



Oregon State University Cascades

Space Needs Analysis – Overview

SRG Partnership | Biddison Hier, Ltd.
Architects Resource Planners

15 May 2013

Project Objectives

- Analyze program needs and determine corresponding facilities needs to support the planned growth of the OSU-Cascades campus.

- Quantify for the appropriate years, between 2015 - 2025, the estimated square footage needed for:
 - Classrooms
 - Academic and Administrative Spaces
 - ... Academic divisions and programs
 - ... Administrative departments (e.g., various student service offices)
 - ... Research
 - Community spaces, e.g.:
 - ... Student union functions / community congregation / dining / library (learning commons)
 - Housing
 - Other space needs and considerations, e.g.:
 - ... Parking
 - ... Outdoor

- Estimate acreage to accommodate these uses.

Baseline Information

- Current Inventory – Square Footage and Type of Space
- Enrollment Projections

Major Space Categories Defined

Administrative Offices

- Various university administrative functions – primarily senior administration space and space devoted to student support (e.g., Enrollment Services, Advising, etc.) – includes offices, workspaces, storage and support

Academic Offices

- Faculty office, workspace, storage and support spaces

Classrooms

- Classrooms, class labs, media labs and instructional support space

Research

- Research labs – dry / wet / other

Community

- General congregation spaces, student life spaces, foodservice, etc.

Non-University

- Currently leased space

Core

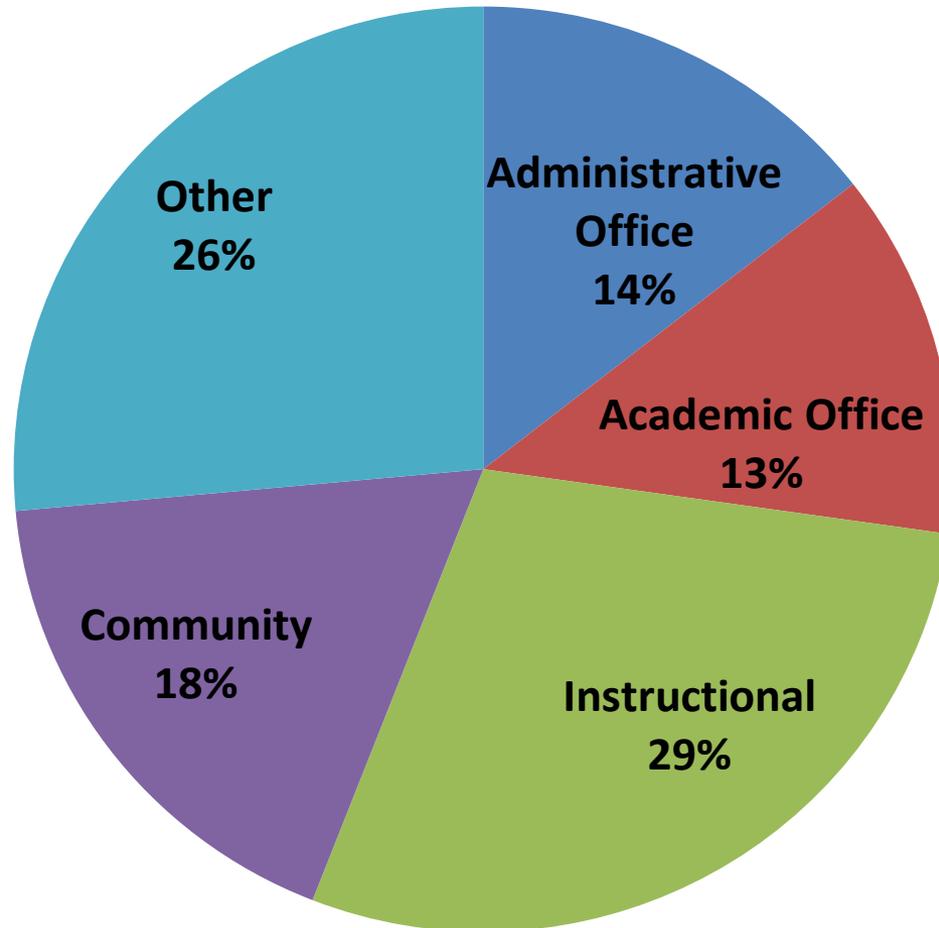
- Circulation, mechanical spaces, building support spaces (custodial, etc.).

Summary of Current Space Inventory

Summary of Current Inventory -- Square Feet by Major Space Type

Administrative				Academic				Instructional		Community		Other		
	<i>Office</i>	<i>Meeting</i>	<i>Support</i>		<i>Office</i>	<i>Meeting</i>	<i>Support</i>	<i>Research</i>						
Senior Administration	3,296	2,618	665	General	240	341	108		General Classrooms	11,083	Student Space	256	Non-Univ	5,500
Student Support Svcs				Arts & Sciences	1,233				Computer Classrooms	2,261	(Assignable: Student Gov Office, Other)		Core	10,959
General	721	315		Healthy Communities	1,152				Class Labs	2,304	Community Space	10,720	Mechanical Storage Circulation Etc.	
Student Life				Healthy People	2,569	254	954	1,116	Media Lab	1,824	(Non-assigned, including common space in Cascades Hall)			
Enrollmt Svcs	683		112						Classroom Support	386				
Advising & Counseling	575													
Subtotal	<i>5,275</i>	<i>2,933</i>	<i>777</i>		<i>5,194</i>	<i>595</i>	<i>1,062</i>	<i>1,116</i>						
Total		<i>14%</i>	8,985				<i>13%</i>	7,967	<i>29%</i>	17,858	<i>18%</i>	10,976	<i>26%</i>	16,459
Grand Total													<i>100%</i>	62,245

