

The background of the cover is a detailed architectural floor plan of a building, rendered in white lines on a dark purple background. The plan shows various rooms, corridors, and structural elements. A large, semi-transparent white box with a light blue and green marbled pattern is overlaid on the plan, containing the title and date. In the top right corner, there is a small, faint architectural drawing of a building's exterior. In the bottom right corner, there is a faint arrow pointing left.

# PORTLAND STATE UNIVERSITY

## Facilities Plan

2001-2010

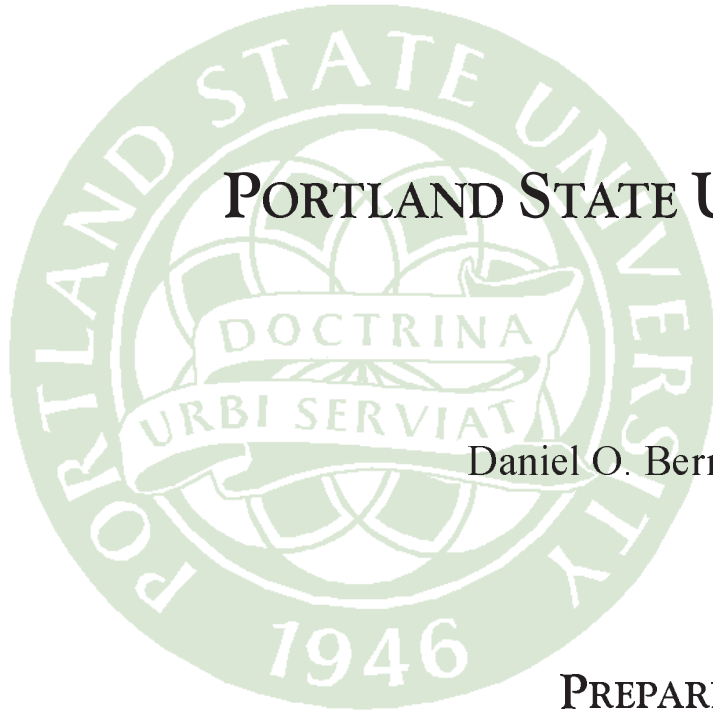
March 2, 2000



# PORTLAND STATE UNIVERSITY FACILITIES PLAN 2000-2010



March 2, 2000



# PORTLAND STATE UNIVERSITY FACILITIES PLAN

## 2000-2010

Daniel O. Bernstine - President

### PREPARED BY:

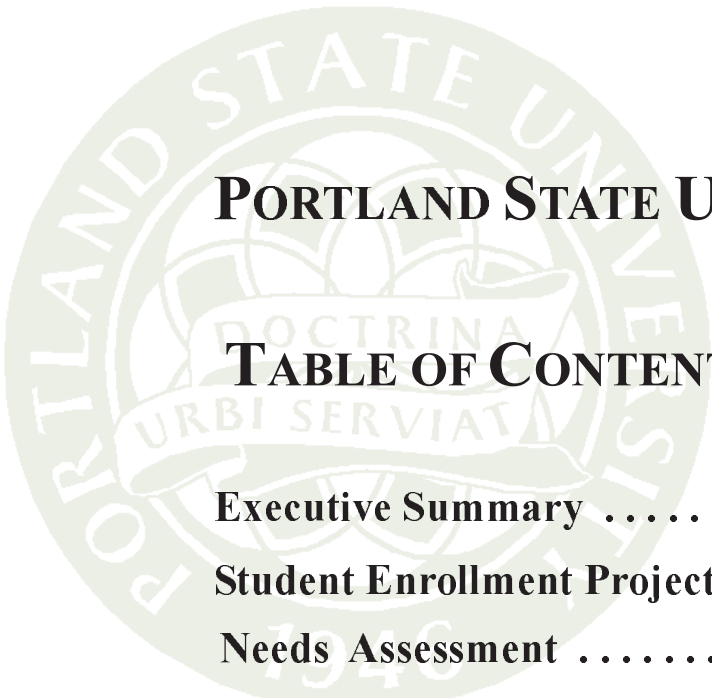
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**Portland State University**  
202 University Services Building  
617 SW Montgomery Street  
Portland, Oregon 97207



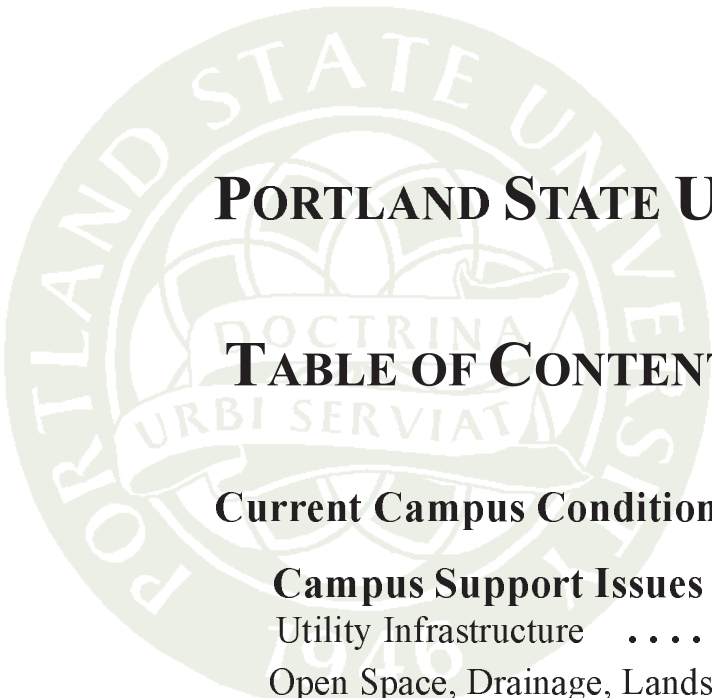


# PORTLAND STATE UNIVERSITY FACILITIES PLAN 2000-2010

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## Executive Summary

### I. Overall Purpose

In response to the Chancellor's Office's request for an updated Facilities Master Plan (Capacity Study), the following study was prepared. Below is a brief summary of answers to the questions which OUS asked be addressed in the updated plan.

#### A. What are the current major Facility issues at PSU?

1. Based on a current student headcount of 19,883 growing to 21,943 by 2010, PSU will need 138 additional classrooms and labs with nearly 3,300 additional student stations. Beside the need for these additional spaces, many of the existing classrooms and labs. are outdated and inappropriate for modern academic programs. It would therefore be more cost effective to replace many of these dated rooms rather than attempt a rehabilitation full of compromises.
2. PSU lacks adequate funds to make a meaningful dent in its \$113 million backlog of deferred maintenance. This figure does not include code upgrades or modernization costs, which could add 50% or more to the \$ 113 million calculation.
3. Research space needs are expected to grow over 7,000 square feet per year, which is consistent with a 15% annual growth in research over the past five years. This implies a minimum of 70,000 square feet of additional research space is needed as well as substantial investment in infrastructure.

#### B. Does PSU have a plan to provide the physical space and quality of facilities to meet its enrollment and curriculum needs?

PSU has the physical capacity to add over 1.5 million sq. ft. of space to serve foreseeable growth. That, coupled with the ability to renovate and reuse the existing facilities means that PSU can meet its needs - *if it is properly funded within a reasonable time frame.*

The quality of PSU's current facilities is not adequate for the academic program needs of this institution.

If the Capital request is not funded, and the \$113 million backlog is also not addressed, then the plan cannot be implemented.



C. What are the estimated costs of funding the Facilities Plan?

1. Deferred Maintenance/ Capital Repair: \$113 million

Our 1999 estimate of deferred maintenance and capital repairs backlog is \$113,000,000, excluding housing and infrastructure. An update of the Housing and Infrastructure backlog will increase this cost by about 20 to 30 percent. Revised costs for these categories are due in February, 2000. A bond issue has been proposed to reduce this backlog by 50% over the next ten years. It will take about \$12-15,000,000 per year over the next ten years to achieve this reduction.

2. Code and Obsolescence Upgrades:

The deferred maintenance backlog does not address the many code and obsolescence issues in all of our old structures. We will need to supplement the deferred maintenance backlog by 30-40% to achieve these required code upgrades. This funding should be closely coordinated with the DM/CR budget duel program. We will need \$4-6,000,000 per year over the next ten years to fund the following required improvements:

- a. State Code required Elevator Safety upgrades.
- b. Fire Marshal required Emergency Egress Lighting.
- c. Fire Marshal required Fire Alarm & Suppression Systems.
- d. ADA required Building & Classroom Accessibility upgrades.
- e. FEMA Seismic Building Evaluations.

3. Academic Capital Construction Priorities are expected to be as follows:

- a. Technology/ Engineering/ Science Building
- b. Library Expansion/ Technology Commons Building
- c. Classroom & Lab Academic (Flex) Building
- d. Building Renovations for School of Social Work
- e. Hazardous Waste Containment & Processing Facility
- f. Art Sculpture Studio
- g. Infill Academic development of private Urban Center 2 project
- h. Master Plan/ Infrastructure/ Utility upgrades
- i. Additional Land and/or Building Acquisitions
- j. Fine & Performing Arts Building

4. Auxiliary Capital Construction Priorities are expected to be as follows:

- a. Lease site to CHNW for 60 Apartment Student Housing
- b. Smith Center Rehabilitation/ Code Upgrades/ Expansion
- c. HG Child Development Center Rehabilitation & Expansion
- d. Academic Parking Expansion
- e. Ondine Renovation & Dormitory development

II. Approach:

PSU will provide an updated facilities master plan and/or capacity study update that will discuss:

1. Physical Capacity

The overall physical capacity remaining at PSU is over 1.5 million square feet. Out of this remaining capacity, PSU will have to provide structured parking to serve half the estimated growth in enrollment.

2. Does PSU have capacity for growth within its existing facilities?

With the acquisition of 500,000 sq. ft. over the last four years, PSU has the capacity to absorb the anticipated growth of the next 2-4 years. This assumes that funds are available for renovating existing space and for fully developing space in the Fourth Avenue Building.

Increasing the efficiency of existing classrooms in the afternoons and evenings will allow for the absorption of some growth, but shortages of computer labs, and properly equipped science and specialty labs are anticipated.

More intensive use of the current classrooms will also compound the deferred maintenance problems.

3. PSU interest in providing programs outside of existing boundaries.

The Distance Learning Center is only one example of PSU involvement in serving a statewide need for programs.

PSU is concerned that without proper coordination and funding, the growth of other OUS programs in the Portland area will put a strain on PSU library resources and compromise PSU's own efforts to serve the Portland area.

4. How well do existing facilities serve the campus' needs:

Facilities is constantly being asked for more space and renovations to facilities that don't serve growing enrollment and program needs. Examples of this can be found in every major program on campus.

5. What major facilities needs exist, in terms of the following:
- a. Program Driven-Needs  
Virtually every academic program has needs varying from computer labs, to high-tech classrooms, to adequate faculty support facilities.
  - b. Cost-effective investments (7 yr. ROI)  
PSU has already undertaken all cost-effective energy conservation projects (such as re-lamping and upgrading boilers/burners) currently possible. Most investment needed is in basic maintenance and repair of classrooms and buildings.
  - c. Code Driven Needs:  
The cost of Code driven needs grows larger each year than the \$2 million plus invested every year in repairs. The compliance with elevator codes alone would absorb all our current repair funds for the next five years.
  - d. Physical Obsolescence of Facilities at PSU  
The deferred maintenance backlog is over \$113 million and should be assumed to be growing at 5% a year or more. Some of the buildings should be demolished in favor of renovation from a cost-benefit point of view. The plan addresses these facilities.

In summary, PSU has a limited capacity to meet enrollment and program needs for the next 2-4 years. However, if significant increase in maintenance and repair does not occur, then some facilities will eventually become unusable.

In addition, if new buildings are not built, the quality and quantity of classrooms, offices, and support services will not be adequate to meet the needs of students.

## **Discussion of Issues**

Because of the nature of the institution, PSU has the highest utilization of campus facilities in the OUS system. A profile of facilities usage shows the following:

- In Fall 1999, PSU headcount reached 19,883.
- PSU classroom usage exceeds 36 hours/wk while the OUS standard is 33 hours/wk.
- Over 30% of PSU classes are taught after 4 p.m. daily.
- While only 4500 of PSU's 7,500 seats are filled at the peak hour (9-10 a.m.), the lack of University and public parking will limit peak hour growth. Our parking lots are 100% full at 9a.m. daily.
- While opportunities do exist for increased efficiency in terms of room scheduling and class-size fit, PSU lacks an adequate number of classrooms to offer more classes during prime hours and the limited number of classrooms often forces the use of improper classroom sizes.

### Quality and Condition of Facilities:

Because of its high utilization, PSU is experiencing greater wear and tear on classroom furniture, and support areas like restrooms and study areas.

With the worst backlog of deferred maintenance in the OUS system, PSU must invest in not only classroom upgrades, but in improvements in science labs, computer labs, and basic support infrastructure.

The age of some PSU buildings impact the University's ability to offer effective instruction. But the type of building also adversely impacts the quantity of programs. The School of Fine and Performing Arts is heavily dependent on using an old elementary school and high school for the majority of its programs.

### Future Strategies:

While the construction of new facilities is essential to keeping up with the growth in the program, it takes 4-6 years to bring a new building on line. To meet growth needs for the next five years while new facilities can be funded and constructed, the University will implement the following strategies:

- Renovate existing buildings to meet science and technology needs.
- Acquire additional space in buildings that can be purchased, such as the Fourth Avenue Building.
- Increase utilization of existing space through better scheduling and use of technology, such as distance learning classrooms.
- Increase cooperative efforts with community colleges and other education providers.

## **Academic Growth Strategies**

Among the strategies to add space to the campus, Portland State University will look to develop sites for Academic and Mixed Use development such as the following:

1. Lot north of Science Building 1 for Science/Technology Expansion.
2. Redevelop Grounds Building block for Library/Classroom/Technology uses.
3. Maintain academic uses as part of PCAT block, including a “new front door” for Admissions and related uses on the Plaza.
4. Use tennis court block for mixed housing/academic uses.
5. Build out Fourth Avenue Building site for Engineering/Technology/Classroom uses.
6. Create spaces for growing research mission on campus.
7. Move Art Foundry uses out of Neuburger Hall and to a location with proper environmental controls.
8. Explore possibilities, such as the relocation of the School of Education to allow expansion of the School of Business Administration and the School of Education.
9. Develop a “Flexible Building” to accommodate temporary occupancy of units dislocated as part of major renovation or code projects. (Approximately 10-20,000 square feet.)
10. Based on analysis of needs, develop a sequence of classroom and laboratory construction that meets growing needs.
11. Preserve Extended Studies block for future Fine Arts Building.
12. Target upgrades for classrooms and labs, as funding allows, in key growth areas.

STUDENT ENROLLMENT  
PROJECTIONS

## PSU Student Headcount Projection Estimates

### General Outlook

- Student population is projected to increase by approximately 2,060 students,<sup>1</sup> based on a conservative average annual rate of 0.95% through the year 2010.
- Approximately 1,597 campus additional institution (Campus-I) students and 463 additional students enrolled in other programs (Non-Campus-I), are projected by 2019, based on average annual growth rates of 0.91% and 1.08% respectively,
- Approximately 1,337 additional graduate students are anticipated in the year 2010, based on an average annual campus-I graduate student headcount grow rate of 2.8%.
- Undergraduate campus-I student headcount is anticipated to increase by approximately 260 students, reflecting an average annual increase of approximately 2.2%.
- Instructional faculty headcount is projected to increase by 75 and staff headcount is projected to increase by 148. These increases reflect average annual growth rates of 0.76% for instructional faculty and 0.98% for staff.

### Data Sources & Estimate Methods

Student growth projections to the year 2010 are based on short-term historic trends using end of fall term headcount data provided in the accompanying table. End of fall term data was selected to correspond with that used by the office of Finance and Administration in recent financial modeling.

The OUS enrollment projections for PSU are for campus-I student headcount and do not include students enrolled in professional and extended education programs. Based on a headcount of 15,565 in 1999, the OUS growth projection for Portland State University estimates an annual average growth rate for campus-I students of 1.7% between 1999 and 2003. Between 2003 and 2007 the OUS projection estimates an annual student growth rate of between 0.1% and 0.5%, with an annual average of 0.36%.

The Portland State University projection follows the same general trend, but adjusts for actual 1999 enrollment counts and accounts for non-campus-I students. Between the three years, 1996 to 1999, the PSU student headcount increased by 1,960, or approximately 11%, as indicated in the accompanying graph. This increase equates to an average annual increase of approximately 3.6%. From 1998 to 1999, student headcount rose 8.9% to 19,883. The PSU projection begins by using the actual 1999 fall end of term headcounts of 15,979 for campus-I and 3,904 for non-campus-I, for a total of 19,883. An average annual growth rate of 2.5% is projected for the first two years, followed by an average annual growth rate of 1.44% for the

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<sup>1</sup> All historic and projected student headcount information in this section are based on end of fall term data.



next two years. Beginning in the year 2003, the PSU growth rate projections reflect those of OUS with projection of the 2006-2007 trend line to the year 2010.

The projected student headcount of 21,943 includes campus-I students and non-campus-I students. Based on the historical information provided, campus-I and non-campus-I student headcount increased at average annual rates of 2.7% and 8.1% respectively between 1996 and 1999. These population projections assume continued expansion of graduate programs to the year 2010 increasing the campus-I student headcount, while the total headcount growth rate trends down from 2.5% in 2000 to 0.2% in 2010.

