Hall Reno.	Renovation	GCCM	135,369	52%	$37,594,716	Western WA	101.3	2010	9	$46,981,676.37	**$347.06**
WWU	Academic Instructional Center	Growth	DBB	130,649	52%	$51,996,750	Western WA	101.3	2007	12	$71,897,368.44	**$550.31**
WWU	Fraser Hall Reno.	Renovation	DBB	13,562	61%	$3,875,703	Western WA	101.3	2013	6	$4,543,095.31	**$334.99**
THECB	-	-	-	50,000	-	-	-	-	-	-	$42,000,000.00	**$840.00**
CPM	-	-	-	55,820	-	-	-	-	-	-	$20,250,000.00	**$362.77**
RSMeans	-	-	-	70,000	-	-	-	-	-	-	$19,116,944.32	**$273.10**
Statistica	-	-	-	50,000	-	-	-	-	-	-	$18,750,000.00	**$375.00**
Statistica	-	-	-	50,000	-	-	-	-	-	-	$19,750,000.00	**$395.00**
Influence Group	-	-	-	50,000	-	-	-	-	-	-	$22,500,000.00	**$450.00**
Cumming	-	-	-	50,000	-	-	-	-	-	-	$27,950,000.00	**$559.00**
Cumming	-	-	-	50,000	-	-	-	-	-	-	$26,600,000.00	**$532.00**

Figure 8.2.1b
Classroom Program



The median per square foot cost of Classroom program is $396, and the weighted average cost per square foot is $405, as shown in Table 8.2.1c. The expected range of cost per square foot based on one standard deviation from the mean is between $305 and $505 per square foot.

Table 8.2.1c
Classroom Program – Expected Cost Range

Classroom	Cost/SF
Mean	$405.21
Median	$395.95
Weighted Average	$410.16
Standard Deviation	$99.84
Expected Range	$305.36 - $505.05

8.2.2 Instructional Labs

Projects with a majority Instructional Lab program make up 36% of the 61 projects included in this study. Of these 61 projects, 34 have Instructional Lab program greater than 10% of the GSF of the project and are therefore included in the Instructional Lab program analysis. Table 8.2.2a presents the key data points for these projects as well as cost data points from other national sources for reference. Of the 35 projects included in the analysis, 25 are community or technical college projects, and the remaining 9 are from public higher education institutions. Figure 8.2.2b takes the data points described below and plots the 2019 maximum allowable construction costs by gross square footage. Please note national data sources are included for reference only.

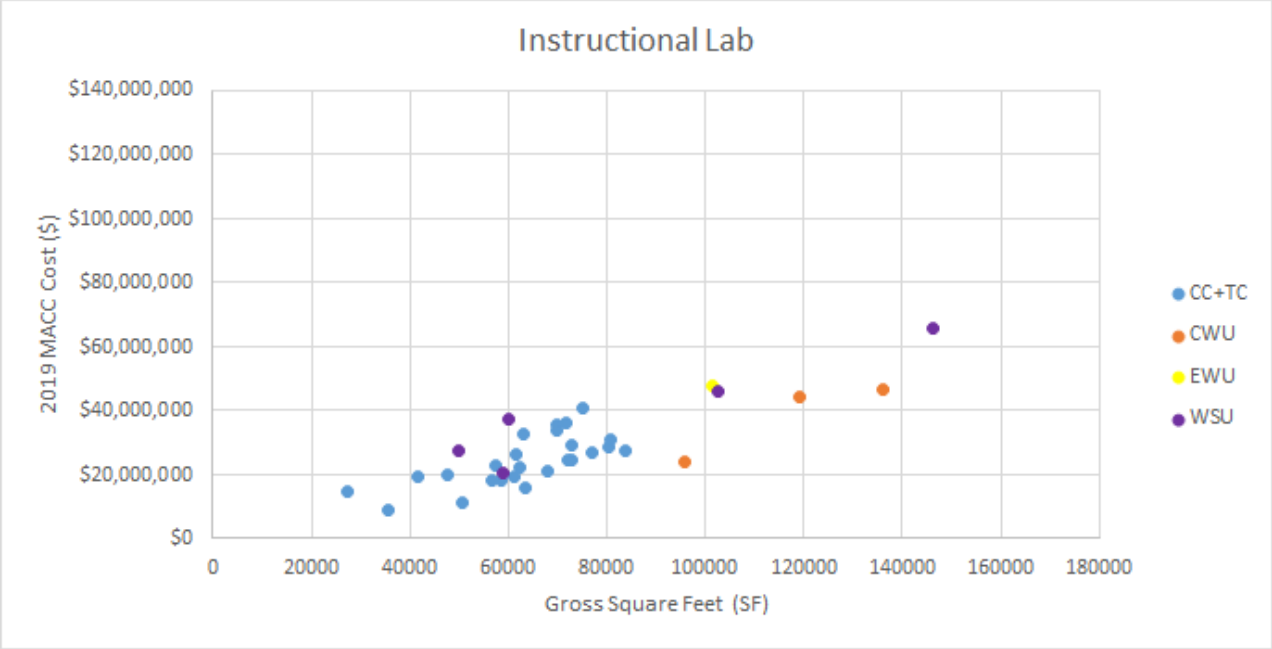
Table 8.2.2a

Instructional Lab Program – Project Data

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
SBCTC Grays Harbor	Science & Math Bldg.	Replacement	DBB	71,755	61%	$31,985,608	Peninsula	101	2014	5	$36,379,135.58	**$506.99**
SBCTC Skagit	Academic & Student Services Bldg.	Replacement	DBB	72,858	64%	$21,425,615	Western WA	101.3	2013	6	$24,792,574.62	**$340.29**
SBCTC Peninsula	Allied Health & Early Childhood Dev Center	Replacement	DBB	41,650	61%	$18,699,560	Peninsula	101	2017	2	$19,607,806.16	**$470.78**
SBCTC Renton	Automotive Complex Renovation	Renovation	DBB	63,403	87%	$14,497,111	Metro	103.5	2016	3	$15,774,175.73	**$248.79**
SBCTC Yakima	Palmer Martin Bldg.	Replacement	DBB	58,728	45%	$15,871,519	Central WA	99	2014	5	$18,114,709.28	**$308.45**
SBCTC Everett	Index Hall Replacement	Replacement	GCCM	77,000	63%	$23,008,597	Metro	103.5	2013	6	$27,045,678.67	**$351.24**
SBCTC Seattle Central	Seattle Maritime Academy	Replacement	DBB	27,500	64%	$13,395,996	Metro	103.5	2015	4	$14,784,513.79	**$537.62**
SBCTC Olympic	College Instruction Center	Growth	DBB	75,000	56%	$38,136,816	Peninsula	101	2016	3	$40,881,430.24	**$545.09**
SBCTC Lake Washington	Allied Health Bldg.	Growth	DBB	83,700	61%	$22,021,870	Metro	103.5	2010	9	$27,809,233.45	**$332.25**
SBCTC Clark	Health and Advanced Technologies Bldg.	Growth	DBB	69,998	63%	$31,988,396	Metro	103.5	2015	4	$35,650,954.16	**$509.31**
SBCTC Clover Park	Allied Health Care Facility	Growth	DBB	56,648	67%	$15,553,295	Western WA	101.3	2013	6	$18,282,271.57	**$322.73**
SBCTC Peninsula	Business & Humanities Center	Replacement	DBB	62,950	61%	$26,000,000	Peninsula	101	2010	9	$32,806,818.49	**$521.16**
SBCTC Lower Columbia	Health and Science Bldg.	Replacement	DBB	72,708	56%	$24,459,319	Western WA	101.3	2012	7	$29,504,090.64	**$405.79**
SBCTC Seattle Central	Wood Construction Center	Replacement	DBB	61,050	52%	$15,982,983	Metro	103.5	2012	7	$19,435,983.88	**$318.36**
SBCTC Bellingham	Instructional Resource Center	Replacement	DBB	68,093	73%	$17,268,350	Western WA	101.3	2011	8	$21,272,258.90	**$312.40**
SBCTC Olympic	Humanities and Student	Replacement	DBB	80,521	59%	$22,437,044	Peninsula	101	2010	9	$28,398,695.54	**$352.69**

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
SBCTC Columbia Basin	Vocational Building	Replacement	DBB	72,241	40%	$18,910,157	Eastern WA	93.8	2010	9	$24,393,928.06	**$337.67**
SBCTC Pierce Puyallup	Communication Arts/Health Building	Growth	DBB	61,597	60%	$20,070,050	Metro	103.5	2009	10	$26,170,018.35	**$424.86**
SBCTC South Puget Sound	Building 22 Renovation	Renovation	DB / GCCM	62,321	68%	$17,146,752	Western WA	101.3	2010	9	$22,147,043.21	**$355.37**
SBCTC Spokane	Building 7 Renovation	Renovation	DBB	35,661	51%	$6,882,000	Eastern WA	93.8	2010	9	$8,877,644.84	**$248.95**
SBCTC Spokane Falls	Music Building 15 Renovation	Renovation	DBB	50,571	46%	$8,674,652	Eastern WA	93.8	2010	9	$11,020,184.09	**$217.92**
SBCTC Spokane Falls	Chemistry and Life Science	Replacement	DBB	47,497	59%	$15,558,290	Eastern WA	93.8	2010	9	$20,056,912.13	**$422.28**
SBCTC Tacoma	Health Careers Center	Growth	DBB	69,715	34%	$27,295,138	Metro	103.5	2011	8	$33,623,898.18	**$482.31**
SBCTC South Seattle	Cascade Court	Renovation	DBB	57,333	27%	$21,247,218	Metro	103.5	2016	3	$22,758,770.98	**$396.96**
SBCTC Pierce Fort Steilacoom	Science and Technology	Growth	DBB	80,645	62%	$25,726,332	Metro	103.5	2012	7	$30,863,911.06	**$382.71**
CWU	Samuelson	Renovation	DBB	135,956	58%	$44,374,392	Central WA	99	2017	2	$46,421,840.04	**$341.45**
CWU	Science Phase II	Growth	DBB	119,330	53%	$39,879,540	Central WA	99	2015	4	$44,445,606.23	**$372.46**
CWU	Hogue Technology	Renovation	DBB	95,996	56%	$19,366,502	Central WA	99	2011	8	$24,074,652.18	**$250.79**
EWU	Interdisciplinary Science Center	Growth	DBB	101,352	54%	$47,638,000	Eastern WA	93.8	2019	0	$47,638,000.00	**$470.03**
WSU Everett	Academic Building	Growth	DB	102,670	70%	$42,898,628	Metro	103.5	2016	3	$46,230,948.30	**$450.29**
WSU Vancouver	Undergraduate	Growth	GCCM	58,811	59%	$15,690,438	Metro	103.5	2008	11	$20,401,810.08	**$346.90**
WSU Vancouver	Life Sciences Bldg.	Growth	DB	60,000	61%	$37,111,561	Metro	103.5	2022	3	$37,111,561.00	**$618.53**
WSU Spokane	Spokane Biomedical & Health Sciences Bldg.	Growth	DB	146,223	55%	$54,996,775	Eastern WA	93.8	2012	7	$65,614,171.45	**$448.73**
WSU Pullman	Troy Hall Reno.	Renovation	DB	49,777	43%	$25,380,882	Eastern WA	93.8	2016	3	$27,335,613.03	**$549.16**
Influence Group	-	-	-	50,000	-	-	-	-	-	-	$28,550,000.00	**$571.00**
THECB	-	-	-	50,000	-	-	-	-	-	-	$26,300,000.00	**$526.00**
RSMeans	-	-	-	45,000	-	-	Seattle	-	-	-	$19,366,704.62	**$430.37**
Cumming	-	-	-	5,000	-	-	Los Angeles	-	-	-	$43,500,000.00	**$870.00**
Cumming	-	-	-	50,000	-	-	Seattle	-	-	-	$38,650,000.00	**$773.00**
Cumming	-	-	-	50,000	-	-	Portland	-	-	-	$36,700,000.00	**$734.00**

Figure 8.2.2b
Instructional Lab Program



The median per square foot cost of Instructional Lab program is $378, and the weighted average cost per square foot is $396, as shown in Table 8.2.2c. The expected range of cost per square foot based on one standard deviation from the mean is between $279 and $497 per square foot.

Table 8.2.2c
Instructional Lab Program – Expected Cost Range

Instructional Lab	Cost/SF
Mean	$397.10
Median	$377.59
Weighted Average	$395.60
Standard Deviation	$99.43
Expected Range	$297.66 - $496.53

8.2.3 Research Labs

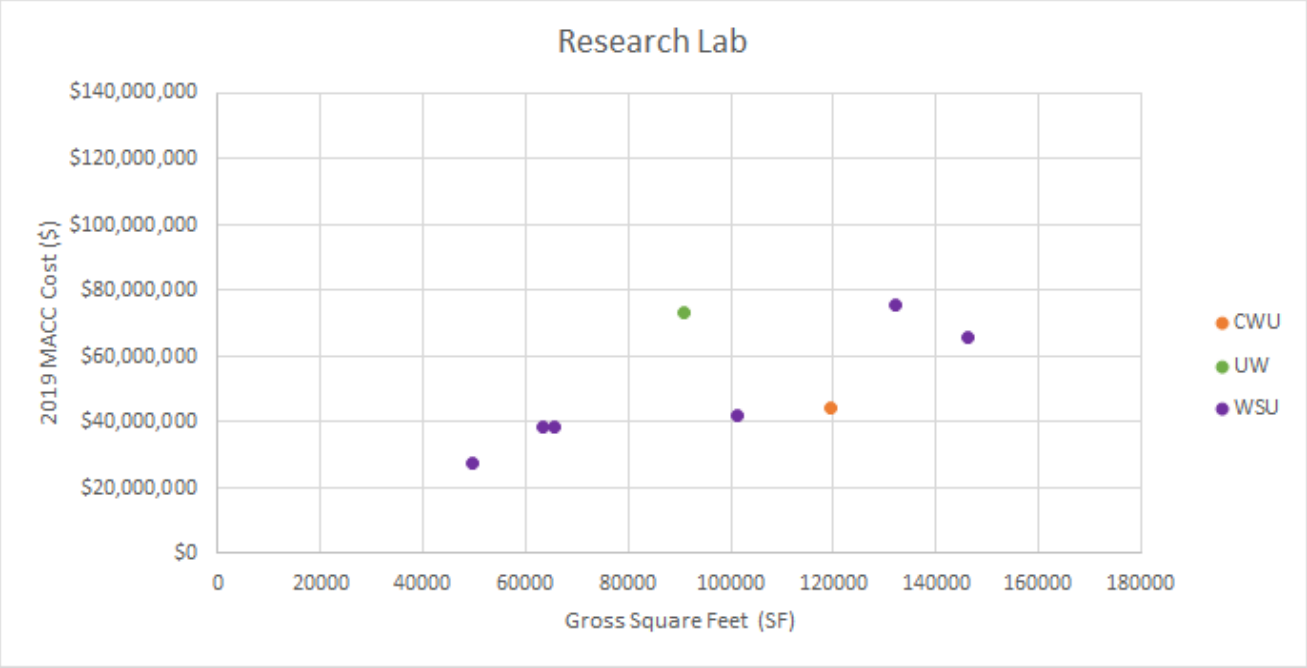
Projects with a majority Research Lab program make up 11% of the 61 projects included in this study. Of these 61 projects, 8 have Research Lab program greater than 10% of the GSF of the project and are therefore included in the Research Lab program analysis. Table 8.2.3a presents the key data points for these projects as well as cost data points from other national sources for reference. All 8 projects are from public higher education institutions. Figure 8.2.1b takes the data points described below and plots the 2019 maximum allowable construction costs by gross square footage. Please note national data sources are included for reference only.

Table 8.2.3a

Research Lab Program – Project Data

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
CWU	Science Phase II	Growth	DBB	119,330	53%	$39,879,540	Central WA	99	2015	4	$44,445,606.23	**$372.46**
UW Seattle	Molecular Engineering Building	Growth	n/a	90,937	55%	$58,553,956	Metro	103.5	2011	8	$73,275,215.69	**$805.78**
WSU Spokane	Spokane Biomedical & Health Sciences Bldg.	Growth	DB	146,223	55%	$54,996,775	Eastern WA	93.8	2012	7	$65,614,171.45	**$448.73**
WSU Pullman	Veterinary & Biomedical Research Bldg.	Growth	GCCM	132,105	66%	$59,396,338	Eastern WA	93.8	2010	9	$75,829,550.60	**$574.01**
WSU Pullman	Clean Technology Laboratory Bldg. (PACCAR)	Research	DB	101,211	68%	$37,383,182	Eastern WA	93.8	2014	5	$42,082,471.80	**$415.79**
WSU Pullman	Allen Center for Global Animal Health	Research	GCCM	65,731	56%	$31,235,853	Eastern WA	93.8	2011	8	$38,478,323.17	**$585.39**
WSU Pullman	Troy Hall Reno.	Renovation	DB	49,777	43%	$25,380,882	Eastern WA	93.8	2016	3	$27,335,613.03	**$549.16**
WSU Pullman	Global Animal Health Building II	Growth	DB	63,265	95%	$38,445,319	Eastern WA	93.8	2019	0	$38,445,319.00	**$607.69**
THECB	-	-	-	50,000	-	-	-	-	-	-	$26,300,000.00	**$526.00**
CPM	-	-	-	100,000	-	-	-	-	-	-	$59,500,000.00	**$395.00**
Building Journal	-	-	-	90,000	-	-	-	-	-	-	$28,297,681.01	**$314.42**
National Science Foundation	-	-	-	41,500	-	-	-	-	-	-	$14,525,000.00	**$350.00**

Figure 8.2.3b
Research Lab Program



The median per square foot cost of Research Lab program is $562, and the weighted average cost per square foot is $528, as shown in Table 8.2.3c. The expected range of cost per square foot based on one standard deviation from the mean is between $409 and $681 per square foot.

Table 8.2.3c
Research Lab Program – Expected Cost Range

Research Lab	Cost/SF
Mean	$544.88
Median	$561.59
Weighted Average	$527.61
Standard Deviation	$136.36
Expected Range	$408.51 - $681.24

8.2.4 Administration

Projects with a majority Administration program make up 16% of the 61 projects included in this study. Of these 61 projects, 38 have Administration program greater than 10% of the GSF of the project and are therefore included in the Administration program analysis. Table 8.2.4a presents the key data points for these projects as well as cost data points from other national sources for reference. Of the 38 projects included in the analysis, 21 are from public higher education institutions, and the remaining 17 are community or technical college projects. Figure 8.2.4b takes the data points described below and plots the 2019 maximum allowable construction costs by gross square footage. Please note national data sources.