Distribution of Current Space by Type

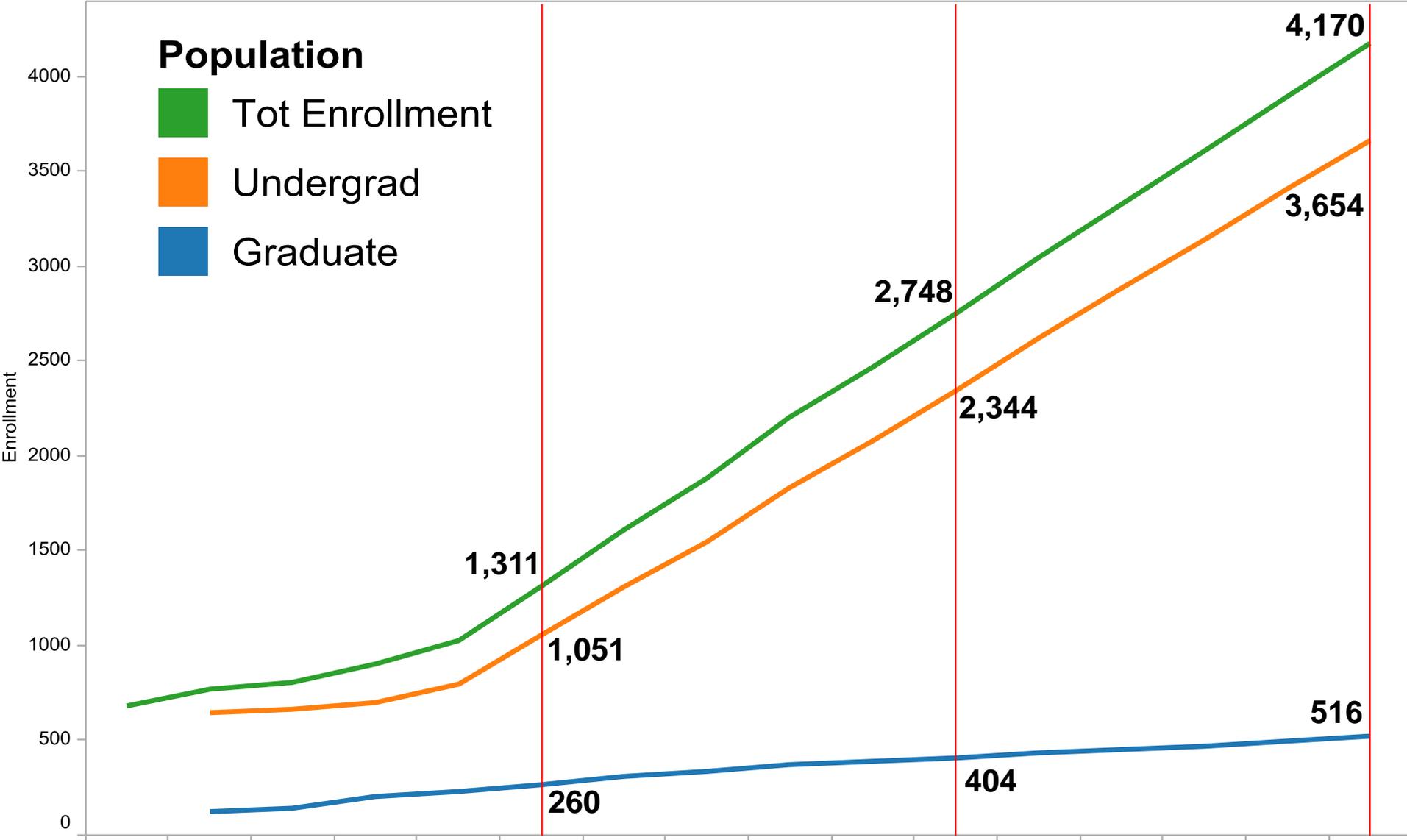


Enrollment Projections

Growth in Enrollment from Today to 2025

Year

- Population**
- Tot Enrollment
 - Undergrad
 - Graduate



Classrooms

Factors Influencing Classroom Space Projections

Need for classroom space is determined by assumptions about demand and supply

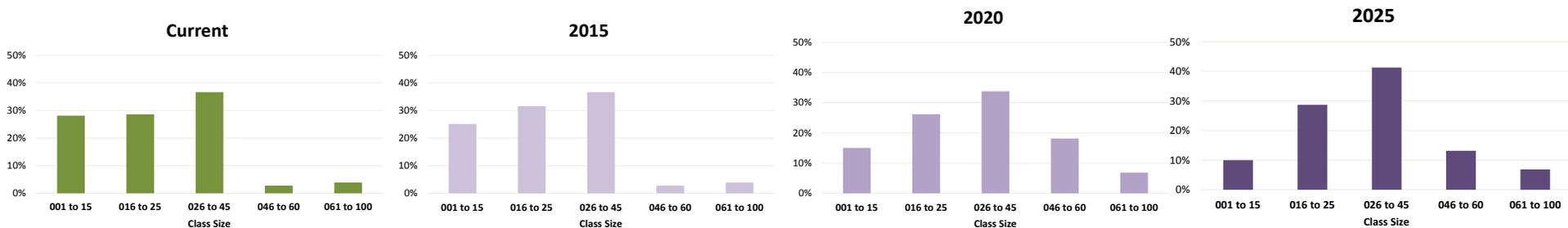
Factors Influencing Demand for and Supply of Classrooms

DEMAND		SUPPLY	
Factor	Derivation	Factor	Derivation
Total Enrollment	<ul style="list-style-type: none"> Based on OSU projections 	Length of Scheduling Day and Week	<ul style="list-style-type: none"> Currently assumed to be 8am to 10pm; 5 days (M-F) assumed.
Average Contact Hours per Course	<ul style="list-style-type: none"> Set by policy or derived from current practice 	Room Utilization Rates	<ul style="list-style-type: none"> Current rates are fairly low -- in the 20% to 40% range; as OSU grows, most likely will want to aim for higher utilization rates. Because of peaks and valleys in scheduling across the day, different periods (8am to 4pm; 4pm to 10pm; and 8am to 10pm) are used in model projections.
Average Number of Courses per Term per Student	<ul style="list-style-type: none"> Set by policy or derived from current practice 		
Distribution of Courses by Class Size	<ul style="list-style-type: none"> Derived from current practice, although as OSU grows, target distribution for class sizes may change. 		

Classroom Projections

Baseline Classroom Assumptions

Category	Current	2015	2020	2025																																																				
Avg. Course Length Per Week (hours)	3.00	3.00	3.00	3.00																																																				
Avg. No of Courses per Student per Term Grows from current 1.74 to 3.0 by 2025	1.74	2.00	3.00	4.00																																																				
Distribution of Courses Emphasis shifts somewhat from very small and small classes (1 to 25) to mid-size classes (26 to 60)	See distribution charts below																																																							
Room Utilization Rates Target rates increase to levels more consistent with industry norms	<table border="1"> <thead> <tr> <th></th> <th>Day</th> <th>Eve</th> <th>Full Day</th> </tr> </thead> <tbody> <tr> <td>Low</td> <td>23%</td> <td>19%</td> <td>21%</td> </tr> <tr> <td>Mid</td> <td>60%</td> <td>40%</td> <td></td> </tr> <tr> <td>High</td> <td>70%</td> <td>50%</td> <td></td> </tr> </tbody> </table>		Day	Eve	Full Day	Low	23%	19%	21%	Mid	60%	40%		High	70%	50%		<table border="1"> <thead> <tr> <th></th> <th>Day</th> <th>Eve</th> </tr> </thead> <tbody> <tr> <td>50%</td> <td>50%</td> <td>30%</td> </tr> <tr> <td>60%</td> <td>60%</td> <td>40%</td> </tr> <tr> <td>70%</td> <td>70%</td> <td>50%</td> </tr> </tbody> </table>		Day	Eve	50%	50%	30%	60%	60%	40%	70%	70%	50%	<table border="1"> <thead> <tr> <th></th> <th>Day</th> <th>Eve</th> </tr> </thead> <tbody> <tr> <td>50%</td> <td>50%</td> <td>30%</td> </tr> <tr> <td>60%</td> <td>60%</td> <td>40%</td> </tr> <tr> <td>70%</td> <td>70%</td> <td>50%</td> </tr> </tbody> </table>		Day	Eve	50%	50%	30%	60%	60%	40%	70%	70%	50%	<table border="1"> <thead> <tr> <th></th> <th>Day</th> <th>Eve</th> </tr> </thead> <tbody> <tr> <td>50%</td> <td>50%</td> <td>30%</td> </tr> <tr> <td>60%</td> <td>60%</td> <td>40%</td> </tr> <tr> <td>70%</td> <td>70%</td> <td>50%</td> </tr> </tbody> </table>		Day	Eve	50%	50%	30%	60%	60%	40%	70%	70%	50%
	Day	Eve	Full Day																																																					
Low	23%	19%	21%																																																					
Mid	60%	40%																																																						
High	70%	50%																																																						
	Day	Eve																																																						
50%	50%	30%																																																						
60%	60%	40%																																																						
70%	70%	50%																																																						
	Day	Eve																																																						
50%	50%	30%																																																						
60%	60%	40%																																																						
70%	70%	50%																																																						
	Day	Eve																																																						
50%	50%	30%																																																						
60%	60%	40%																																																						
70%	70%	50%																																																						



Classrooms

Rooms and Square Footage Requirements – 2015, 2020 and 2025

Total room inventory is projected at 22 rooms in 2015, 43 in 2020 and 77 in 2025.