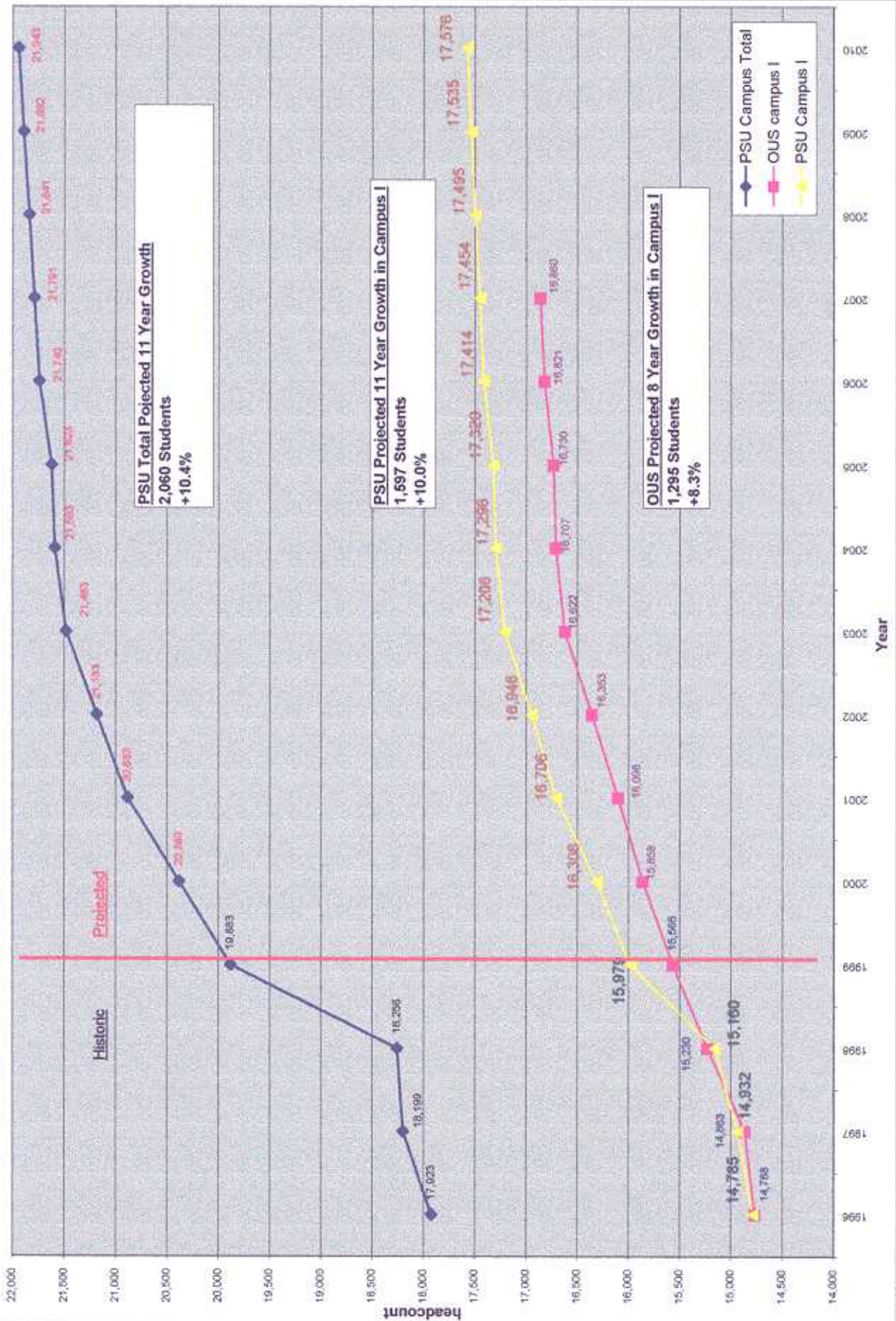
Historically graduate student headcount ranged between 27% and 30% of Campus-I headcount, with an average relationship of 29%. In 1999 the percentage of graduate students reached a low of 27%, but as undergraduates advance through the system and new programs are added, the percentage of graduate students is anticipated to increase. This report assumes that the percentage of graduate students in relation to total campus-I headcount will grow at an annual compounded rate of 1%.

Undergraduate campus-I student headcount is projected to increase approximately 0.2% annually, which is approximately half of the average annual growth rate recorded for the past three years.

The headcount of students enrolled in other programs, classified as non-campus-I, accounted for approximately 20% of total student headcount in 1999. This percentage is assumed to remain relatively constant to the year 2010, resulting in an average annual growth rate of 1.08%

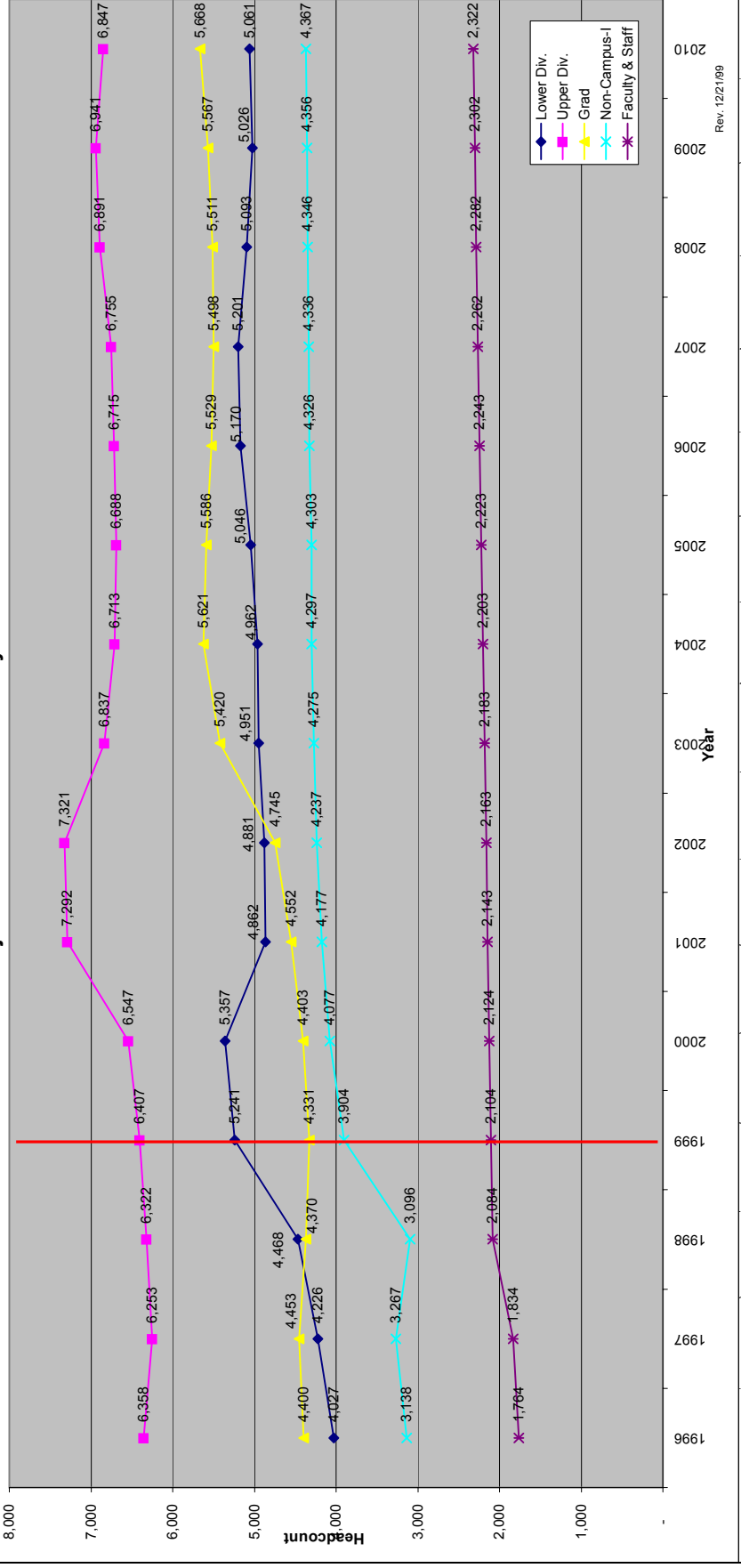
Between 1995 and 1998, the numbers of faculty at PSU have increased by 154, or approximately 23%, as indicated in the accompanying graph. During the same period, the number of university staff increased by 286, or approximately 29%. Over the 3-year period, faculty increased at an average annual rate of 6.7% and staff increased at an annual rate of 9%. These projections assume that between 1999 and 2010 the average annual growth rate for combined faculty and staff will approximately match the average annual growth rate for student headcount, (0.95%). Staff are projected to increase by 157 for an average annual rate of 1.04%, while instructional faculty are projected to increase by 81 for an average annual increase of 0.82%. This will result in a change in the student to faculty ratio from 22 : 1 in 1998 to 11 : 1 in 2010.

### Comparison of Current PSU & OUS Student Headcount Growth Projections



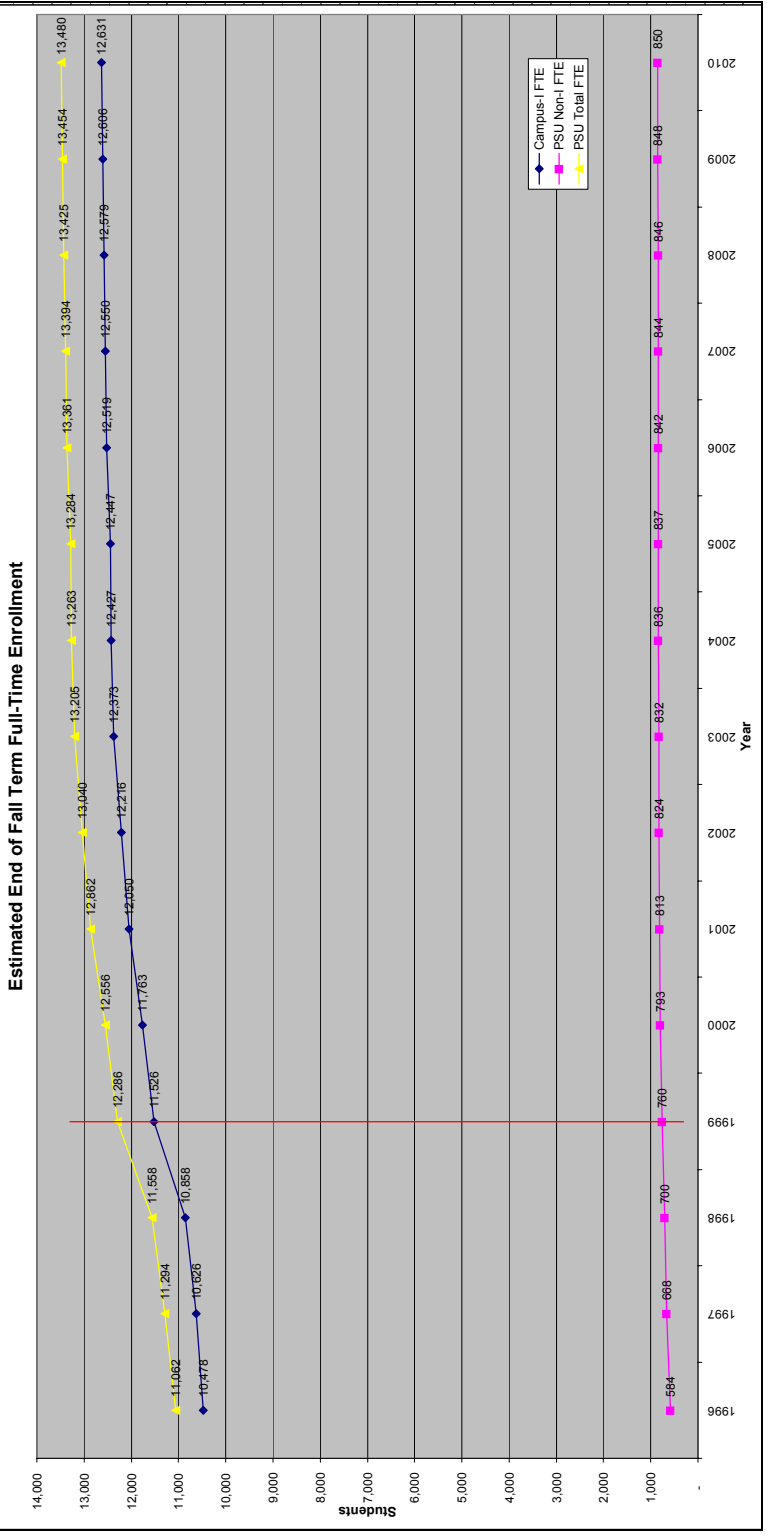
Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TOTALS
Lower Div.	4,027	4,226	4,468	5,241	5,357	4,862	4,881	4,951	4,962	5,046	5,170	5,201	5,093	5,026	5,061	
Upper Div.	6,358	6,253	6,322	6,407	6,547	7,292	7,321	6,837	6,713	6,688	6,715	6,755	6,891	6,941	6,847	
% Undergrad	61%	43%	42%	40%	44%	60%	60%	58%	58%	57%	57%	57%	58%	58%	58%	
% Campus-I	43%	42%	42%	40%	44%	43%	40%	40%	39%	39%	39%	39%	39%	40%	39%	
Under Grad.	10,385	10,479	10,790	11,648	12,154	12,201	11,787	11,675	11,734	11,885	11,966	11,968	11,984	11,968	11,908	
Grad	4,400	4,453	4,370	4,331	4,403	4,552	4,745	5,420	5,621	5,586	5,529	5,498	5,511	5,567	5,668	
% of Campus I	30%	30%	29%	27%	27.0%	27.3%	28.0%	31.5%	32.5%	32.3%	31.8%	31.5%	31.5%	31.8%	32.3%	
PSU Campus I	14,785	14,932	15,160	15,979	16,306	16,706	16,946	17,208	17,296	17,320	17,414	17,454	17,495	17,535	17,576	+1,597
PSU Campus I Rate	82%	82%	83%	80%	80.0%	80.0%	80.0%	80.1%	80.1%	80.1%	80.1%	80.1%	80.1%	80.1%	80.1%	+9.99%
Campus I % of Total	3,138	3,267	3,096	3,904	4,077	4,177	4,237	4,275	4,297	4,303	4,326	4,336	4,346	4,356	4,367	+463
Non-Campus-I	17,923	18,199	18,256	19,883	20,383	20,883	21,183	21,483	21,593	21,623	21,740	21,791	21,841	21,892	21,943	+2,060
PSU Campus Total	14,768	14,863	15,230	15,565	16,098	16,353	16,622	16,707	16,730	16,821	16,860	16,860	16,860	16,860	16,860	+1,295
PSU Annual Rate	0.6%	0.6%	2.5%	2.2%	1.9%	1.5%	1.6%	1.6%	0.5%	0.1%	0.5%	0.2%	0.2%	0.2%	0.2%	+8.32%
OUS campus I																
OUS campus I Rate																

Projected Grade Level & Faculty Growth



Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Lower Div. Headcount	4,027	4,226	4,468	5,241	5,357	4,862	4,881	4,951	4,962	5,046	5,170	5,201	5,093	5,026	5,061
Lower Div. Hours	41,760	44,413	47,364	50,631	51,748	46,965	47,149	47,933	48,744	49,945	50,244	49,203	48,559	48,890	48,890
Lower Div. FTE	2,784	2,961	3,159	3,375	3,450	3,131	3,143	3,188	3,196	3,250	3,330	3,280	3,237	3,259	3,259
Upper Div. Headcount	6,368	6,253	6,322	6,407	6,547	7,292	7,321	6,837	6,713	6,688	6,715	6,755	6,891	6,941	6,847
Upper Div. Hours	74,232	72,211	73,308	77,871	79,573	88,632	88,978	83,093	81,590	81,292	81,615	82,104	83,750	84,366	83,218
Upper Div. FTE	61.2%	59.7%	58.6%	55.0%	55.7%	60.7%	60.7%	58.7%	58.2%	57.7%	57.2%	57.2%	58.2%	58.7%	58.2%
Under Grad. Headcount	10,385	10,479	10,790	11,648	11,904	12,154	12,201	11,787	11,675	11,734	11,885	11,956	11,984	11,968	11,908
Under Grad. Hours	115,982	116,624	120,692	128,602	131,323	134,083	134,607	130,040	128,797	129,452	131,116	131,902	132,200	132,031	131,367
Under Grad. FTE	7,733	7,775	8,046	8,567	8,755	8,939	8,974	8,669	8,586	8,630	8,741	8,793	8,814	8,802	8,758
Graduate Headcount	4,400	4,453	4,370	4,331	4,403	4,552	4,745	5,420	5,621	5,596	5,529	5,498	5,511	5,567	5,668
Graduate Hours	32,937	34,206	33,737	35,512	36,100	37,528	38,907	44,445	46,081	45,799	45,534	46,082	45,186	45,650	46,477
Graduate FTE	2,745	2,851	2,811	2,959	3,008	3,111	3,242	3,704	3,841	3,817	3,778	3,767	3,766	3,804	3,873
Campus-I Headcount	29,876	29,876	28,876	27,176	27,176	27,176	27,176	27,176	27,176	27,176	27,176	27,176	27,176	27,176	27,176
Campus-I Hours	148,929	150,833	154,429	164,014	167,375	171,480	173,944	176,628	177,531	177,775	178,742	179,157	179,572	179,988	180,406
Campus-I FTE	10,478	10,626	10,858	11,526	11,763	12,050	12,216	12,373	12,427	12,447	12,519	12,550	12,578	12,606	12,631
PSU Non-I Headcount	3,138	3,267	3,096	3,904	4,077	4,177	4,237	4,275	4,297	4,303	4,326	4,346	4,356	4,367	4,367
PSU Non-I Hours	8,763	10,019	10,506	11,394	11,898	12,190	12,365	12,477	12,541	12,558	12,628	12,656	12,685	12,715	12,744
PSU Non-I FTE	584	668	700	760	793	813	824	832	836	837	842	844	846	848	850
PSU Total Headcount	17,923	18,199	18,256	19,883	20,383	20,883	21,183	21,483	21,593	21,623	21,740	21,791	21,841	21,892	21,943
PSU Total Hours	157,692	160,852	164,935	175,608	179,819	184,230	186,877	189,523	190,492	190,755	191,732	192,237	192,683	193,129	193,577
PSU Total FTE	11,062	11,294	11,558	12,268	12,556	12,862	13,040	13,205	13,263	13,284	13,361	13,394	13,425	13,454	13,480