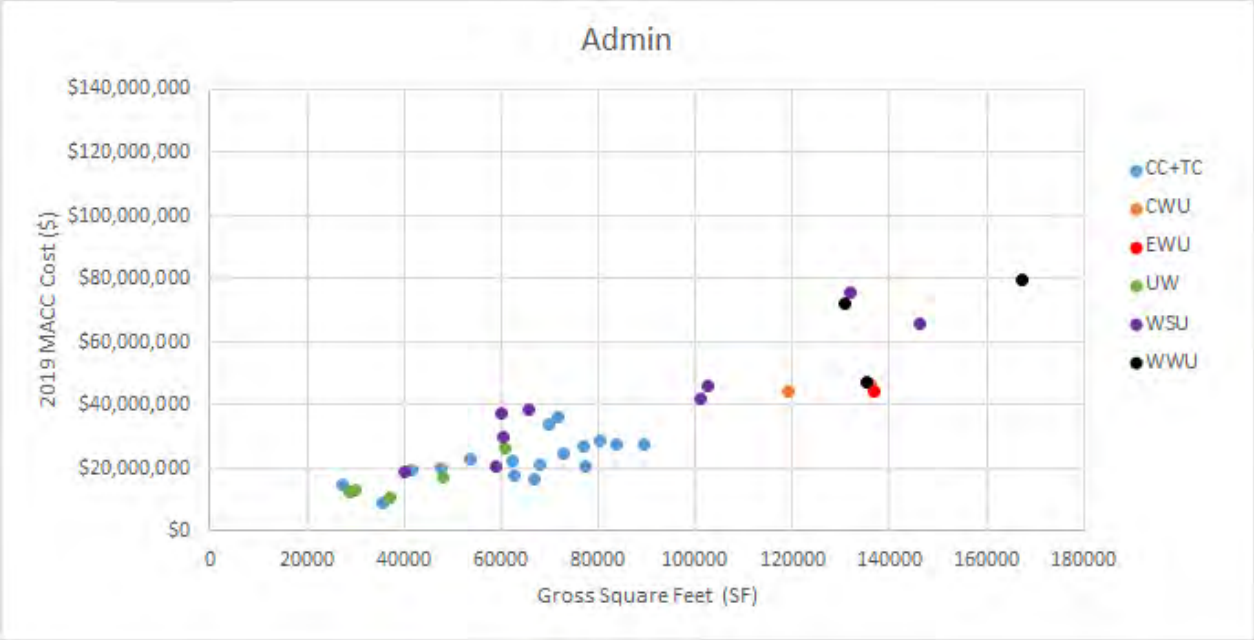
Table 8.2.4a are included for reference only.
Administration Program – Project Data

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
SBCTC South Puget Sound	Learning Resource Center	Renovation	DBB	89,308	57%	$23,418,628	Western WA	101.3	2013	6	$27,621,002.11	**$309.28**
SBCTC Columbia Basin	Social Science Center	Growth	DBB	66,724	53%	$15,200,691	Eastern WA	93.8	2016	3	$16,600,857.95	**$248.80**
SBCTC Spokane Falls	Campus Classrooms	Growth	DBB	62,588	45%	$15,113,000	Eastern WA	93.8	2013	6	$17,697,917.31	**$282.77**
SBCTC Grays Harbor	Science & Math Bldg.	Replacement	DBB	71,755	61%	$31,985,608	Peninsula	101	2014	5	$36,379,135.58	**$506.99**
SBCTC Skagit	Academic & Student Services Bldg.	Replacement	DBB	72,858	64%	$21,425,615	Western WA	101.3	2013	6	$24,792,574.62	**$340.29**
SBCTC Peninsula	Allied Health & Early Childhood Dev Center	Replacement	DBB	41,650	61%	$18,699,560	Peninsula	101	2017	2	$19,607,806.16	**$470.78**
SBCTC Everett	Index Hall Replacement	Replacement	GCCM	77,000	63%	$23,008,597	Metro	103.5	2013	6	$27,045,678.67	**$351.24**
SBCTC Seattle Central	Seattle Maritime Academy	Replacement	DBB	27,500	64%	$13,395,996	Metro	103.5	2015	4	$14,784,513.79	**$537.62**
SBCTC Lake Washington	Allied Health Bldg.	Growth	DBB	83,700	61%	$22,021,870	Metro	103.5	2010	9	$27,809,233.45	**$332.25**
SBCTC Bellingham	Instructional Resource Center	Replacement	DBB	68,093	73%	$17,268,350	Western WA	101.3	2011	8	$21,272,258.90	**$312.40**
SBCTC Olympic	Humanities and Student	Replacement	DBB	80,521	59%	$22,437,044	Peninsula	101	2010	9	$28,398,695.54	**$352.69**
SBCTC Bates	Mohler Communications Technology Center	Growth	DBB	53,591	38%	$20,463,399	Metro	103.5	2014	5	$23,035,770.77	**$429.84**
SBCTC Pierce Fort Steilacoom	Cascade Core Phase II	Renovation	DBB	77,400	75%	$17,185,209	Metro	103.5	2012	7	$20,691,639.09	**$267.33**
SBCTC South Puget Sound	Building 22 Renovation	Renovation	DB / GCCM	62,321	68%	$17,146,752	Western WA	101.3	2010	9	$22,147,043.21	**$355.37**

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
SBCTC Spokane	Building 7 Renovation	Renovation	DBB	35,661	51%	$6,882,000	Eastern WA	93.8	2010	9	$8,877,644.84	**$248.95**
SBCTC Spokane Falls	Chemistry and Life Science	Replacement	DBB	47,497	59%	$15,558,290	Eastern WA	93.8	2010	9	$20,056,912.13	**$422.28**
SBCTC Tacoma	Health Careers Center	Growth	DBB	69,715	34%	$27,295,138	Metro	103.5	2011	8	$33,623,898.18	**$482.31**
CWU	Samuelson	Renovation	DBB	135,956	58%	$44,374,392	Central WA	99	2017	2	$46,421,840.04	**$341.45**
CWU	Science Phase II	Growth	DBB	119,330	53%	$39,879,540	Central WA	99	2015	4	$44,445,606.23	**$372.46**
EWU	Patterson Hall Reno.	Renovation	DBB / GCCM	136,730	61%	$36,262,932	Eastern WA	93.8	2012	7	$44,224,959.58	**$323.45**
UW Bothell	Activities and Rec. Center	Growth	n/a	48,000	51%	$14,981,963	Metro	103.5	2014	5	$17,339,931.08	**$361.25**
UW Seattle	Husky Union Building	Renovation	n/a	285,978	56%	$96,186,000	Metro	103.5	2011	8	$120,368,466.58	**$420.90**
UW Seattle	Dempsey Hall	Renovation	n/a	60,878	63%	$21,200,664	Metro	103.5	2011	8	$26,530,798.83	**$435.80**
UW Seattle	Samuel E Kelly Ethnic Cultural Center	Growth	n/a	29,935	49%	$10,907,467	Metro	103.5	2012	7	$13,133,496.01	**$438.73**
UW Tacoma	McDonald Smith Renovations	Renovation	n/a	37,065	66%	$9,403,479	Metro	103.5	2015	4	$10,547,402.77	**$284.57**
UW Seattle	Police Department Facility	Replacement	n/a	29,000	62%	$11,469,774	Metro	103.5	2015	4	$12,712,092.86	**$438.35**
WSU Vancouver	Applied Technology & Classroom Bldg.	Growth	GCCM	60,364	56%	$23,782,907	Metro	103.5	2010	9	$29,821,506.78	**$494.03**
WSU Everett	Academic Building	Growth	DB	102,670	70%	$42,898,628	Metro	103.5	2016	3	$46,230,948.30	**$450.29**
WSU Vancouver	Undergraduate	Growth	GCCM	58,811	59%	$15,690,438	Metro	103.5	2008	11	$20,401,810.08	**$346.90**
Tri-Cities	Academic Building	Growth	DB	40,000	61%	$18,689,341	Eastern WA	93.8	2020	1	$18,689,341.00	**$467.23**
WSU Vancouver	Life Sciences Bldg.	Growth	DB	60,000	61%	$37,111,561	Metro	103.5	2022	3	$37,111,561.00	**$618.53**
WSU Spokane	Spokane Biomedical & Health Sciences Bldg.	Growth	DB	146,223	55%	$54,996,775	Eastern WA	93.8	2012	7	$65,614,171.45	**$448.73**
WSU Pullman	Veterinary & Biomedical Research Bldg.	Growth	GCCM	132,105	66%	$59,396,338	Eastern WA	93.8	2010	9	$75,829,550.60	**$574.01**
WSU Pullman	Clean Technology Laboratory Bldg. (PACCAR)	Growth	DB	101,211	68%	$37,383,182	Eastern WA	93.8	2014	5	$42,082,471.80	**$415.79**

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
WSU Pullman	Allen Center for Global Animal Health	Growth	GCCM	65,731	56%	$31,235,853	Eastern WA	93.8	2011	8	$38,478,323.17	**$585.39**
WWU	Miller Hall Reno.	Renovation	GCCM	135,369	52%	$37,594,716	Western WA	101.3	2010	9	$46,981,676.37	**$347.06**
WWU	Academic Instructional Center	Growth	DBB	130,649	52%	$51,996,750	Western WA	101.3	2007	12	$71,897,368.44	**$550.31**
WWU	Carver Academic Renovation	Renovation	GCCM	167,346	65%	$74,347,817	Western WA	101.3	2016	3	$79,637,011.30	**$475.88**
Influence Group	-	-	-	50,000	-	-	-	-	-	-	$22,650,000.00	**$453.00**
CPM	-	-	-	37,500	-	-	-	-	-	-	$17,241,145.00	**$459.76**
RSMeans	-	-	-	20,000	-	-	Seattle	-	-	-	$5,891,121.58	**$294.56**
Cumming	-	-	-	50,000	-	-	Los Angeles	-	-	-	$36,150,000.00	**$723.00**
Cumming	-	-	-	50,000	-	-	Seattle	-	-	-	$28,900,000.00	**$578.00**
Cumming	-	-	-	50,000	-	-	Portland	-	-	-	$27,450,000.00	**$549.00**
Cumming	-	-	-	50,000	-	-	Las Vegas	-	-	-	$28,750,000.00	**$575.00**

Figure 8.2.4b
Administration Program



The median per square foot cost of Administration program is $418, and the weighted average cost per square foot is $410, as shown in Table 8.2.4c. The expected range of cost per square foot based on one standard deviation from the mean is between $310 and $503 per square foot.

Table 8.2.4c
Administration Program – Expected Cost Range

Admin	Cost/SF
Mean	$406.38
Median	$418.35
Weighted Average	$409.60
Standard Deviation	$96.44
Expected Range	$309.93 - $502.82

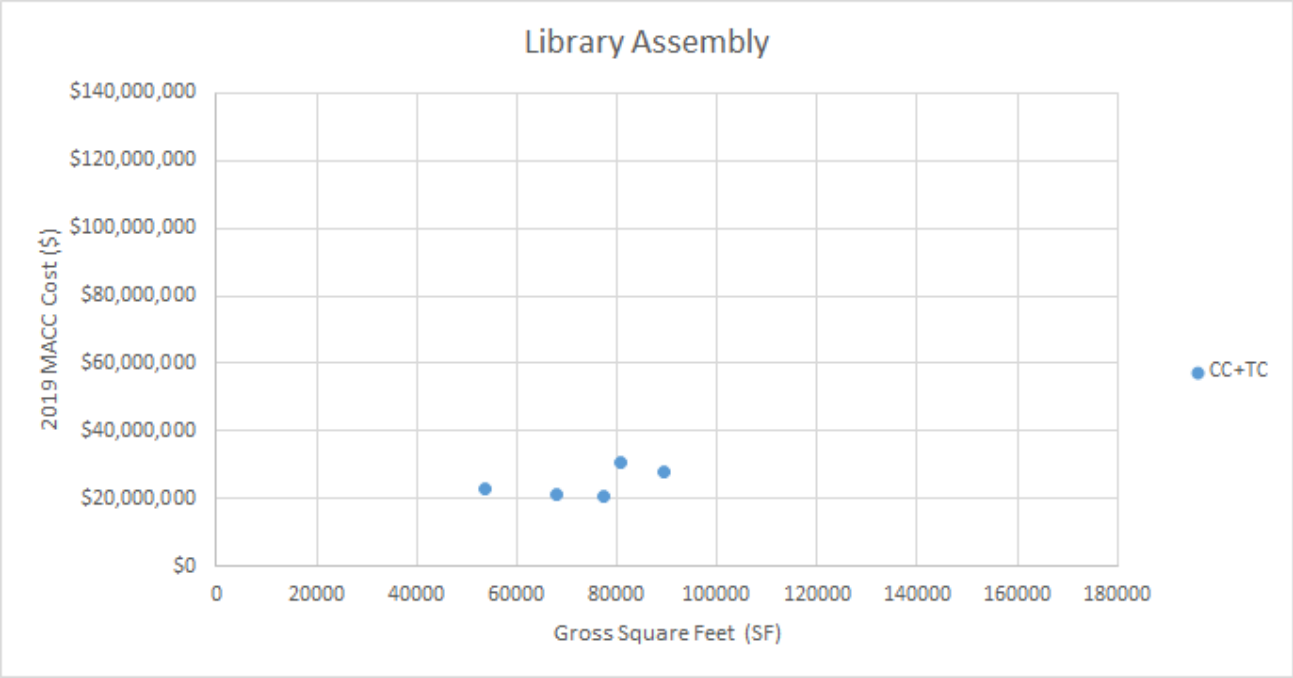
8.2.5 Libraries

Projects with a majority Library program make up just 3% of the 61 projects included in this study. Of these 61 projects, 5 have Library program greater than 10% of the GSF of the project and are therefore included in the Library program analysis. Table 8.2.5a presents the key data points for these projects as well as cost data points from other national sources for reference. All 5 projects in the analysis are community or technical college projects. Figure 8.2.5b takes the data points described below and plots the 2019 maximum allowable construction costs by gross square footage. Please note national data sources are included for reference only.

Table 8.2.5a
Library Program – Project Data

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
SBCTC South Puget Sound	Learning Resource Center	Renovation	DBB	89,308	57%	$23,418,628	Western WA	101.3	2013	6	$27,621,002.11	**$309.28**
SBCTC Bellingham	Instructional Resource Center	Replacement	DBB	68,093	73%	$17,268,350	Western WA	101.3	2011	8	$21,272,258.90	**$312.40**
SBCTC Pierce Fort Steilacoom	Cascade Core Phase II	Renovation	DBB	77,400	75%	$17,185,209	Metro	103.5	2012	7	$20,691,639.09	**$267.33**
SBCTC Pierce Fort Steilacoom	Science and Technology	Growth	DBB	80,645	62%	$25,726,332	Metro	103.5	2012	7	$30,863,911.06	**$382.71**
SBCTC Bates	Mohler Communications Technology Center	Growth	DBB	53,591	38%	$20,463,399	Metro	103.5	2014	5	$23,035,770.77	**$429.84**
Influence Group	-	-	-	50,000	-	-	-	-	-	-	$17,650,000.00	**$353.00**
CPM	-	-	-	100,000	-	-	-	-	-	-	$48,000,000.00	**$480.00**
RSMeans	-	-	-	40,000	-	-	Seattle	-	-	-	$9,324,819.98	**$233.12**
Building Journal	-	-	-	30,000	-	-	-	-	-	-	$8,904,986.13	**$296.83**
THECB	-	-	-	50,000	-	-	-	-	-	-	$26,050,000.00	**$521.00**
Library Journal	-	-	-	39,000	-	-	-	-	-	-	$12,675,000.00	**$325.00**

Figure 8.2.5b
Library Program



The median per square foot cost of Library program is $312, and the weighted average cost per square foot is $335, as shown in Table 8.2.5c. The expected range of cost per square foot based on one standard deviation from the mean is between $275 and $405 per square foot.

Table 8.2.5c
Library Program – Expected Cost Range

Library	Cost/SF
Mean	$340.31
Median	$312.40
Weighted Average	$334.61
Standard Deviation	$64.97
Expected Range	$275.35 - $405.28

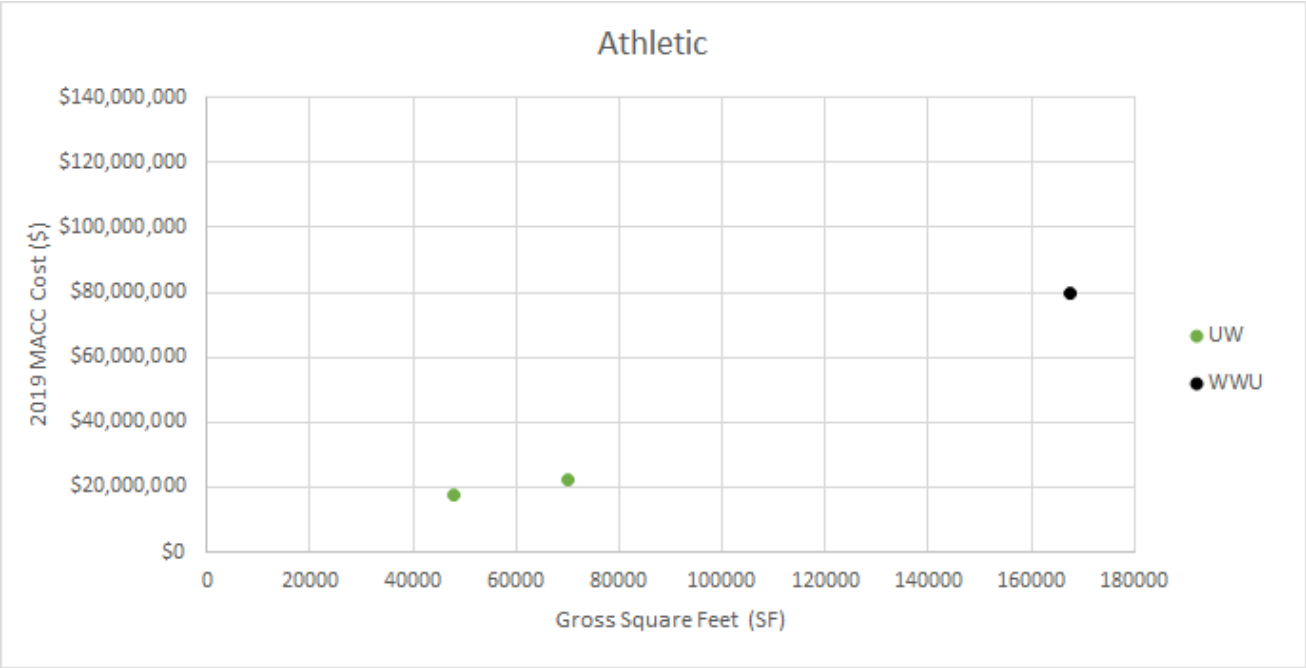
8.2.6 Athletic Facilities

Projects with a majority Athletic program make up just 2% of the 61 projects included in this study. Of these 61 projects, 3 have Athletic program greater than 10% of the GSF of the project and are therefore included in the Athletic program analysis. Table 8.2.6a presents the key data points for these projects as well as cost data points from other national sources for reference. All 3 projects included in the analysis are from public higher education institutions. Figure 8.2.6b takes the data points described below and plots the 2019 maximum allowable construction costs by gross square footage. Please note national data sources are included for reference only.

Table 8.2.6a
Athletic Program – Project Data

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
UW Bothell	Activities and Rec. Center	Growth	n/a	48,000	51%	$14,981,963	Metro	103.5	2014	5	$17,339,931.08	**$361.25**
UW Tacoma	University YMCA Student Center	Growth	n/a	70,000	75%	$19,832,839	Metro	103.5	2015	4	$22,269,221.67	**$318.13**
WWU	Carver Academic Renovation	Renovation	GCCM	167,346	65%	$74,347,817	Western WA	101.3	2016	3	$79,637,011.30	**$475.88**
Influence Group	-	-	-	50,000	-	-	-	-	-	-	$23,250,000.00	**$465.00**
CPM	-	-	-	80,350	-	-	-	-	-	-	$25,500,000.00	**$317.36**
THECB	-	-	-	50,000	-	-	-	-	-	-	$25,500,000.00	**$510.00**
RSMeans	-	-	-	30,000	-	-	-	-	-	-	$7,065,358.52	**$235.51**

Figure 8.2.6b
Athletic Program



The median per square foot cost of Athletic program is $361, and the weighted average cost per square foot is $418, as shown in Table 8.2.6c. The expected range of cost per square foot based on one standard deviation from the mean is between $304 and $467 per square foot.

Table 8.2.6c
Athletic Program – Expected Cost Range

Athletic	Cost/SF
Mean	$385.09
Median	$361.25
Weighted Average	$417.90
Standard Deviation	$81.53
Expected Range	$303.56 - $466.62

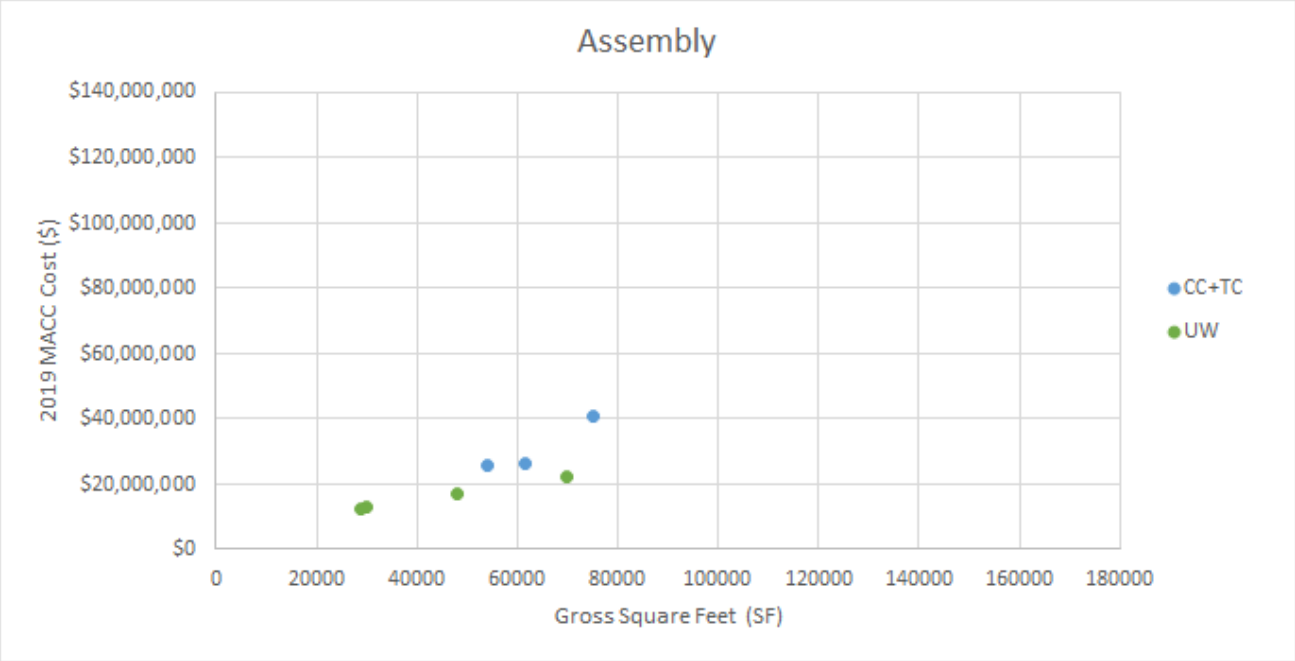
8.2.7 Assembly, Exhibit and Meeting Rooms

Projects with a majority Assembly, Exhibit and Meeting Room program make up just 3% of the 61 projects included in this study. Of these 61 projects, 8 have Assembly, Exhibit and Meeting Room program greater than 10% of the GSF of the project and are therefore included in the Assembly, Exhibit and Meeting Room program analysis. Table 8.2.7a presents the key data points for these projects as well as cost data points from other national sources for reference. Of the 8 projects included in the analysis, 5 are from public higher education institutions, and the remaining 3 are community or technical college projects. Figure 8.2.7b takes the data points described below and plots the 2019 maximum allowable construction costs by gross square footage. Please note national data sources are included for reference only.