	No. of Seats	NSF per Seat	Rooms Proposed by Year					
			2015		2020		2025	
			<i>Rooms Proposed</i>	<i>Square Footage</i>	<i>Rooms Proposed</i>	<i>Square Footage</i>	<i>Rooms Proposed</i>	<i>Square Footage</i>
001 to 15	15	25	0	0	5	1,875	12	4,500
016 to 25	25	25	10	6,250	20	12,500	26	16,250
026 to 45	35	30	7	7,350	7	7,350	12	12,600
	45	30	2	2,700	4	5,400	14	18,900
046 to 60	60	30	1	1,800	3	5,400	7	12,600
061 to 100	80	22	1	1,760	2	3,520	3	5,280
101+	125	20	1	2,500	2	5,000	3	7,500
Total			22	22,360	43	41,045	77	77,630

Academic Divisions and Administrative Areas

- Basic Office Space Requirements

Office Space Assumptions

Area	Space Type	NSF Allocation <i>(per person)</i>
Academic Offices		
■ FT Tenured Faculty	Private offices	130
■ PT / Adjunct Faculty	Share enclosed offices or open plan work space	80
■ Staff	Open plan work space	80
Administrative Offices		
■ Level 1 Staff	Private offices	130
■ Level 2 Staff	Open plan work space	80
Office Support / Department Community Space		
■ Additional space allocated to each functional area for support functions -- conference / meeting space, production work space, kitchen, storage, reception, etc.		80

Academic Program Areas

Current Programs by Division

Arts & Sciences

Am Studies
Appl Visual Arts
Art
Biology
General Science
Intl Studies
Liberal Studies
Psychology
Social Science

Healthy Communities

Bus Admin
Energy Sys Engin
Natural Resources
Sustainability
Tourism & Outdr Lead
Computer Science

Healthy People

Exer & Sport Science
Human Dev & Fam Sci
MS Counseling -- CMHC
MS Counseling -- SC
MAT -- Early Childhd & Elem
MAT -- Middle & Secondary
Reading Endorsement for Teachers

Administrative Functional Areas

General Administration

- Senior Administration
- Facilities / Physical Plant
- Finance/Accounts Payable
- Marketing/Outreach/Communications
- Human Resources
- Information Technology
- Development
- Safety and Security

Academics

- Licensure Advising (academics)
- Faculty Support
- Library

Enrollment Services

- Customer Service - One Stop
- Admissions - Operations
- Financial Aid & Scholarships
- Registrar/Commencement
- Veterans
- Schedule
- IR

Admissions

- Admissions - Recruit
- Student Ambassadors (SALS)
- Pre-College Programs
- New Student Programs/Orientation

Recreation and Wellness

- Personal Counseling
- Student conduct
- Rec sports
- Cascade Adventures
- Student Health Services

Student Activities

- Student Leadership & Involvement
- Student clubs and activities
- Intercultural Student Services
- Student Media
- Student Leaders

Student Support and Advising

- Academic Advising/FYE/Transfer Success
- Tutoring
- Peer Tutors
- Proctoring
- Testing
- Disability Access Services
- International Students

Career Services/Transitions

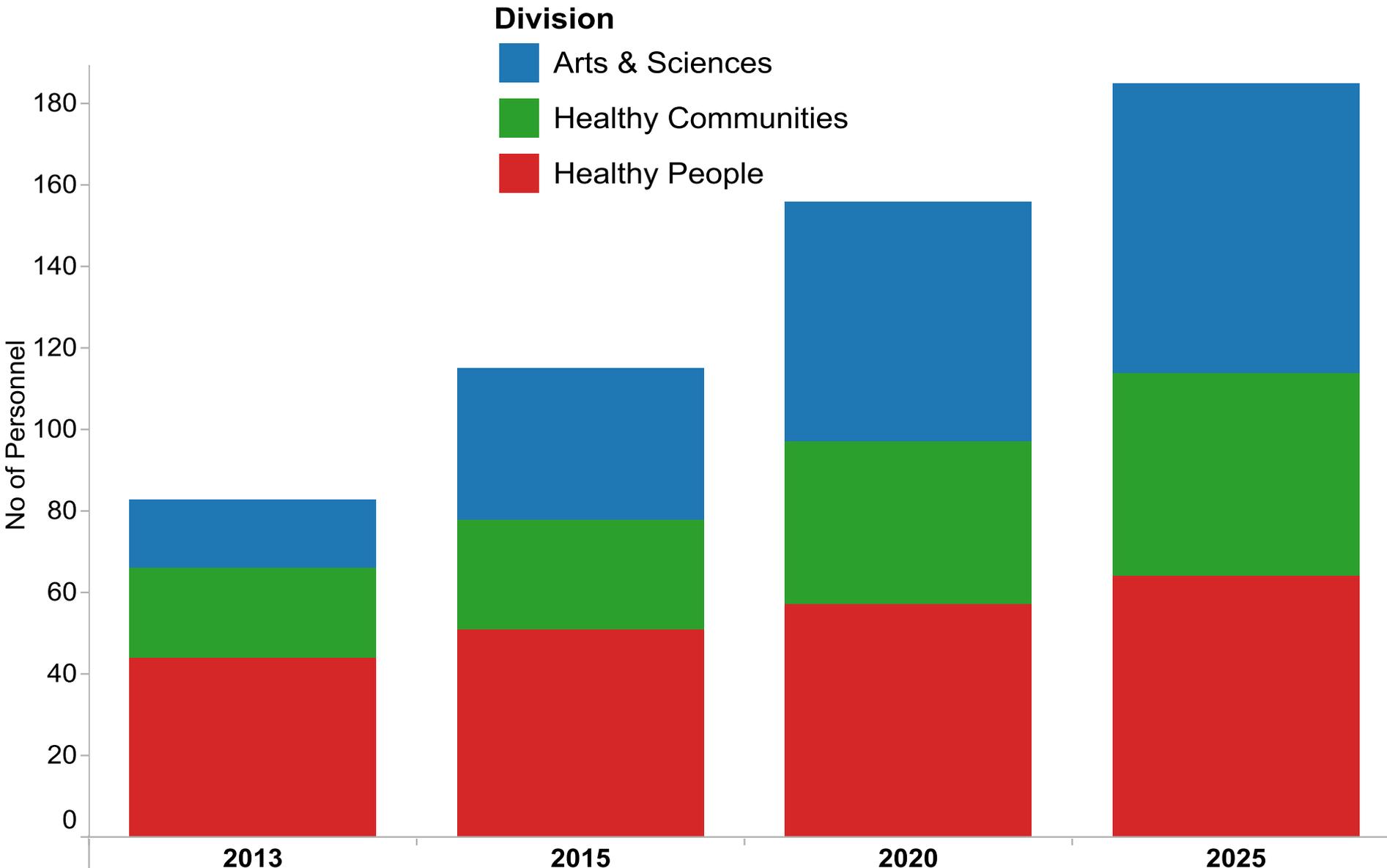
- Career Counseling & Services
- Internships
- Alumni