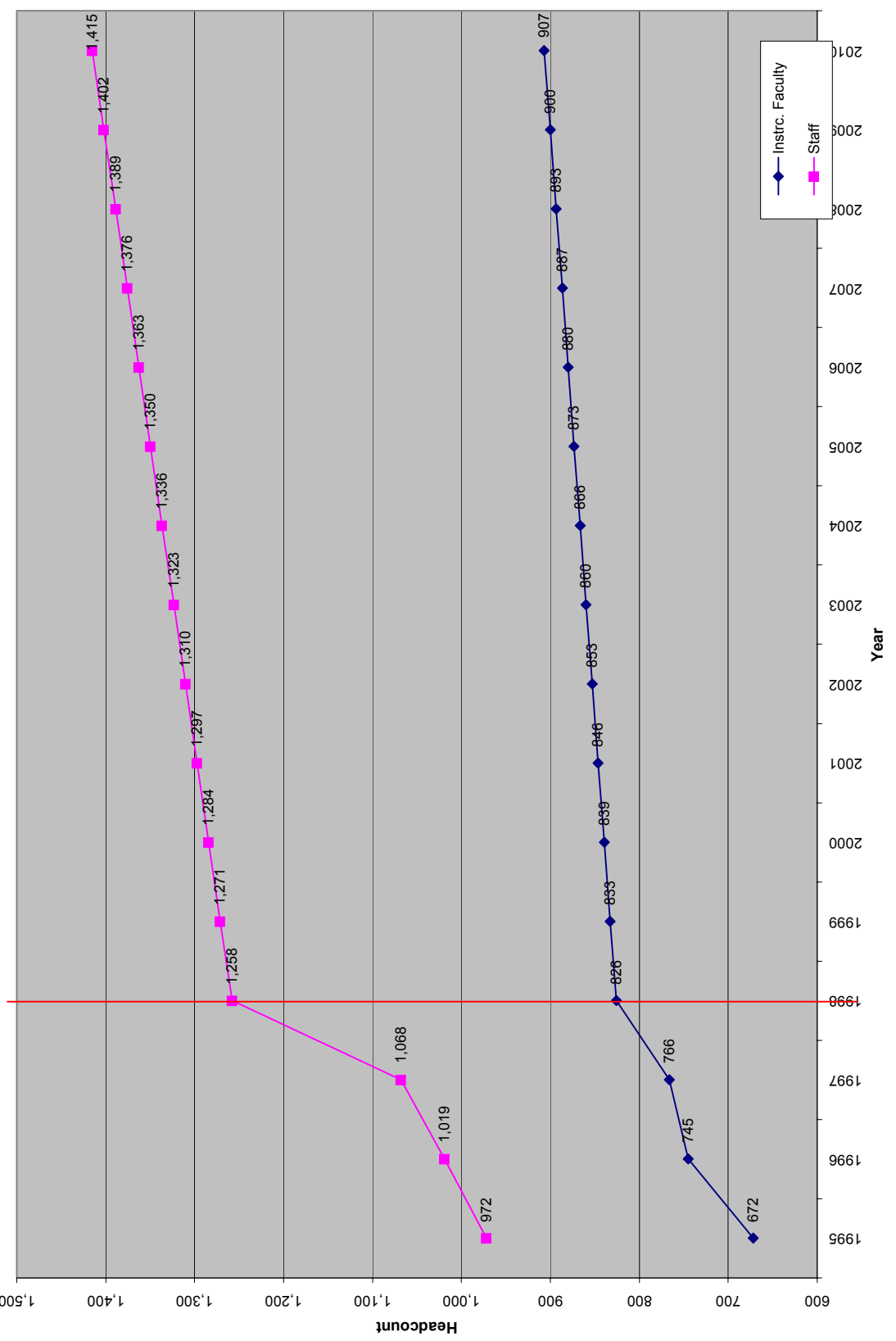
Based on Fall 4th Week enrollment reports.	LOWER DIVISION			UPPER DIVISION			GRADUATE			Non-I All Other Univ. Classes					
	FR	SO	NU	JR	SR	PN-Nongraduate	PB-Graduate	GM	GD	NS					
Undergrad. FTE = 15 credit hours															
Graduate FTE = 12 credit hours															
Non-I FTE = 15 credit hours															



Information based on PSU Facts Books, 1996-1998, Thls. 3.1.4 & 3.6.1

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Instr. Faculty	672	745	766	826	833	839	846	853	860	866	873	880	887	893	900	907
Aver. 0.82%		9.8%	2.7%	7.3%	0.82%	0.81%	0.80%	0.80%	0.79%	0.78%	0.78%	0.77%	0.77%	0.76%	0.76%	0.75%
Staff	972	1,019	1,068	1,258	1,271	1,284	1,297	1,310	1,323	1,336	1,350	1,363	1,376	1,389	1,402	1,415
Aver. 1.04%		4.8%	4.8%	17.8%	1.04%	1.03%	1.02%	1.01%	1.00%	0.99%	0.98%	0.97%	0.96%	0.95%	0.94%	0.93%
Total	1,644	1,764	1,834	2,084	2,104	2,124	2,143	2,163	2,183	2,203	2,223	2,243	2,262	2,282	2,302	2,322

Instructional Faculty & Staff Headcount



### 3-YEAR ENROLLMENTS\*

Fall 1996 to Fall 1999

		CAMPUS I	NON-I	TOTAL
F96	WK4	14,768	2,075	<u>16,843</u>
	EOT	14,785	3,138	<u>17,923</u>
				+1.5%
F97	WK4	14,863	2,302	<u>17,165</u>
	EOT	14,932	3,267	<u>18,199</u>
				+0.3%
F98	WK4	15,230	2,073	<u>17,303</u>
	EOT	15,160	3,096	<u>18,256</u>
				+8.9%
F99	WK4	16,041	2,275	<u>18,316</u>
	EOT	15,979	3,904	<u>19,883</u>
Est.				

Average Annual Growth Rate – 3.6%

\* Head counts by Campus I and Non-I (self-support/Continuing Ed).  
 These headcounts are unduplicated. If a student takes classes on more than one campus, he/she is counted on Campus I, and not counted again on Non-I.

Source: 4<sup>th</sup> week and End-of-Term SCARF files. 1996-1998 OIRP/LL 12/16/99  
 Source: End-of-Term SCARF files 1999 FADM/JYN 12/13/99



## Needs Assessment

### General Outlook

- Approximately 92 additional instructional classrooms at 30 student stations each, and 36 additional laboratory classrooms at 18 student stations each will be required by the year 2010.
- 2,630 classroom student stations and 645 laboratory student stations will be required by the year 2010, to properly accommodate existing students and projected growth, based on the established utilization objectives. 222,000 square feet of new academic space and 140,000 square feet of replacement academic space are required, to efficiently provide the necessary classrooms, laboratories, staff offices and support spaces.
- 260 additional instructional faculty offices and support staff areas will be required by the year 2010, based on the projected student growth.
- Millar Library has already outgrown its' present building, and at the current growth rate will outgrow its' overflow facilities by the year 2002. 180,800 square feet of additional library space will be required to accommodate the projected student and document growth.
- 229,500 square feet of additional indoor recreation space and 2 million square feet of outdoor recreation space are required to meet the projected 2010 space needs based on the OSSHE standards.
- Portland State University presently meets less than ½ of the on-campus student housing goal that was established in the 1986 campus plan.
- 1,748 new housing units and 135 replacement housing units are required to meet the 15% housing objective and the projected student growth. Meeting this need will require 498,100 square feet of new housing, 38,475 square feet of replacement housing, and 168,300 square feet of structured residential parking.
- Dependent care demand is anticipated to increase approximately 19% by the year 2010. Approximately 16,000 square feet of additional dependent care area will be required to meet the projected demand for dependent care.
- 422 automobile spaces and 262 bicycle spaces will be required to accommodate the projected growth. This will require 188,500 square feet of additional structured automobile parking and 2,200 square feet of additional bicycle parking.



## Background

Over the years, faced with budget cut backs, limited developable land and restricted parking supply, Portland State University has continuously endeavored to fulfill its' mission of providing "quality liberal education" to the largest metropolitan area in Oregon. With these constraints, education expansion has been accomplished through course clustering, shared labs and classrooms, and offering classes evenings and weekends. This has resulted in utilization rates above the Board's objectives by 8% for classrooms, 15% for lower division laboratories, and 11% for upper division laboratories. It has also resulted in one of the most densely populated campuses, with limited student housing opportunities and restricted transportation accessibility. As we begin the new millenium and face a 10-1/2 % student population increase over the next eleven years, classes continue to be held in residential structures that have out lived there economic usefulness and library resources continue to be stored in either buildings that can not be occupied or off campus. While the demand by students and staff for on-site childcare has continued to increase, the basement and third floor of the childcare center remain abandoned due to lack of funds to bring them up to code compliance.

## Present Academic Space Shortage

**Space Utilization** – Portland State University presently has approximately 2.5 million square feet of academic and student auxiliary space. Classrooms are presently operating at 108% of the Board's utilization objective, while lower and upper division labs are respectively operating at 115% and 111% the utilization objective.

As additional courses are offered to an increasing student population, without an increase in the number of classrooms, the ability to schedule the correct size room with the correct size class becomes progressively difficult. This forces the use of rooms oversized for the intended class enrollment during peak hours reducing scheduling efficiency and the rate of utilization. By increasing the number of classrooms in the size range demanded, students can be served more effectively.

The utilization rate indicates immediate existing demand for an 8% increase in classroom stations, (.08X 5,932) for 475 additional classroom student stations; a 15% increase in lower division laboratories, (.15X 593) for 89 additional lower division laboratory student stations; and an 11% increase in upper division laboratories, (.11X 1,033) for 114 additional upper division laboratory student stations. *This results in an existing need for 17 additional classrooms with 28 student stations, 4 additional lower division laboratories with 23 student stations, and 6 additional upper division laboratories with 19 student stations.*

*With the inclusion of faculty office space, circulation and building services a total of 36,800 square feet<sup>1</sup> is needed to meet 1998 academic demand.*

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<sup>1</sup> Based on the following OSSHE design criteria : Classrooms stations @ 20 S.F. per station; L.D. Labs. @ 68 S.F. per station; U.D. labs. @ 110 S.F. per station; Faculty offices @ 135 S.F. Ea.; Net : Gross building efficiency rate of 80%.

Code Driven Space Increase –The number of student stations per classroom has previous been scheduled using the OSSHE space planning recommendations. As discussed elsewhere in the report the occupancy densities prescribed in the recommendations are above those permitted by the local governing jurisdictions. In order to reduce overcrowding in the classrooms, the Fire Marshal requires that the number of student be reduced to 20 S.F. per student station. In order to house students that will be displaced by this change, additional classroom space to accommodate 607 students will be required, resulting in approximately an additional 20 classrooms with 30 student stations each.

*With the inclusion of faculty office space, circulation and building services, a minimum of 16,900 square feet will be required for academic code compliance, while serving the present student population.*

### **Present Academic Replacement Need**

Antiquated Academic/ Support/ Parking Building Replacement- As mentioned earlier in this report, no vacant or 'flex space' presently exists on campus to temporarily house displaced functions. This makes it difficult to remove and replace obsolete buildings. Before these buildings can be removed, freeing up land for development, new buildings need to be acquired or constructed to temporarily house displaced on-going programs. As the student population continues increasing over the next 5 to 10 years, this inability to vacate obsolete buildings will likely be compounded as meeting the demand for additional space becomes paramount.

The following buildings are presently in need of replacement space:

#### Academic & Support Space

Marston House	5,874 S.F.
System Science House	4,550
Harder House	4,871
Harrison Street Building	2,029
East Hall	30,321
Sixth Avenue Building	19,831
Extended Studies	12,046
<u>PCAT Building</u>	<u>29,950</u>
TOTAL	109,472 S.F.

#### Academic Support Space

Campus & Grounds	9,922 S.F.
Shattuck Hall Computer Annex	7,741
Campus Safety & Security	2,319
Montgomery Street Building	644
<u>Extended Studies</u>	<u>18,200</u>
TOTAL	38,826 S.F.

## Structured Parking

PCAT Building

26,424 S.F.

*In total, a minimum of 174,722 square feet of new space is presently needed to relocate continuing programs and permit the replacement of obsolete structures with more efficient buildings.<sup>2</sup>*

### **Projected Demand Driven Academic Space Needs**

In 1998-99 there were 116 classrooms, 25 lower division laboratories and 39 upper division laboratories serving 15,230 students, with an FTE of 10,938. Utilization rates in 1998-99 were 108% for classrooms, 115% for lower division laboratories, and 111% for upper division laboratories. With the freshman/ sophomore inquiry programs and capstone programs, the trend in recent demand has been for seminar type classrooms in the 15-30 student station range, as indicated in the Best Fit Analysis provided in the Room Occupancy Analysis section. This demand trend toward filling smaller rooms for more hours per day has also occurred in lower and upper division laboratories. Recent demands in upper and lower division laboratory sizes have been in the 20-30 student station range.

As shown in the graphs of Projected Grade Level & Faculty Growth provided in the Student Population Projection section, the type of classrooms, laboratories and space needs can be expected to change throughout the next ten years. Demand for lower division space can be anticipated through 2002 and after 2005, with a strong demand for upper level and graduate level rooms beginning in 2002 and continuing through 2010. Student headcount is projected to increase by approximately 2,060 students, (10.4%), while total FTE is anticipated to increase by 2337, (19%) to 14,623.

Projected Additional Classroom Demand – The 1998 Classroom & Laboratory Space Utilization study indicates that 116 classrooms averaging 51 student stations each, (5,932 stations) at a 108% utilization rate served a 1998 fall fourth week campus-I FTE of 10,938<sup>3</sup> and estimated end of fall term campus-I FTE of 10,858, with a shortfall of 475 stations. Therefore, at a 100% utilization rate 6,407 student stations should have been provided for an end of fall term campus-I only FTE of 10,858. The estimated end of fall term total FTE is projected to increase from 11,558 in 1998 to 13,480 in 2010. To account for the classroom needs of all PSU students, projected classroom demand needs to include projected growth for both campus-I and non-campus-I students. The difference between the 1998 end of fall term campus-I FTE of 10,858 and the projected 2010 end of fall term total FTE, (campus-I and Non-Campus-I), of 13,480 is an increase in FTE of 2,622.

*6,407 student stations were required for an FTE of 10,858. To accommodate the projected*

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<sup>2</sup> This replacement space need estimate includes the Marston House which may be renovated and relocated on campus.

<sup>3</sup> This 1998 fall 4<sup>th</sup> week FTE was based on use by Campus-I students only and does not include non-campus-I student FTE of 700, which would have increased actual utilization rates achieved.

*FTE increase of 2,622, an additional 1,547 student stations would be required, or equivalent to an additional 50 classrooms at an average of 31 student stations each.*

*At 20 square feet per student station, the projected additional classroom need to accommodate student growth is a net of 31,000 square feet.*

Projected Additional Laboratory Demand – In order to economize, most laboratories at Portland State University are not designated as upper or lower division on an on-going basis. A laboratory serving lower division students one term may be used to serve fewer upper division students the following term, based on the discipline and maximum occupancy ratios established by OSSHE.

In the fourth week of fall term 1998 there were 593 student stations in 25 laboratories serving a lower division campus-I FTE of 3,159, and 1,033 student stations in 39 laboratories serving an upper division/ graduate campus-I FTE of 7,779.<sup>4</sup> At the end of 1998 fall term estimated FTE for lower division was 3,159 and upper division/ graduate campus-I FTE was 7,699. Lower division laboratories had a utilization rate of 115% and upper division laboratories had a utilization rate of 111%, resulting in shortfalls in student stations of 89 for lower division and 114 for upper division. Therefore, 682 student stations should have been provided for a lower division FTE of 3,159 and 1,147 student stations should have been provided for an upper/ graduate division FTE of 7,779. Including Non-campus-I students as lower division, the lower division and upper division end of fall term FTEs in 2010 are projected to be 4,109 and 9,371. Calculated as indicated for classrooms above, FTE increases of 950 and 1,592 respectively for lower and upper division are projected in 2010. The projected FTE increases proportionally equate to a need to add 205 lower division student stations and 235 upper division student stations, or a total of 440 student laboratory stations. *To accommodate these student station increases, 8 additional lower division laboratories with 26 stations each and 17 additional upper divisions laboratories with 14 stations each would be required.*

*At 110 square feet per station, the projected additional laboratory need to accommodate student growth is a net of 48,500 square feet.*

Projected Additional Office Demand – To serve the anticipated increase in student population, FTE for instructional faculty is expected to increase from 826 in 1998, to 907 in 2010. Staff FTE during the same period is anticipated to increase from 1,258 to 1,415. This reflects FTE increase of 81 faculty and 157 staff. According to the OSSHE recommendations, offices should be approximately 150, 135 and 65 square feet for department heads, professors and teaching/ graduate assistants respectively. Staff administrative offices are recommended to range between 300 and 100 square feet, while secretary and reception areas range between 90 and 150 square feet.

*Assuming an average of 135 square feet per projected additional FTE faculty, 150 square feet per projected additional FTE staff, a net additional office area of approximately 35,000 square feet will be required.*

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<sup>4</sup> Lower Division FTE is assumed to include Non-Admit, Freshman and Sophomore Levels. Upper Division is assumed to include remaining FTE.

The total net additional area required to meet the projected student instructional academic growth is 114,500 square feet. The ratio of net assignable building area to gross building area at Portland State University has been ranging between 60% and 80% with an average of 72%, since the School of Education was added in the early 1970's.

More recently, support and circulation spaces have required an increasing amount of space to accommodate A.D.A. and provide for computer server and audio/visual equipment reducing building efficiency, therefore a 68% building efficiency factor is assumed.