Table 8.2.7a
Assembly, Exhibit and Meeting Room Program – Project Data

Institution	Facility Name	Project Type	Delivery Method	Gross SF	Efficiency	Reported MACC	Region	Regional Adjustment Factor	Construction Mid-Point	Years to 2019	2019 MACC	2019 Cost per SF
SBCTC Olympic	College Instruction Center	Growth	DBB	75,000	56%	$38,136,816	Peninsula	101	2016	3	$40,881,430.24	**$545.09**
SBCTC Cascadia	Center for Arts, Technology, Communication	Growth	GCCM	54,006	54%	$19,797,500	Metro	103.5	2009	10	$25,902,863.50	**$479.63**
SBCTC Pierce Puyallup	Communication Arts/Health Building	Growth	DBB	61,597	60%	$20,070,050	Metro	103.5	2009	10	$26,170,018.35	**$424.86**
UW Bothell	Activities and Rec. Center	Growth	n/a	48,000	51%	$14,981,963	Metro	103.5	2014	5	$17,339,931.08	**$361.25**
UW Seattle	Husky Union Building	Renovation	n/a	285,978	56%	$96,186,000	Metro	103.5	2011	8	$120,368,466.58	**$420.90**
UW Seattle	Samuel E Kelly Ethnic Cultural Center	Growth	n/a	29,935	49%	$10,907,467	Metro	103.5	2012	7	$13,133,496.01	**$438.73**
UW Seattle	Police Department Facility	Replacement	n/a	29,000	62%	$11,469,774	Metro	103.5	2015	4	$12,712,092.86	**$438.35**
UW Tacoma	University YMCA Student Center	Growth	n/a	70,000	75%	$19,832,839	Metro	103.5	2015	4	$22,269,221.67	**$318.13**
RSMeans	-	-	-	30,000	-	-	Seattle	-		-	$9,372,056.08	**$312.40**
THECB	Auditorium	-	-	50,000	-	-	-	-		-	$29,200,000.00	**$584.00**
THECB	Student Center	-	-	50,000	-	-	-	-		-	$18,850,000.00	**$377.00**

Figure 8.2.7b
Assembly, Exhibit and Meeting Room Program



The median per square foot cost of Assembly, Exhibit and Meeting Room program is $432, and the weighted average cost per square foot is $427, as shown in Table 8.2.7c. The expected range of cost per square foot based on one standard deviation from the mean is between $360 and $497 per square foot.

Table 8.2.7c
Assembly, Exhibit and Meeting Room Program – Expected Cost Range

Assembly	Cost/SF
Mean	$428.37
Median	$431.60
Weighted Average	$426.58
Standard Deviation	$68.85
Expected Range	$359.52 - $497.22

8.3 COST BENCHMARK SUMMARY

8.3.1 Summary of Recommendations

Based on analysis of existing cost data for capital projects at community colleges and public higher education institutions in Washington State, Table 8.3.2 summarizes the proposed expected cost ranges for seven program types. The table shows the number of data points, weighted average, median, mean, standard deviation, and expected cost per square foot range for construction costs. The regional adjustment factor should then be applied to these recommended ranges based on the location of a proposed capital project.

The range of expected cost per square foot values for each program type provided are based on one standard deviation from the mean. Due to the low sample size and relatively large variance among the cost/sf data, the standard deviation and expected cost ranges are relatively large. This is why the additional descriptive statistics of median and weighted average have been provided as supplemental evaluation criteria. There are a number of different ways the expected cost range could be determined, however, the cost ranges provided represent a starting point that could be supplemented by more robust data in the future such as recommended ranges for additional program types when sufficient data is available, the potential for weighted calculations for buildings with two or three predominant program types, and factoring project delivery methods into the cost recommendation when this data set is more diverse.

Table 8.3.2
Summary of Data

Program Types	Number of Data Points	Weighted Average	Median	Mean	Standard Deviation	Expected Construction Cost Range (MACC)
Classroom	31	$410	$396	$405	$100	$305 - $505
Instructional Labs	34	$396	$378	$397	$99	$298 - $497
Research Labs	8	$528	$562	$545	$136	$409 - $681
Administration	38	$410	$418	$406	$96	$310 - $503
Libraries	5	$335	$312	$340	$65	$275 - $405
Athletic Program	3	$418	$361	$385	$82	$304 - $467
Assembly, Exhibit and Meeting Room Program	8	$427	$432	$428	$69	$360 - $497

RECOMMENDATIONS TO THE OFM HIGHER EDUCATION CRITERIA + SCORING STANDARDS

The purpose behind the development of the OFM space allocations and examination and update to reasonableness of cost standards is to update the criteria scoring and prioritization matrix used in the OFM Capital Projects Evaluation System for Four-year Higher Education Institutions per RCW 43.88D.010. This system enables OFM produce a single prioritized list of four-year higher education capital projects for the Legislature. This study did not review and does not recommend changes to the capital project evaluation system used by the State Board for Community and Technical Colleges to create their prioritized list of projects.

9.0 PROPOSED UPDATES

The following is the consultant team's recommendations for adjustments to the criteria and scoring standards reflecting the outcomes of the OFM Space Allocation and Reasonableness of Cost analyses. These recommendations apply to criteria used in the evaluation of Growth Category, Renovation Category, Replacement Criteria, and Research Category projects. The Impact of Project on Existing Space form (shown as Figure 9.1) will automatically populate the existing NASF, OFM Space Allocation, and the Overage / (Need) columns as the forms for each space category are filled out for the campus requesting a capital project. The campus will need to fill out the Project Impact columns – Project Existing NASF Removal and Project NASF Addition. Then the rest of the form will complete the calculations and score the project for the program-related space allocation criteria.

Figure 9.1 Impact of Project on Existing Space Form

IMPACT OF PROJECT ON EXISTING SPACE

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

Columns A through C filled out from the other sheets.
Input the assignable square feet for the proposed project under Columns D + E (Project Impact) by space type below.

		Projected Need		Project Impact		REVISED			SCORE
Type of Space	A Existing NASF	B OFM Space Allocation	C Overage/ (Need) (A-B)	D Project Existing NASF Removal	E Project NASF Addition	F Overage/ (Need (C-D+E)	G Percent of Total (E/E Total)	H Program Related Space Allocation Points	I TOTAL SCORE (G*H)
Instructional Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	10	X.XX
Research Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	2	X.XX
Office Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	4	X.XX
Library + Study Collaboration Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	10	X.XX
Other Non-Residential Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	8	X.XX
Support / Physical Plant Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	6	X.XX
TOTAL	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	100%		X.XX

If there is an overage of space, describe if there is an exception to the space standard/allocation, a better space standard/allocation, or how the institution plans to meet the OFM space allocation.

9.1 Availability of Space (Growth, Renovation, Replacement, Research)

The scoring standard was reworded so that the HECB utilization standard has been replaced by the OFM combined space and utilization standard stated in terms of net assignable square footage per weekly student contact hour (NASF per WSCH) by college/campus classification for both classrooms and class laboratories. Rather than the points being a variable they are now definitive depending on whether or not the college/campus has less than or meets the NASF per WSCH standard. Preference is given in scoring to projects from colleges/campuses ***who are meeting or have less than the NASF per WSCH. This means that the institution is meeting the utilization standard and/or it has less space than the allocation recommends.***

Table 9.1 Summary of Availability of Space

Classroom NASF per WSCH OFM Target *(by Campus Classification)*		Class Labs NASF per WSCH OFM Target *(by Campus Classification)*	Plan to recalibrate utilization or space	Points
Less than equal to	AND	Less than equal to	n/a	10
Less than equal to	OR	Greater than	Yes	8
Greater than	OR	Less than equal to		
Greater than	AND	Greater than	Yes	6
Greater than	AND	Greater than	No	0

The rest of the points are allocated based on whether or not they are less than, equal to or greater than the OFM targets by college or campus classification. The following table illustrates the proposed scoring standard.

9.2 Efficiency of Space Allocation – Proposed space allocations are consistent with OFM space allocations or other standards or benchmarks (Growth, Renovation, Replacement)

The biggest difference is that the project demonstrates consistency with the OFM space allocations rather than the FEPG space standards. If the outcomes of the space allocations shows that the institution is in need of space and the project does not put the institution in a space overage position then the project receives the maximum number of points. If the project is not consistent with the OFM space allocations and it shows that the project puts the institution in a space overage position, then the institution can make a case why the standards or benchmarks used for the project are more appropriate.

This is the area where the institutions can justify why they need more space than the OFM space allocations. In particular, the campuses can show the demonstrated need for various vocational and industrial spaces that are required that are greater than the OFM space standards. Airplane hangars used as class laboratories or simulation labs classified as class laboratories rather than open laboratories are examples of a campus requiring more space than the space allocations allow even with the high space demand programs (HSDP).

Institutions with projects that are not consistent with the OFM space allocations and without justifiable standards or benchmarks receive zero points.

9.3 Efficiency of Space Allocation - Proposed space allocations are consistent with building efficiency guidelines (ASF/GSF) (Growth, Renovation, Replacement)

The team feels that compliance with these standards merits a slightly higher degree of value. Creating modern mixed-use higher education facilities often encompasses inherent inefficiencies. The incentive here is to continue to create effective buildings for learning and research.

9.4 Reasonableness of Cost – Consistency with OFM cost standards (Growth, Renovation, Replacement, Research)

In this section of criteria, the study team is giving more flexibility to cost numbers, allowing for extenuating circumstances and value added decisions. In the previous standard, there were only four scoring increment options available. The new scoring is in increments of 5% over the expected project cost with an associated diminishing point system. The team also feels that this more nuanced point system will actually incentivize value engineering, by encouraging teams to push for incremental cost savings.

9.5 Reasonableness of Cost – Cost-effective Enrollment Access (not recommended)

Demonstration that the project provides more cost-effective enrollment access than alternatives such as university centers and distance learning is removed. This is because the new review of reasonableness of cost is based upon more mixed-use facilities rather than facility types.

9.6 Reasonableness of Cost – Additional Cost Considerations (Growth, Renovation, Replacement, Research)

The increase in possible points from the earlier standards recognizes the complexities of designing and building sophisticated higher education facilities in problematic locations. It also acknowledges the long-term value of selecting systems with lower life cycle costs.

9.7 Program-related space allocation – Assignable square feet (Growth, Renovation, Replacement)

These numbers were slightly increased to reflect a more specific allocation of spaces in modern learning facilities. The scoring occurs on the Impact of Project on Existing Space form shown in Figure 9.1.

Table 9.2 on the following pages illustrate the original criteria along with the proposed criteria.

Table 9.2 Proposed Updates to the OFM Higher Education Criteria Definitions and Scoring Standards

GROWTH CATEGORY CRITERIA

ORIGINAL		PROPOSED	
SCORING STANDARD	**POINTS**	**SCORING STANDARD**	**POINTS**
Criteria: Availability of Space			
10 Points Possible		10 Points Possible	
Addresses insufficient space on campus to accommodate projected enrollment growth.	Select One	Addresses insufficient space on campus to accommodate projected enrollment growth.	Select One
Adds classroom space on a campus that currently exceeds the 22-hour per classroom seat HECB utilization standard, and adds class laboratory space to a campus that exceeds the 16-hour per station HECB utilization standard.	1 - 2	Adds classroom and/or class laboratory space where the actual NASF per WSCH equals or is less than the NASF per WSCH targets set by OFM by campus classification and by space type.	10
Adds classroom space on a campus that does not exceed the 22-hour per classroom seat HECB utilization standard and project improves the utilization of classroom space.	Up to 5	Adds classroom space and/or class laboratory space where the actual NASF per WSCH for one space type is greater than the NASF per WSCH target and the other meets or is less than the target set by OFM by campus classification and space type but the project lowers the NASF per WSCH for that space type where the actual NASF per WSCH is greater than the target and increases the NASF per WSCH for the other space type.	8
Adds class laboratory space on a campus that does not exceed the 16-hour per station HECB utilization standard and project improves the utilization of class laboratories.	Up to 5	Adds classroom space and/or class laboratory space where the actual NASF per WSCH is greater than the NASF per WSCH targets set by OFM by campus classification but the project improves its NASF per WSCH to meet the targets.	6
Adds space on a campus that does not meet HECB utilization standards and has no plan to achieve them and/or project has no impact on classroom or class laboratory utilization standards.	0	Adds classroom and/or class laboratory space where the actual NASF per WSCH exceeds the NASF per WSCH targets set by OFM by campus classification and space type and campus has no plan to recalibrate its utilization or space and/or project has no impact on meeting the targets.	0
Criteria: Efficiency of Space Allocation			
10 Points Possible		10 Points Possible	
Proposed space allocations are consistent with FEPG benchmarks or other appropriate benchmark.	Select One	Proposed space allocations are consistent with OFM space allocations or other standards or benchmarks.	Select One
Project demonstrates consistency with FEPG space standards.	3	Project demonstrates consistency with OFM space allocations.	5
Project is not consistent with FEPG benchmarks, but: (1) proposes alternative standards; (2) makes a compelling case why those standards are more applicable to the proposed project than former HECB space standards; and (3) documents proposed space use against those standards.	Up to 3	Project is not consistent with OFM space allocations, but: (1) proposes alternative standards or benchmarks; (2) makes a compelling case why those standards or benchmarks are more applicable to the proposed project than the current OFM space allocations; and (3) documents proposed space use against those standards or benchmarks.	Up to 4
Project is not consistent with FEPG or other benchmarks.	0	Project is not consistent with the OFM space allocations.	0
Proposed space allocations are consistent with building efficiency guidelines (ASF/GSF).	Select One	Proposed space allocations are consistent with building efficiency guidelines (ASF/GSF).	Select One
More than 65% (science building more than 60%)	2	Building 60% or more efficient	5
60% – 65% (science building 55% – 60%)	1	Building 50-60% efficient	3
Less than 60% (science building less than 55%)	0	Building less than 50% efficient	0

GROWTH CATEGORY CRITERIA

ORIGINAL

Criteria: Reasonableness of Cost

12 Points Possible

SCORING STANDARD	POINTS
Consistency with OFM cost standards.	Additive ; up to 12 points
Total project cost is less than or equal to the expected cost per square foot for the facility type, escalated to the construction mid-point.	10
Project cost is between 100% and 111% of expected cost.	6
Project cost is between 111% and 137% of expected cost.	3
Project cost is more than 137% of expected cost.	0
Demonstrates that project provides more cost-effective enrollment access than alternatives such as university centers and distance learning.	Select Yes (2)/No (0)

Additional cost considerations (applies only if project cost exceeds OFM cost standards)	Points
Demonstrates that total project cost is outside OFM standards due to exigent circumstances (such as extensive site work), the inclusion of highly-specialized equipment or design features necessary to the programmatic purpose of the facility, or selected systems alternates with significantly lower-than-baseline life cycle costs over 50 years in terms of net present savings.	1 - 2
Total project cost not affected by exigent circumstances, programmatic needs, or selection of energy efficient systems alternates.	0

Criteria: Program-related space allocation

Weighted average, 6 points possible

Assignable square feet. Percentage of total x points = score	Points
Instructional space (classroom, lab, library)	6
Student advising/counseling services	4
Child care	1
Faculty offices	4
Administrative	3
Maintenance/central stores/student center	4
	= Total Score

PROPOSED

Criteria: Reasonableness of Cost

10 Points Possible

SCORING STANDARD	POINTS
Consistency with OFM cost standards.	Up to 10 points
Total project cost is less than or equal to the expected cost per square foot for the facility type, escalated to the construction mid-point.	10
Project cost is between 100% and 105% of expected cost.	9
Project cost is between 106% and 110% of expected cost.	8
Project cost is between 111% and 115% of expected cost.	7
Project cost is between 116% and 120% of expected cost.	6
Project cost is between 121% and 125% of expected cost.	5
Project cost is between 126% and 130% of expected cost.	4
Project cost is between 131% and 135% of expected cost.	3
Project cost is between 136% and 140% of expected cost.	2
Project cost is between 141% and 145% of expected cost.	1
Project cost is more than 146% of expected cost.	0
REMOVE	

Additional cost considerations (applies only if project cost exceeds OFM cost standards)	Points
Demonstrates that total project cost is outside OFM standards due to exigent circumstances (such as extensive site work), the inclusion of highly-specialized equipment or design features necessary to the programmatic purpose of the facility, or selected systems alternates with significantly lower-than-baseline life cycle costs over 50 years in terms of net present savings.	1 - 5 (not to exceed 10 points total when combined with points above)
Total project cost not affected by exigent circumstances, programmatic needs, or selection of energy efficient systems alternates.	0

Criteria: Program-related space allocation

Weighted average, 10 Points Possible

Assignable square feet. Percentage of total x points = score	Points
Instructional Space	10
Research Space	2
Office Space	4
Library + Study/Collaboration Space	10
Other Non-Residential Space	8
Support Space/Physical Plant	6
Weighted score 10 points possible	= Total Score

RENOVATION CATEGORY CRITERIA

ORIGINAL

Criteria: Availability of Space

10 Points Possible

SCORING STANDARD	POINTS
Project renovates space on campus that meets or exceeds HECB utilization standards.	Select One
Renovates classroom space on a campus that currently exceeds the 22-hour per classroom seat HECB utilization standard, and renovates class laboratory space to a campus that exceeds the 16-hour per station HECB utilization standard.	1 - 2
Renovates classroom space on a campus that does not exceed the 22-hour per classroom seat HECB utilization standard and project improves the utilization of classroom space.	Up to 5
Renovates class laboratory space on a campus that does not exceed the 16-hour per station HECB utilization standard and project improves the utilization of class laboratories.	Up to 5
Renovates space on a campus that does not meet HECB utilization standards and has no plan to achieve them and/or project has no impact on classroom or class laboratory utilization standards.	0

Criteria: Efficiency of Space Allocation

5 Points Possible

Proposed space allocations are consistent with FEPG benchmarks or other appropriate benchmark.	Select One
Project demonstrates consistency with FEPG space standards.	3
Project is not consistent with FEPG benchmarks, but: (1) proposes alternative standards; (2) makes a compelling case why those standards are more applicable to the proposed project than former HECB space standards; and (3) documents proposed space use against those standards.	Up to 3
Project is not consistent with FEPG or other benchmarks.	0

Proposed space allocations are consistent with building efficiency guidelines (ASF/GSF).	Select One
More than 65% (science building more than 60%)	2
60% – 65% (science building 55% – 60%)	1
Less than 60% (science building less than 55%)	0

PROPOSED

Criteria: Availability of Space

10 Points Possible

SCORING STANDARD	POINTS
Project renovates space on campus that meets or is less than OFM NASF per WSCH utilization standards.	Select One
Renovates classroom and/or class laboratory space where the actual NASF per WSCH equals or is less than the NASF per WSCH targets set by OFM by campus classification and by space type.	10
Renovates classroom space and/or class laboratory space where the actual NASF per WSCH for one space type is greater than the NASF per WSCH target and the other meets or is less than the target set by OFM by campus classification and space type but the project lowers the NASF per WSCH for that space type where the actual NASF per WSCH is greater than the target and increases the NASF per WSCH for the other space type.	8
Renovates classroom space and/or class laboratory space where the actual NASF per WSCH is greater than the NASF per WSCH targets set by OFM by campus classification but the project improves its NASF per WSCH to meet the targets.	6
Renovates classroom and/or class laboratory space where the actual NASF per WSCH exceeds the NASF per WSCH targets set by OFM by campus classification and space type and campus has no plan to recalibrate its utilization or space and/or project has no impact on meeting the targets.	0

Criteria: Efficiency of Space Allocation

10 Points Possible

Proposed space allocations are consistent with OFM space allocations or other standards or benchmarks.	Select One
Project demonstrates consistency with OFM space allocations.	5
Project is not consistent with OFM space allocations, but: (1) proposes alternative standards or benchmarks; (2) makes a compelling case why those standards or benchmarks are more applicable to the proposed project than the current OFM space allocations; and (3) documents proposed space use against those standards or benchmarks.	Up to 4
Project is not consistent with the OFM space allocations.	0

Proposed space allocations are consistent with building efficiency guidelines (ASF/GSF).	Select One
Building 60% or more efficient	5
Building 50-60% efficient	3
Building less than 50% efficient	0

RENOVATION CATEGORY CRITERIA

Criteria: Reasonableness of Cost

ORIGINAL — 12 Points Possible

SCORING STANDARD	POINTS
Consistency with OFM cost standards.	Additive; up to 12 points
Total project cost is less than or equal to the expected cost per square foot for the facility type, escalated to the construction mid-point.	10
Project cost is between 100% and 111% of expected cost.	6
Project cost is between 111% and 137% of expected cost.	3
Project cost is more than 137% of expected cost.	0
Demonstrates that project provides more cost-effective enrollment access than alternatives such as university centers and distance learning.	Select Yes (2)/No (0)