Residence Life

- Housing
- Dining

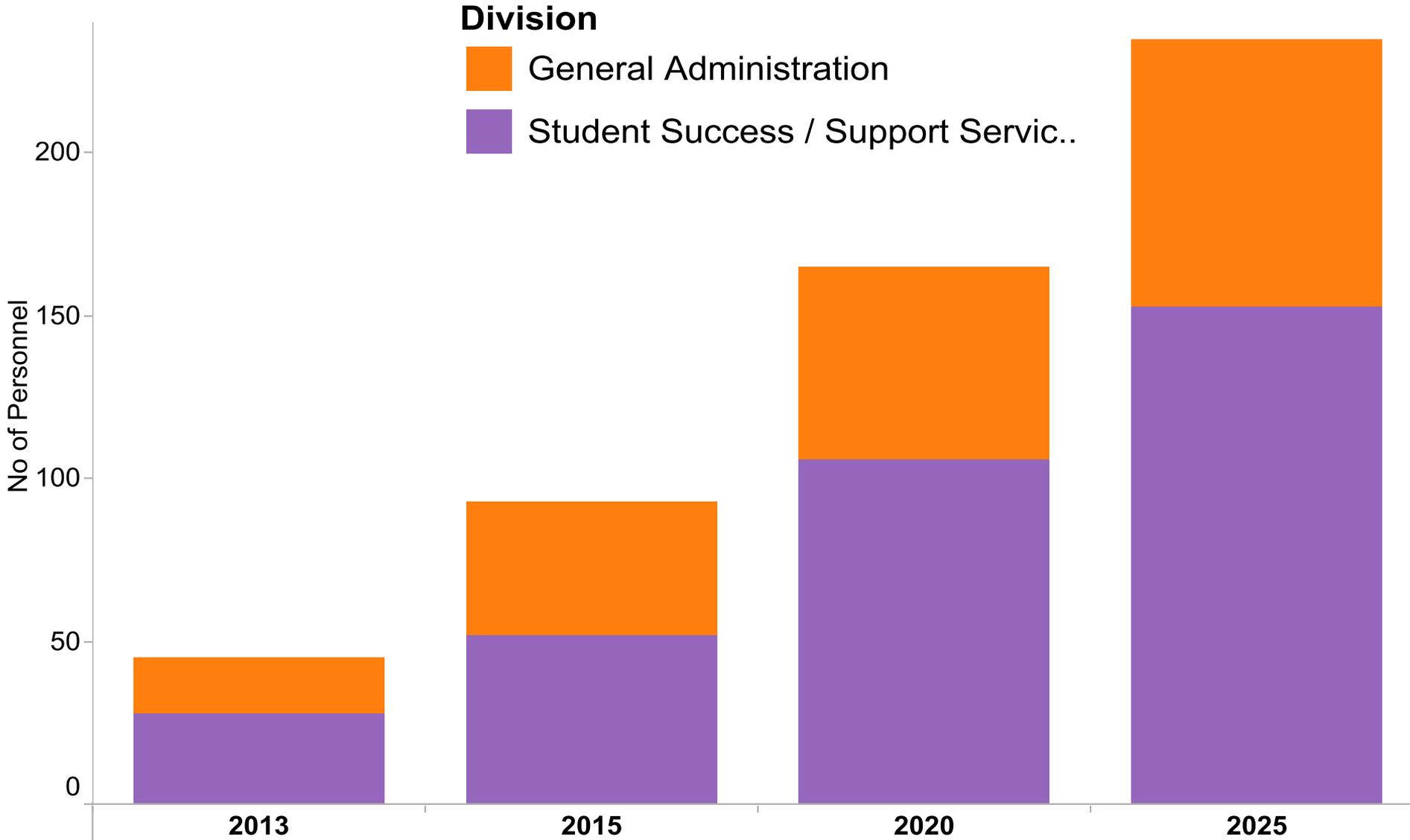
Academic Staff Projections

Total Number of Faculty and Staff by Year, 2015, 2020 and 2025



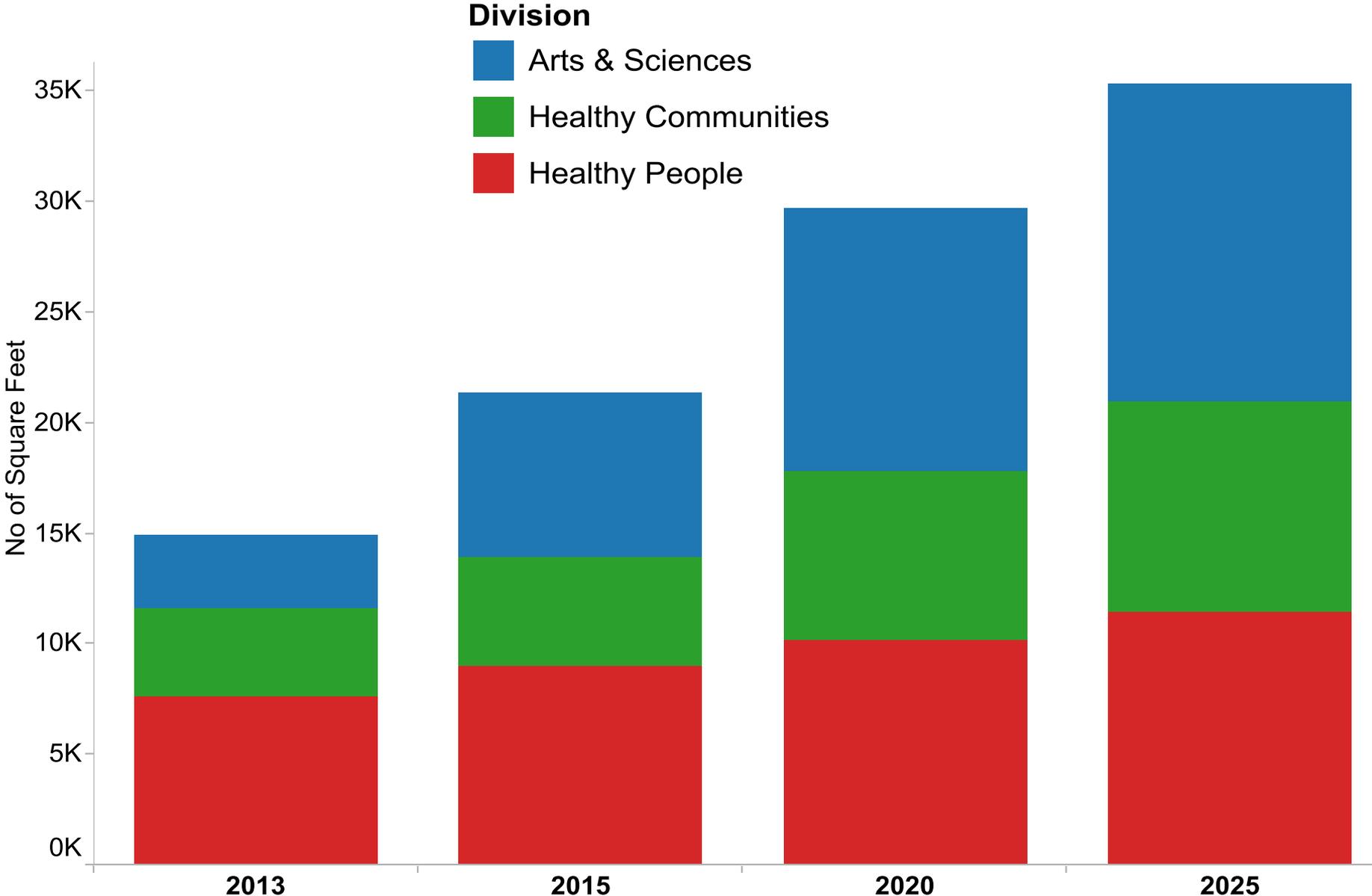
Administrative Staff Projections

Total Number of Staff by Year, 2015, 2020 and 2025



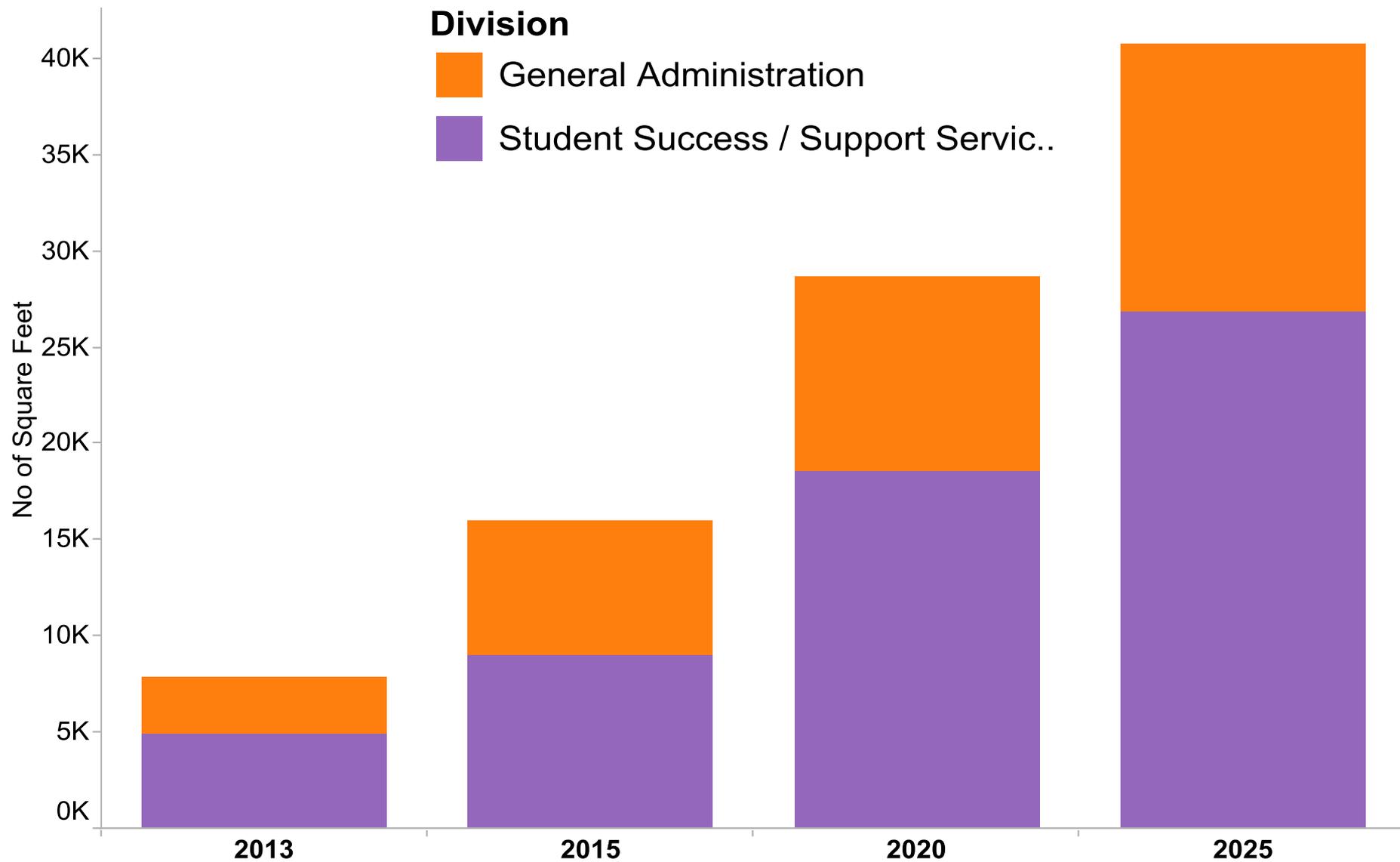
Academic Office-Related Space Needs

Square Footage Requirements – 2015, 2020 and 2025



Administrative Office-Related Space Needs

Square Footage Requirements – 2015, 2020 and 2025



Academic Divisions and Administrative Areas

- Basic Office Space Requirements
- Other Space Needs and Considerations

Other Academic Space Needs

Compilation of Research Space Interests

Research Space

Area	Description of Need
Psychology	<ul style="list-style-type: none"> ■ Observation-style labs (e.g., conference rooms and supporting spaces)
Bio / Chem	<ul style="list-style-type: none"> ■ Organic Chemistry Lab ■ Biology Labs (wet / dry) ■ Student research labs
Engineering	<ul style="list-style-type: none"> ■ Instructional lab / production shop space
Exercise Science	<ul style="list-style-type: none"> ■ Biomechanics lab ■ Physiology lab ■ Possibly others?
Healthy People Programs	<ul style="list-style-type: none"> ■ Observation-style labs (similar to current labs, but greatly expanded in space / number)

Estimated SF Allocations	Enrollment Growth		Incremental Need Based on Enroll Growth	Total SF Need
2015	Baseline	0%		8,500
2020	from 2015 to 2020	110%	9,317	17,817
2025	from 2020 to 2025	52%	9,220	27,037

Other Academic Space Needs

Research / Lab Spaces

- Dedicated lab space for tenure track faculty
- Collaboration space within labs, along with individual and small group lab areas
- Research space for PhD candidates, post-docs and others.
- More space for research assistants

Other Academic and Administrative Space Needs

Other spaces mentioned that are included in program planning are as follows:

Academic Space

- General divisional work space (including storage, space for congregation between / among programs, etc.)
- Videoconferencing space

Administrative Space

- Student Resource Center
- Specific fit-out requirements for individual program areas:
 - Enrollment Services (e.g., student workstations, payment desk for students)
 - Admissions (welcome area, space for private meetings, Student Ambassador space)
 - Personal Counseling
 - Employment Services / Alumni Center (meeting and interview spaces for employers, eventual full-scale Alumni Center)
 - Academic Advising (e.g., tutoring center)

Housing

Housing

Assumptions by Target Population

- First and Second Year Students
 - Assumed to be preponderantly traditional-age students
 - House first and second year students in campus housing, both for recruitment purposes (parents will expect such housing, especially for students from outside the region), and to build sense of campus community.
 - First year students will generally be required to live on-campus, unless living within 30 miles of the campus.