*The following area can be assumed the minimum necessary to meet the projected increase in student population growth.*

Classrooms	31,000 S.F.
Laboratories	48,500
Office/ Administration	35,000
<u>Circulation &amp; Building Services</u>	<u>53,900</u>
Total	168,400 S.F.

*A projected total increase of 168,400 square feet will be required to meet the classroom and laboratory demand growth is anticipated by the year 2010.*

Projected Additional Library Space Demand - Millar Library has a gross area of 194,712 square feet and due to budget constraints was designed to meet the space demands of the 1985 student population and book collection.

*To meet the projected 2010 library space needs an additional 180,800 square feet will be required.*

### **Research Facilities Space Need**

Portland State University's sponsored projects direct expenditures last year were slightly over \$ 20 million. Over the past five years, the average rate of growth has been approximately 15%. Using the previous average growth rate, increases in the \$2-3 million range are anticipated over the next five years. That is approximately equivalent to ten new projects of \$300,000 each on an annual basis. Previously, the PSU campus experienced a large share of its' growth due to increases in social science and professional programs. These programs require less space than many of the science programs, and certainly less specialized laboratory space. PSU expects that many of the projects in the future will be in the fields of science and technology.

Given that, a typical \$300,000 research project would involve a faculty member at approximately 120 square feet, students and/or professional staff members at approximately 200 square feet and lab space of approximately 400 square feet, a total of approximately 720

square feet per project would be required. With an estimate of ten such projects per year, PSUs' research based space needs will increase by approximate 7,500 square feet annually.

This implies that *over 70,000 square feet of additional space will be needed by the year 2010.*

### **Present Student Housing Need**

As an urban university, Portland State University's student housing units are typically studio and one-bedroom apartment types with in-unit kitchen facilities, comparable to the surrounding community. According to the 1980 OSSHE recommended standards, the gross floor area of residence halls should range between 215 and 235 square feet per student. Given the enactment of the Americans with Disabilities Act and increases in fire egress regulations this standard is now to low.

This report assumes an increase of approximately 25% to a range of between 270 and 300 square feet, and will use 285 square feet per student occupant for space need purposes.

Housing Units & Common Space - Portland State University presently has 929 student housing units distributed among eleven buildings, with 958 student occupants. At present, the waiting list for student housing ranges between six months and two years, depending on the building desired. Under the 1986 campus plan, a University goal was established to provide on campus housing for 15% of the campus-I student population. With a campus-I student headcount of 15,979 at the end of fall term 1999, a total of 2,397 on campus housing units would have been required.

*Therefore, as of the end of fall term 1999, 1,439 additional student housing units were required to meet the university housing goal, with a total gross housing unit area of 410,000 square feet.*

Residential Parking – The City of Portland requires a minimum one automobile parking space per each eight, and maximum of 1.35 per each, housing unit in the Central City/ University District. But marketing downtown housing units without resident parking has proven difficult.

*Using a ratio of one parking space per four units, 360 additional structured residential parking spaces are required in conjunction with the present housing deficit. This equates to a present residential parking deficit of approximately 138,300 square feet.*

### **Present Student Housing Replacement Need**

Antiquated Student Housing Units – The City of Portland requires that before housing in the University District is removed, new housing must be constructed within the District. Through the construction of West Hall, Portland State University presently has a credit for 189 units. As with academic space, no surplus or 'flex space' presently exists on campus to which residents can be relocated, making it difficult to remove and replace obsolete buildings. Before these buildings can be removed, freeing up land for development, new buildings need to be constructed to house displaced student residents. As the student population continues

increasing, this inability to vacate obsolete buildings will likely be compounded as meeting the space demands for growth accommodation becomes paramount.

The buildings listed on the following page are presently in need of replacement space:

<u>Residential Buildings</u>	<u>Units</u>	<u>Gross Area</u>	<u>Replacement Area</u>
Adeline	20	13,830 S.F.	5,700 S.F.
Birmingham	13	9,064	3,705
Mary Anne	17	12,369	4,845
Stratford	31	21,667	8,835
Parkway	54	39,242	15,390
<b>TOTAL</b>	<b>135</b>	<b>96,172 S.F.</b>	<b>38,475 S.F.</b>

*Replacing these buildings with more efficiently designed structures, using 285 square feet per student unit, a minimum of 38,475 square feet of new space is presently needed to relocate student residents and permit the replacement of obsolete structures.*

### **Projected Demand Driven Student Housing Needs**

Housing Units – Student population is anticipated to increase by 10-1/2% by the year 2010, for a total of 2,060 additional students. To meet this growth demand, based on the goal of housing 15% of the campus-I student population on campus, 309 additional housing units will be required. *At 285 gross square feet per student/ housing unit, the projected additional housing area for 309 units will be approximately 88,100 square feet.*

Resident Parking – *Using a ratio of one parking space per four units, an additional 78 structured residential parking spaces would be required, totaling approximately 30,000 square feet.*

### **Childcare**

A survey of students, faculty and staff in 1998 indicated that 1,400 respondents were responsible for childcare and 1,152 were responsible for transportation of minor dependents. With an end of term 1998, combined student, faculty and staff headcount of 20,340 the Portland State University, Helen Gordon Child Development Center provided daycare for approximately 125 children per day, with an admissions waiting list of between 200 and 300 children.

State of Oregon guidelines establish ratios of children per supervising adult based on child age. On average, for the child age range served by the Helen Gordon Center, a ratio of one adult FTE is required per six children. The Helen Gordon Center is presently operated by a fifteen FTE staff and sixteen FTE of student volunteers. The building contains 14,263 square feet on the first and second floors, which can be occupied, and 8,533 square feet on the basement and third floors, which cannot be occupied due to building code violations.

The combined student, faculty and staff headcount in 2010, is projected to be 24,265. Of the combined population, it is estimated that 1,660 will be responsible for childcare and 1,368 will be responsible for the transportation of minor dependents. Using a goal of providing childcare for 15% of the combined population with childcare responsibility, the following needs are obtained:

Present Childcare Need – Using a university population of 1,400 responsible for childcare, facilities should have been provided to accommodate 210 children 17 FTE staff and 18 FTE volunteers in 1998, this is a present shortfall of 85 children, two FTE staff and two FTE volunteers. Based on gross building areas of 70 square feet per child, 100 square feet per FTE staff and 50 square feet per FTE volunteer and a building efficiency rate of 72%, a total occupiable facility area of 24,047 square feet is presently required.

*Given that only the 1<sup>st</sup> and 2<sup>nd</sup> floors of the Child Development Center can be occupied, a present need for an additional 9,784 square feet exists.*

Projected Demand Driven Childcare Need - By 2010, a projected university population of 1,700 will be responsible for childcare. Using the same factors there will be a need to accommodate an additional 45 children, four FTE staff and four FTE volunteers.

*This projected growth will require an additional need for 5,212 square feet of childcare facility space.*

## **Recreational & Athletic Facilities**

In addition to educating students on health and physical fitness, the recreational and athletic facilities at Portland State University are important public outreach and awareness tools. These facilities provide places of activity where students, faculty, staff, alumni and residents of the region interact, familiarizing the community with the higher education opportunities that PSU can provide. As with the library, because these facilities are used by many more patrons than students, FTE is a poor measure of need. In lieu of FTE, need for these semipublic facilities should be based on actual counts of facility users and community demand for expansion. A master planning study addressing these issues is presently under way. In the interim, student headcount will be used for the space needs analyses of this report. At the end of fall term 1999, student headcount was 19,883, (FTE 12,286) this is projected to increase to 21,943, (FTE 13,480) in the year 2010. The Peter Stott Center presently has gross indoor recreation, athletic and support facilities totaled 121,717 square feet. Outdoor athletic and recreation facilities included roof-top courts, tennis courts, recreation field and golf area totaling 207,000 square feet. In line with the OSSHE recommended standards, sixteen square feet of indoor space and 100 square feet per student of outdoor space are used to project area need.

Present Indoor Athletic Need – *At 16 square feet per student, 318,128 square feet of indoor recreation and athletic space should have been provide at the end of fall term 1999, resulting in a present deficit need of 196,400 square feet.*



Projected Additional Indoor Athletic Need – *By 2010, the increase in student population will result in a projected additional need for 32,960 square feet.*

Present Outdoor Athletic Need – As an urban university, providing 100 square feet of outdoor recreation space per student is difficult to achieve. *Based on the 1999 student headcount of 19,883 the university presently has a deficit need of 1.8 million square feet, (41 acres) of outdoor space.*

Projected Additional Outdoor Athletic Need - *By 2010, an additional 206,000 square feet of outdoor recreation space would be required to meet the OSSHE recommendation.*

## **Transportation and Parking Needs**

Automobile Parking –All new student parking must be structured parking, and spaces lost through removal of surface parking lots can not be automatically replaced. The additional student parking demanded is a function of student population growth, the projected mode split and will in part depend on the amount of new student housing developed. The amount of student parking that can be supplied under the City of Portland parking regulations is dependent on the amount of new academic space developed. One additional parking space can be provided for each additional 1,000 square feet of academic space provided. Therefore, estimating the total developable amount of parking becomes questionable. In 1998 there are approximately 18,256 students and 826 faculty and staff using 1,58 campus parking spaces. Based on the projected growth and mode split, there will be an additional 1,352 student/faculty/ staff vehicle trips to the campus per day, of which 488 will be all day parking for faculty and staff, (This assumes a reduction of automobile dependency). The present ratio of automobile trips per parking space is approximately 3.2 to 1. *Based on a rotation of 3.2 vehicle trips per space 422 additional spaces will be required to accommodate academic growths. Using 384 square feet per space, 162,050 square feet of additional structured parking will be required to meet the projected student, faculty and staff growth demand.*

Bicycle Parking – Presently Portland State University is lacking 38 covered bicycle parking spaces for students, faculty and staff. As with automobile parking, the amount of bicycle parking required is dependent on the number of housing units and the square footage of academic space, making projection of the number of bicycle parking spaced required difficult. Examining the demand for bicycle parking based on the projected mode split, bicycle ridership is anticipated to increase 262 by the year 2010. *Based on this demand increase and assuming two bicycles per hoop, 131 bicycle hoops could be required, of which 175 would need to be under a constructed cover 1,800 square feet in area.*

## **ROI – Return on Investment**

PSU has, in the past 10 years, evaluated in detail the potential energy savings available through the replacement of physical plant items such as light fixtures, motors, HVAC control systems, etc. These energy savings were evaluated based on the State Energy-Efficient Design Program (SEED) and the payback available through the State Energy Loan Process (SELP programs). All investments that we believed could achieve a 7-year or less payback have been investigated and implemented. We believe there are no remaining investment opportunities with these short-term returns on investment, which can be readily implemented.

Recent studies on chillers and boilers indicate that a payback of 12 to 20 years is needed to fund replacement of these antique systems through energy savings. We are planning replacement of several of these systems. As example, two of the chillers investigated are over 35 years old. Of the chillers still on line, these two are among the last 5% this old. All of the chillers and boilers are presently functioning well, but obsolescence of parts is becoming a major maintenance problem. One can no longer obtain parts for these antiquated machines.

This is true on much of our electrical and mechanical systems such as mixing boxes and electrical panels in buildings older than 20 to 25 years.

## **Area Needs Summary**

### **Academic**

Present Academic Space Shortage	36,800 S.F.
Code Compliance Academic Space Requirement	16,900
Projected Academic & Support Need	168,400
<u>Projected Library Need</u>	<u>180,800</u>
Sub-Total	402,900 S.F.
<u>Academic Building Replacement</u>	<u>140,000</u>
Total	542,900 S.F.

### **Housing**

Present Housing Deficit	410,000 S.F.
<u>Projected Housing Need</u>	<u>88,100</u>
Sub-Total	498,100 S.F.
<u>Residential Building Replacement</u>	<u>38,475</u>
Total	536,575 S.F.

### **Childcare**

Present Childcare Deficit	9,784 S.F.
<u>Projected Childcare Need</u>	<u>5,977</u>
Total	15,761 S.F.

### **Athletics**

Present Indoor Deficit	196,400 S.F.
<u>Projected Indoor Need</u>	<u>33,000</u>
Sub-Total	229,400 S.F.
Present Outdoor Deficit	1,800,000 S.F.
<u>Projected Outdoor Need</u>	<u>206,000</u>
Sub-Total	2,006,000 S.F.
Total Additional Athletic Area Required	2,235,400 S.F.

### **Structured Automobile Parking**

Residential Deficit	138,300 S.F.
Projected Residential Need	30,000
<u>Projected Academic Need</u>	<u>162,050</u>
Sub-Total	330,350 S.F.
<u>Academic Parking Replacement</u>	<u>26,424</u>
Total	356,774 S.F.

### **Structured Bicycle Parking**

Present Deficit	380 S.F.
<u>Projected Academic &amp; Residential Need</u>	<u>1,800</u>
Total	2,180 S.F.



## **Scenario I: Continue as we are Currently Funded**

This scenario assumes we will continue funding, growth and operations at current levels or trends.

### Assumptions:

- Continued funding at \$1.5 million annually for deferred maintenance- 11% of a steady state condition
- Maintenances and operations at current level
- One major new capital project every 8-10 years
- Acquire existing space in University District at rates of 50,000sf annually
- Student population growth at current projection-1.1% per year

### Impacts

At its current rate of funding and growth PSU will experience a continued reduction in the quality of its classrooms and overall facilities. The academic mission will be impacted as a greater share of available funds are expended on fundamental building code, life safety requirements and the replacement of old or failing equipment. Fewer funds will be available for classroom renovations and repairs.

Examples of this problems that are anticipate includes:

- Greater wear and tear on classrooms as students use increases but the supply of classrooms and labs can't keep up.
- Potential ordered shutdowns of buildings for failure to meet codes requirements for elevators, sprinklers, etc.
- Inability to equip or replace multimedia equipment and furniture in classrooms resulting in dissatisfied faculty and students.
- Scheduling difficulties as virtually no classrooms are available during prime teaching hours for new class sections.
- Inabilities to add or expand new programs as available space is fully committed.
- A worsening of the office space problem for faculty, adjuncts and graduate students resulting in compromises in services to students and general dissatisfaction of faculty and staff
- Inability to meet infrastructure needs for research, especially in sciences.
- Increased drop out rate from students unable to get classes at the times they need or who are unhappy with the quality of programs due to poor facilities.

## **Scenario II: Increase funding to a Steady State Level**

### Assumption:

- Deferred maintenance funded at \$10-12 million annually
- Maintenance and operation funds restored to pre-Measure 5 levels.
- One major new capital project, 200,000sf every 4-6 years
- Acquire existing space in University District at rates of 50,000sf annually
- Expand classes and programs with other partners such as the community colleges
- Code, life safety and building modernization are NOT funded but rely on Deferred Maintenance funds to address

### Impacts

A ten fold increases in deferred maintenance funding will decrease potential threats to system failures and allow a real increase in classroom and lab renovations. A major new building such as the Engineering /Science Building or Library Addition every four years will allow new state of the art programs in those areas as well as accommodate growth for programs who backfill the old spaces.

### Other benefits and impacts

- Students and faculty satisfaction increase as quality of classrooms increase
- Selected programs can be targeted for expansion
- Expanded research is possible as infrastructure improves
- It will take 2-4 years for the increased funding to have a significant impact. Ten years will be required to address 35-40% of the total need.
- Significant disruption occurs as facilities are taken off line for repairs
- New “surge” spaces with classrooms, labs and office must be built and/or rented prior to rehabilitation projects.

### **Scenario III: Fall funding of Facilities Needs**

#### Assumptions:

- Deferred maintenance, code requirements and modernization are funded at \$16-18 million annually
- Maintenances and operations are funded at levels equal to other institutions, allowing appropriate staffing levels.
- Capital project needs are fully funded resulting in new academic facilities of 100,000sf every two years
- Continued acquisition of land and useable structures within University District
- Expand Distance Learning and off site programs with other providers such as community college system

#### Impact

Size and quality of space improves to the point where the academic mission of the University is being met. While it would take 2-4 years for the increased level of funding to significantly impact program quality, the reduction of emergency repairs and failures will be felt in the first two years.

#### Other benefits and impacts

- Students and faculty satisfaction increase as quality of classroom quantity and quality increase
- Selected programs can be targeted for expansion
- Expanded research is possible as infrastructure improves
- It will take 2-4 years for the increased funding to have a significant impact, 10 years to address 50% of the total need.
- Significant disruption occurs as facilities are taken off line for repairs
- New “surge” spaces with classrooms, labs and office must be built and/or rented prior to rehabilitation projects.
- As quality improves the demand for expanded programs could result in more expansion pressures.







## *Mission Statement*

*The mission of Portland State University is to enhance the intellectual, social, cultural, and economic qualities of urban life by providing access through the life span to a quality liberal education for undergraduates and an appropriate array of professional and graduate programs especially relevant to metropolitan areas.*

*The university conducts research and community service to support a high-quality educational environment and reflect issues important to the region. It actively promotes the development of a network of educational institutions to serve the community.*

*Excerpt from the System Strategic Planning Committee recommendation to the Board of Higher Education  
December 17, 1999*

In 1990 Portland State University embarked on a distinctive mission: to create an environment in which students study and learn in partnership with their community.

Nearly a decade later, we have realized profound rewards and produced outstanding results. Today, our students and faculty work in partnership with businesses to implement competitive strategies; our Institute of Portland Metropolitan Studies addresses critical local planning issues; our Atmospheric Research Program is developing new techniques in air quality monitoring; and every undergraduate student participates in a community project during senior year, working with a business or a civic enterprise.

This is community-based learning. It is an alliance of an exceptional faculty, highly motivated students, and an urban environment where students can apply their education to community problems – and every Oregonian reaps the benefits.

The University's unique location in downtown Portland allows it to pursue this ambitious, collaborative effort. To pursue it successfully requires a faculty of vision and ingenuity, and an insightful community that recognizes the opportunities available to educate its future leaders.

Through community-based learning PSU is fulfilling an important need of our community, just as it is providing the most comprehensive, accessible graduate programs and continuing professional education programs.