PROPOSED — 10 Points Possible

SCORING STANDARD	POINTS
Consistency with OFM cost standards.	Up to 10 points
Total project cost is less than or equal to the expected cost per square foot for the facility type, escalated to the construction mid-point.	10
Project cost is between 100% and 105% of expected cost.	9
Project cost is between 106% and 110% of expected cost.	8
Project cost is between 111% and 115% of expected cost.	7
Project cost is between 116% and 120% of expected cost.	6
Project cost is between 121% and 125% of expected cost.	5
Project cost is between 126% and 130% of expected cost.	4
Project cost is between 131% and 135% of expected cost.	3
Project cost is between 136% and 140% of expected cost.	2
Project cost is between 141% and 145% of expected cost.	1
Project cost is more than 146% of expected cost.	0
REMOVE	

Additional cost considerations (applies only if project cost exceeds OFM cost standards)	Points
Demonstrates that total project cost is outside OFM standards due to exigent circumstances (such as extensive site work), the inclusion of highly-specialized equipment or design features necessary to the programmatic purpose of the facility, or selected systems alternates with significantly lower-than-baseline life cycle costs over 50 years in terms of net present savings.	1 - 2
Total project cost not affected by exigent circumstances, programmatic needs, or selection of energy efficient systems alternates.	0

Additional cost considerations (applies only if project cost exceeds OFM cost standards)	Points
Demonstrates that total project cost is outside OFM standards due to exigent circumstances (such as extensive site work), the inclusion of highly-specialized equipment or design features necessary to the programmatic purpose of the facility, or selected systems alternates with significantly lower-than-baseline life cycle costs over 50 years in terms of net present savings.	1 - 5 (not to exceed 10 points total when combined with points above)
Total project cost not affected by exigent circumstances, programmatic needs, or selection of energy efficient systems alternates.	0

Criteria: Program-related space allocation

ORIGINAL — Weighted average, 6 points possible

Assignable square feet. Percentage of total x points = score	Points
Instructional space (classroom, lab, library)	6
Student advising/counseling services	4
Child care	1
Faculty offices	4
Administrative	3
Maintenance/central stores/student center	4
	= Total Score

PROPOSED — Weighted average, 10 Points Possible

Assignable square feet. Percentage of total x points = score	Points
Instructional Space	10
Research Space	2
Office Space	4
Library + Study/Collaboration Space	10
Other Non-Residential Space	8
Support Space/Physical Plant	6
Weighted score 10 points possible	= Total Score

REPLACEMENT CATEGORY CRITERIA

ORIGINAL

Criteria: Availability of Space

10 Points Possible

SCORING STANDARD	POINTS
Addresses insufficient space on campus to accommodate projected enrollment growth.	Select One
Replaces classroom space on a campus that currently exceeds the 22-hour per classroom seat HECB utilization standard, and replaces class laboratory space to a campus that exceeds the 16-hour per station HECB utilization standard.	1 - 2
Replaces classroom space on a campus that does not exceed the 22-hour per classroom seat HECB utilization standard and project improves the utilization of classroom space.	Up to 5
Replaces class laboratory space on a campus that does not exceed the 16-hour per station HECB utilization standard and project improves the utilization of class laboratories.	Up to 5
Replaces space on a campus that does not meet HECB utilization standards and has no plan to achieve them and/or project has no impact on classroom or class laboratory utilization standards.	0

Criteria: Efficiency of Space Allocation

5 Points Possible

SCORING STANDARD	POINTS
Proposed space allocations are consistent with FEPG benchmarks or other appropriate benchmark.	Select One
Project demonstrates consistency with FEPG space standards.	3
Project is not consistent with FEPG benchmarks, but: (1) proposes alternative standards; (2) makes a compelling case why those standards are more applicable to the proposed project than former HECB space standards; and (3) documents proposed space use against those standards.	Up to 3
Project is not consistent with FEPG or other benchmarks.	0

SCORING STANDARD	POINTS
Proposed space allocations are consistent with building efficiency guidelines (ASF/GSF).	Select One
More than 65% (science building more than 60%)	2
60% – 65% (science building 55% – 60%)	1
Less than 60% (science building less than 55%)	0

PROPOSED

Criteria: Availability of Space

10 Points Possible

SCORING STANDARD	POINTS
Addresses insufficient space on campus to accommodate projected enrollment growth.	Select One
Replaces classroom and/or class laboratory space where the actual NASF per WSCH equals or is less than the NASF per WSCH targets set by OFM by campus classification and by space type.	10
Replaces classroom space and/or class laboratory space where the actual NASF per WSCH for one space type is greater than the NASF per WSCH target and the other meets or is less than the target set by OFM by campus classification and space type but the project lowers the NASF per WSCH for that space type where the actual NASF per WSCH is greater than the target and increases the NASF per WSCH for the other space type.	8
Replaces classroom space and/or class laboratory space where the actual NASF per WSCH is greater than the NASF per WSCH targets set by OFM by campus classification but the project improves its NASF per WSCH to meet the targets.	6
Replaces classroom and/or class laboratory space where the actual NASF per WSCH exceeds the NASF per WSCH targets set by OFM by campus classification and space type and campus has no plan to recalibrate its utilization or space and/or project has no impact on meeting the targets.	0

Criteria: Efficiency of Space Allocation

10 Points Possible

SCORING STANDARD	POINTS
Proposed space allocations are consistent with OFM space allocations or other standards or benchmarks.	Select One
Project demonstrates consistency with OFM space allocations.	5
Project is not consistent with OFM space allocations, but: (1) proposes alternative standards or benchmarks; (2) makes a compelling case why those standards or benchmarks are more applicable to the proposed project than the current OFM space allocations; and (3) documents proposed space use against those standards or benchmarks.	Up to 4
Project is not consistent with the OFM space allocations.	0

SCORING STANDARD	POINTS
Proposed space allocations are consistent with building efficiency guidelines (ASF/GSF).	Select One
Building 60% or more efficient	5
Building 50-60% efficient	3
Building less than 50% efficient	0

REPLACEMENT CATEGORY CRITERIA

ORIGINAL

Criteria: Reasonableness of Cost

12 Points Possible

SCORING STANDARD	POINTS
Consistency with OFM cost standards.	Additive; up to 12 points
Total project cost is less than or equal to the expected cost per square foot for the facility type, escalated to the construction mid-point.	10
Project cost is between 100% and 111% of expected cost.	6
Project cost is between 111% and 137% of expected cost.	3
Project cost is more than 137% of expected cost.	0
Demonstrates that project provides more cost-effective enrollment access than alternatives such as university centers and distance learning.	Select Yes (2)/No (0)

Additional cost considerations (applies only if project cost exceeds OFM cost standards)	Points
Demonstrates that total project cost is outside OFM standards due to exigent circumstances (such as extensive site work), the inclusion of highly-specialized equipment or design features necessary to the programmatic purpose of the facility, or selected systems alternates with significantly lower-than-baseline life cycle costs over 50 years in terms of net present savings.	1 - 2
Total project cost not affected by exigent circumstances, programmatic needs, or selection of energy efficient systems alternates.	0

Criteria: Program-related space allocation

Weighted average, 6 points possible

Assignable square feet. Percentage of total x points = score	Points
Instructional space (classroom, lab, library)	6
Student advising/counseling services	4
Child care	1
Faculty offices	4
Administrative	3
Maintenance/central stores/student center	4
	= Total Score

PROPOSED

Criteria: Reasonableness of Cost

10 Points Possible

SCORING STANDARD	POINTS
Consistency with OFM cost standards.	Up to 10 points
Total project cost is less than or equal to the expected cost per square foot for the facility type, escalated to the construction mid-point.	10
Project cost is between 100% and 105% of expected cost.	9
Project cost is between 106% and 110% of expected cost.	8
Project cost is between 111% and 115% of expected cost.	7
Project cost is between 116% and 120% of expected cost.	6
Project cost is between 121% and 125% of expected cost.	5
Project cost is between 126% and 130% of expected cost.	4
Project cost is between 131% and 135% of expected cost.	3
Project cost is between 136% and 140% of expected cost.	2
Project cost is between 141% and 145% of expected cost.	1
Project cost is more than 146% of expected cost.	0
REMOVE	

Additional cost considerations (applies only if project cost exceeds OFM cost standards)	Points
Demonstrates that total project cost is outside OFM standards due to exigent circumstances (such as extensive site work), the inclusion of highly-specialized equipment or design features necessary to the programmatic purpose of the facility, or selected systems alternates with significantly lower-than-baseline life cycle costs over 50 years in terms of net present savings.	1 - 5 (not to exceed 10 points total when combined with points above)
Total project cost not affected by exigent circumstances, programmatic needs, or selection of energy efficient systems alternates.	0

Criteria: Program-related space allocation

Weighted average, 10 Points Possible

Assignable square feet. Percentage of total x points = score	Points
Instructional Space	10
Research Space	2
Office Space	4
Library + Study/Collaboration Space	10
Other Non-Residential Space	8
Support Space/Physical Plant	6
Weighted score 10 points possible	= Total Score

RESEARCH CATEGORY CRITERIA

ORIGINAL

Criteria: Availability of Instructional Space

10 Points Possible

SCORING STANDARD	POINTS
Addresses insufficient space on campus to accommodate projected enrollment growth.	Select One
Adds/renovates classroom space on a campus that currently exceeds the 22-hour per classroom seat HECB utilization standard, and adds/renovates class laboratory space to a campus that exceeds the 16-hour per station HECB utilization standard.	1 - 2
Adds/renovates classroom space on a campus that does not exceed the 22-hour per classroom seat HECB utilization standard and project improves the utilization of classroom space.	Up to 5
Adds/renovates class laboratory space on a campus that does not exceed the 16-hour per station HECB utilization standard and project improves the utilization of class laboratories.	Up to 5
Adds/renovates space on a campus that does not meet HECB utilization standards and has no plan to achieve them and/or project has no impact on classroom or class laboratory utilization standards.	0

Criteria: Reasonableness of Cost

12 Points Possible

SCORING STANDARD	POINTS
Consistency with OFM cost standards.	Additive; up to 12 points
Total project cost is less than or equal to the expected cost per square foot for the facility type, escalated to the construction mid-point.	10
Project cost is between 100% and 111% of expected cost.	6
Project cost is between 111% and 137% of expected cost.	3
Project cost is more than 137% of expected cost.	0
Demonstrates that project provides more cost-effective enrollment access than alternatives such as university centers and distance learning.	Select Yes (2)/No (0)

PROPOSED

Criteria: Availability of Instructional Space

10 Points Possible

SCORING STANDARD	POINTS
Addresses insufficient space on campus to accommodate projected enrollment growth.	Select One
Adds/Renovates classroom and/or class laboratory space where the actual NASF per WSCH equals or is less than the NASF per WSCH targets set by OFM by campus classification and by space type.	10
Adds/Renovates classroom space and/or class laboratory space where the actual NASF per WSCH for one space type is greater than the NASF per WSCH target and the other meets or is less than the target set by OFM by campus classification and space type but the project lowers the NASF per WSCH for that space type where the actual NASF per WSCH is greater than the target and increases the NASF per WSCH for the other space type.	8
Adds/Renovates classroom space and/or class laboratory space where the actual NASF per WSCH is greater than the NASF per WSCH targets set by OFM by campus classification but the project improves its NASF per WSCH to meet the targets.	6
Adds/Renovates classroom and/or class laboratory space where the actual NASF per WSCH exceeds the NASF per WSCH targets set by OFM by campus classification and space type and campus has no plan to recalibrate its utilization or space and/or project has no impact on meeting the targets.	0

Criteria: Reasonableness of Cost

10 Points Possible

SCORING STANDARD	POINTS
Consistency with OFM cost standards.	Up to 10 points
Total project cost is less than or equal to the expected cost per square foot for the facility type, escalated to the construction mid-point.	10
Project cost is between 100% and 105% of expected cost.	9
Project cost is between 106% and 110% of expected cost.	8
Project cost is between 111% and 115% of expected cost.	7
Project cost is between 116% and 120% of expected cost.	6
Project cost is between 121% and 125% of expected cost.	5
Project cost is between 126% and 130% of expected cost.	4
Project cost is between 131% and 135% of expected cost.	3
Project cost is between 136% and 140% of expected cost.	2
Project cost is between 141% and 145% of expected cost.	1
Project cost is more than 146% of expected cost.	0
REMOVE	

RESEARCH CATEGORY CRITERIA

Criteria: Reasonableness of Cost (continued)

ORIGINAL	
SCORING STANDARD	**POINTS**
Additional cost considerations (applies only if project cost exceeds OFM cost standards)	Points
Demonstrates that total project cost is outside OFM standards due to exigent circumstances (such as extensive site work), the inclusion of highly-specialized equipment or design features necessary to the programmatic purpose of the facility, or selected systems alternates with significantly lower-than-baseline life cycle costs over 50 years in terms of net present savings.	1 - 2
Total project cost not affected by exigent circumstances, programmatic needs, or selection of energy efficient systems alternates.	0

PROPOSED	
SCORING STANDARD	**POINTS**
Additional cost considerations (applies only if project cost exceeds OFM cost standards)	Points
Demonstrates that total project cost is outside OFM standards due to exigent circumstances (such as extensive site work), the inclusion of highly-specialized equipment or design features necessary to the programmatic purpose of the facility, or selected systems alternates with significantly lower-than-baseline life cycle costs over 50 years in terms of net present savings.	1 - 5 (not to exceed 10 points total when combined with points above)
Total project cost not affected by exigent circumstances, programmatic needs, or selection of energy efficient systems alternates.	0

Appendices

Central Washington University
ANALYTICAL OUTCOMES

College/Campus Classification:
Four Year Comprehensive

Student Headcount:	12,185
Student FTE:	10,895

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	98,225
Class Lab WSCH =	21,987
Class Lab WSCH in High Space Demand Programs (HSDP)=	0
Percent of WSCH in HSDP Programs =	0%
Growth in WSCH =	0%

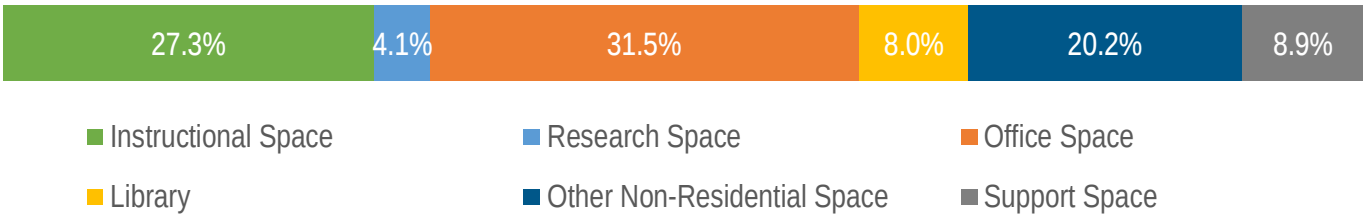
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	2.06	1.18	175%
Class Labs	7.00	4.87	144%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 192 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 121 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	361,438	288,349	73,089	288,349	73,089
Classrooms	*202,392*	*115,905*	*86,487*	*115,905*	*86,487*
Class Laboratories	*153,887*	*107,074*	*46,813*	*107,074*	*46,813*
Open Laboratories	*5,159*	*65,370*	*(60,211)*	*65,370*	*(60,211)*
Research Space	54,279	57,728	(3,449)	57,728	(3,449)
Office Space	417,043	261,875	155,168	261,875	155,168
Library	106,211	126,481	(20,270)	130,218	(24,007)
Other Non-Residential Space	266,766	283,886	(17,120)	283,886	(17,120)
Support Space	117,392	84,402	32,990	84,402	32,990
TOTAL	**1,323,129**	**1,102,720**	**220,409**	**1,106,458**	**216,671**

Eastern Washington University M
ANALYTICAL OUTCOMES

College/Campus Classification:
Four Year Comprehensive

Student Headcount:	12,635
Student FTE:	11,469

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	117,977
Class Lab WSCH =	23,765
Class Lab WSCH in High Space Demand Programs (HSDP)=	0
Percent of WSCH in HSDP Programs =	0%
Growth in WSCH =	0%

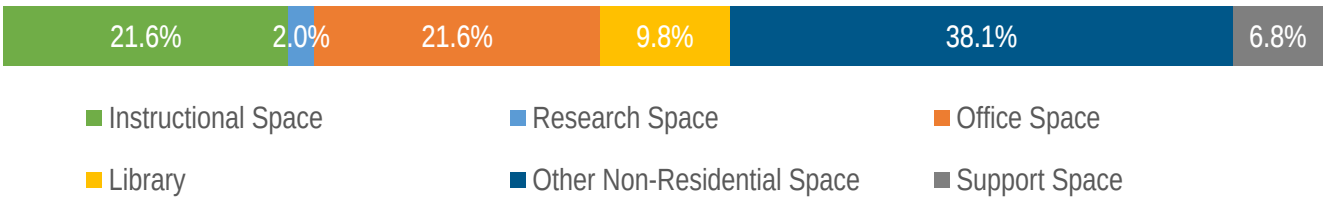
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	0.91	1.18	77%
Class Labs	3.93	4.87	81%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 158 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 100 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	248,424	323,762	(75,338)	325,256	(76,832)
Classrooms	*107,579*	*139,213*	*(31,634)*	*139,855*	*(32,276)*
Class Laboratories	*93,503*	*115,736*	*(22,233)*	*116,269*	*(22,766)*
Open Laboratories	*47,342*	*68,814*	*(21,472)*	*69,131*	*(21,789)*
Research Space	22,802	28,160	(5,358)	28,160	(5,358)
Office Space	248,948	262,025	(13,077)	279,085	(30,137)
Library	113,147	145,608	(32,460)	156,998	(43,851)
Other Non-Residential Space	438,696	364,562	74,134	365,620	73,076
Support Space	77,964	75,041	2,923	75,041	2,923
TOTAL	**1,149,982**	**1,199,158**	**(49,176)**	**1,230,160**	**(80,178)**

The Evergreen State College
ANALYTICAL OUTCOMES

College/Campus Classification:

Four Year (Under 6,000 FTE)

Student Headcount:	3,907
Student FTE:	3,924

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	47,097
Class Lab WSCH =	18,721
Class Lab WSCH in High Space Demand Programs (HSDP)=	0
Percent of WSCH in HSDP Programs =	0%
Growth in WSCH =	-1%

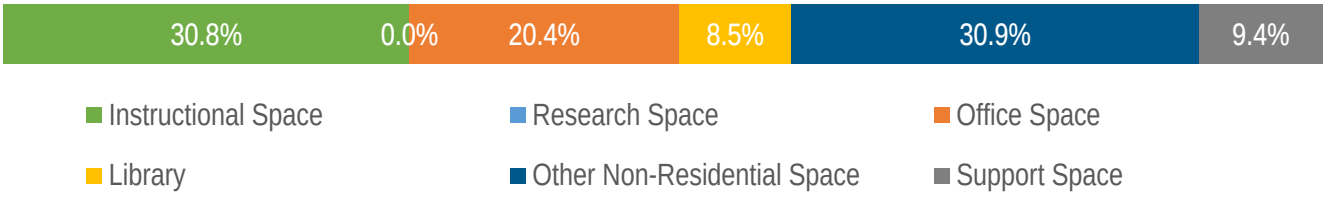
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.80	1.32	136%
Class Labs	4.59	5.42	85%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 165 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 182 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	219,856	187,180	32,676	184,976	34,879
Classrooms	*84,743*	*62,168*	*22,575*	*61,436*	*23,307*
Class Laboratories	*85,900*	*101,468*	*(15,568)*	*100,273*	*(14,373)*
Open Laboratories	*49,212*	*23,544*	*25,668*	*23,267*	*25,945*
Research Space	0	0	0	0	0
Office Space	145,774	117,150	28,624	117,150	28,624
Library	60,931	50,710	10,221	49,584	11,347
Other Non-Residential Space	220,500	176,580	43,920	174,501	45,999
Support Space	66,907	32,353	34,554	32,353	34,554
TOTAL	**713,968**	**563,973**	**149,995**	**558,564**	**155,404**

UW - Bothell Campus
ANALYTICAL OUTCOMES

College/Campus Classification:

Four Year (Under 6,000 FTE)

Student Headcount:	5,989
Student FTE:	5,561

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	76,233
Class Lab WSCH =	4,240
Class Lab WSCH in High Space Demand Programs (HSDP)=	0
Percent of WSCH in HSDP Programs =	0%
Growth in WSCH =	0%

UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	0.68	1.32	51%
Class Labs	5.78	5.42	107%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 167 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 56 NASF

AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	84,928	156,977	(72,049)	156,977	(72,049)
Classrooms	*51,779*	*100,628*	*(48,849)*	*100,628*	*(48,849)*
Class Laboratories	*24,504*	*22,981*	*1,523*	*22,981*	*1,523*
Open Laboratories	*8,645*	*33,368*	*(24,723)*	*33,368*	*(24,723)*
Research Space	11,062	21,120	(10,058)	21,120	(10,058)
Office Space	108,559	110,385	(1,826)	110,385	(1,826)
Library	48,529	43,244	5,285	46,842	1,687
Other Non-Residential Space	46,354	111,228	(64,874)	111,228	(64,874)
Support Space	10,351	14,972	(4,621)	14,972	(4,621)
TOTAL	**309,783**	**457,926**	**(148,143)**	**461,523**	**(151,740)**