- Juniors, Seniors and Graduate Students
 - Assumed to find their own housing in the local market

- International Students
 - Exploring the idea of partnering with INTO, which works with institutions to create joint venture partnerships linking international students with institutions in the United Kingdom, North America and China. Partnership could be modeled after existing arrangement at OSU-Corvallis.

Housing

Assumptions about Bed Requirements

- **2015**
 - ~100 freshmen assumed for 2015 class. Excluding students who are exempted from campus housing because they live locally, housing estimate is 30 to 40 first year students and a small population of second year students.
 - For planning purposes, assume 60 to 70 students (~45% of first year and ~10% of second year students)
 - Initial housing assumed to be residence hall and / or suite or modified suite style

- **2020**
 - Total undergraduate population projected at 2,344; ~20% assumed to be first and second year students. Assume ~45% of first year and ~15% of second year students are housed on campus.
 - Configurations assumed to be a mix of traditional residence halls and suite-style housing.

- **2025**
 - Total undergraduate population projected at 3,654; 25% assumed to be first and second year students. Assume ~45% of first year and ~15% of second year students are housed on campus.
 - Configurations assumed to be a mix of traditional residence halls and suite-style housing.

Housing

Projections of Net Square Footage

Housing Type	NSF per Bed	YEAR											
		2015				2020				2025			
		Total To Be Housed	Existing Beds	Net New Beds	New New NSF	Total To Be Housed	Existing Beds	Net New Beds	New New NSF	Total To Be Housed	Existing Beds	Net New Beds	New New NSF
Traditional Residence Hall	280	50	0	50	14,112	137	50	87	24,283	247	137	110	30,666
Suite-Style Housing	280	14	0	14	3,836	28	14	14	4,040	55	28	27	7,471
Apartment Style Housing	280	0	0	0	0	0	0	0	0	0	0	0	0
Total		64	0	64	17,948	165	64	101	28,323	301	165	136	38,137

Summary		
	<i>Beds</i>	<i>NSF</i>
2015	64	17,948
2020	101	28,323
2025	136	38,137
Total	301	84,407

Community / Social Spaces

- Central Commons and Related Dedicated Spaces

Community Space

There appears to be widespread consensus among those interviewed that there is need for a high-quality central community space – a “Commons” – that serves multiple functions, including:

- Student center
- Central campus gathering space for formal and informal events
- Creative space (for exhibits, art displays, etc.)
- Indoor student activities / recreation
- Student clubs and organizations

Overview of the Concept – “Central Commons” Multi-Function Space

- Combines large flexible use space to accommodate a wide range of activities, surrounded by or interspersed with smaller spaces dedicated to specific functions – all to support congregation and community development and enrichment.
- Should be proximate to major Student Service functions.