PSU's graduate programs have produced alumni who have gone to positions of leadership in business, government, and the academic world. At the same time, our graduate programs attract distinguished scholars to PSU's faculty as well as enrich the undergraduate curriculum.

For many professionals, Portland State is an essential resource for continuing education. It is here that they enroll in focused, intensive seminars, workshops, and certificate programs that help them develop their professional skills, create new career possibilities, and achieve the satisfaction of personal growth.

### **Creating a dynamic learning environment**

in linking our faculty, students, and programs to our community, we have created a learning environment that encourages students to apply what they have learned in the classroom to the world in which they live.



The benefits to the community are abundant: while drawing on the resources of a quality university, the community helps educate its future leaders. Students begin making contacts in the community, building experience, and arriving at their jobs prepared to produce for their employers - clearly meeting the goals articulated by the Oregon Business Council's 1997 report on higher education and the economy.

This dynamic learning model has earned PSU national recognition, and today the University is growing and changing significantly: enrollment is up, the undergraduate program is emulated nationally, and an exciting new urban center building is under construction.

Momentum is surely with us. We invite you to join us on an exciting journey to transform Portland State into a university widely regarded as a first choice for the brightest students in Oregon and beyond.

*from the PSU Case Statement:  
"The Campaign for PSU: For Generations to Come"  
May 1999*



## History of Portland State University

### 1946

Vanport College is established near the Columbia River as an Extension Center for the Oregon State System of Higher Education, (OSBHE), to serve returning World War II GIs. Initial enrollment is 1,411 students.

### 1948

Memorial Day flood destroys Vanport College, forcing temporary relocation to a shipyard building in the St. Johns area.

### 1952

Portland School District donates Lincoln High School, constructed on the Park Blocks in 1911, to the Oregon State System of Higher Education. Vanport College is relocated to the donated building under the new name Portland State Extension Center.

### 1955-57

Enrollment reaches 2,800 students, and the Oregon State Legislature establishes the institution as Portland State College, a “downtown city college” to serve commuters. The legislature envisions the college as “not of the campus type” which would require student housing.



**1957 Campus Plan**

The State Board of Higher Education develops expansion plans to extend the campus three blocks to the south. The plan includes Lincoln Hall and outlines development of Smith Center, Cramer Hall and Neuberger Hall. Campus Boundaries are again extended south in 1957, to include all the area between Market on the north, Jackson on the south, the Park blocks on the west and Broadway on the east.

## 1958-60

Oregon State Board of Higher Education purchases parcels and develops; Phase I of Smith Center, The Smith Center Library, Phases I & II of Cramer Hall and Phase I of the Extended Studies Building. OSBHE also purchases the Fish & Wildlife Building, (previously the Mill Street Motor Stage Building) at the corner of Mill and Fifth, and the

Harder House at Tenth and Market is donated.



With adoption of the Foothill Freeway, (Stadium Freeway) route by the Oregon Department of Transportation, OSBHE extends the campus boundaries south. Campus Boundaries are established as Market on the north, Foothill Freeway on the south, the Park Blocks on the west and Broadway on the east.

## 1960 Campus Plan

## 1961-65

In 1961, Skidmore, Owings & Merrill prepares a development plan for Portland State College. The plan projects long-term building needs of approximate 2 million gross square feet to adequately serve an ultimate 20,000 undergraduate population. It proposes

demolition and replacement of the 50 year old Lincoln Hall, acquisition and demolition of the adjacent 47 year old Shattuck School, expansion of Smith Center, Cramer Hall and the construction of 16 additional buildings. Based on city parking standards parking ratios are established at 1 space per 10 students. The OSBHE authorizes the first graduate program at Portland State College.



The campus boundaries are expanded to include the area between the Stadium Freeway on the south and west, Market on the

## 1965 Campus Plan

north, Broadway on the east, and the Fish & Wildlife Building block. Final phases of Smith Center and the Extended Studies building are completed in 1962, and the Marston House (Honors Program), Sanzenbacher House, (System Science), and the Campus and Grounds Building are added by 1963. Study begins on vacating streets within the campus to develop a pedestrian mall.

In 1964, PSU and the Portland Development Commission designate the campus an Urban Renewal area, and in 1965, HUD approves funding acquisition and demolition of all non-academic properties within the campus boundary, excluding the Ione Plaza, Park Plaza, and Koinonia House.

### 1966-68

In 1966, regular enrollment reaches 8,800 students, with an additional 5,100 enrolled in the Continuing Education evening program.

The City of Portland begins street vacations and pedestrian mall development begins. Neuberger Hall, Millar Library Phase I, Science Building I, the Physical Education Building, West Heating and Parking Structure I are constructed, and the 1924 Nixon Apartment Building, (School of UPA) and Montgomery Street building are obtained.

Cambell, Micheal, Yost prepare a refined plan and guidelines for the development of the campus. The plan calls for addressing the parking needs of a commuter college, with a parking ratio of 1 space per 3 full-time students. It calls for developing a series of



**1968 Campus Plan**

bridges and tunnels separating pedestrians and traffic, while connecting academic buildings and structured parking. It projects a need for 3.2 million gross square feet of buildings to serve a 20,000 student population, (12,850 FTE) consisting of 20 percent graduates, and stresses the importance of integrating building design with the Park Blocks as a comprehensive approach. Four story building height limits are recommended to minimize vertical circulation, improving building area efficiency, and contain costs.

## 1969-74

In 1969, the Oregon Legislature grants Portland State College full University status through the establishment of three doctoral programs, and the name is changed to Portland State University.

The Portland School District donates the 1914 Shattuck grade school and adjacent undeveloped block. The University Services Building and Parking Structure II are completed in 1969, followed by the construction of the Campus Security Office, Science Building II and Cramer Hall between 1969 and 1972. In 1972, the Harrison Street Building and the 44 year old Helen Gordon Childcare Center were obtained through Urban Renewal.



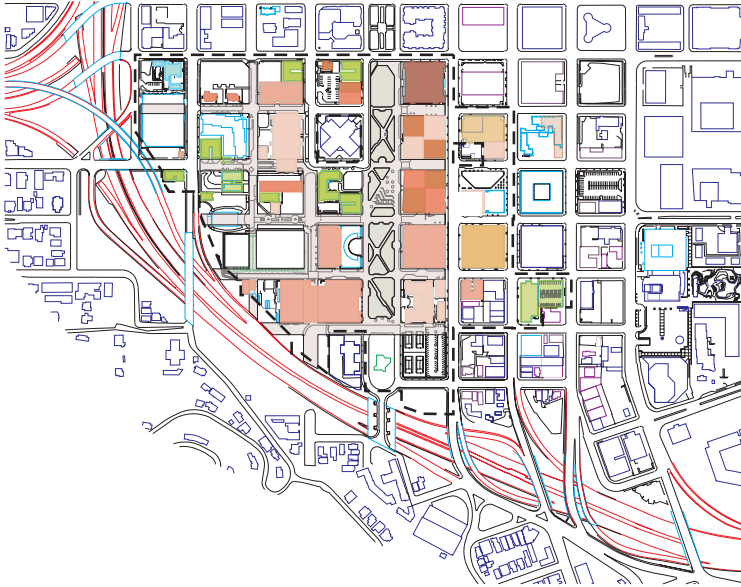
Delays in funding additional development prompt a group of students to form Portland Student Services and acquire temporary use of the 9 vacated apartment buildings within the campus urban renewal area.

## 1974 Campus Plan

## 1975-78

Full-time equivalent enrollment, (FTE) in 1975, exceeds 9,660 students. Based on the standards of the Federal Clean Air Act, the city of Portland enacts the Downtown Parking and Circulation Policy. Based on 1973 campus building area, the policy caps PSU parking development at 2,232 spaces.

Due to lack of funding no new academic development takes place during this period, Lincoln Hall, Shattuck Hall and Smith Center are partially renovated to improve efficiency and safety.



The Legislature and Oregon State System of Higher Education, (OSSHE) recognize that the student housing is not “temporary”. The Legislature authorizes funding appropriation for improvement of existing structures, and acquisition of new housing. The Ondine apartments are acquired increasing student housing to 740 units.

**1978 Campus Plan**

**1979-85**

In 1979, OSSHE establishes a target ceiling for PSU of 10,500 full-time enrolled students, and Cambell, Yost, Grube update the Campus Development Plan. In 1980, attendance peaks at 10,572 FTE, and the City of Portland and OSSHE agree to allow PSU to forecast future campus needs and establish design standards. The School of Education is constructed in 1979. Space for the Department of Environmental Quality is provided through the conversion of Science Building II underground parking into laboratories. Parking Structure III is developed, the 1962 Mill Street Fish & Wildlife

Building and the 1961 Blue Cross Building are obtained, and the campus boundaries are expanded east to Fifth Ave.



In 1985, the campus encompasses nearly 40 city blocks, containing 10 student apartment buildings, 26 academic buildings and 3 parking structures. The Legislature directs OSSHE to plan on PSU becoming a comprehensive research university.

**1985 Campus Plan**

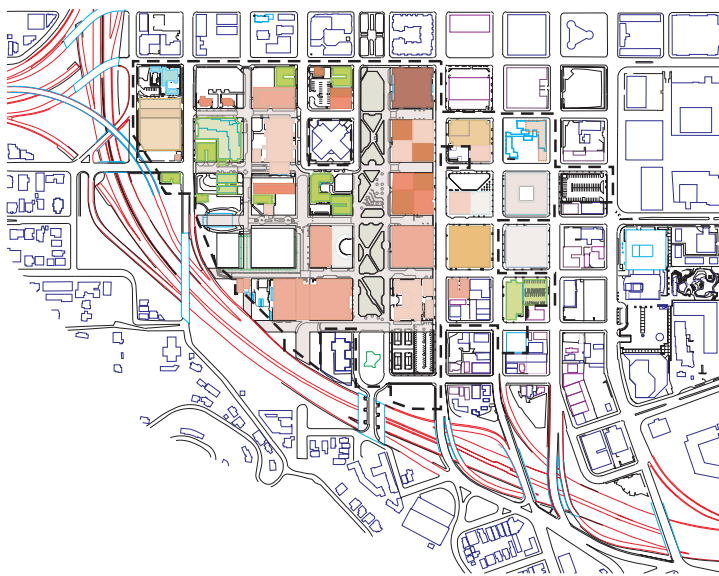


The regional economy and in-migration decline through the early 1980's, resulting in a PSU attendance decline. In 1985, full-time equivalent enrollment bottoms out at 9,070 students.

## 1986-94

Yost, Grube, Hall updates the Campus Development Plan in 1986 to reflect the revised PSU mission of becoming a "comprehensive research university". Based on space planning criteria established by OSSHE, the plan projects a Mid-range need of 2.2 million gross square feet of academic space to effectively serve an FTE student population of 12,200.

To reduce traffic and comply with Oregon State Planning Goals while serving the community, a student transportation mode split of 50 percent transit, 25 percent auto, 25 percent other is set. This establishes a need for 3,050 student parking spaces.



**1994 Campus Plan**

To meet the Portland downtown housing objectives and preserve student affordability, a housing unit goal of 15 percent of FTE is set. This fixes a university Mid-Range student housing goal of 1,830 units.

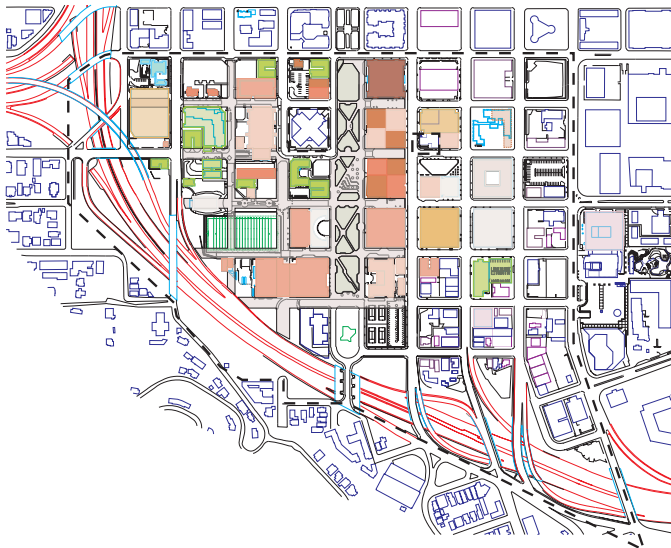
University planning boundaries are expanded east to Fourth Ave. and the plan recommends formation of a "University District" to establish design standards and coordinate local planning.

During this period the School of Business Administration is constructed, Millar Library is expanded and the University begins leasing space in the University Center Building for academic use. West Hall is constructed providing 189 additional housing units. With new construction and the addition of a carpool lot, the city parking cap is raised to an allowable 2,574 spaces, while much of the on-street parking in the vicinity is eliminated.

Portland State University FTE peaks at 10,653 in 1988, then declines to a low of 9,450 in 1994. PSU campus visitors account for nearly 20% of the downtown daytime population. The campus planning area increases to 46 city blocks and includes 2.11 million square feet of building space, 929 housing units and 2,535 parking spaces.

## 1995-98

In 1995, PSU, OSSHE, and the City of Portland establish the University District. The plan aims to develop a mixed-use university district as an “international crossroads with an environment which stimulates lifelong learning”. It establishes a district housing goal of at least 1,000 new housing units by 2010. It calls for the campus to become a regional multi-transportation hub, accessible by pedestrians, bike, auto, bus, streetcar, and light-rail. The Central City Transportation Management Plan, adopted by the City of Portland requires a transportation mode split of 60 percent mass-transit, 10 percent pedestrian &



bike, 7.5 percent carpool and 22.5 percent SOV. It requires the development of a pedestrian way and urban open space system linking the campus to the surrounding city. It encourages private development of new commercial and retail in tandem with academic expansion and housing development.

The University District boundaries are established as

## 1998 Campus Plan

Market on the north, Fourth Ave. on the east, the south side of the Stadium Freeway on the south, and Fourteenth Ave. on the west.

Since 1995 student enrollment and FTE continually increases. FTE increases 11 percent during this period, from 9,850 in 1995, to a historic new high of 10,937 in 1998. Campus Housing Northwest obtains housing. No additional housing is added on campus. A new Community Recreation Field is developed. Harrison Hall is constructed, the Sixth Avenue Building is acquired, and the Fourth Avenue Building in the Auditorium District is leased, to be acquired in two phases between 1996 and 1999. With new building acquisitions and leased academic space, gross building floor area increases to 2.28 million square feet and campus parking spaces increase to 2,924 spaces.



**Current Conditions**

Construction began in 1998 on the new Urban Center Building. After demolition of the Fish & Wildlife Building, the new Urban Center will provide 131,600 square feet of net additional academic space. The Urban Center Plaza and Information Center will serve as a new transportation hub. It will provide students with streetcar and bus service connection to the city and region. The new

**Portland State University – Urban Center  
College of Urban & Public Affairs**

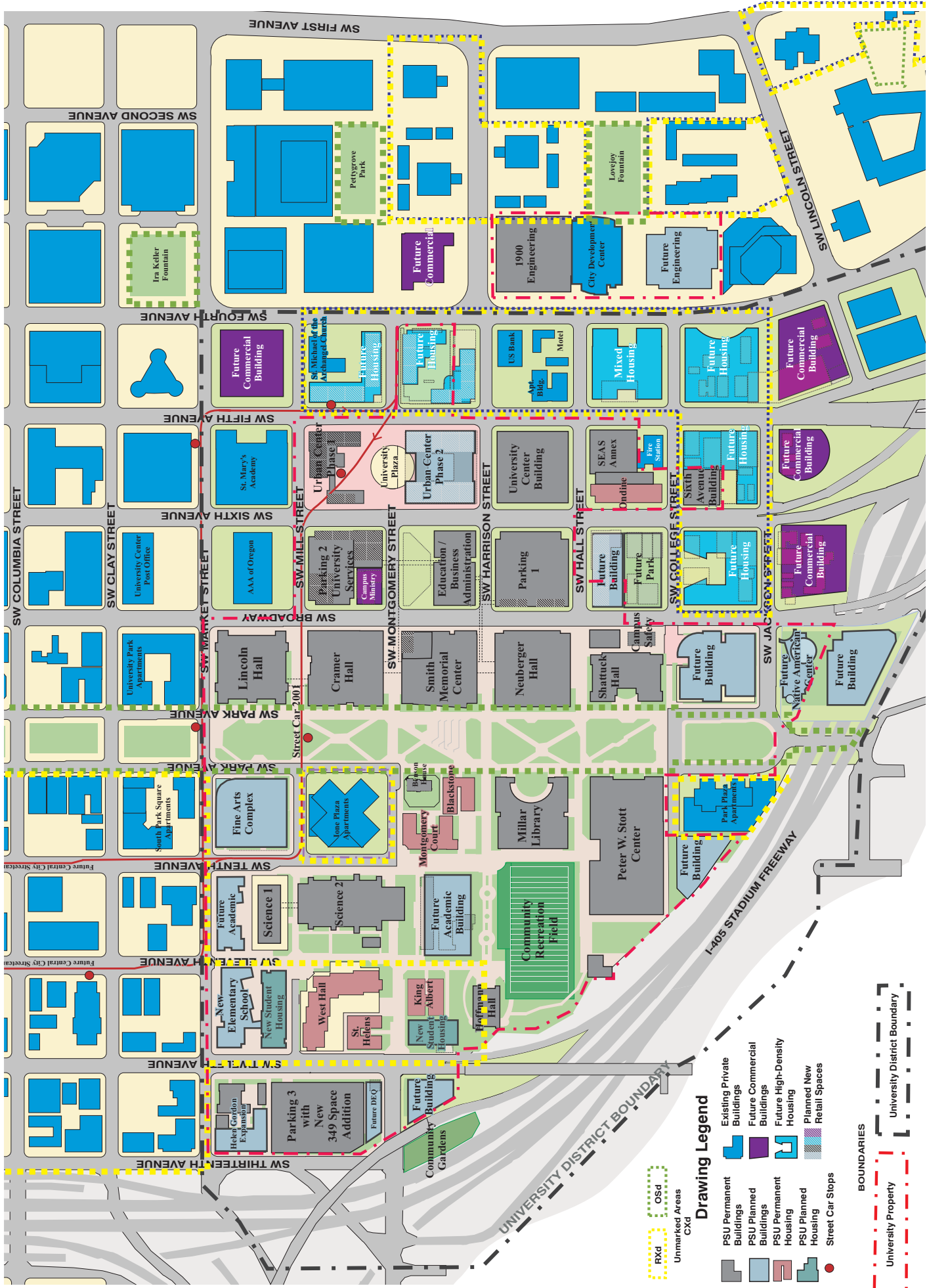
Distant Learning Center will provide education opportunities to an even wider audience. The 1999 end of fall term student headcount was 19,883, of which 25 percent were graduates. Upon completion of the Urban Center and acquisition of the University Center Building, scheduled for winter term 2000, the 47 acre campus will contain 27 academic related buildings comprising over 4 million square feet, or approximately 127 gross square feet of building per enrolled student. Academic buildings range in age between 88 years old and the Urban Center nearing completion, with a median building age of approximately 33 years. Many of the early structures are of unreinforced masonry or clapboard construction, and cannot be economically upgraded to comply with current life and safety codes.