UW - Seattle Main Campus
ANALYTICAL OUTCOMES

College/Campus Classification:
Major Research Institutions

Student Headcount:	47,899
Student FTE:	48,941

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	746,355
Class Lab WSCH =	93,432
Class Lab WSCH in High Space Demand Programs (HSDP)=	11,059
Percent of WSCH in HSDP Programs =	12%
Growth in WSCH =	0%

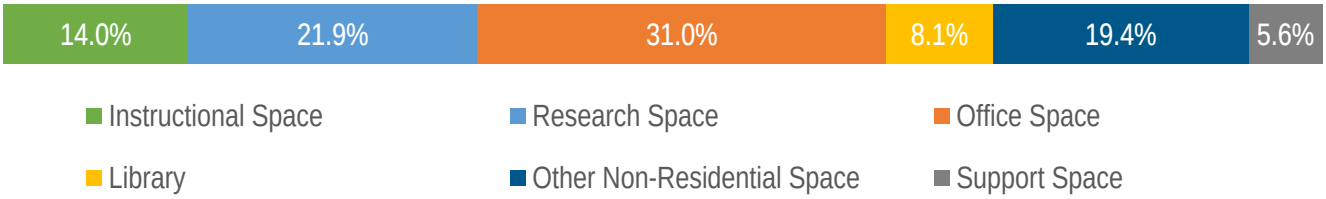
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	0.65	1.13	57%
Class Labs	3.80	3.91	97%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 162 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 149 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	1,025,270	1,551,338	(526,068)	1,551,338	(526,068)
Classrooms	*483,050*	*843,381*	*(360,331)*	*843,381*	*(360,331)*
Class Laboratories	*354,968*	*414,310*	*(59,342)*	*414,310*	*(59,342)*
Open Laboratories	*187,252*	*293,646*	*(106,394)*	*293,646*	*(106,394)*
Research Space	1,598,333	2,323,584	(725,251)	2,323,584	(725,251)
Office Space	2,266,578	3,036,740	(770,162)	3,036,740	(770,162)
Library	589,199	748,322	(159,123)	870,852	(281,653)
Other Non-Residential Space	1,416,903	1,590,421	(173,518)	1,590,421	(173,518)
Support Space	409,301	413,777	(4,476)	413,777	(4,476)
TOTAL	**7,305,584**	**9,664,182**	**(2,358,598)**	**9,786,712**	**(2,481,128)**

UW - Tacoma Campus
ANALYTICAL OUTCOMES

College/Campus Classification:

Four Year (Under 6,000 FTE)

Student Headcount:	5,375
Student FTE:	5,019

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	78,118
Class Lab WSCH =	4,775
Class Lab WSCH in High Space Demand Programs (HSDP)=	0
Percent of WSCH in HSDP Programs =	0%
Growth in WSCH =	0%

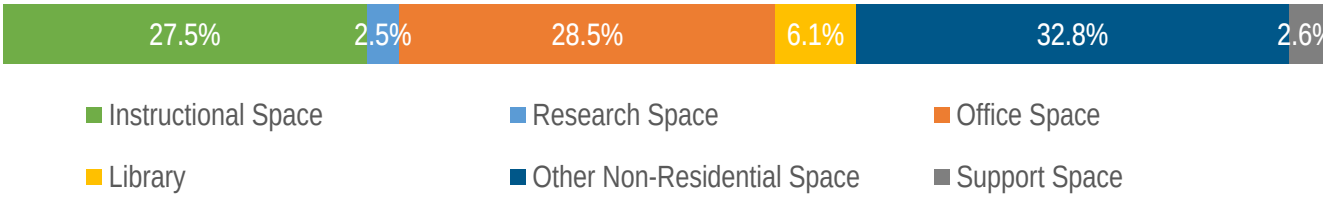
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	0.90	1.32	68%
Class Labs	4.10	5.42	76%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 187 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 70 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	96,475	159,110	(62,635)	159,110	(62,635)
Classrooms	*70,209*	*103,116*	*(32,907)*	*103,116*	*(32,907)*
Class Laboratories	*19,590*	*25,881*	*(6,291)*	*25,881*	*(6,291)*
Open Laboratories	*6,676*	*30,114*	*(23,438)*	*30,114*	*(23,438)*
Research Space	8,666	21,120	(12,454)	21,120	(12,454)
Office Space	99,774	102,435	(2,661)	102,435	(2,661)
Library	21,443	40,004	(18,561)	44,905	(23,462)
Other Non-Residential Space	114,893	100,380	14,513	100,380	14,513
Support Space	8,941	17,063	(8,122)	17,063	(8,122)
TOTAL	**350,192**	**440,112**	**(89,920)**	**445,013**	**(94,821)**

Western Washington University
ANALYTICAL OUTCOMES

College/Campus Classification:

Four Year Comprehensive

Student Headcount:	16,121
Student FTE:	15,051

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	176,916
Class Lab WSCH =	37,304
Class Lab WSCH in High Space Demand Programs (HSDP)=	2,352
Percent of WSCH in HSDP Programs =	6%
Growth in WSCH =	0%

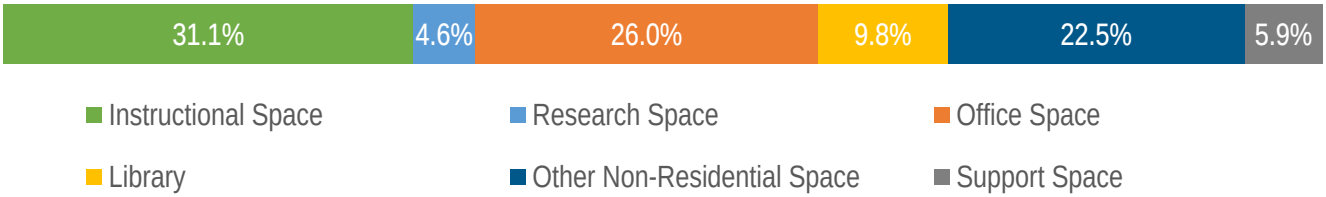
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	0.95	1.18	80%
Class Labs	3.61	4.87	74%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 173 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 90 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	420,301	488,899	(68,598)	489,325	(69,024)
Classrooms	*167,589*	*208,761*	*(41,172)*	*208,943*	*(41,354)*
Class Laboratories	*134,821*	*189,832*	*(55,011)*	*189,997*	*(55,176)*
Open Laboratories	*117,891*	*90,306*	*27,585*	*90,385*	*27,506*
Research Space	62,719	143,616	(80,897)	143,616	(80,897)
Office Space	351,813	331,575	20,238	340,065	11,748
Library	132,917	190,137	(57,220)	196,438	(63,521)
Other Non-Residential Space	304,126	306,515	(2,389)	306,777	(2,651)
Support Space	79,794	89,031	(9,237)	89,031	(9,237)
TOTAL	**1,351,670**	**1,549,773**	**(198,103)**	**1,565,252**	**(213,582)**

WSU Everett
ANALYTICAL OUTCOMES

College/Campus Classification:

Four Year (Under 6,000 FTE)

Student Headcount:	275
Student FTE:	212

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	2,171
Class Lab WSCH =	792
Class Lab WSCH in High Space Demand Programs (HSDP)=	587
Percent of WSCH in HSDP Programs =	74%
Growth in WSCH =	0%

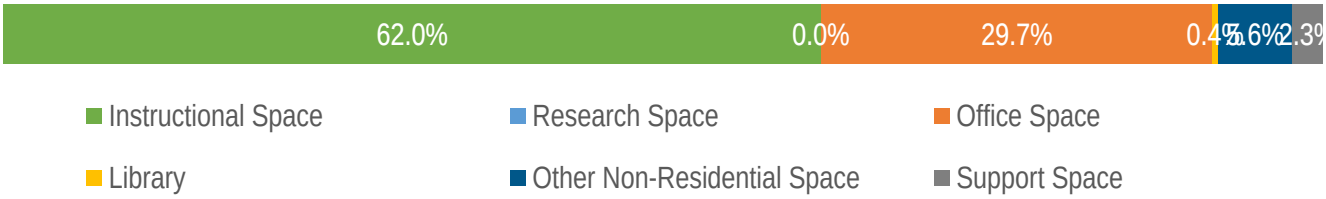
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	8.38	1.32	635%
Class Labs	15.84	5.42	292%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 174 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 267 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	35,064	10,144	24,920	10,144	24,920
Classrooms	*18,200*	*2,865*	*15,335*	*2,865*	*15,335*
Class Laboratories	*12,543*	*6,007*	*6,536*	*6,007*	*6,536*
Open Laboratories	*4,321*	*1,272*	*3,049*	*1,272*	*3,049*
Research Space	0	0	0	0	0
Office Space	16,788	7,475	9,313	8,235	8,553
Library	226	1,588	(1,362)	1,808	(1,582)
Other Non-Residential Space	3,184	4,240	(1,056)	4,240	(1,056)
Support Space	1,308	2,763	(1,455)	2,763	(1,455)
TOTAL	**56,570**	**26,210**	**30,360**	**27,190**	**29,380**

WSU Pullman
ANALYTICAL OUTCOMES

College/Campus Classification:

Major Research Institutions

Student Headcount:	21,022
Student FTE:	20,277

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	253,317
Class Lab WSCH =	67,823
Class Lab WSCH in High Space Demand Programs (HSDP)=	26,732
Percent of WSCH in HSDP Programs =	39%
Growth in WSCH =	0%

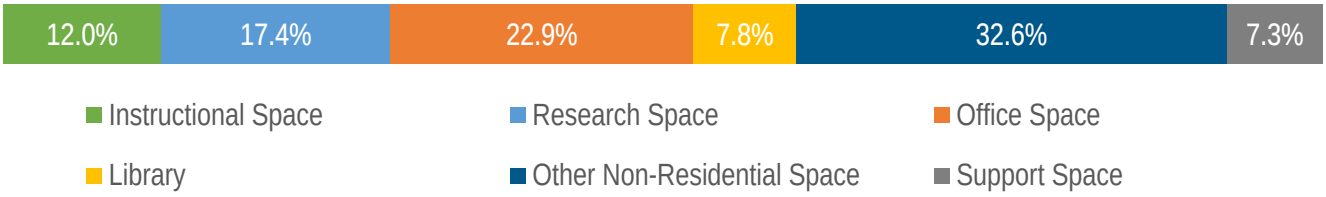
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	0.92	1.13	81%
Class Labs	2.97	3.91	76%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 184 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 239 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	581,110	791,522	(210,412)	793,381	(212,271)
Classrooms	*233,023*	*286,248*	*(53,225)*	*286,920*	*(53,897)*
Class Laboratories	*201,099*	*383,612*	*(182,513)*	*384,513*	*(183,414)*
Open Laboratories	*146,988*	*121,662*	*25,326*	*121,948*	*25,040*
Research Space	843,759	765,600	78,159	765,600	78,159
Office Space	1,114,197	762,570	351,627	772,590	341,607
Library	379,759	298,907	80,852	318,631	61,128
Other Non-Residential Space	1,584,059	1,225,101	358,958	1,226,292	357,768
Support Space	352,310	315,202	37,108	315,202	37,108
TOTAL	**4,855,194**	**4,158,903**	**696,291**	**4,191,696**	**663,498**

WSU Spokane
ANALYTICAL OUTCOMES

College/Campus Classification:
Four Year (Under 6,000 FTE)

Student Headcount:	1,677
Student FTE:	1,570

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	19,085
Class Lab WSCH =	7,288
Class Lab WSCH in High Space Demand Programs (HSDP)=	0
Percent of WSCH in HSDP Programs =	0%
Growth in WSCH =	0%

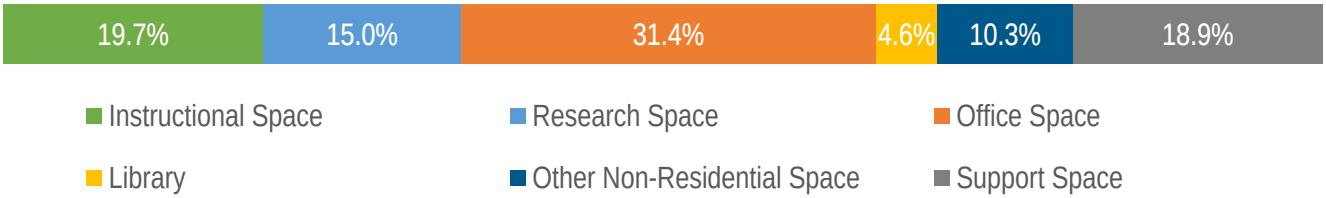
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.97	1.32	149%
Class Labs	2.90	5.42	54%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 188 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 281 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	86,960	74,114	12,846	74,114	12,846
Classrooms	*37,642*	*25,192*	*12,450*	*25,192*	*12,450*
Class Laboratories	*21,165*	*39,502*	*(18,337)*	*39,502*	*(18,337)*
Open Laboratories	*28,153*	*9,420*	*18,733*	*9,420*	*18,733*
Research Space	66,204	96,637	(30,433)	96,637	(30,433)
Office Space	138,754	100,420	38,334	100,420	38,334
Library	20,424	15,135	5,289	23,696	(3,272)
Other Non-Residential Space	45,511	58,941	(13,430)	58,941	(13,430)
Support Space	83,462	17,893	65,569	17,893	65,569
TOTAL	**441,315**	**363,139**	**78,176**	**371,700**	**69,615**

WSU Tri-Cities
ANALYTICAL OUTCOMES

College/Campus Classification:

Four Year (Under 6,000 FTE)

Student Headcount:	1,841
Student FTE:	1,518

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	18,550
Class Lab WSCH =	6,168
Class Lab WSCH in High Space Demand Programs (HSDP)=	2,481
Percent of WSCH in HSDP Programs =	40%
Growth in WSCH =	0%

UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.62	1.32	123%
Class Labs	1.37	5.42	25%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 190 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 146 NASF

AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	50,007	74,270	(24,263)	74,270	(24,263)
Classrooms	*30,016*	*24,486*	*5,530*	*24,486*	*5,530*
Class Laboratories	*8,473*	*40,676*	*(32,203)*	*40,676*	*(32,203)*
Open Laboratories	*11,518*	*9,108*	*2,410*	*9,108*	*2,410*
Research Space	44,928	30,784	14,144	30,784	14,144
Office Space	64,557	59,525	5,032	59,525	5,032
Library	21,373	15,247	6,126	16,495	4,878
Other Non-Residential Space	29,248	30,360	(1,112)	30,360	(1,112)
Support Space	10,798	10,506	292	10,506	292
TOTAL	**220,911**	**220,692**	**219**	**221,939**	**(1,028)**

WSU Vancouver
ANALYTICAL OUTCOMES

College/Campus Classification:

Four Year (Under 6,000 FTE)

Student Headcount:	3,577
Student FTE:	2,997

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	29,057
Class Lab WSCH =	10,881
Class Lab WSCH in High Space Demand Programs (HSDP)=	2,658
Percent of WSCH in HSDP Programs =	24%
Growth in WSCH =	26%

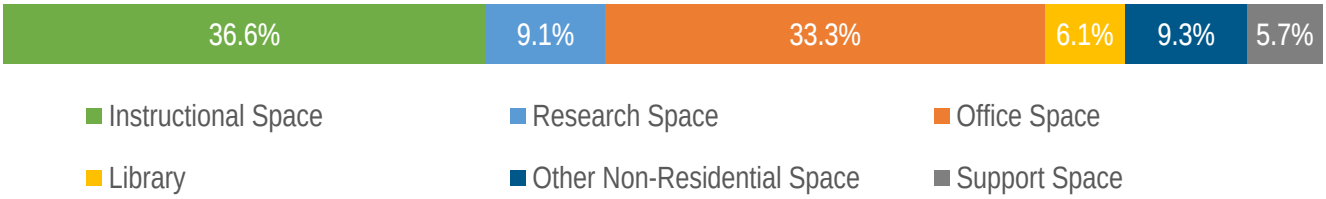
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	2.01	1.32	153%
Class Labs	4.03	5.42	74%
Class Lab Target for HSDPs		8.34	

AVERAGE OFFICE ROOM SIZE = 200 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 104 NASF



AVAILABILITY OF SPACE OUTCOMES

		Current		Expected Next Biennia	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	114,234	123,072	(8,838)	154,980	(40,746)
Classrooms	*58,516*	*38,356*	*20,160*	*48,300*	*10,216*
Class Laboratories	*43,888*	*66,735*	*(22,847)*	*84,036*	*(40,148)*
Open Laboratories	*11,830*	*17,982*	*(6,152)*	*22,644*	*(10,814)*
Research Space	28,288	44,896	(16,608)	44,896	(16,608)
Office Space	104,089	77,690	26,399	79,375	24,714
Library	18,950	23,312	(4,362)	26,065	(7,115)
Other Non-Residential Space	28,923	59,940	(31,017)	75,480	(46,557)
Support Space	17,855	14,724	3,131	14,724	3,131
TOTAL	**312,339**	**343,635**	**(31,296)**	**395,520**	**(83,181)**

Bates Technical College
ANALYTICAL OUTCOMES

College/Campus Classification:
Technical College

Student Headcount:	2,185
Student FTE:	1,988

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	11,758
Class Lab WSCH =	19,709
Class Lab WSCH in High Space Demand Programs (HSDP)=	14,558
Percent of WSCH in HSDP Programs =	74%
Growth in WSCH =	0%

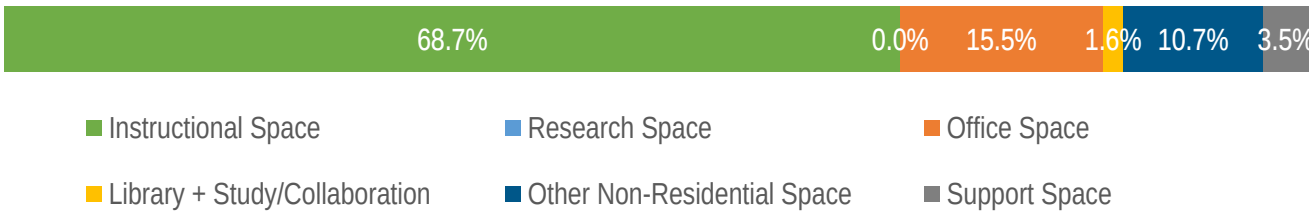
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.09	1.61	68%
Class Labs	10.97	6.78	162%
Class Lab Target for HSDPs		17.71	

AVERAGE OFFICE ROOM SIZE = 230 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 227 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	310,285	351,430	(41,145)	351,430	(41,145)
Classrooms	*12,814*	*18,931*	*(6,117)*	*18,931*	*(6,117)*
Class Laboratories	*216,141*	*292,739*	*(76,598)*	*292,739*	*(76,598)*
Open Laboratories	*81,330*	*39,760*	*41,570*	*39,760*	*41,570*
Research Space	0	0	0	0	0
Office Space	70,133	52,460	17,673	52,460	17,673
Library + Study/Collaboration	7,183	9,110	(1,927)	9,249	(2,066)
Other Non-Residential Space	48,302	39,760	8,542	39,760	8,542
Support Space	15,923	13,077	2,846	13,077	2,846
TOTAL	**451,826**	**465,837**	**(14,011)**	**465,977**	**(14,151)**

Bellevue College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (Over 3,000 FTE)

Student Headcount:	12,130
Student FTE:	8,252

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	110,686
Class Lab WSCH =	14,562
Class Lab WSCH in High Space Demand Programs (HSDP)=	168
Percent of WSCH in HSDP Programs =	1%
Growth in WSCH =	0%

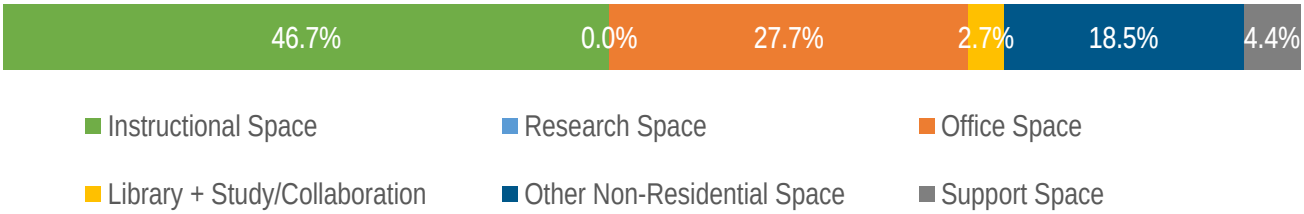
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.54	1.32	117%
Class Labs	10.14	5.42	187%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 202 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 94 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	361,101	285,212	75,889	285,212	75,889
Classrooms	*170,852*	*146,105*	*24,747*	*146,105*	*24,747*
Class Laboratories	*147,589*	*81,342*	*66,247*	*81,342*	*66,247*
Open Laboratories	*42,660*	*57,765*	*(15,105)*	*57,765*	*(15,105)*
Research Space	0	0	0	0	0
Office Space	214,055	164,675	49,380	164,675	49,380
Library + Study/Collaboration	21,136	52,242	(31,106)	52,242	(31,106)
Other Non-Residential Space	143,064	165,044	(21,980)	165,044	(21,980)
Support Space	33,746	36,968	(3,222)	36,968	(3,222)
TOTAL	**773,102**	**704,141**	**68,961**	**704,141**	**68,961**