LEGEND

Flexible Use Space

Dedicated Spaces

Activities

Central Commons Multi-Function Space

(SCHEMATIC)

Exhibit /
Display
Space

Permanent Exhibits

Rotating Exhibits

Public Art

Club /
Organization
Space

Campus
"Living Room"
/ Informal
Hangout
Space

"Student
Support"
(e.g., Kitchen /
Lockers)

Student
Recreation

Games / Pool

TV Watching

Multi-Modal
Performance
Space

Movie Screenings

Theatre Performance

Music Performance

Speeches / Lectures

Welcome / Information

Café /
Food &
Coffee

"Front
Door"

Study /
Meeting
Spaces

Production /
Collaboration
Spaces

Retail /
Bookstore

Dining

- Food service and dining area requirements depend on the delivery concept.
 - On larger campuses, dining tends to be dispersed among a few locations, often proximate to housing.
 - On smaller campuses, dining is often centralized, possibly in or associated with a student union. In such cases, the proximity of the housing to the student union may affect dining needs.
 - Other issues include:
 - Meal plan requirements?
 - Campus or independent provider?
 - Similar private services within walking distance?

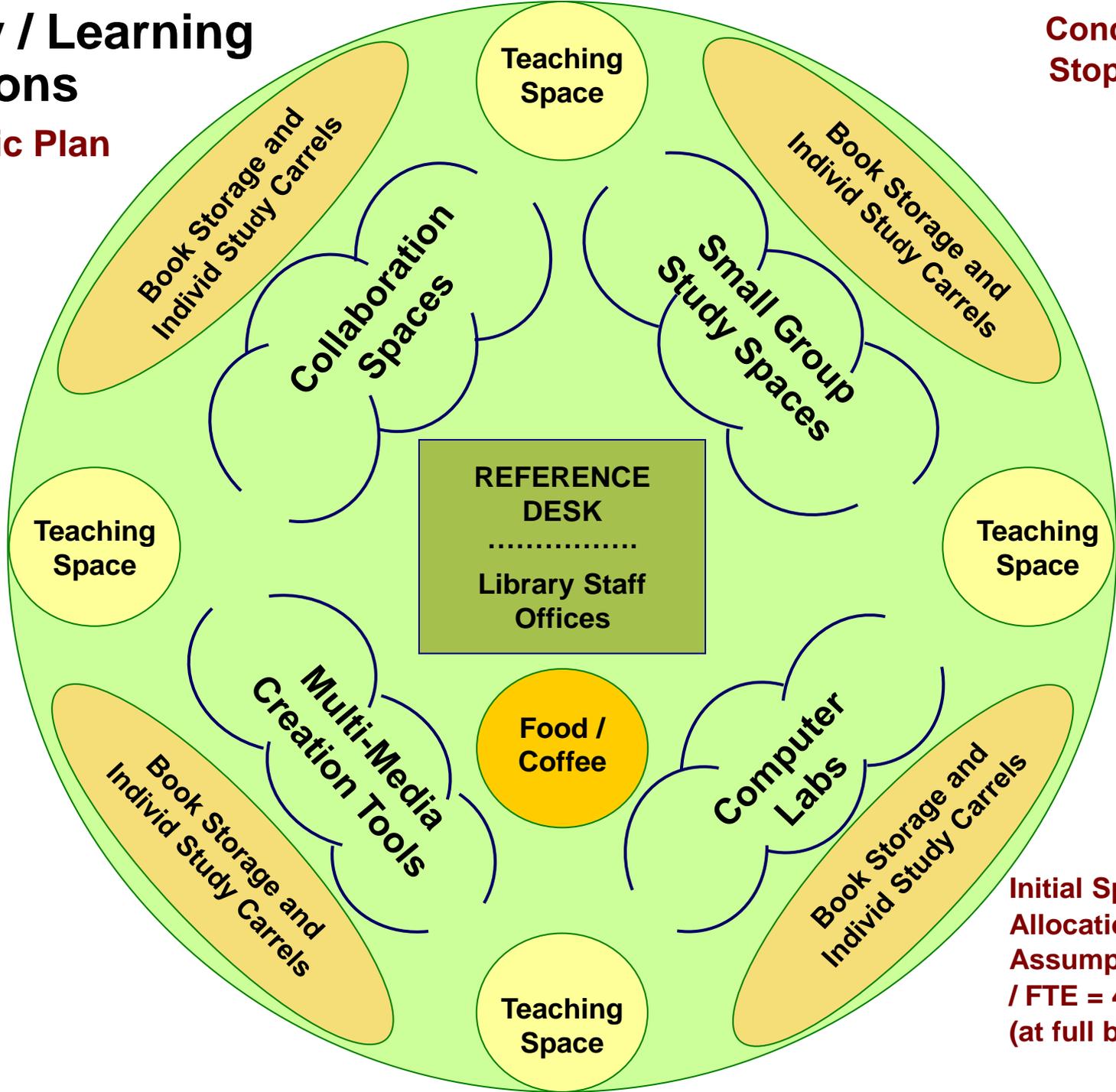
- **Planning Parameters**
 - For a campus of 4,200 students, having one central location that serves the entire campus will be the most efficient and cost effective.
 - Assuming a central dining location, approximately 5,000 to 10,000 square feet are required for the kitchen, and 10,000 to 20,000 square feet for the dining area. (Range for total dining area is 15,000 to 30,000 nsf)

Initial Space Allocation Planning Assumption: 30,000 nsf needed in 2025

Library / Learning Commons

Schematic Plan

Concept: "One Stop" Learning



Initial Space Allocation Planning Assumption: 10 nsf / FTE = 42,000 SF (at full build-out)

Recreation

Recreation Facility

- Comments from focus groups suggest that student gathering space is a greater priority in the early years of OSU's growth than is a recreation facility. But once enrollments grow to the range anticipated over the next decade-plus (~4000), it will be important to provide a recreation facility as well.
- As a short-term measure, providing a smaller fitness facility as part of the Central Commons should be considered (e.g., fit-out with treadmills, weights, shower facilities, etc.)
- An alternative could be membership in an existing, nearby athletic club.

Initial Space Allocation Planning Assumption: 10 nsf / FTE for indoor facilities (at full build-out)

Recreation

Outdoor Spaces

- Athletics vs. Campus life
- Outdoor amenities suggested:
 - A rooftop area for students – for socializing, taking in views of the mountains, etc.
 - Bike parking
 - Access to community bikes
 - BBQ facilities
 - Soccer, IM and other playing fields
 - Potential for shared “public” fields
 - Each sport field needs approximately 5 acres

Community / Social Spaces

- Central Commons and Related Dedicated Spaces
- Dining
- Library / Learning Commons
- Recreation Facility
- Summary of Square Footage Projections

Community Space Square Footage Projections

Community Space Needs

	Total No. of Persons	Persons Per Unit	Total No. of Units	NSF Per Person	NSF Per Unit	Total NSF
CENTRAL COMMONS / MULTI-FUNCTION SPACE including:						
Campus living room / informal hangout space		400	1	17	6,800	6,800
Student recreation space						
Multi-modal performance space						
Front door / information area						
"Student support" (kitchen / lockers / etc.)						
Exhibit / display space						
Sub-Total						6,800
DEDICATED USE SPACES						
Retail / Bookstore			1		8,000	8,000
Café / Food & Coffee		40	1	25	1,000	1,000
Club / Organization Space			1		2,500	2,500
Study / Meeting Spaces		8	10	25	2,000	2,000
Production / Collaboration Spaces		20	2	25	1,000	2,000
Sub-Total						15,500
DINING			1		30,000	30,000
LIBRARY / LEARNING COMMONS		4200	1	10	42,000	42,000
RECREATION FACILITY		4200	1	10	42,000	42,000