No new on campus housing is presently in development. The existing 11 student apartment buildings contain 929 units. Exclusive of West Hall and Ondine, which were built in 1987 and 1966 respectively, the remaining buildings were constructed between 1910 and 1932 and on average are over 75 years old. But, the vision exists to cooperatively partner with public and private non-profit



**Proposed Student Housing & Urban  
Elementary School**

agencies to develop new student housing while enhancing the urban vitality of the University District.



- Drawing Legend**
- PSU Permanent Buildings
  - PSU Planned Buildings
  - Existing Private Buildings
  - Future Commercial Buildings
  - Future High-Density Housing
  - PSU Permanent Housing
  - PSU Planned Housing
  - Planned New Retail Spaces
  - Street Car Stops

- BOUNDARIES**
- University Property
  - University District Boundary

# UNIVERSITY DISTRICT VISION 2010





## Current Campus Conditions Academic and Support Structures

The following is a list of academic and support facilities that may require replacement in the coming decade:

System Science Building	Campus Safety & Security
Campus & Grounds Building	East Hall
Harder House	Sixth Avenue Building
Computer Center/ Shattuck Annex	Harrison Street Building
Portland Center for Advanced Technology	Extended Studies building
Montgomery Street Building	

All PSU facilities over 20 years old will require major investments to meet the Americans' with Disabilities Act, provide seismic resistance and comply with fire, life and safety codes. These include:

Lincoln Hall	Science Two
Shattuck Hall	Millar Library
Cramer Hall	Marston House
Neuberger Hall	University Services Building
School of Education & School of Business Administration	Fourth Avenue Building
Science One	College of Urban & Public Affairs
	University Center Building

Provided herewith on the following four pages is a deferred maintenance forecast for the following major PSU buildings<sup>1</sup>:

Cramer Hall	Fourth Avenue Building
School of Education	Portland Center for Adv. Technology
School of Business Administration	Science One
Extended Studies	Science Two
Library East	Shattuck Hall
Lincoln Hall	Sixth Avenue Building
Millar Library	Smith Memorial Center
Neuberger Hall	University Services Building
Ondine Seas Annex	Urban & Public Affairs
Peter Stott Center	

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<sup>1</sup> Based on the Capital Repair/ Deferred Maintenance Study prepared for OUS by The Pacific Partners Consulting Group, October 1998.

The deferred maintenance forecast projects a total of 113.7 million dollars in deferred maintenance costs through the year 2003. This summary does not include the forecast of deferred maintenance costs for campus wide infrastructure, parking structures, campus housing, buildings under 20,000 square feet or buildings that will be under 15 years old in the year 2003. The capital repair/ deferred maintenance forecast does not include funds for the following buildings:

Systems Science Building	Campus Safety & Security
Campus & Grounds Building	East Hall
Harder House	Sixth Avenue Building
Computer Center/ Shattuck Annex	Harrison Street Building
Helen Gordon Center	University Center Building
Marston House	West Heating Plant
Montgomery Street Building	Parking Structure 1
College of Urban & Public Affairs	Parking structure 2
Adeline Housing	Birmingham Housing
Mary Anne Housing	Stratford Housing
Parkway Housing	Montgomery Court Housing
Blackstone Housing	St. Helen Housing
Ondine Housing & Parking	West Hall Housing & Parking
Athletic/ Recreation Field	Hoffman Hall

## **Temporary Academic and Support Structures**

PSU was largely developed by acquiring existing structures either by condemnation during the early formation of the campus or by purchasing structures as they came on the market east of Broadway.

Because of this, PSU has many old and often inappropriate buildings in which to fill our mission.

### **Temporary Academic and Support Buildings to be Demolished**

The following “temporary” campus structures should be removed. The majority of these structures were acquired in the early 1960’s as part of Urban Renewal efforts to assemble a campus. Many were converted to temporary University usage with the intent to demolish and replace in a few years. All are inappropriate for long term retention and have code, life safety and in appropriate usage issues. At the same time they can play a useful but limited role.

Due to the lack of appropriate space, these buildings have continued to be utilized far beyond their expected life. All require higher than normal maintenance and have extensive deferred maintenance needs. Some will become or are considered hazardous buildings.

1) System Science

The System Science program occupies this 1898 house. It is scheduled for demolition in 2000 or 2001. The building has numerous fire and life safety issues and has no historical significance.

2) Campus and Grounds

This single story warehouse structure dates from about 1905. It was used as the Campus and Grounds Shop until 1993. It is an unreinforced masonry structure and is a seismic hazard. The City of Portland will not permit us to repair the roof unless a roof diaphragm for seismic loading is installed. Campus and Grounds shops were moved into a temporary prefab building to reduce the life safety hazard to staff. The library currently uses the building as long-term storage for collections that are not accessed frequently. Water damage is frequent and parapet brick is loose in a number of areas.

3) Harder House

This three-story wood framed house was acquired in 1961. The building is believed to date from the 1910’s. This antiquated structure is not ADA accessible and is programmatically difficult to use as an office. It has no historical significance and should be removed when the site is needed for a future building.

4) Shattuck Hall Annex- Computer Center

This 1926 basketball gymnasium was added to the 1914 Shattuck Hall grade school when this was a public grade school. It now houses the University’s computer center. It was modified in 1989 to accommodate second floor offices and the campus mainframe computer with an accessible floor in the old gym. The building is not ADA accessible and is inappropriate as offices, classrooms or as a computer center. It appears to have brick cladding that is not anchored to the structure. It will require extensive seismic and



ADA modifications in the future, if we elect to keep the building. The structure does not have the code required emergency generator for either egress or mainframe support. It should be noted that the University's student and financial records are on the computers in this space. They should be housed in a seismically secure space. A seismic event could be catastrophic for these records. There is currently only a battery back-up uninterruptible power supply (UPS), which will give some time to shut things down in a power outage. This is inadequate for a computer center.

5) Campus Safety and Security Offices

This building was acquired in 1971 as a temporary building. It is a prefab "Butler" building and was originally used as the Campus and Grounds Shop. It is not fully ADA accessible and inappropriate as security offices.

6) East Hall (College of Urban and Public Affairs)

This 1922 apartment building was converted to university office uses in the 1970's. It does not have adequate power, an elevator, or code compliant exit stairs. Two exterior fire escape stairs grace the street side of the building. Many interior apartment walls were removed in previous remodels and the exterior is not tied to the structure for seismic events. It is brick clad and the masonry chimney has been reinforced due to previous cracking. A detailed seismic analysis is needed to ascertain if this is a significant hazard to occupants. This building offers little opportunity for long-term reuse and should be removed. It lacks firewalls, sprinklers and restrooms.

7) Sixth Avenue Building

This building was acquired in 1994. It contains about 20,000 square feet of storage, offices and classrooms. The building originally housed the offices for a used car dealership. The building has been added to several times. It was converted to a private "college" prior to PSU acquisition. It does not have an elevator and is ADA accessible only on/to the first floor. It has numerous code issues, lacks sprinklers and has antiquated fire alarms. A seismic evaluation is needed but in view of its construction type it is inappropriate for University usage or retainage.

8) Harrison Street Building

This small single story 1950's building was converted to house various departments over the years and currently houses recycling programs. It will need to be removed when the Campus and Grounds Building or Mary Anne Apartments are removed to permit the construction of an academic building south of Science 2. Due to the poor condition of the Campus and Grounds and Mary Anne apartments this should happen soon.

9) Extended Studies Building

This building was built in 1959 and 1961, in two phases, as a home for the Extended Studies Program. It is of poor quality and inadequate design. It does not have an elevator and has no ADA access except for the first floor. It should continue to be used as a temporary structure until the Fine and Performing Arts Center is built. It has a brick clad exterior and may have seismic issues. A study is needed.

10) Portland Center for Advanced Technology

This structure was originally built as the bill-processing center for Blue Cross and Shield in 1964. PSU acquired it in 1981 through the efforts of the City of Portland. It will be demolished when phase two of the Urban Center Project is developed. The building houses many computer work stations for electrical and computer sciences in inappropriate and antiquated labs and classrooms. The building has many code, electrical and mechanical constraints that make it difficult for us to utilize.

11) Montgomery Street Building

This structure is a single-story wood framed storage shed with wood siding, which was obtained in tandem with the urban renewal property acquisitions in the late 1960's. The building is in a fenced off area south of parking structure 3, and for safety reasons is not available for student access. For the past ten years the Department of Environmental Quality has used the building for miscellaneous welding and materials storage, for which it lacks adequate fire protection. Prior to DEQ use, the structure served as the campus recycling area. Too small to be included in deferred maintenance funding, this building has deteriorated from years of neglect, and is constructed of materials that make long-term retention impractical.

## **Major Academic Structures to be Retained**

Academic structures on the campus are a collection of three general types. Old Portland Public Schools, acquired office or apartment buildings converted to academic use and buildings built specifically for academic and support programs.

### **Acquired Buildings to be Rehabilitated and Retained**

The following structures should be retained for long-term use on the campus if studies show that rehabilitation is cost effective and the buildings can meet the needs of academic programs. These structures were not built as university buildings and were acquired with the intent of eventual rehabilitation originally. They were not designed to resist seismic loads and may have significant life safety concerns. This coupled with the antiquated electrical and mechanical systems will make appropriate utilization difficult and expensive. It will be necessary to relocate a large number of occupants in order to rehabilitate safely. These structures have historical significance and preservationists would oppose removal of them. The old Portland Public School buildings have high floor-to-floor heights with heavy reinforced concrete structural frames, which make them probable candidates for rehabilitation and retention as permanent academic structures.

#### 1) Lincoln Hall

This 1911 high school was the first building acquired on the PSU campus and was at one point the campus. In 1979 the east courtyard was filled in to create the large auditorium. The second phase of this project to convert the exterior classrooms and offices to appropriate University usage was never completed. Most of the classrooms and offices have no air conditioning and lack acoustical isolation from each other. This has created a difficult acoustical problem as many of the offices are assigned to music. The original 1911 ductwork is still in place and in use. The electrical systems appear to date from the 1940's and are inadequate and inappropriate for university usage. The building has not been evaluated for seismic concerns. It is believed that the brick is not attached and could be a life safety issue. There is no emergency egress lighting in the building and fire alarm systems are antique. This building has a significant role in the history of Portland and should be retained as part of our heritage. Appropriate usage will require a full-scale rehabilitation effort and the displacement of occupants and performance spaces.

#### 2) Shattuck Hall

This 1917 grade school has not had significant rehabilitation in its 82 years. In 1988 a steam line and tunnel was built that allowed the abandonment of the 1911 boiler. The building has many of the same conditions as Lincoln Hall except that in 1996 electrical systems were upgraded to allow for the installation of computers. Windows were replaced in 1989. Some rooms have been air conditioned as the rooms overheated with the computer equipment. The building appears to be in somewhat better shape than Lincoln Hall due to these efforts but is much smaller and less massive than Lincoln. A large building could be built on the site. The building has beautiful terra cotta details but brick is not tied to structure and may be a significant seismic hazard. A thorough study and analysis of options is necessary to determine if this building is to be retained. A carefully thought out addition could replace the current Campus Security and Safety Office and old gymnasium structure on the east side of the building.

This addition could be used to link and expanding Shattuck Hall and might provide a greater density and more intense usage of the site.

### **Academic and Support Buildings to be Rehabilitated and/or Retained**

The following buildings were built by PSU as Academic or support structures. Most have not had any significant remodeling, upgrade or rehabilitation since their construction. Classrooms and labs are often dated and need to be technically updated. Seismic studies have been prepared on a few and some were designed with seismic resistance. Lighting, power, mechanical and plumbing systems are often original and have exceeded life expectancy of these systems. Most would benefit greatly from rehabilitation and would help the university meet its educational mission. These structures were often built in phases over a long period of time. The long time frames resulted in the building programs being repeatedly changed as construction occurred. This left the structures with inappropriate mixes of function and incompatible uses. Rehabilitation should focus on these issues.

It will be necessary to relocate current functions to address building issues. Currently, PSU has no 'flex' or free space to relocate occupants. As a result, even little projects greatly impact current users adding large costs to rehabilitation efforts.

1) Cramer Hall

This building houses many of the large lecture halls on campus. It was built in three phases from 1955 to 1970. It is also home to many departmental and administrative offices. It does not have code required emergency egress lighting, a modern fire alarm system, code compliant elevators, adequate sprinklering or adequate seismic restraints. A seismic study is needed to evaluate life safety issues. Many of the large, stepped classrooms could be easily retrofitted to provide multimedia capabilities and should be among PSU's highest priorities in achieving appropriate classroom learning environments.

2) Neuberger Hall

This structure was built in two phases, in 1960 and 1966. It houses the Art Department, departmental and administrative offices, labs and many classrooms. It has significant air quality, life safety and incompatible use issues. Art kilns, for example, do not meet current codes and create smoke, smell and air quality issues for building occupants and users. Foundry and metal work labs are noisy with impact noise complaints on adjacent offices, labs and classrooms. Rehabilitation and relocation of some functions are necessary to solve these issues. Air quality issues date from the energy crisis years of the 1960's when the building air supply was modified to reduce the number of air changes per hour to meet federal guidelines. Little money was available to engineer and modify systems and resulted in inappropriate design and control of these existing systems. Fire alarms, code compliant elevators, plumbing and mechanical systems all require extensive upgrade. Seismic studies have been completed but no rehabilitation has yet been planned.

3) School of Education and School of Business Administration

This building was built in two phases in 1979 and 1989. It is generally in good shape except that the School of Education part of the building was reduced in quality and scope due to the severe cost inflation in the late 1970's. Mechanical systems were placed on open roof decks as a cost saving measure. This has resulted in accelerated aging of equipment and continual leakage due to the numerous roof penetrations. A seismic study is also needed but as more modern design codes were used for design, the seismic life safety concerns are probably not as significant an issue as on other structures. The current School of Education's academic program does not match the original program. Remodeling of spaces would greatly improve efficiency for the program.

4) Science One

This structure was built in 1964. A project in 1992 replaced hot and cold-water piping and rehabilitated toilet rooms to ADA standards. Almost everything else is 1964 vintage. The building contains wet labs for class labs and research. Hoods, lab equipment and casework are old and often inappropriate for current usages. Hoods are not compliant to current codes or good practice. Hood design is not appropriate to protect users. Doing so would require extensive HVAC modification and replacement of hoods. The DEQ office addition currently being planned at the buildings base will improve lobbies, classrooms, ADA access and elevator functions but the building lacks appropriate modern laboratories to attract researchers to the campus. Labs are often difficult to do research or teaching in and are not used as well as they could be.

5) Science Two

This building was built in 1969. It principally houses engineering and science laboratories and offices. A project to upgrade the State Department of Environmental Quality wet labs is in advanced planning. Science Two laboratory spaces are not quite as antiquated as those in Science One but have very similar antiquated hoods and equipment. In addition, the building suffers from a failing water system due to corroding water piping. Hot water piping is rapidly failing and we are continually responding to new leaks. Life of the hot water system was estimated in 1996 as 5 years with cold water about 5 years behind that. The building lacks appropriate modern laboratories to attract researchers to the campus. Toilet rooms, elevator and HVAC systems do not meet current codes.

6) Millar Library

Millar Library was built in two phases, 1966 and 1990. The 1966 portion was designed for an additional 5 floors but this was prior to current seismic codes. The 1966 design didn't provide adequate seismic resisting elements. The 1990 building addition and seismic study provided stiffening of some lateral elements and determined that only 3 floors could be added to the 1966 structure, assuming the zone 2b seismic design factors applicable at that time. Oregon now has zone 3 and zone 4 seismic design standards and an effort is underway to determine if Portland should have higher than a zone 3 status. This suggests that additional vertical expansion may be limited in future planning. The seismic danger upgrade to 2b requires that the exterior skin of the 1966 structure be replaced with seismic shear walls, and the 1966 footings may require augmentation. The HVAC system in the 1966 portion was not significantly rehabilitated in the 1990 project due to funding. Finding repair parts for terminal boxes of these antiquated systems has been extremely difficult.

The entire HVAC system needs extensive rehabilitation. Ceilings, light fixtures and mechanical equipment need to be seismically braced in the 1966 portion.

The 1990 addition did not meet programming requirements and about 50,000 volumes could not be placed in the structure. The 1990 addition provided adequate space for the collection size of 1985. The building should have been designed to provide expansion and growth for at least the next 10 years for both the student population and collection. This has resulted in the removal of study carrels, lounge space, crowding of shelving and overpopulation of stacks and the continued practice of storing parts of the collection off campus or in the former C&G building.