Bellingham Technical College
ANALYTICAL OUTCOMES

College/Campus Classification:
Technical College

Student Headcount:	2,559
Student FTE:	1,740

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	19,414
Class Lab WSCH =	13,768
Class Lab WSCH in High Space Demand Programs (HSDP)=	8,745
Percent of WSCH in HSDP Programs =	64%
Growth in WSCH =	0%

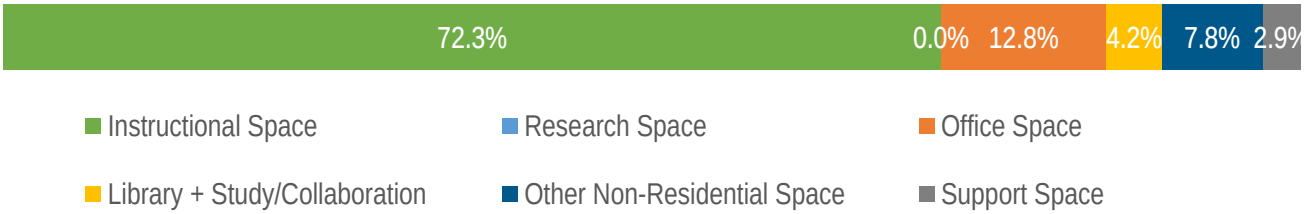
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.80	1.61	112%
Class Labs	13.39	6.78	197%
Class Lab Target for HSDPs		17.71	

AVERAGE OFFICE ROOM SIZE = 146 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 190 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	238,865	254,979	(16,114)	254,979	(16,114)
Classrooms	*34,879*	*31,257*	*3,622*	*31,257*	*3,622*
Class Laboratories	*184,328*	*188,930*	*(4,602)*	*188,930*	*(4,602)*
Open Laboratories	*19,658*	*34,792*	*(15,134)*	*34,792*	*(15,134)*
Research Space	0	0	0	0	0
Office Space	42,175	38,675	3,500	38,675	3,500
Library + Study/Collaboration	14,010	11,245	2,765	11,259	2,751
Other Non-Residential Space	25,719	34,792	(9,073)	34,792	(9,073)
Support Space	9,630	9,623	7	9,623	7
TOTAL	**330,399**	**349,314**	**(18,915)**	**349,328**	**(18,929)**

Cascadia College
ANALYTICAL OUTCOMES

College/Campus Classification:

Community Colleges (3,000 FTE and Under)

Student Headcount:	3,175
Student FTE:	2,196

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	32,046
Class Lab WSCH =	1,900
Class Lab WSCH in High Space Demand Programs (HSDP)=	74
Percent of WSCH in HSDP Programs =	4%
Growth in WSCH =	0%

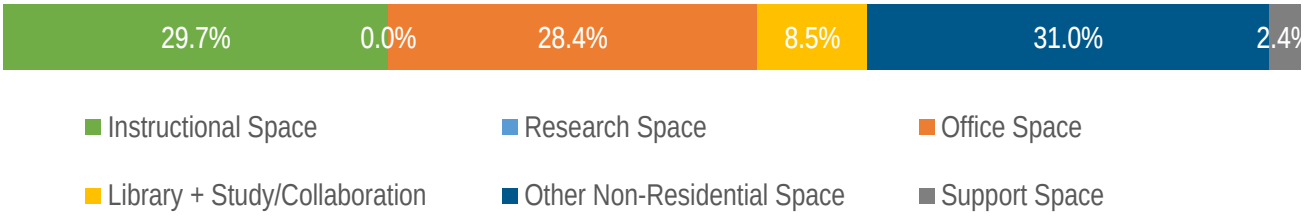
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	0.83	1.61	52%
Class Labs	8.91	6.78	131%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 175 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 67 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	43,545	89,593	(46,048)	89,593	(46,048)
Classrooms	*26,619*	*51,594*	*(24,975)*	*51,594*	*(24,975)*
Class Laboratories	*16,926*	*13,845*	*3,081*	*13,845*	*3,081*
Open Laboratories	*0*	*24,153*	*(24,153)*	*24,153*	*(24,153)*
Research Space	0	0	0	0	0
Office Space	41,719	34,195	7,524	34,195	7,524
Library + Study/Collaboration	12,471	24,448	(11,977)	24,448	(11,977)
Other Non-Residential Space	45,418	109,787	(64,369)	109,787	(64,369)
Support Space	3,534	4,295	(761)	4,295	(761)
TOTAL	**146,687**	**262,316**	**(115,629)**	**262,316**	**(115,629)**

Columbia Basin College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (Over 3,000 FTE)

Student Headcount:	5,763
Student FTE:	3,831

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	52,558
Class Lab WSCH =	23,163
Class Lab WSCH in High Space Demand Programs (HSDP)=	3,942
Percent of WSCH in HSDP Programs =	17%
Growth in WSCH =	0%

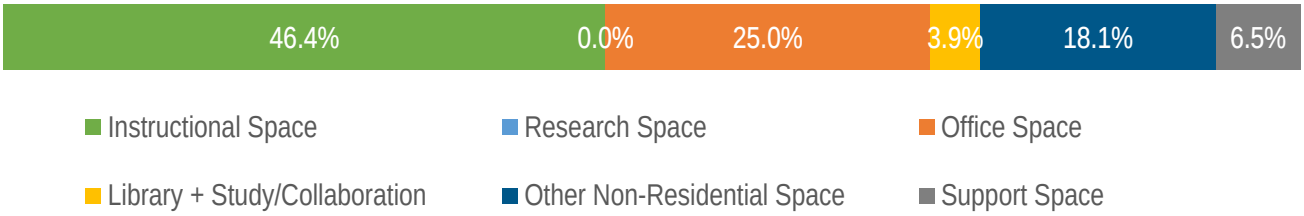
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	2.41	1.32	182%
Class Labs	5.31	5.42	98%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 194 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 168 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	298,702	278,423	20,279	278,423	20,279
Classrooms	*126,417*	*69,377*	*57,040*	*69,377*	*57,040*
Class Laboratories	*122,975*	*182,229*	*(59,254)*	*182,229*	*(59,254)*
Open Laboratories	*49,310*	*26,817*	*22,493*	*26,817*	*22,493*
Research Space	0	0	0	0	0
Office Space	160,828	71,690	89,138	71,690	89,138
Library + Study/Collaboration	25,108	26,280	(1,172)	26,083	(975)
Other Non-Residential Space	116,671	76,619	40,052	76,619	40,052
Support Space	41,941	30,065	11,876	30,065	11,876
TOTAL	**643,250**	**483,077**	**160,173**	**482,881**	**160,369**

Centralia College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (3,000 FTE and Under)

Student Headcount:	2,296
Student FTE:	1,735

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	21,235
Class Lab WSCH =	6,942
Class Lab WSCH in High Space Demand Programs (HSDP)=	2,340
Percent of WSCH in HSDP Programs =	34%
Growth in WSCH =	0%

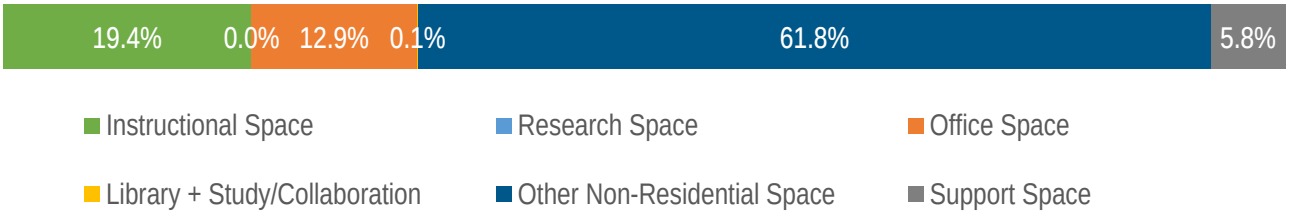
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.98	1.61	123%
Class Labs	1.22	6.78	18%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 150 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 154 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	51,956	130,811	(78,855)	130,811	(78,855)
Classrooms	*42,121*	*34,189*	*7,932*	*34,189*	*7,932*
Class Laboratories	*8,451*	*77,532*	*(69,081)*	*77,532*	*(69,081)*
Open Laboratories	*1,384*	*19,090*	*(17,706)*	*19,090*	*(17,706)*
Research Space	0	0	0	0	0
Office Space	34,582	46,125	(11,543)	46,125	(11,543)
Library + Study/Collaboration	320	20,851	(20,531)	20,851	(20,531)
Other Non-Residential Space	165,611	86,773	78,838	86,773	78,838
Support Space	15,601	7,574	8,027	7,574	8,027
TOTAL	**268,070**	**292,134**	**(24,064)**	**292,134**	**(24,064)**

Clark College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (Over 3,000 FTE)

Student Headcount:	8,904
Student FTE:	5,574

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	71,275
Class Lab WSCH =	19,139
Class Lab WSCH in High Space Demand Programs (HSDP)=	5,125
Percent of WSCH in HSDP Programs =	27%
Growth in WSCH =	0%

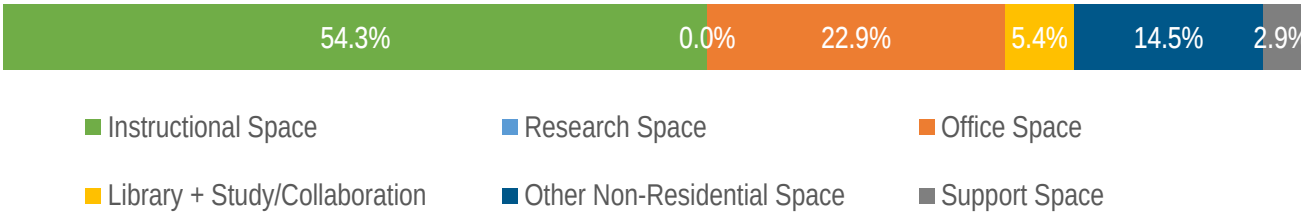
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.80	1.32	136%
Class Labs	10.23	5.42	189%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 164 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 115 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	348,720	310,530	38,190	310,530	38,190
Classrooms	*128,414*	*94,083*	*34,331*	*94,083*	*34,331*
Class Laboratories	*195,765*	*177,427*	*18,338*	*177,427*	*18,338*
Open Laboratories	*24,541*	*39,019*	*(14,478)*	*39,019*	*(14,478)*
Research Space	0	0	0	0	0
Office Space	147,342	124,840	22,502	124,840	22,502
Library + Study/Collaboration	34,464	40,762	(6,298)	40,373	(5,909)
Other Non-Residential Space	93,471	111,484	(18,013)	111,484	(18,013)
Support Space	18,522	31,200	(12,678)	31,200	(12,678)
TOTAL	**642,519**	**618,816**	**23,703**	**618,427**	**24,092**

Edmonds Community College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (Over 3,000 FTE)

Student Headcount:	7,208
Student FTE:	4,733

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	61,410
Class Lab WSCH =	12,228
Class Lab WSCH in High Space Demand Programs (HSDP)=	1,909
Percent of WSCH in HSDP Programs =	16%
Growth in WSCH =	0%

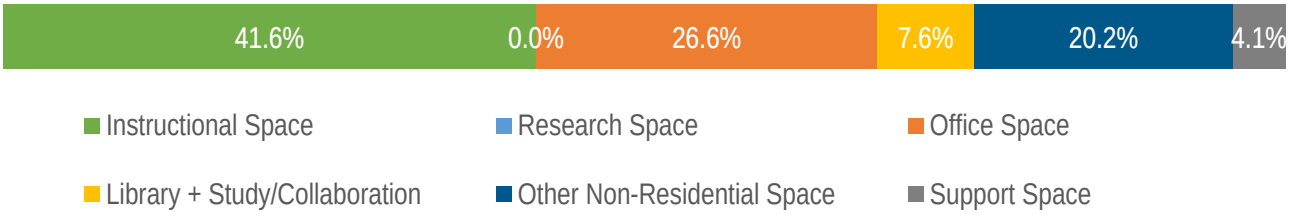
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	0.85	1.32	65%
Class Labs	8.83	5.42	163%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 166 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 88 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	173,855	207,923	(34,068)	207,923	(34,068)
Classrooms	*52,470*	*81,061*	*(28,591)*	*81,061*	*(28,591)*
Class Laboratories	*107,984*	*93,729*	*14,255*	*93,729*	*14,255*
Open Laboratories	*13,401*	*33,133*	*(19,732)*	*33,133*	*(19,732)*
Research Space	0	0	0	0	0
Office Space	111,385	116,805	(5,420)	116,805	(5,420)
Library + Study/Collaboration	31,592	30,648	944	30,503	1,089
Other Non-Residential Space	84,462	94,667	(10,205)	94,667	(10,205)
Support Space	17,022	20,065	(3,043)	20,065	(3,043)
TOTAL	**418,316**	**470,107**	**(51,791)**	**469,962**	**(51,646)**

Everett Community College
ANALYTICAL OUTCOMES

College/Campus Classification:

Community Colleges (Over 3,000 FTE)

Student Headcount:	7,080
Student FTE:	4,774

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	59,363
Class Lab WSCH =	19,484
Class Lab WSCH in High Space Demand Programs (HSDP)=	4,938
Percent of WSCH in HSDP Programs =	25%
Growth in WSCH =	0%

UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.45	1.32	110%
Class Labs	11.30	5.42	209%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 154 NASF

EXISTING SPACE DISTRIBUTION

*SBCTC evaluates projects based upon 10-year enrollment projections.

Space per Student = 130 NASF

AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	349,782	288,385	61,397	288,385	61,397
Classrooms	*85,959*	*78,359*	*7,600*	*78,359*	*7,600*
Class Laboratories	*220,211*	*176,609*	*43,602*	*176,609*	*43,602*
Open Laboratories	*43,612*	*33,417*	*10,195*	*33,417*	*10,195*
Research Space	0	0	0	0	0
Office Space	101,650	107,875	(6,225)	107,875	(6,225)
Library + Study/Collaboration	8,586	32,316	(23,730)	32,214	(23,628)
Other Non-Residential Space	118,203	95,477	22,726	95,477	22,726
Support Space	41,054	28,911	12,143	28,911	12,143
TOTAL	**619,275**	**552,964**	**66,311**	**552,862**	**66,413**

Highline College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (Over 3,000 FTE)

Student Headcount:	8,751
Student FTE:	6,051

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	81,935
Class Lab WSCH =	8,397
Class Lab WSCH in High Space Demand Programs (HSDP)=	148
Percent of WSCH in HSDP Programs =	2%
Growth in WSCH =	0%

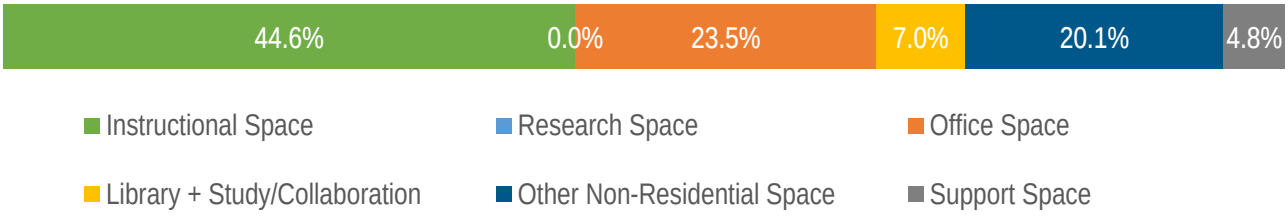
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.18	1.32	90%
Class Labs	9.56	5.42	176%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 185 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 75 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	203,896	198,152	5,744	198,152	5,744
Classrooms	*96,846*	*108,155*	*(11,309)*	*108,155*	*(11,309)*
Class Laboratories	*80,239*	*47,642*	*32,597*	*47,642*	*32,597*
Open Laboratories	*26,811*	*42,356*	*(15,545)*	*42,356*	*(15,545)*
Research Space	0	0	0	0	0
Office Space	107,136	115,355	(8,219)	115,355	(8,219)
Library + Study/Collaboration	31,831	41,242	(9,411)	41,242	(9,411)
Other Non-Residential Space	91,797	121,018	(29,221)	121,018	(29,221)
Support Space	22,092	21,733	359	21,733	359
TOTAL	**456,752**	**497,500**	**(40,748)**	**497,500**	**(40,748)**

Peninsula College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (3,000 FTE and Under)

Student Headcount:	1,323
Student FTE:	1,013

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	11,051
Class Lab WSCH =	3,210
Class Lab WSCH in High Space Demand Programs (HSDP)=	1,379
Percent of WSCH in HSDP Programs =	43%
Growth in WSCH =	0%

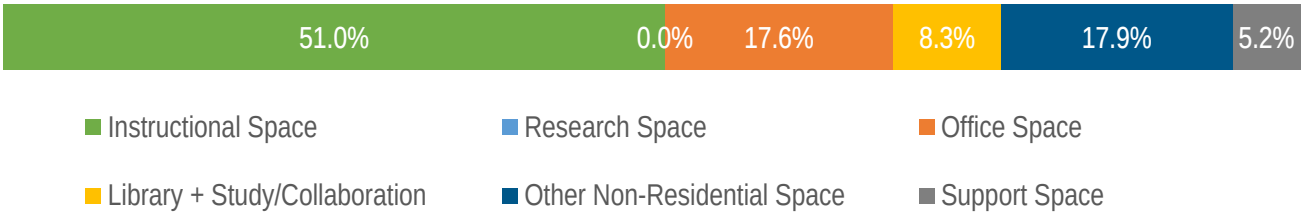
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	5.62	1.61	349%
Class Labs	20.95	6.78	309%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 157 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 278 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	143,740	68,654	75,086	68,654	75,086
Classrooms	*62,111*	*17,792*	*44,319*	*17,792*	*44,319*
Class Laboratories	*67,255*	*39,718*	*27,537*	*39,718*	*27,537*
Open Laboratories	*14,374*	*11,145*	*3,229*	*11,145*	*3,229*
Research Space	0	0	0	0	0
Office Space	49,634	36,445	13,189	36,445	13,189
Library + Study/Collaboration	23,458	13,801	9,657	13,837	9,621
Other Non-Residential Space	50,321	50,658	(337)	50,658	(337)
Support Space	14,708	8,015	6,693	8,015	6,693
TOTAL	**281,861**	**177,573**	**104,288**	**177,609**	**104,252**

Shoreline Community College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (Over 3,000 FTE)

Student Headcount:	5,289
Student FTE:	3,960

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	51,887
Class Lab WSCH =	10,806
Class Lab WSCH in High Space Demand Programs (HSDP)=	1,771
Percent of WSCH in HSDP Programs =	16%
Growth in WSCH =	0%

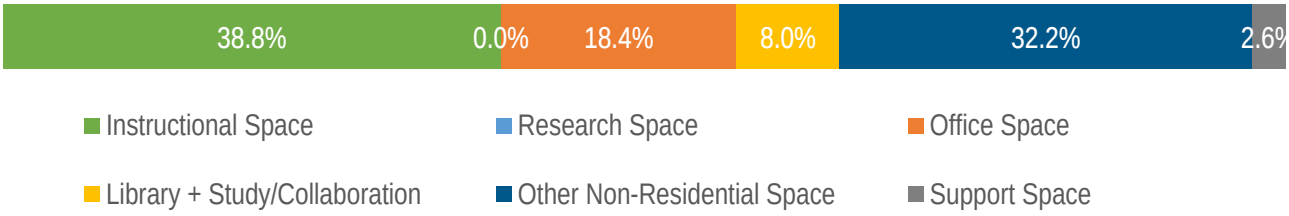
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.07	1.32	81%
Class Labs	7.20	5.42	133%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 173 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 99 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	152,896	180,243	(27,347)	180,243	(27,347)
Classrooms	*55,679*	*68,491*	*(12,812)*	*68,491*	*(12,812)*
Class Laboratories	*77,775*	*84,032*	*(6,257)*	*84,032*	*(6,257)*
Open Laboratories	*19,442*	*27,720*	*(8,278)*	*27,720*	*(8,278)*
Research Space	0	0	0	0	0
Office Space	72,332	85,545	(13,213)	85,545	(13,213)
Library + Study/Collaboration	31,624	20,363	11,261	20,363	11,261
Other Non-Residential Space	126,744	79,200	47,544	79,200	47,544
Support Space	10,132	19,180	(9,048)	19,180	(9,048)
TOTAL	**393,728**	**384,530**	**9,198**	**384,530**	**9,198**

Skagit Valley College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (3,000 FTE and Under)

Student Headcount:	3,235
Student FTE:	2,279

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	27,851
Class Lab WSCH =	6,460
Class Lab WSCH in High Space Demand Programs (HSDP)=	3,421
Percent of WSCH in HSDP Programs =	53%
Growth in WSCH =	0%