Total						136,300
--------------	--	--	--	--	--	----------------

Other Spaces

- Other Support Spaces
- Parking
- Athletic Fields

Other Support Spaces

Health Services

- Primary counseling space is included in the “Student Success / Student Support” section of Administrative Department space projections. Health Services space here includes a modest number of offices for wellness consulting.
- Initial allocation: 80 nsf per office

Facilities Management / Support

- Space to support central facilities operations
- Initial allocation: 4 nsf per FTE

Other Support Spaces

Health Services

	Office	NSF Alloc	Total NSF	Increment
2015	1	80	80	80
2020	2	80	160	80
2025	3	80	240	80

Facilities Management / Support

	NSF per FTE	Enrollment	Total NSF	Increment
2015	4	1,311	5,244	5,244
2020	4	2,748	10,992	5,748
2025	4	4,170	16,680	5,688

Parking

Initial Planning Assumptions

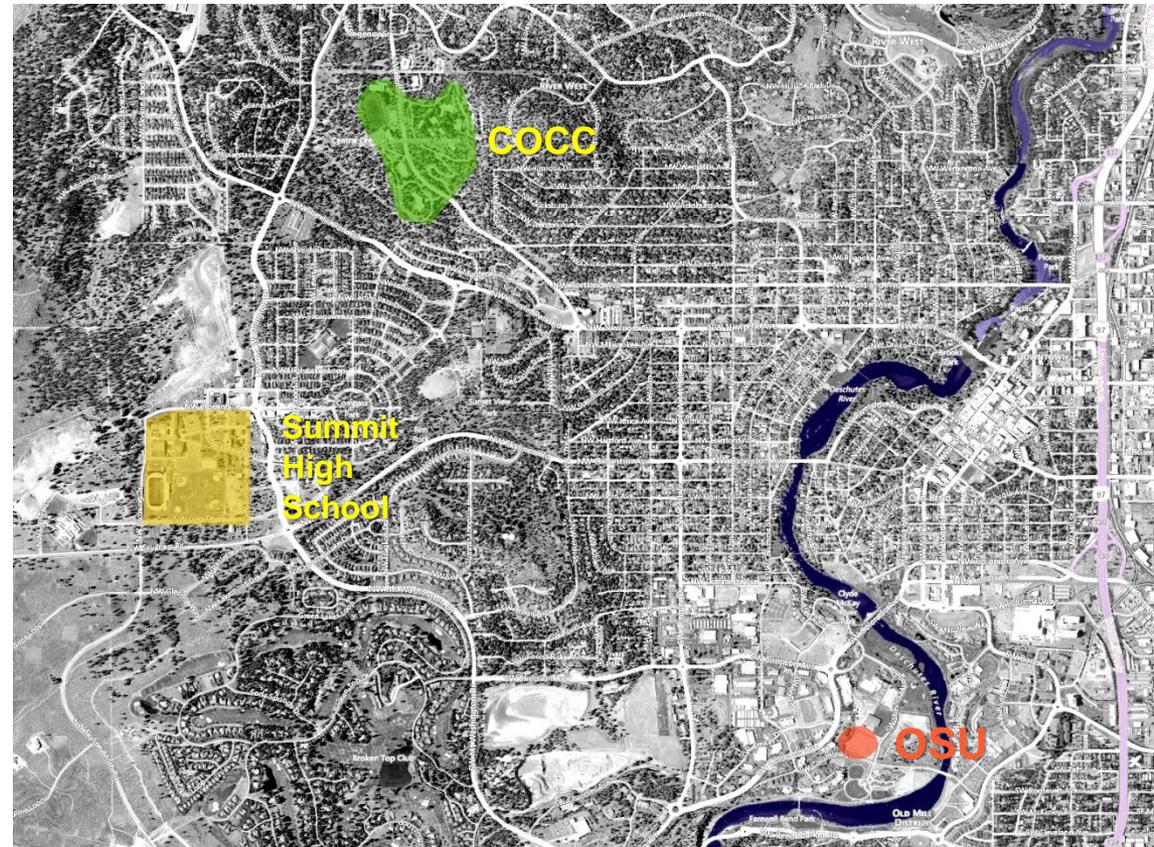
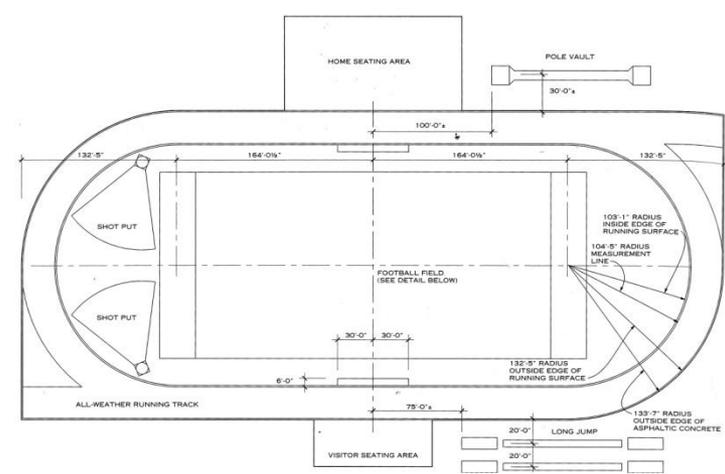
Parking

	Integrated Urban Model		Independent Suburban Model
Parking Space Ratio	2015	1:4	1:2
	2020	1:5	
	2025	1:5	
SF per Space		370	300
No. of Spaces			
2015		328	656
2020		287	718
2025		284	711
Total		899	2,085
Acreage Requirements			
2015		2.79	4.52
2020		2.44	4.94
2025		2.41	4.90
Total Acres Required		7.64 acres	14.36 acres

Athletic Fields

Preliminary Planning Assumptions

- Integrated Urban Model
 - 1 multi purpose field plus shared facilities: 4-5 acres
- Independent Suburban model
 - 2-3 fields: 15 acres