7) Marston House (Honors Program)

This building was removed from the National Historical Inventory in 1996 when we intended to move it just south of the Montgomery Court as a home for the Honors Program. Using criteria developed for the historic Simon Benson House move, currently underway. Rehabilitation costs are in the \$450-600 per square foot range, which makes it extremely expensive. The building is not ADA accessible. Rehabilitation would require significant remodeling of the interior to provide for ADA sized toilets, elevators and stairwells resulting in much less useable space. We discovered during our initial analysis that with the exception of the interior grand stairway most of the historical 1890 Queen Ann features have been removed. The exterior entry porch, onion dome roof and original lap siding were replaced in the 1950's leaving very little to preserve. In short this building does not have significant architectural features left to preserve and it is of marginal use as an academic structure. Consideration should be given to demolition or moving it, or donating it to an organization willing and able to pay the extensive preservation and rehabilitation costs.

8) University Services Building

This 1969 building was built as a single project with Parking Structure 2. The building houses the campus main loading dock, warehouse, facilities shops and offices and administrative offices. Part of the subbasement parking area of Parking 2 were converted to warehouse and shops during construction. Facilities and warehouse functions have modified extensively over the past 35 years and currently need remodeling or relocation. The building does not fully meet current seismic codes and will need rehabilitation if an addition occurs. Shop and office spaces are overcrowded and often inappropriate. The dock will be negatively impacted by the proposed streetcar extension on Mill. A new warehouse, grounds and Facilities building should be considered and then this structure would be rehabilitated for office and commercial use. This is driven by its location next to the Urban Center.

9) Fourth Avenue Building

This office structure was acquired in 1997 with purchase completed in 1999. The building has an "air rights tower" owned by the City of Portland on top of it. PSU will remodel portions we own as tenants vacate and funds become available for remodeling. About 40,000 square feet recently was made available for university use but is vacant, as about \$6,000,000 is needed to rehabilitate it for university use and to meet required exiting code.

10) College of Urban and Public Affairs

This structure is nearing final completion and will be occupied in early 2000.

11) University Center Building

This office structure was purchase in November 1999 both for its parking and office spaces. PSU leased a significant amount of space in the structure for Athletics and the Graduate School of Social Work previous to purchasing. The building dates from the early 1960's and will have significant deferred maintenance and remodeling costs in the near future. Seismic and building systems studies are needed to understand its potential for appropriate university use. It is a 35-year-old building with similar age and obsolescence issues to many of our mid 1960's structures.

## Campus Support Issues

Besides the academic needs of the University created by enrollment and programs, there are a variety of support issues that the University will need to address in the near future, including

### 1) University District Retail

The City of Portland, through its Downtown Design Guidelines and University District Goals, require active, (commercial storefront) uses on the ground floor of all new buildings in the University District. This requirement is an effort to provide a lively, inviting street level atmosphere, provide amenities and promote walking in the campus vicinity. The University has supported this concept since the mid 1980s'. The goal is to encourage downtown livability by providing a safe and friendly 24-hour environment for Downtown visitors and Portland State University students.

### 2) Space Leased to Third Parties

Portland State University presently leases 190,643 square feet of floor space to nineteen outside organizations and retailers. Two additional retailers are scheduled to move-in with completion of the College of Urban and Public Affairs Building. Several of these leases were inherited through the acquisition of buildings for academic use. These third parties play an important role in providing diversity and vitality in the University District, and provide necessary services for students and visitors. In addition, ground floor space is leased to retail services to comply with the city's' active use requirement. The following organizations and retailers presently lease space from PSU:

Attorney General	PSU Bookstore
ROTC	NW Indian Health Board
Women's Commission	Math Learning Center
OR Community Service Comm.	McDonald's Corporation
Building Bridges (OPI)	PSU Coop Assoc.
AAUP	Pacificorp
Co-Head	City of Portland
PTCU	DEQ
ARAMARK	Public Health Laboratories
Clean Copy	Pizzacata (Scheduled)
	Seattle's Best (Scheduled)

### 3) Hazardous Material Treatment & Storage

The growth of programs and research will also require the University to invest in waste processing facilities to process and store chemicals and materials generated by University activities. Those quantities tend to be small compared to those of other research institutions, but do require a high level of care.

PSU serves as a collection point for hazardous material for numerous schools in the Metro Area. Through the Consortium, we collect and re-package hazardous material in 55-gallon drums. The volume exceeds 1,000 gallons per year.

PSU manages its hazardous waste flow in a 35-year old chemistry-teaching lab in Science One. The facility was not designed to serve this purpose. The old lab in Science One had an exhaust fan installed in an exterior window to help dissipate fumes, and does



not afford a reasonable level of protection for safe hazardous materials handling. This room has no isolated HVAC or fire separations from the adjacent labs. Spills can leak into the existing electrical access duct system and into the floor below. Seismic shelving constraint and safety edges are needed to keep bottles from being shaken off of shelves.

The bulk of the material is stored in two exterior metal modular waste enclosures adjacent to the West Heating Plant. Our current storage enclosures are a violation of the zoning and building code. The modules provide single spill containment and a leak or spill could drain into the storm water system and then into the river. The storage modules should be integrated into a building with secondary containment and designed for Hazardous Material handling. Additional hazardous material may also be stored adjacent to the West Heating Plant under the roof of an old kiln area. A professional assessment is needed to evaluate conditions and develop a program to address these issues. *This situation clearly poses life safety concerns and liability issues, in addition to the compliance issues, that need to be addressed.*

4) Utility Infrastructure

Besides the normal need to provide safe and comfortable buildings, the growth in research will require a higher quality of electric and gas service as well as an improved quality of back-up and emergency power. Facilities has already begun the planning of chilled water loops and boiler back-up capacity. Control and monitoring tools are also in place to insure that critical systems are under continuous monitoring.

5) Campus Open Space, Drainage, Landscaping & Street Trees

The University District Plan, developed by PSU, the City of Portland and the University District community, calls on PSU and the City Bureau of Parks to jointly develop and implement a Master Open Space and Landscaping Plan for the District. In addition to the items listed below, the action items in the University District Plan require PSU to develop a linear botanical garden through the campus along Montgomery Street to ecologically connect the West Hills and the Willamette River. The plan also requires that the University incrementally replant with native species that will provide habitat for local wildlife. A Campus Landscape Steering Committee was formed in June 1999 to develop a plan and process for phasing in implementation of the Open Space and Landscape Plan, developing a campus arboretum for botanical education purposes.

The University District Plan envisioned several different types of spaces:

1. Passive open space as found in the South Park Blocks.
2. Active Recreational Space now available at the Community Recreation Field.
3. Public Plaza space for hard surface gatherings and events at the newly created Urban Center Plaza.

With the completion of the Community Recreation Field and Urban Center Plaza, the remaining open space needs are as follows:

- Develop an urban forestry plan to enhance the variety of trees on campus.
- Develop a more comprehensive urban landscape on campus of unique and colorful displays.
- Renovate the open space north of the School of Business to a more urban park standard.
- Relocate the Shattuck tennis court to the top of the Parking Garage Expansion when feasible.
- Develop a community garden for campus housing residents.

The soil on campus is a heavy clay, which resists root penetration and water absorption. This results in soil expansion and frost heave, damaging campus walkways and downing trees. While planting native species and changing pathway materials will reduce landscaping costs, soil augmentation is critically needed to protect existing historic trees and meet city landscape requirements.

**5 Year Deferred Maintenance and Renewal Forecast for All Buildings in \$(000's)**

Campus		PSU						
JM Costs In \$(000's) and 5 yrs Forecasted Future Costs		Year						
BldgName	SubSystem	1998	1999	2000	2001	2002	2003	Grand Total
BUSINESS, SCHOOL OF	j. Interior Finishes: Walls, Floors, Doors					\$ 415		\$ 415
	k. Painting - Public Areas					\$ 13		\$ 13
BUSINESS, SCHOOL OF Total						\$ 427		\$ 427
CRAMER HALL (a)	b. Building Exteriors, Doors, Windows			\$ 850				\$ 850
	c. Elevators and Conveying Systems	\$ 331						\$ 331
	d. HVAC - Equipment/Controls	\$ 2,525						\$ 2,525
	f. Electrical - Equipment	\$ 2,318						\$ 2,318
	g. Plumbing Fixtures	\$ 290						\$ 290
	h. Fire Protection	\$ 560						\$ 560
	i. Built-in Equipment and Specialties	\$ 811						\$ 811
	j. Interior Finishes: Walls, Floors, Doors	\$ 952						\$ 952
CRAMER HALL (a) Total		\$ 7,788		\$ 850				\$ 8,638
CRAMER HALL (b)	b. Building Exteriors, Doors, Windows			\$ 847				\$ 847
	c. Elevators and Conveying Systems	\$ 330						\$ 330
	d. HVAC - Equipment/Controls			\$ 2,516				\$ 2,516
	f. Electrical - Equipment	\$ 2,310						\$ 2,310
	g. Plumbing Fixtures			\$ 289				\$ 289
	i. Built-in Equipment and Specialties	\$ 808						\$ 808
	j. Interior Finishes: Walls, Floors, Doors	\$ 949						\$ 949
	k. Painting - Public Areas	\$ 29						\$ 29
CRAMER HALL (b) Total		\$ 4,426		\$ 3,651				\$ 8,077
EDUCATION, SCHOOL OF	j. Interior Finishes: Walls, Floors, Doors	\$ 423						\$ 423
	k. Painting - Public Areas	\$ 13						\$ 13
EDUCATION, SCHOOL OF Total		\$ 436						\$ 436
EXTENDED STUDIES, SCHOOL OF (a)	j. Interior Finishes: Walls, Floors, Doors					\$ 119		\$ 119
	k. Painting - Public Areas					\$ 3		\$ 3
EXTENDED STUDIES, SCHOOL OF (a) Total						\$ 122		\$ 122
Fourth Avenue Bldg A	a. Roofing	\$ 212						\$ 212
	d. HVAC - Equipment/Controls	\$ 1,118						\$ 1,118
	g. Plumbing Fixtures	\$ 166						\$ 166
	i. Built-in Equipment and Specialties	\$ 618						\$ 618
Fourth Avenue Bldg A Total		\$ 2,113						\$ 2,113
Fourth Avenue Bldg. B	a. Roofing		\$ 489					\$ 489
	i. Built-in Equipment and Specialties		\$ 1,430					\$ 1,430
Fourth Avenue Bldg. B Total			\$ 1,919					\$ 1,919
LIBRARY EAST	a. Roofing	\$ 314						\$ 314
	b. Building Exteriors, Doors, Windows	\$ 420						\$ 420
	c. Elevators and Conveying Systems	\$ 164						\$ 164
	d. HVAC - Equipment/Controls	\$ 655						\$ 655
	f. Electrical - Equipment	\$ 1,145						\$ 1,145
	g. Plumbing Fixtures	\$ 143						\$ 143
	h. Fire Protection	\$ 277						\$ 277
	i. Built-in Equipment and Specialties	\$ 401						\$ 401
	j. Interior Finishes: Walls, Floors, Doors	\$ 470						\$ 470
		k. Painting - Public Areas	\$ 14					
LIBRARY EAST Total		\$ 4,003						\$ 4,003

**5 Year Deferred Maintenance and Renewal Forecast for All Buildings in \$(000's)**

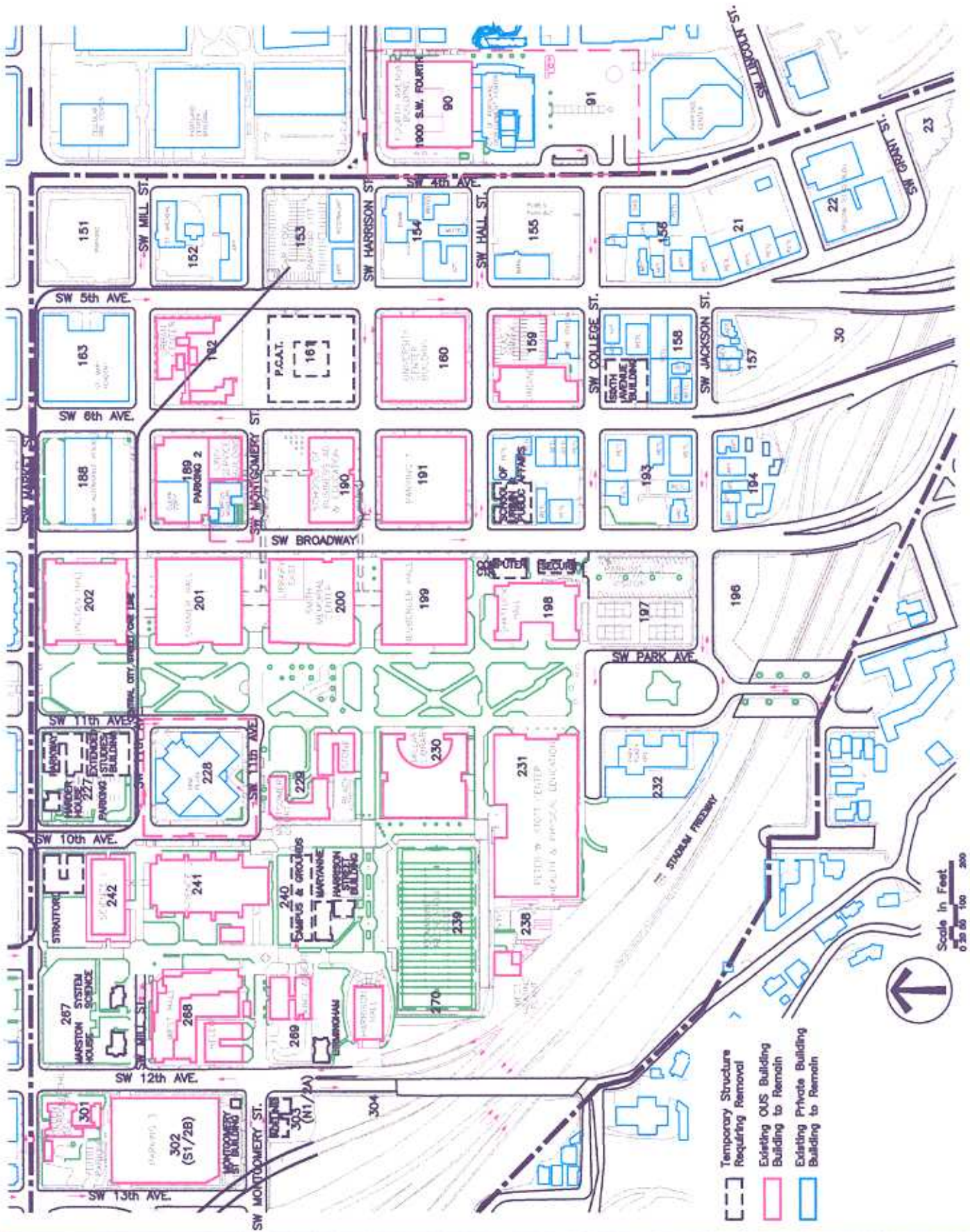
LINCOLN HALL	a. Roofing	\$ 727					\$ 727
	b. Building Exteriors, Doors, Windows	\$ 1,265					\$ 1,265
	c. Elevators and Conveying Systems		\$ 379				\$ 379
	d. HVAC - Equipment/Controls	\$ 1,517					\$ 1,517
	e. HVAC - Distribution Systems	\$ 2,173					\$ 2,173
	f. Electrical - Equipment	\$ 2,655					\$ 2,655
	g. Plumbing Fixtures	\$ 374					\$ 374
	i. Built-in Equipment and Specialties	\$ 969					\$ 969
	j. Interior Finishes: Walls, Floors, Doors	\$ 1,230					\$ 1,230
	k. Painting - Public Areas	\$ 36					\$ 36
LINCOLN HALL Total		\$10,945	\$ 379				\$ 11,324
MILLAR LIBRARY (a)	b. Building Exteriors, Doors, Windows	\$ 992					\$ 992
	c. Elevators and Conveying Systems	\$ 386					\$ 386
	d. HVAC - Equipment/Controls	\$ 2,946					\$ 2,946
	f. Electrical - Equipment	\$ 2,705					\$ 2,705
	g. Plumbing Fixtures	\$ 338					\$ 338
	i. Built-in Equipment and Specialties	\$ 947					\$ 947
	j. Interior Finishes: Walls, Floors, Doors	\$ 1,111					\$ 1,111
MILLAR LIBRARY (a) Total		\$ 9,424					\$ 9,424
NEUBERGER HALL (a)	a. Roofing	\$ 582					\$ 582
	b. Building Exteriors, Doors, Windows	\$ 779					\$ 779
	c. Elevators and Conveying Systems	\$ 304					\$ 304
	d. HVAC - Equipment/Controls	\$ 1,214					\$ 1,214
	f. Electrical - Equipment	\$ 2,125					\$ 2,125
	g. Plumbing Fixtures	\$ 266					\$ 266
	h. Fire Protection				\$ 514		\$ 514
	i. Built-in Equipment and Specialties	\$ 744					\$ 744
	j. Interior Finishes: Walls, Floors, Doors	\$ 873					\$ 873
	k. Painting - Public Areas					\$ 27	\$ 27
NEUBERGER HALL (a) Total		\$ 6,887			\$ 514	\$ 27	\$ 7,427
NEUBERGER HALL (b)	b. Building Exteriors, Doors, Windows	\$ 797					\$ 797
	c. Elevators and Conveying Systems	\$ 311					\$ 311
	d. HVAC - Equipment/Controls	\$ 1,242					\$ 1,242
	f. Electrical - Equipment	\$ 2,174					\$ 2,174
	g. Plumbing Fixtures	\$ 272					\$ 272
	i. Built-in Equipment and Specialties	\$ 761					\$ 761
	j. Interior Finishes: Walls, Floors, Doors	\$ 893					\$ 893
	k. Painting - Public Areas					\$ 27	\$ 27
NEUBERGER HALL (b) Total		\$ 4,138	\$ 2,311			\$ 27	\$ 6,476
ONDINE SEAS ANNEX	a. Roofing	\$ 170					\$ 170
	b. Building Exteriors, Doors, Windows	\$ 287					\$ 287
	d. HVAC - Equipment/Controls	\$ 768					\$ 768
	f. Electrical - Equipment	\$ 621					\$ 621
	g. Plumbing Fixtures	\$ 105					\$ 105
	h. Fire Protection	\$ 228					\$ 228
	i. Built-in Equipment and Specialties	\$ 217					\$ 217
	j. Interior Finishes: Walls, Floors, Doors	\$ 255					\$ 255
	k. Painting - Public Areas	\$ 8					\$ 8
	ONDINE SEAS ANNEX Total		\$ 2,658				
	a. Roofing	\$ 812					\$ 812
	b. Building Exteriors, Doors, Windows	\$ 1,087					\$ 1,087