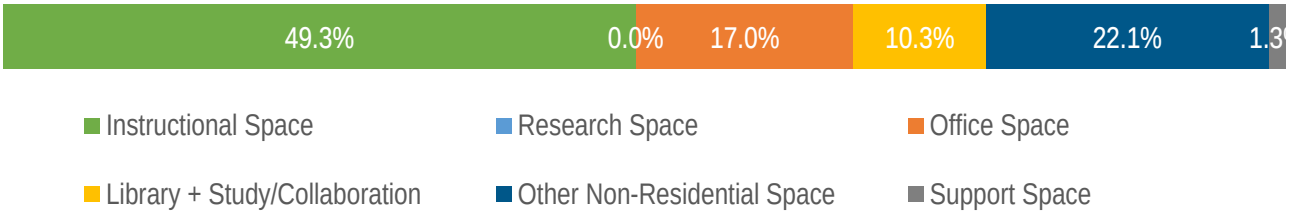
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	3.12	1.61	194%
Class Labs	15.46	6.78	228%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 149 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 228 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	256,789	158,249	98,540	158,249	98,540
Classrooms	*86,949*	*44,840*	*42,109*	*44,840*	*42,109*
Class Laboratories	*99,840*	*88,340*	*11,500*	*88,340*	*11,500*
Open Laboratories	*70,000*	*25,069*	*44,931*	*25,069*	*44,931*
Research Space	0	0	0	0	0
Office Space	88,429	82,770	5,659	82,770	5,659
Library + Study/Collaboration	53,647	31,617	22,030	30,511	23,136
Other Non-Residential Space	114,856	113,950	906	113,950	906
Support Space	6,645	15,412	(8,767)	15,412	(8,767)
TOTAL	**520,366**	**401,998**	**118,368**	**400,891**	**119,475**

Spokane Community College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (Over 3,000 FTE)

Student Headcount:	6,678
Student FTE:	5,453

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	116,267
Class Lab WSCH =	37,552
Class Lab WSCH in High Space Demand Programs (HSDP)=	14,620
Percent of WSCH in HSDP Programs =	39%
Growth in WSCH =	0%

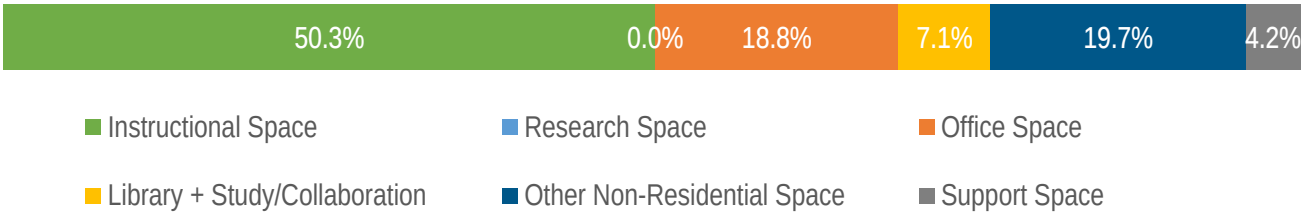
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	0.72	1.32	55%
Class Labs	6.69	5.42	123%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 234 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 159 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	436,888	605,409	(168,521)	605,409	(168,521)
Classrooms	*83,980*	*153,473*	*(69,493)*	*153,473*	*(69,493)*
Class Laboratories	*251,080*	*413,765*	*(162,685)*	*413,765*	*(162,685)*
Open Laboratories	*101,828*	*38,171*	*63,657*	*38,171*	*63,657*
Research Space	0	0	0	0	0
Office Space	163,024	123,185	39,839	123,185	39,839
Library + Study/Collaboration	61,830	36,258	25,572	35,731	26,099
Other Non-Residential Space	170,979	109,060	61,919	109,060	61,919
Support Space	36,522	41,636	(5,114)	41,636	(5,114)
TOTAL	**869,243**	**915,548**	**(46,305)**	**915,021**	**(45,778)**

Spokane Falls Community College
ANALYTICAL OUTCOMES

College/Campus Classification:

Community Colleges (Over 3,000 FTE)

Student Headcount:	0
Student FTE:	3,639

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	45,581
Class Lab WSCH =	14,086
Class Lab WSCH in High Space Demand Programs (HSDP)=	40
Percent of WSCH in HSDP Programs =	0%
Growth in WSCH =	0%

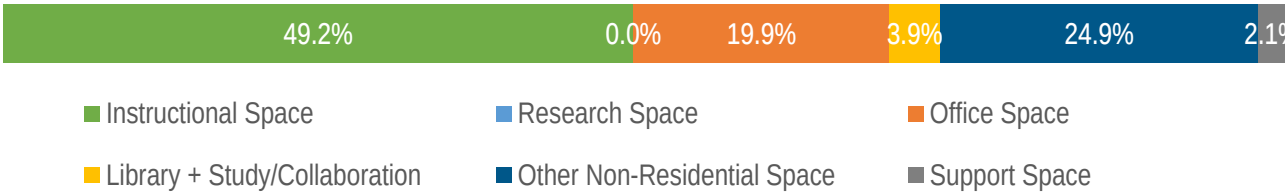
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	2.48	1.32	188%
Class Labs	9.71	5.42	179%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 166 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 180 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	322,416	162,561	159,855	162,561	159,855
Classrooms	*113,239*	*60,167*	*53,072*	*60,167*	*53,072*
Class Laboratories	*136,757*	*76,921*	*59,836*	*76,921*	*59,836*
Open Laboratories	*72,420*	*25,473*	*46,947*	*25,473*	*46,947*
Research Space	0	0	0	0	0
Office Space	130,798	66,325	64,473	66,325	64,473
Library + Study/Collaboration	25,773	18,080	7,693	18,080	7,693
Other Non-Residential Space	163,094	72,780	90,314	72,780	90,314
Support Space	13,632	32,104	(18,472)	32,104	(18,472)
TOTAL	**655,713**	**351,850**	**303,863**	**351,850**	**303,863**

Whatcom Community College
ANALYTICAL OUTCOMES

College/Campus Classification:

Community Colleges (Over 3,000 FTE)

Student Headcount:	4,639
Student FTE:	3,283

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	43,781
Class Lab WSCH =	7,518
Class Lab WSCH in High Space Demand Programs (HSDP)=	40
Percent of WSCH in HSDP Programs =	1%
Growth in WSCH =	0%

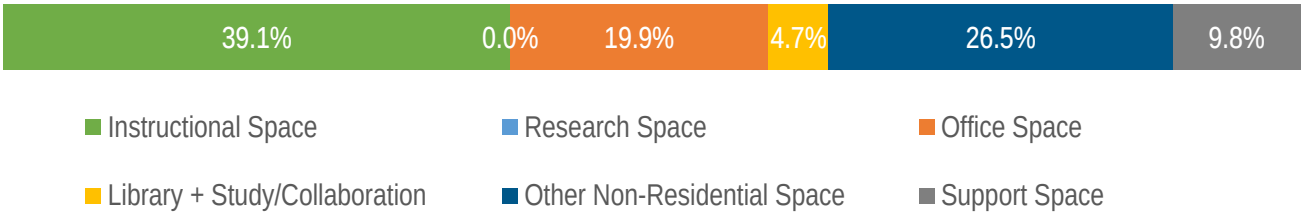
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.07	1.32	81%
Class Labs	6.19	5.42	114%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 185 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 79 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	101,070	122,097	(21,027)	122,097	(21,027)
Classrooms	*46,866*	*57,790*	*(10,924)*	*57,790*	*(10,924)*
Class Laboratories	*46,528*	*41,323*	*5,205*	*41,323*	*5,205*
Open Laboratories	*7,676*	*22,984*	*(15,308)*	*22,984*	*(15,308)*
Research Space	0	0	0	0	0
Office Space	51,478	56,630	(5,152)	56,630	(5,152)
Library + Study/Collaboration	12,056	21,832	(9,776)	21,752	(9,696)
Other Non-Residential Space	68,623	65,670	2,953	65,670	2,953
Support Space	25,435	11,661	13,774	11,661	13,774
TOTAL	**258,662**	**277,890**	**(19,228)**	**277,811**	**(19,149)**

Yakima Valley College
ANALYTICAL OUTCOMES

College/Campus Classification:
Community Colleges (3,000 FTE and Under)

Student Headcount:	3,633
Student FTE:	2,659

WEEKLY STUDENT CONTACT HOURS

Classroom WSCH =	35,005
Class Lab WSCH =	11,198
Class Lab WSCH in High Space Demand Programs (HSDP)=	1,082
Percent of WSCH in HSDP Programs =	10%
Growth in WSCH =	0%

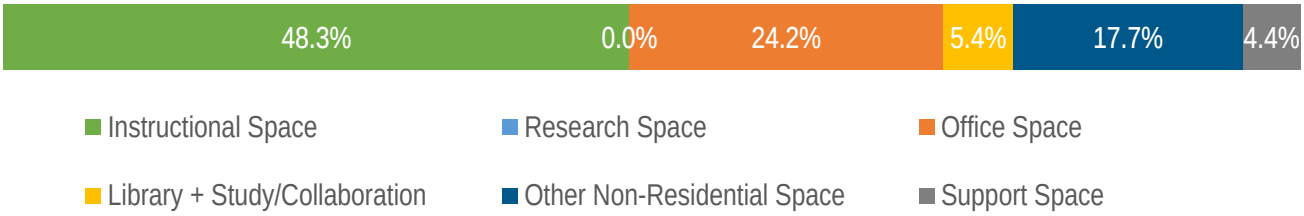
UTILIZATION

	Existing NASF per WSCH	Target NASF per WSCH	Percent of Target
Classrooms	1.67	1.61	104%
Class Labs	13.82	6.78	204%
Class Lab Target for HSDPs		19.80	

AVERAGE OFFICE ROOM SIZE = 174 NASF

EXISTING SPACE DISTRIBUTION

Space per Student = 190 NASF



AVAILABILITY OF SPACE OUTCOMES

*SBCTC evaluates projects based upon 10-year enrollment projections.

		Current		Expected Next Biennia*	
	Existing NASF	Projected NASF	Overage/ (Need)	Projected NASF	Overage/ (Need)
Instructional Space	243,326	175,615	67,711	175,615	67,711
Classrooms	*58,497*	*56,358*	*2,139*	*56,358*	*2,139*
Class Laboratories	*154,785*	*90,010*	*64,775*	*90,010*	*64,775*
Open Laboratories	*30,044*	*29,247*	*797*	*29,247*	*797*
Research Space	0	0	0	0	0
Office Space	122,002	66,970	55,032	66,970	55,032
Library + Study/Collaboration	27,231	33,565	(6,334)	33,873	(6,642)
Other Non-Residential Space	89,293	132,941	(43,648)	132,941	(43,648)
Support Space	22,310	14,456	7,854	14,456	7,854
TOTAL	**504,162**	**423,547**	**80,615**	**423,855**	**80,307**

Space Allocation Quickboard

Space Category	College/Campus Type:	CCs 3K and Under	CCs Over 3K	Technical Colleges	4 Yr Under 6K FTE	Compre-hensive	Major Research
INSTRUCTIONAL SPACE							
Classrooms	Weekly Room Hours	28	32	28	32	32	35
	Percent Seats Filled	70%	70%	70%	70%	70%	70%
Weekly Seat Hour Target	**Weekly Seat Hours**	**19.6**	**22.4**	**19.6**	**22.4**	**22.4**	**24.5**
	NASF per Seat	30	28	30	28	25	25
	Service Space	5%	5%	5%	5%	5%	10%
	NASF per WSCH	**1.61**	**1.32**	**1.61**	**1.32**	**1.18**	**1.13**
Class Labs	Weekly Room Hours	12	15	12	15	18	24
	Percent Seats Filled	80%	80%	80%	80%	80%	80%
	Weekly Seat Hours	**9.6**	**12.0**	**9.6**	**12.0**	**14.4**	**19.2**
	NASF per Seat*	65	65	65	65	70	75
	Baseline NASF per WSCH	**6.78**	**5.42**	**6.78**	**5.42**	**4.87**	**3.91**
	Add on for High Space Demand Programs (HSDP):						
HSDP Programs: *Agriculture, Engineering, Industrial + Vocational programs, Vet Medicine*	Weekly Room Hours	12	12	12	12	15	18
	Percent Seats Filled	80%	80%	80%	80%	80%	80%
	Weekly Seat Hours	**9.6**	**9.6**	**9.6**	**9.6**	**12.0**	**14.4**
	NASF per Seat (inc. service space)	190	190	170	80	100	120
	Add on for HSDP NASF per HSDP WSCH	**19.80**	**19.80**	**17.71**	**8.34**	**8.34**	**8.34**
Weekly Seat Hour Target	**Class Lab Combined WSH Target**	**9.6**	**11.5**	**9.6**	**11.5**	**14.2**	**17.8**
Open Labs	NASF per Student FTE	11	7	20	6	6	6
RESEARCH SPACE							
Research Labs	NASF per Principal Investigator (PI) * (Space per PI)	n/a	n/a	n/a	640	1,280	960
Existing space should exclude interior suite circulation	Add-on for Agriculture + Vet Med, if needed ((PI) * (Space per PI))* (0.30)				30%		30%
	Percentage for Core Facilities (Research Space + Research Add-on) * (0.10)						10%

Space Allocation Quickboard

Space Category	College/Campus Type:	CCs 3K and Under	CCs Over 3K	Technical Colleges	4 Yr Under 6K FTE	Compre-hensive	Major Research
Vivaria Space	Percentage for Vivaria Space (Research Space + Research Add-on) * (0.10)	n/a	n/a	n/a	15% or 1,500 NASF min	10%	10% if existing research NASF > 1M; 15% if existing research NASF <1M
OFFICE SPACE							
		College/Campus Type is irrelevant					
	Employees by Assigned Position	**Full-Time**	**Part-Time**				
Should exclude hospital workers. *Existing space should exclude interior suite circulation.*	Management	300	190				
	Instructional Staff	190	65				
	Research	190	65				
	All Others (non-student)	190	65				
	Support Staff	160	65				
	Healthcare Practitioners and Technical	190	65				
	Graduate Assistants Teaching		40				
	Service Occupations	0	0				
	Sales and Related Occupations	0	0				
	Natural Resources, Construction, and Maintenance	0	0				
	Production, Transportation, and Material Moving	0	0				
LIBRARY + STUDY/COLLABORATION SPACE							
	Main Libraries:						
	Regular Stack Space per PVE	0.10	0.07 (0.10 for collections < 60K)	0.10	0.07 (0.10 for collections < 60K)	0.07	0.07
	Compact Shelving per PVE	0.035	0.035	0.035	0.035	0.035	0.035
	Remote Storage Shelving per PVE	0.025	0.025	0.025	0.025	0.025	0.025
	Percent of Student Headcount for Study Space	20%	10%	10%	15%	15%	15%

Space Allocation Quickboard

Space Category	College/Campus Type:	CCs 3K and Under	CCs Over 3K	Technical Colleges	4 Yr Under 6K FTE	Compre-hensive	Major Research
	NASF per Study Space	35	35	35	35	35	35
	Service Space	10%	10%	10%	10%	10%	10%
The same would apply to the Four Year (Under 6,000 FTE) or Comprehensive college/campus types	**Law + Medical Libraries:**						
	Regular Stack Space per PVE						0.12
	Compact Shelving per PVE						0.035
	Remote Storage Shelving per PVE						0.025
	Percent of Student Headcount for Study Space						50%
	NASF per Study Space						35
	Service Space						10%
OTHER NON-RESIDENTIAL SPACE							
Basic Allocation	NASF per Student FTE	50	20	20	20 plus 25 as an Add-on for residential campus	20	25 for Student FTE < 25K; 20 for Student FTE > 25K
Add-on Allocation		***For all institutions regardless of college/campus type*** Add existing space that are included under the following areas that are not already included in any other space category: Intercollegiate Athletics space (includes training facilities, trophy rooms, press boxes, media spaces, team meeting rooms, visiting team spaces, pre-game event spaces, private dining and concessions, athletic visitor centers and museums; office space and athletic academic support spaces should be included in other space categories above); signficiant greenhouse space; medical clinic space (dental, speech and hearing clinics, but not student health care); and animal quarters and animal health care (farms and barns, vet hospitals, and vet clinics)					
SUPPORT SPACE/PHYSICAL PLANT							
Parking garages should not be included in any of the analysis unless the parking structures are for institution-owned vehicles	Percent of all other existing space from the above space categories	3%	5%	3%	5%	7%	6% plus an additional 1% for land grant mission at the main campus

Learning Space Standards Data Collection

Institution / Campus	
Institution Type	

In addition to the below information we will need in Excel or database:

1) a complete building and room inventory without residential facilities;
2) the number of undergraduate students involved in research by discipline;
3) the number of masters and doctoral students by discipline;
4) the number of full-time tenured/tenure track faculty by discipline; and
5) the number of principal investigators by discipline (unduplicated)

On-Campus Student Enrollments - Fall 2018

	Headcount				Percent Change for the next Biennia Headcount		
	Full-time	Part-time	Total	FTE	Full-time	Part-time	FTE
Undergraduate			0		0%	0%	0%
Graduate			0		0%	0%	0%
Professional			0		0%	0%	0%
Total	**0**	**0**	**0**	**0**			

Student Headcount	Total
Law	
Medicine	
Veterinary Medicine	

High Impact Programs	On-Campus FTE*
Agriculture	
Engineering	
Veterinary Medicine	
Industrial + Vocational Programs	
Total	**0**
Percentage of On-Campus FTE	0%

**FTE = FTEs generated in each college/school/program not FTEs by major*

Fall 2018 - Weekly Student Contact Hours

WSCH Type	WSCH
Total Classroom, Seminar + Recitation	0
Total Class Laboratory	0
Agriculture Class Lab	0
Engineering Class Lab	0
Veterinary Medicine Class Lab	0
Industrial + Vocational Programs Class Lab	0

WSCH = Weekly Student Contact Hours

Learning Space Standards Data Collection

General Library Data - Fall 2018

Collection Type	No. of Physical Volumes
Books, Serials, & Bound Periodicals	0
Manuscripts & Archives	0
Government Documents	0
Unbound Serials (Display)	0
Microforms	0
Audio/Visual Materials	0
Flat Materials/Cartographics	0

2 Year Percent Change in Collection
0%

Study Stations	No. of Seats
Within the Library	0
Outside the Library	0

Type of Stack Space	Percent of Collection
Regular Stack Space	0%
Open Compact Shelving	0%
Closed Compact Shelving	0%
Remote Storage	0%
TOTAL	**0%**

Note: Should total to 100%

Law Library Data - Fall 2018

Collection Type	No. of Physical Volumes
Books, Serials, & Bound Periodicals	0
Manuscripts & Archives	0
Government Documents	0
Unbound Serials (Display)	0
Microforms	0
Audio/Visual Materials	0
Flat Materials/Cartographics	0

2 Year Percent Change in Collection
0%

Study Stations	No. of Seats
Within the Library	0
Outside the Library	0

Type of Stack Space	Percent of Collection
Regular Stack Space	0%
Open Compact Shelving	0%
Closed Compact Shelving	0%
Remote Storage	0%
TOTAL	**0%**

Note: Should total to 100%

Medical Library Data - Fall 2018

Collection Type	No. of Physical Volumes
Books, Serials, & Bound Periodicals	0
Manuscripts & Archives	0
Government Documents	0
Unbound Serials (Display)	0
Microforms	0
Audio/Visual Materials	0
Flat Materials/Cartographics	0

2 Year Percent Change in Collection
0%

Study Stations	No. of Seats
Within the Library	0
Outside the Library	0

Type of Stack Space	Percent of Collection
Regular Stack Space	0%
Open Compact Shelving	0%
Closed Compact Shelving	0%
Remote Storage	0%
TOTAL	**0%**

Note: Should total to 100%

Learning Space Standards Data Collection

Employee Data - Fall 2018

Employees by Assigned Position	Full-Time	Part-Time	Total
Instructional Staff			**0**
Research			**0**
Public Service			**0**
Librarians, Curators, and Archivists			**0**
Student + Academic Affairs + Other Education Services			**0**
Management			**0**
Business + Financial Operations			**0**
Computer, Engineering + Science			**0**
Community Service, Legal, Arts and Media			**0**
Healthcare Practitioners + Technical			**0**
Service Occupations			**0**
Sales and Related Occupations			**0**
Office + Administrative Support			**0**
Natural Resources, Construction, and Maintenance			**0**
Production, Transportation, and Material Moving			**0**
Graduate Assistants Teaching			**0**
Graduate Assistants Research			**0**
All Other			**0**
Total	**0**	**0**	**0**

Research Data - Fall 2018

Candidates for Research Space	No of People
Full-Time Tenured/Tenure Track Faculty	0
Full-Time Tenured/Tenure Track Faculty that are PIs	0
Full-Time Researchers	0
Full-Time Researchers that are PIs	0

R+D Expenditures (Grants + Contracts)

	Amount
R+D Expenditures	$0
Pass-through monies	$0
Net R+D Expenditures	**$0**

IMPACT OF PROJECT ON EXISTING SPACE

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

Columns A through C filled out from the other sheets.
Input the assignable square feet for the proposed project under Columns D + E (Project Impact) by space type below.