Summary of Space Needs – by Year and at Full Build-Out

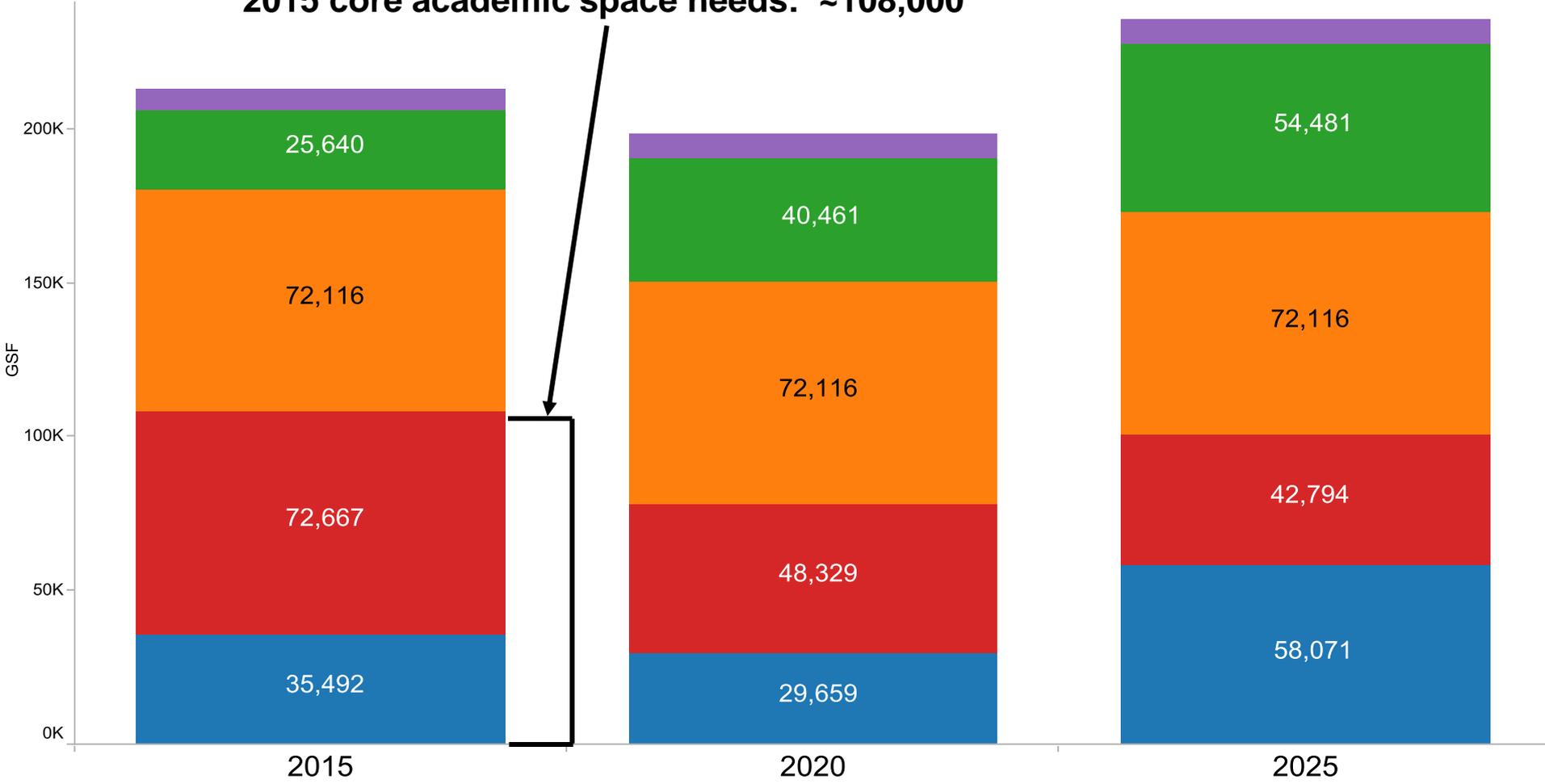
- 2015
- 2020
- 2025
- Cumulative at Full Build-Out

Space Needs by Year

By Category in 2015, 2020 and 2025

- Other Support Services
- Housing
- Community / Social
- Office and Research
- Classrooms

2015 core academic space needs: ~108,000



Cumulative Space Needs at Full-Build-Out

Sum of Space Added in 2015, 2020 and 2025

Space Type	Building Area		Acreage						
			Integrated Urban				Independent Suburban		
			Net	Gross-Up Factor	Gross	FAR Multiplier	Total Land Area (GSF)	Total Land Area (Acreage)	FAR Multiplier
Classrooms	77,630	0.63	123,222	2.00	246,444	5.66	2.50	308,056	7.07
Office and Research									
Academic	35,350	0.63	56,111	2.00	112,222	2.58	2.50	140,278	3.22
Administrative	40,800	0.63	64,762	2.00	129,524	2.97	2.50	161,905	3.72
Research	27,037	0.63	42,916	2.00	85,832	1.97	2.50	107,290	2.46
Community / Social									
Central Commons & Related Dedicated Spaces	6,800	0.63	10,794	2.00	21,587	0.50	2.50	26,984	0.62
Dining	15,500	0.63	24,603	2.00	49,206	1.13	2.50	61,508	1.41
Library / Learning Commons	30,000	0.63	47,619	2.00	95,238	2.19	2.50	119,048	2.73
Recreation	42,000	0.63	66,667	2.00	133,333	3.06	2.50	166,667	3.83
Housing	84,407	0.70	120,582	1.25	150,728	3.46	1.75	211,019	4.84
Other Support Services									
Health Service	240	0.63	381	2.00	762	0.02	2.50	952	0.02
Facilities Management	16,680	0.63	26,476	2.00	52,952	1.22	2.50	66,190	1.52
Surface Parking						7.64			14.36
Athletic Fields						5.00			15.00
Maint and Operations						1.00			1.00
Total	418,444		650,799		1,211,162	41.44		1,536,562	65.63

Total Acreage In Service, By Year – Two Models

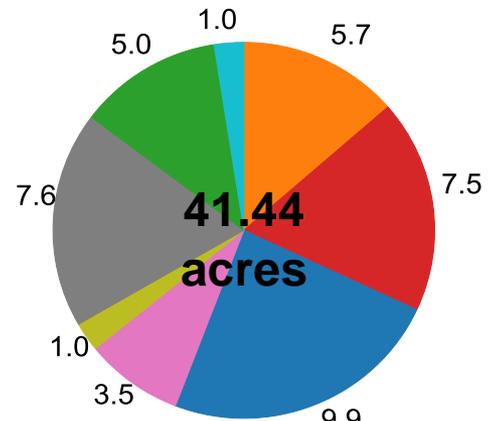
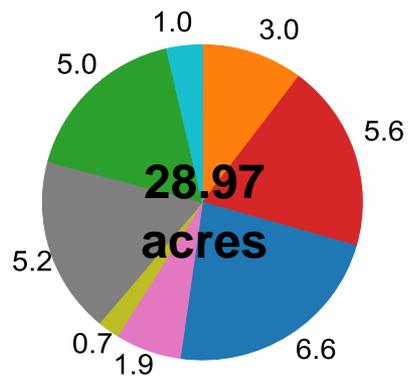
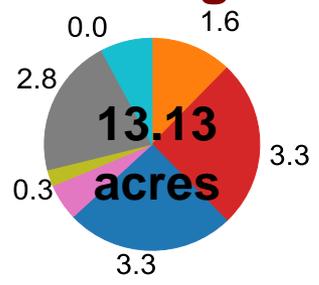
- Space Type**
- Classrooms
 - Office and Research
 - Community / Social
 - Housing
 - Other Support Space
 - Surface Parking
 - Athletic Fields
 - Maintenance and Operatio..

2015

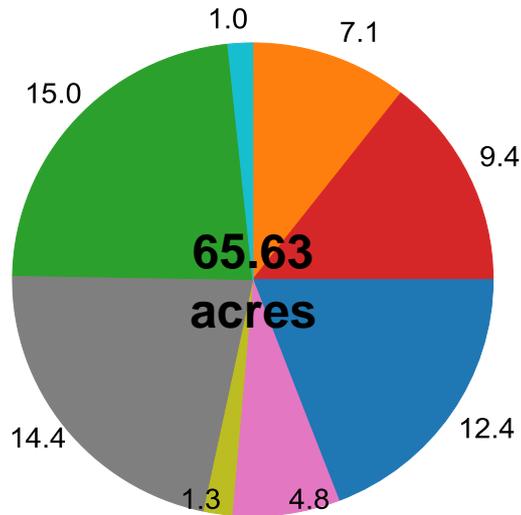
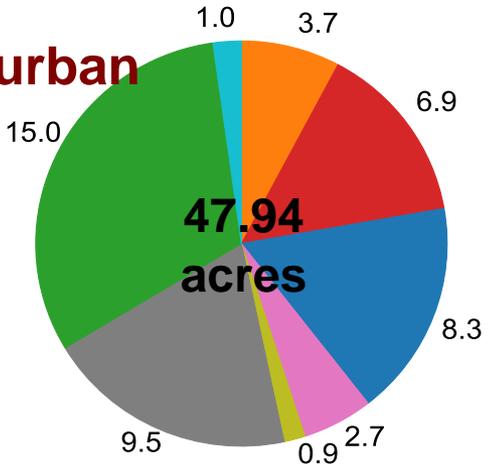
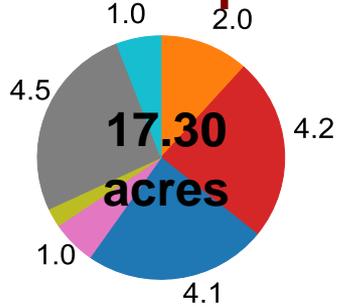
Year
2020

2025

Integrated Urban



Independent Suburban



Discussion