		Projected Need		Project Impact		REVISED			SCORE
Type of Space	A Existing NASF	B OFM Space Allocation	C Overage/ (Need) (A-B)	D Project Existing NASF Removal	E Project NASF Addition	F Overage/ (Need (C-D+E)	G Percent of Total (E/E Total)	H Program Related Space Allocation Points	I TOTAL SCORE (G*H)
Instructional Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	5	X.XX
Research Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	1	X.XX
Office Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	2	X.XX
Library + Study Collaboration Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	5	X.XX
Other Non-Residential Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	4	X.XX
Support / Physical Plant Space	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX%	3	X.XX
TOTAL	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	XX,XXX	100%		X.XX

If there is an overage of space, describe if there is an exception to the space standard/allocation, a better space standard/allocation, or how the institution plans to meet the OFM space allocation.

UTILIZATION + AVAILABILITY OF SPACE

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

Project Name:	
College/Campus Location:	
College/Campus Classification:	

(a) General University Classroom Utilization

Fall 2019 Weekly Student Contact Hours (WSCH)	
Multiply by % FTE Increase Budgeted	0%
Expected Fall 2021 WSCH	0
OFM Utilization Space Standard (NASF per WSCH)	**0.00**
Projected Classroom NASF	0
Existing Classroom NASF (100s)	
Overage / (Need)	**0**
Existing NASF per WSCH	**0.00**

(b) Instructional Lab Utilization

Fall 2019 Weekly Student Contact Hours (WSCH)	
Multiply by % FTE Increase Budgeted	0%
Expected Fall 2021 WSCH	0
WSCH for Engineering, Indst'l + Techn'l (CC+TC)	0
WSCH for Agriculture	0
WSCH for Veterinary Medicine	0
OFM Baseline Space Standard (NASF per WSCH)	**0.00**
OFM Add-on HSDP Space Standard (NASF per WSCH)	**0.00**
On-Campus Student FTE	
OFM Open Laboratory NASF per FTE	**0**
Projected Instructional Laboratory NASF	0
Existing Instructional Laboratory NASF (210s - 230s)	
Overage / (Need)	**0**

UTILIZATION + AVAILABILITY OF SPACE

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

Project Name:

College/Campus Location:

College/Campus Classification:

If there is an overage of space, describe how the institution plans to meet the OFM utilization expectations and budgeted space allocation.

If there is an overage of space, describe how the institution plans to meet the OFM utilization expectations and budgeted space allocation.

AVAILABILITY OF SPACE - Research Laboratories

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

	Total	Principal Investigators*	Increase in No. of PIs	Future PIs
Full-time Tenured/ Tenure-Track Faculty	0	0	0	0
Full-Time Researchers that are not Tenured/Tenure-Track Faculty	0	0	0	0

*Unduplicated

Total		**0**	**0**	**0**
Agriculture or Vet Medicine	Yes or No		Vivaria	Yes or No

Space Allocation per PI			
Add-on for Agriculture + Vet Medicine	0%		0%
Percentage for Core Facilities	0%		0%
Percentage for Vivaria	0%		0%
Total Proposed NASF	**0**		**0**

Existing NASF (250-255)**	0	** Should exclude interior lab/vivaria circulation space.
Existing Vivaria NASF (570-575)**	0	
Total NASF	**0**	

Overage / (Need)	**0**		**0**

AVAILABILITY OF SPACE - Office + Service Space

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

	Current Employees			OFM Space Allocation per Person		Total Space Allocation		
Employees by Assigned Position	**Full-Time**	**Part-Time**	**Total**	**Full-Time**	**Part-Time**	**Full-Time**	**Part-Time**	**Total**
Management			**0**	300	190	0	0	**0**
Instructional Staff			**0**	190	65	0	0	**0**
Research			**0**	190	65	0	0	**0**
All Others (non-student)			**0**	190	65	0	0	**0**
Support Staff	0	0	**0**	160	65	0	0	**0**
Healthcare Practitioners and Technical			**0**	190	65	0	0	**0**
Graduate Assistants Teaching*			**0**		40	0	0	**0**
Service Occupations			**0**			0	0	**0**
Sales and Related Occupations			**0**			0	0	**0**
Natural Resources, Construction, and Maintenance			**0**			0	0	**0**
Production, Transportation, and Material Moving			**0**			0	0	**0**
Total	**0**	**0**	**0**			**0**	**0**	**0**

**Graduate Assistants Research are addressed in Research Laboratory Space*

Existing NASF (300's)

Overage / (Need) **0**

AVAILABILITY OF SPACE - Office + Service Space

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

	Expected Next Biennium Employees			OFM Space Allocation per Person		Total Space Allocation		
Employees by Assigned Position	**Full-Time**	**Part-Time**	**Total**	**Full-Time**	**Part-Time**	**Full-Time**	**Part-Time**	**Total**
Management			**0**	300	190	0	0	**0**
Instructional Staff			**0**	190	65	0	0	**0**
Research			**0**	190	65	0	0	**0**
All Others (non-student)			**0**	190	65	0	0	**0**
Support Staff			**0**	160	65	0	0	**0**
Healthcare Practitioners and Technical			**0**	190	65	0	0	**0**
Graduate Assistants Teaching			**0**	0	40	0	0	**0**
Service Occupations			**0**	0	0	0	0	**0**
Sales and Related Occupations			**0**	0	0	0	0	**0**
Natural Resources, Construction, and Maintenance			**0**	0	0	0	0	**0**
Production, Transportation, and Material Moving			**0**	0	0	0	0	**0**
Total	**0**	**0**	**0**			**0**	**0**	**0**
Employee Increase / (Decrease)			0			**Projected Overage / (Need)**		**0**
Percent Increase / (Decrease)			0.0%					

AVAILABILITY OF SPACE - Library + Study Space

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

Collections

Collection Type	Conversion Factor	No. of Physical Volumes	Physical Volume Equivalent (PVE)
Books, Serials, & Bound Periodicals	1.00	0	0
Manuscripts & Archives	1.00	0	0
Government Documents	1.00	0	0
Unbound Serials (Display)	0.50	0	0
Microforms	80.00	0	0
Audio/Visual Materials	5.00	0	0
Flat Materials/Cartographics	8.00	0	0
		Total	**0**
2-Year Percent Increase/-Decrease in Collection			
		Projected PVEs	**0**

Law + Medical Collections

Collection Type	Conversion Factor	No. of Physical Volumes	Physical Volume Equivalent (PVE)
Books, Serials, & Bound Periodicals	1.00	0	0
Manuscripts & Archives	1.00	0	0
Government Documents	1.00	0	0
Unbound Serials (Display)	0.50	0	0
Microforms	80.00	0	0
Audio/Visual Materials	5.00	0	0
Flat Materials/Cartographics	8.00	0	0
		Total	**0**
2-Year Percent Increase/-Decrease in Collection			
		Projected PVEs	**0**

AVAILABILITY OF SPACE - Library + Study Space

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

Stack Space

Type of Stack Space	Percent of PVE's	OFM Space Allocation per PVE	Stack Space Allocation
Regular Stack Space	0%	0.00	0
Compact Shelving	0%	0.035	0
Remote Storage	0%	0.025	0
Total	**0%**		**0**

Law + Medical Stack Space

Type of Stack Space	Percent of PVE's	OFM Space Allocation per PVE	Stack Space Allocation
Regular Stack Space	0%	0.00	0
Compact Shelving	0%	0.035	0
Remote Storage	0%	0.025	0
Total	**0%**		**0**

Study/Collaboration Stations

Students	Current Student Headcount	Next Biennia Student Headcount	OFM Standard - Percent of Students	No. of Study Stations
Total Undergraduate, Graduate + Professional Students	0	0	0%	**0**
Percent Increase in Headcount		*0%*		
OFM Study Space Allocation per Station				0
Study Space Allocation				**0**
Existing No. of Study Stations within Library (Centralized)				0
Existing No. of Study Stations exterior to Library (Decentralized)				0
Total No of Study Stations				0
Current Percentage of Students Accommodated				0%

Law + Medical Study/Collaboration Stations

Students	Current Student Headcount	Next Biennia Student Headcount	OFM Standard - Percent of Students	No. of Study Stations
Total Law + Medical Graduate + Professional Students	0	0	0%	**0**
Percent Increase in Headcount		*0%*		
OFM Study Space Allocation per Station				0
Study Space Allocation				**0**
Existing No. of Study Stations within Library (Centralized)				0
Existing No. of Study Stations exterior to Library (Decentralized)				0
Total No of Study Stations				0
Current Percentage of Students Accommodated				0%

AVAILABILITY OF SPACE - Library + Study Space

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

Library + Study Space Allocation

	Existing NASF (400s)	Total OFM Space Allocation	Projected Overage/ (Need)
Stack Space (420, 430)	0	0	0
Study Space (410, 411, 412, 441)	0	0	0
Stack + Study Space	**0**	**0**	**0**
OFM Standard Service Space (440, 442, 455) 0%	0	0	0
LIBRARY + STUDY SPACE	**0**	**0**	**0**

Law + Medical Library + Study Space Allocation

	Existing NASF (400s)	Total OFM Space Allocation	Projected Overage/ (Need)
Stack Space (420, 430)	0	0	0
Study Space (410, 411, 412, 441)	0	0	0
Stack + Study Space	**0**	**0**	**0**
OFM Standard Service Space (440, 442, 455) 0%	0	0	0
LIBRARY + STUDY SPACE	**0**	**0**	**0**

Combined Total Library + Study Space Allocation

	Existing NASF (400s)	Total OFM Space Allocation	Projected Overage/ (Need)
Stack Space (420, 430)	0	0	0
Study Space (410, 411, 412, 441)	0	0	0
Stack + Study Space	**0**	**0**	**0**
Service Space (440, 442, 455)	0	0	0
LIBRARY + STUDY SPACE	**0**	**0**	**0**

If there is an overage of space, describe the special circumstances surrounding the request or how the institution plans to meet the OFM budgeted space allocation.

AVAILABILITY OF SPACE - Other Non-Residential Space

Four-Year Higher Education Scoring Process

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

		Existing NASF			Existing NASF
510-515	Armory		620-625	Exhibition	
520-525	Recreation + Kinesiology Space*		630-635	Food Facility	
530-535	Media Production		640-645	Day Care (as part of an Academic Program)	
540-545	Clinic		650-655	Lounge	
550-555	Demonstration		660-665	Merchandising	
560-565	Field Buildings		670-675	Recreation	
570-575	Animal Quarters (excluding Vivaria)**		680-685	Meeting Room	
580-585	Greenhouse (excluding those used for extensive research)		710-715	Central Computer	
590	Other		800	Student Health Care	
610-615	Assembly		800	Animal Health Care	
				Total Existing NASF	**0**

	Current On-Campus Student FTE	0	Next Biennia On-Campus Fall FTE	0
	OFM Space Allocation	0		
	Space Allocation	**0**	**Projected Space Allocation**	**0**

Add-On Space:

	Intercollegiate Athletics (all space categories except for office space)	0	540-545	Medical Clinics (like dental and speech + hearing, but not student health clinics)	0
580-585	Greenhouses used for extensive research	0	560-565; 570-575; 800s	Animal Quarters + Health Care in support of animal health care (like barns, vet clinics, and vet hospitals)**	0
				Total Add-On Space	**0**

	Total Space Allocation	**0**	**Total Projected Space Allocation**	**0**
	Overage / (Need)	**0**	**Projected Overage / (Need)**	**0**
	Existing NASF per FTE	0.00		

* Should exclude intercollegiate athletic space unless the space is shared with an academic program

** Excludes the vivaria space included in the research tab.

AVAILABILITY OF SPACE - Support Space

(REQUIRED FOR ALL CATEGORIES EXCEPT LAND ACQUISITION AND INFRASTRUCTURE)

		Existing NASF
720-725	Shop	
730-735	Central Storage	
740-745	Vehicle Storage (excluding parking garages)*	
750-755	Central Service	
760-765	Hazardous Waste	
770-775	Hazardous Materials	
	Total Existing Support NASF	**0**
	Total of all other Non-Residential Space	**0**

Main Campus for Land Grant Institution: Yes or No

OFM Space Allocation	0%		
Space Allocation	**0**	**Projected Space Allocation**	**0**
Overage / (Need)	**0**	**Projected Overage / (Need)**	**0**

* The only vehicle storage that should be included is for institutional vehicles.

List of Colleges / Campuses

Included in the Study

Community Colleges (3,000 FTE and Under)

Cascadia College
Centralia College
Peninsula College
Skagit Valley College
Yakima Valley College

Community Colleges (Over 3,000 FTE)

Bellevue College
Clark College
Columbia Basin College
Highline College
Edmonds Community College
Everett Community College
Shoreline Community College
Spokane Community College
Spokane Falls Community College
Whatcom Community College

Technical Colleges

Bates Technical College
Bellingham Technical College

Four Year (Under 6,000 FTE)

The Evergreen State College
UW - Bothell Campus
UW - Tacoma Campus
WSU Everett
WSU Spokane
WSU Tri-Cities
WSU Vancouver

Four Year Comprehensive

Central Washington University
Eastern Washington University Main Campus
Western Washington University

Major Research Campus

UW - Seattle Main Campus
WSU Pullman

Excluded in the Study

Community Colleges (3,000 FTE and Under)

Big Bend Community College
Grays Harbor College
Lower Columbia College
South Puget Sound Community College
Walla Walla Community College
Wenatchee Valley College

Community Colleges (Over 3,000 FTE)

Green River College
North Seattle College
Olympic College
Pierce College
Seattle Central College
South Seattle College
Tacoma Community College

Technical Colleges

Clover Park Technical College
Lake Washington Institute of Technology
Renton Technical College
Seattle Vocational Institute

Normalization of Space Inventory

Space Categories for the OFM Higher Education Facility Study	Space Category	Central Washington University	Eastern Washington University	Evergreen State College	Western Washington University	University of Washington	Washington State University	Washington State Community and Technical Colleges	NOTES:
Classroom Space	Classrooms	110, 115	110, 115	110, 115	110, 115, 130	110, 115	110, 115, 130, 135	110, 115, 120, 125, 130, 135	
Class Lab Space	Class Laboratories	210, 215	210, 215	210, 215	210, 215	210, 215	210, 215, 860, 865	210, 215, 260, 265	WSU - Includes 800 space for the WSU/EWU shared anatomy lab and service space
Open Laboratories	Open Laboratories	220, 225	220, 225	220, 225, 230	220, 225, 230, 235	220, 225, 230, 235	220, 225 850, 855, 880	220, 225, 230, 235 250, 255 270, 275, 280, 285	WSU - Includes 800 space for the College of Nursing and the EFCOM-SIM Center SBCTC - < 3,000 NASF was reported as 250/255 space in total
Research Space	Research Laboratories	250, 255	250, 255	250, 255	250, 255	250, 255	250, 255	n/a	
Office Space	Offices	300s	300s	300s	300s	300s 880	300s	300s except for 320s and 330s	UW - Public waiting for non-Health Sciences units was included
Library + Study/Collaboration Space	Library + Study Space	400s	400s	400s	400s	400s, 590	400s	400s	UW - Included 590 space that is housed within the Library building and assigned to the Library
Other Non-Residential Space	Physical Education + Recreation	520, 523, 525	520, 523, 525 675	520, 525 670, 675	520, 525 670, 675, 690	520, 525 670, 675	520, 525 670, 675	520, 523, 525, 527	670, 675, and 690 space was included when there was departmental, building, or other descriptors that suggested that the space was fitness space rather than game, billiard, and bowling rooms
Other Non-Residential Space	Intercollegiate Athletics	520, 523, 525	520, 523, 525, 530, 535, 610, 630, 635, 660, 850	n/a	525, 615, 620, 660, 750	520, 523, 525, 530, 535, 590, 610, 615, 620, 625, 630, 635, 650, 655, 660, 665, 680, 685, 710	520, 525, 530, 535, 620, 630, 635, 636, 637, 650, 656, 660, 665, 730	n/a	All space assigned to Intercollegiate Athletics, verified through various fields was assigned to this category except for IA office space, study space, and open laboratory space.
Other Non-Residential Space	Assembly + Exhibit Space	610, 615, 620, 625	610, 615, 620, 625	610, 615, 620, 625	610, 615, 620, 625	610, 615, 620, 625	610, 615, 620, 625	610, 615, 620, 625	
Other Non-Residential Space	Day Care	640, 645	640, 645	640, 645	n/a	640, 645	640, 645	640, 645	
Vivaria Space	Vivaria Space	570, 575	570, 575	n/a	570, 575	570, 575, 590 840, 865, 880, 895 919	570, 575	n/a	General - Space was included when there was departmental, building, or other descriptors that suggested that the space was vivaria space UW - Includes health care facilities, 590 and 919 space in the Regional Primate Center; 590 space in the Animal Care + Research Facility;
Other Non-Residential Space	Greenhouse Space	n/a	n/a	n/a	n/a	n/a	580, 585	n/a	Large amounts of space assigned to academic units that are not extension services
Other Non-Residential Space	Medical Clinic Space	n/a	n/a	n/a	n/a	540, 545 800s	800s	n/a	Includes clinic spaces assigned to the academic colleges/schools such as Dentistry and Medicine
Other Non-Residential Space	Special Use Space	All remaining 500s, 830, 840, 845, 850	All remaining 500s	All remaining 500s	All remaining 500s	All remaining 500s, 845 and 890	All remaining 500s	All remaining 500s	CWU - Includes 800 space assigned to Psychology, Nutrition Program, and Phy Ed School Health UW - Includes 800 space assigned to the Experimental Education Unit and the Clg of Engineering
Other Non-Residential Space	General Use Space	All remaining 600s	All remaining 600s	All remaining 600s	All remaining 600s	All remaining 600s	All remaining 600s	All remaining 600s, 320, 325, 330 and 335	SBCTC - Most office metrics are not large enough to include training rooms and dedicated faculty computer facilities
Other Non-Residential Space	Central Computer or Telecomm	710, 715	710, 715	710, 715	710, 715	710, 715	710, 715	710, 715	
Other Non-Residential Space	Unit Storage	780	780	n/a	n/a	n/a	n/a	n/a	
Support / Physical Plant Space	Physical Plant	All remaining 700s	All remaining 700s	All remaining 700s	All remaining 700s	All remaining 700s and 590	All remaining 700s	All remaining 700s	UW - Includes all 590 space assigned in the Plant Services Building

Normalization of Space Inventory

Space Categories for the OFM Higher Education Facility Study	Space Category	Central Washington University	Eastern Washington University	Evergreen State College	Western Washington University	University of Washington	Washington State University	Washington State Community and Technical Colleges	NOTES:
Other Non-Residential Space	Student Health Care	800s	800s	800s	800s	800s	800s	800s	UW - Includes the 800s in the Hall Health Center WSU - Includes the Cougar Health Services and the 800s in the Access Center
Other Non-Residential Space	Animal Quarters / Health Care	n/a	n/a	n/a	n/a	n/a	540, 545, 560, 570, 575, 810, 815, 830, 835, 840, 845, 850, 855, 860, 865, 870, 880	n/a	WSU - For Vet Med includes the CED clinic in the Owen Science + Engineering Library, Vet Teaching Hospital, Raptor Facility, VM Barns, space in McCoy Hall, and the clinics; for Ag Animal Sciences includes the field buildings and the Ensminger Beef Cattle Center, and Knott Dairy Center; for A+S includes Smoot Hill; and for the VP of Admin includes the USDA/CVM Animal Research Program
Other Non-Residential Space	Uncategorized Space	n/a	n/a	n/a	Any space that did not have a space use code assigned	590	n/a	Any space that did not have a space use code assigned	UW - 590 space in Laurel Village Building C and small spaces in Portage Bay Parking Facility
Excluded	Inactive / Conversion Space	050	050	050, 060	060	050, 060	081, 082	050, 060, 081, 082	
Excluded	Residential Space ***(Not included in the study)***	900s	900s	900s and all other space codes	900s	900s, 590	900s	900s	UW - 590 space within the Court 17 Apartments General - All residential space found in residential facilities and the president's residence; include all other space use codes contained within the residential facilities excluding instructional space
Excluded	Medical Care/Hospital ***(Not included in the study)***	n/a	n/a	n/a	n/a	800s, 110, 215, 230, 250s, 300s, 410, 412, 420, 545,550, 630s, 650s, 660s, 670, 700s, 910, 919, 590	130, 135, 220, 310, 630, 850, 855, 860, 880	n/a	UW - All space assigned to the Medical Centers; all 590 space in the UW Medical Center and Magnuson HSC buildings. WSU - All space assigned to the Spokane Teaching Health Clinic and Condon Hall assigned to Pscyhiatry.
Excluded	Outside Organizations ***(Not included in the study)***	n/a	n/a	n/a	n/a	590	560, 590	n/a	UW - 590 space within the TIO (Tioga Building) has outside tenants; 590 space on the ground floor of McDonald-Smith Building WSU - Leased space to the USDA (Cahnrs Office of Research) and many others through Real Estate Services
Excluded	Parking Garages ***(Not included in the study)***	n/a	n/a	n/a	n/a	090, 095	n/a	740	General - Excludes all parking facilities except for those facilities used for parking institutional vehicles and to service institutional vehicles SBCTC - North Seattle College, parking in the LL of the Arts + Sciences Building

n/a = not applicable or not included in the inventory provided