5 Year Deferred Maintenance and Renewal Forecast for All Buildings in \$(000's)

PETER W. STOTT CENTER	d. HVAC - Equipment/Controls	\$ 1,695					\$ 1,695
	f. Electrical - Equipment	\$ 2,965					\$ 2,965
	g. Plumbing Fixtures	\$ 371					\$ 371
	i. Built-in Equipment and Specialties	\$ 1,038					\$ 1,038
	j. Interior Finishes: Walls, Floors, Doors	\$ 1,218					\$ 1,218
	k. Painting - Public Areas	\$ 37					\$ 37
PETER W. STOTT CENTER Total		\$ 9,223					\$ 9,223
PTLD CTR ADV TECH BLDG	b. Building Exteriors, Doors, Windows	\$ 499					\$ 499
	c. Elevators and Conveying Systems	\$ 194					\$ 194
	d. HVAC - Equipment/Controls	\$ 1,482					\$ 1,482
	f. Electrical - Equipment	\$ 1,361					\$ 1,361
	g. Plumbing Fixtures	\$ 170					\$ 170
	h. Fire Protection				\$ 329		\$ 329
	i. Built-in Equipment and Specialties	\$ 476					\$ 476
	j. Interior Finishes: Walls, Floors, Doors	\$ 559					\$ 559
PTLD CTR ADV TECH BLDG Total		\$ 4,743			\$ 329		\$ 5,072
SCIENCE BLDG I	a. Roofing	\$ 482					\$ 482
	b. Building Exteriors, Doors, Windows	\$ 814					\$ 814
	c. Elevators and Conveying Systems	\$ 317					\$ 317
	d. HVAC - Equipment/Controls	\$ 2,974					\$ 2,974
	f. Electrical - Equipment	\$ 2,265					\$ 2,265
	i. Built-in Equipment and Specialties	\$ 1,409					\$ 1,409
	j. Interior Finishes: Walls, Floors, Doors	\$ 723					\$ 723
SCIENCE BLDG I Total		\$ 8,984					\$ 8,984
SCIENCE BUILDING II	c. Elevators and Conveying Systems		\$ 589				\$ 589
	f. Electrical - Equipment		\$ 5,299				\$ 5,299
	i. Built-in Equipment and Specialties		\$ 3,297				\$ 3,297
	j. Interior Finishes: Walls, Floors, Doors	\$ 1,693					\$ 1,693
SCIENCE BUILDING II Total		\$ 1,693	\$ 9,185				\$ 10,878
SHATTUCK HALL	a. Roofing	\$ 366					\$ 366
	b. Building Exteriors, Doors, Windows	\$ 636					\$ 636
	c. Elevators and Conveying Systems	\$ 191					\$ 191
	d. HVAC - Equipment/Controls	\$ 763					\$ 763
	e. HVAC - Distribution Systems	\$ 1,093					\$ 1,093
	f. Electrical - Equipment	\$ 1,335					\$ 1,335
	g. Plumbing Fixtures	\$ 188					\$ 188
	h. Fire Protection	\$ 364					\$ 364
	i. Built-in Equipment and Specialties	\$ 487					\$ 487
		j. Interior Finishes: Walls, Floors, Doors				\$ 619	
SHATTUCK HALL Total		\$ 5,424			\$ 619		\$ 6,043
SIXTH AVENUE (a)	a. Roofing				\$ 48		\$ 48
	c. Elevators and Conveying Systems				\$ 25		\$ 25
	e. HVAC - Distribution Systems				\$ 142		\$ 142
	f. Electrical - Equipment				\$ 174		\$ 174
	i. Built-in Equipment and Specialties				\$ 61		\$ 61
SIXTH AVENUE (a) Total					\$ 450		\$ 450
SMITH MEM CTR (C)	h. Fire Protection				\$ 244		\$ 244
SMITH MEM CTR (C) Total					\$ 244		\$ 244
SMITH MEM CTR-B	h. Fire Protection			\$ 259			\$ 259

**5 Year Deferred Maintenance and Renewal Forecast for All Buildings in \$(000's)**

SMITH MEM CTR-B Total					\$ 259			\$ 259
SMITH MEMORIAL CENTER - A	a. Roofing	\$ 293						\$ 293
	b. Building Exteriors, Doors, Windows	\$ 393						\$ 393
	c. Elevators and Conveying Systems	\$ 153						\$ 153
	d. HVAC - Equipment/Controls	\$ 612						\$ 612
	f. Electrical - Equipment	\$ 1,071						\$ 1,071
	g. Plumbing Fixtures	\$ 134						\$ 134
	h. Fire Protection	\$ 259						\$ 259
	i. Built-in Equipment and Specialties	\$ 375						\$ 375
	j. Interior Finishes: Walls, Floors, Doors	\$ 440						\$ 440
	SMITH MEMORIAL CENTER - A Total		\$ 3,731					
UNIVERSITY SERVICES BLDG	a. Roofing	\$ 312						\$ 312
	b. Building Exteriors, Doors, Windows				\$ 418			\$ 418
	c. Elevators and Conveying Systems	\$ 163						\$ 163
	d. HVAC - Equipment/Controls				\$ 652			\$ 652
	f. Electrical - Equipment	\$ 1,141						\$ 1,141
	g. Plumbing Fixtures				\$ 143			\$ 143
	i. Built-in Equipment and Specialties	\$ 399						\$ 399
	j. Interior Finishes: Walls, Floors, Doors	\$ 469						\$ 469
	k. Painting - Public Areas	\$ 14						\$ 14
	UNIVERSITY SERVICES BLDG Total		\$ 2,499			\$ 1,213		
URBAN AND PUBLIC AFFAIRS	b. Building Exteriors, Doors, Windows	\$ 163						\$ 163
	c. Elevators and Conveying Systems	\$ 64						\$ 64
	d. HVAC - Equipment/Controls	\$ 485						\$ 485
	e. HVAC - Distribution Systems	\$ 364						\$ 364
	f. Electrical - Equipment	\$ 445						\$ 445
	g. Plumbing Fixtures	\$ 56						\$ 56
	h. Fire Protection	\$ 108						\$ 108
	i. Built-in Equipment and Specialties	\$ 156						\$ 156
	j. Interior Finishes: Walls, Floors, Doors	\$ 183						\$ 183
	k. Painting - Public Areas						\$ 6	\$ 6
	URBAN AND PUBLIC AFFAIRS Total		\$ 2,023					\$ 6
Grand Total		\$91,137	\$13,794	\$ 4,501	\$ 1,472	\$ 1,063	\$ 1,700	\$113,669



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1-7-1999

**MAP A**





## Millar Library Condition & Capacity

### General Outlook

- In the year 2010, total library space need is anticipated to be approximately 338,600 square feet, resulting in an estimated space deficit of 144,000 square feet.
- The need for reader space is anticipated to increase by more than 20% between 1999 and 2010, resulting in a seating deficit of 4,071 stations.<sup>1</sup>
- The library collection and student space needs were approximately 23% above building capacity when the final phase of construction was completed in 1990.<sup>2</sup>
- Stack space required in 1998 was 29% more than is possible in the present building, necessitating excess book storage in various locations. With over 400,000 new volumes anticipated by the year 2010, the need for book stack space is expected to increase at an average annual rate of 4% per year.
- Previous library space needs and budget appropriation did not take into account the large number of non-campus institution students at PSU that use the library.
- Changes in technology are increasing the demand for space. For the foreseeable future, maintaining paper copies of texts continues to be required, while increasing space is required to accommodate computers and internet access.

### Background

In 1959, two years after the Oregon State Legislature established the institution as Portland State College, the first Portland State University library was constructed. Located at the corner of SW Broadway and Montgomery Streets, the building served as both library and community health center, and was constructed as a component of the Smith Memorial Center building. The four-story plus basement structure provided a 9,600 square-foot audio/visual center and approximately 25,000 square feet of net building space for stacks, references, and seating, to serve a student population of 3,712.

Between 1959 and 1965, the PSU student population increased at an annual rate of 22%. It became evident that additional library and student auxiliary space were critically needed. Phase 1 of Library West, later referred to as Millar Library, was constructed in

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<sup>1</sup> Projected student headcount and library space needs data provided in this section are based on end of fall term populations and address campus-I and non-campus-I students.

<sup>2</sup> Historically PSU student population data used in evaluating library space needs reflected fourth week fall term Campus Institution students only, excluding non-campus-I students enrolled in PSU professional and continuing education programs. Library space need has historically been based on Full Time Equivalent Enrollments, (FTE).

1966, by which time the student population was 8,806. As book collections were relocated to the new library, areas in the old Library East were reassigned to provide space for student auxiliary services, leaving 2 floors, approximately 18,000 square feet for library use.

Millar Library Phase 1 provided 70,000 lineal feet of stack space and seating for 1,200 students. The 5-story concrete structure, with basement and sub-basement, provided 121,362 square feet of gross area, with approximately 97,000 square feet available for stacks, references and seating. By 1970, the building held 25,208 lineal feet of books, filling 36% of the building's shelf capacity, and seating was provided for 13% of the 8,800 student population. The concrete structure of Millar Library Phase 1 was designed for seismic zone 2, as required under 1966 codes, and was provided with additional vertical support to permit 5-stories of future expansion.

In 1969, Portland State College was granted university status, and throughout the 1960's and 70's enrollment and library space needs continued to increase. By 1989, Millar Library housed 64,635 lineal feet of books, with an additional 14,286 lineal feet in storage, and was able to seat 10% of the approximately 15,000 students. In an effort to address the over crowding, Phase 2 of Millar Library was completed in 1990. With the Portland area's seismic hazard factor increased from zone 2 to zone 2b, a study of the existing structure was prepared as part of the addition planning process. Under the new seismic design criteria, the study found the existing structure laterally weak and incapable of supporting additional floors without major reinforcing. It indicated that under the 2b designation Millar Library Phase 1 could support three (3) additional floors. To do so the prefabricated concrete panel skin would need to be replaced with seismic shear walls and the original building footings could require strengthening. The library was expanded with an addition to the east side, and the frame of the new building was used to provide increased lateral support for the pre-existing structure.

The Portland area is now designated a seismic hazard zone 3, further increasing the lateral deficiency of the existing structure and limiting the feasibility and economic viability of vertical expansion.

The Phase 2 addition to Millar Library in 1990 added 78,350 gross square feet, increased maximum potential stack space, (100% capacity) to 169,980 lineal feet and initially increased seating to 1,520. But, due to a shortage of funding, the addition did not meet programming requirements and about 50,000 volumes could not be placed in the structure. According to the 1992 OSSHE Facilities Standards and Guidelines, the library should have been designed for expansion to accommodate 6 years of student population and book collection growth. But, limited funding only permitted an addition sized to meet the student and book collection space needs that existed in 1985; five years prior to construction completion. This has resulted in the removal of study carrels, lounge space, crowding of shelving, over population of stacks and the continued practice of storing parts of the collection off campus or in leaky inappropriate space.

## **Current Conditions**

In fall 1999, the combined phases 1 and 2 of Millar Library served a student FTE (full time equivalent enrollment) of 12,286, of which approximately 25 percent were graduate students and 6 percent were non-campus-I students. But, FTE is a bad measure of library resource demand and space needs. Library resource and seating demand are not proportional to the average number of full-time hours students are in class; it is instead a function of the total number of students and non-students requiring access to library resources, making user headcount a more appropriate measure.

In 1999, the PSU end of fall term total student headcount was 19,883. 88 percent of these students were campus institution, (campus-I) students while the remaining 12 percent were enrolled in other university programs. Approximately 27 percent of the campus-I, or 21 percent of the total campus student population were graduate students. With the largest book collection in the Tri-county area, Millar Library serves as a federal book depository, and serves researchers, college and high school students from throughout the region. Exit interviews conducted by staff in 1998 indicated that as many as 30 percent of library users are not PSU students and therefore not accounted for in FTE benchmarked space allocation. In addition, past library space planning neglected the library needs of professional and continuing education students.

In the fourth week of 1999, Millar Library had an estimated book collection of 1,100,000 volumes, with the ability to hold 850,000 volumes in the current building, or 129 percent of the current building capacity. In addition, several thousand square feet of Millar Library have been allocated for use by Information Technologies and the Information Access Center for the Disabled. Approximately 117,500 volumes of the collection are being 'temporarily' stored in the 1905 Campus and Grounds Shop condemned in the mid 1960's and identified as needing replacement. The remaining 450,500 volumes are being stored off campus in leased space in the Oregon Historical Society Beaver Building. The Campus and Grounds Shop is not heated, has many leaks and is not protected against moisture, making mold a constant concern. The stack capacity of the building is presently about 33 percent filled. The leased space in the Beaver Building is heated, dry and well ventilated. The stack capacity of this space is presently 95 percent filled. Runs are made daily to retrieve requested materials from the Campus and Grounds and Beaver Building storage sites. It is anticipated that these buildings will be filled to capacity by 2002. 18,000 square feet of the original Library East, now a part of Smith Memorial Center, remains used for audio/visual and technical library processes.

According to the 1995 Accreditation Report:

“The library presently provides seating for about 10% of the student population. This is about half of what is recommended by library professional organizations and many library planners. Staff of the Millar Library have used 80% shelf occupancy as maximum operation efficiency for shelving books. Many libraries use 70% as maximum operating capacity. Presently library shelves are filled to 71% of total capacity. Also 13-14% of collections are in storage. In addition to this the library technical services operations are housed in a different building.”<sup>3</sup>

### **Projected Growth**

Between 1996 and 1999, total student headcount increased at an average annual rate of 3.6%. Student population is projected to continue increasing at an average annual rate of 0.95% to the year 2010, peaking at a total student headcount of approximately 21,943. In 2010, 32 percent of the PSU campus-I students and 26% of the total student population are projected to be graduate students.

Over the past three years instructional faculty headcount has increased approximately 6.7% annually. The number of instructional faculty is anticipated to continue increasing at approximately the same rate as student headcount to the year 2010, resulting in a faculty headcount of 907.

The library book collection increases at a net of between 25,000 and 40,000 volumes per year. By the year 2010, the total collection is anticipated to reach 1,500,000 volumes. Between 1970 and 1995, the lineal feet of library collection grew at an average annual rate of 5%. After examining several high and low range scenarios, a 4% annual growth rate is anticipated to the year 2010, which is not far out of line from the 25 year average of 5% per year. At 4% annual growth the library book collection is anticipated to be 161,845 in the year 2009.

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<sup>3</sup> Accreditation Report on PSU, Millar Library, 1995, Page 5.

## **Library Space Planning Criteria**

The following goals have been established for the space planning of Millar Library and are addressed in Standard IV of the 1995 Accreditation Report on Library and Information Resources:

- Seating should be provided for 20% of the student population
- Shelving should be maintained below 70% capacity to optimize restacking efficiency.
- Library operations should be housed in one location to reduce operation and maintenance costs.

The Planning and Procedures Handbook for Campus and Building Development, established by the Oregon State System of Higher Education provide the general space allocation criteria in achieving these goals.

## **Projected Physical Needs**

Library Reader Space: Under the recommended OUS criteria, reader space should be based on providing stations for 15% of the undergraduate FTE, 20% of the graduate FTE and 100% of the faculty FTE, with space per station of 25 square feet per undergraduate, 30 square feet per graduate and 15 square feet per faculty. It is assumed for estimating purposes that non-campus-I students are undergraduates. The ratio of reader stations recommended by OUS for undergraduates is below the 20 percent rate recommended in the 1995, Accreditation Report, therefore a 20 percent rate is used.

As discussed earlier, basing library occupancy on FTE does not adequately address the number of library users, it merely addresses the number of full time hours that students are in class. Using a 20% station ratio for a projected undergraduate and non-campus-I headcount of 14,536, a graduate headcount of 5,744, and a 100% station ratio for a faculty headcount of 907, results in a projected need for 4,963 reader stations and a reader area of 120,750 square feet in the year 2010.

As of last count there were 1,400 reader stations remaining in Millar Library, resulting in a projected seating deficit of 3,563.

As a means of comparison, the 5<sup>th</sup> floor of Millar Library presently has over 200 seats around the perimeter of the building and in study rooms on the floor. Adding three additional floors, (the maximum that could potentially be structurally supported), would add under 800 additional stations.

**Stack Space:** The recommended stack space standards presently indicate that for Health Science and Law book stacking 0.12 square feet should be provided per volume on the first 100,000, while all other disciplines are to use 0.10 square feet per volume.

Experience since this standard was recommended indicates Science and Engineering, Psychology, Architecture and other areas are as heavy in periodicals as Health Science and Law. In addition, the Stack Space standards were written back in the 70's, before the Americans with Disabilities Act required a 30% increase in stack aisle widths. For these reasons a factor of 0.12 has been used for the first 100,000 volumes. This lower packing factor is to cover the lesser density in reference areas. For the remainder of the collection a density factor of 0.08 square feet per volume has been used. This gives a current space allocation of 85,000 square feet for the current collection of 1,100,000 and 116,000 square feet for a collection of 1.4 million volumes in 2010.

**Computer Access Terminals:** In 1996, steps began to transition library activities to benefit from computer accessed media. The partial conversion of library cataloging to computer based system, allowed the removal of many of the first floor index card files. This 1,400 square foot area was then refurnished with 40 computer access terminals to provide internet research, catalogue access and computer lab uses.

In 2000, access to computer based media sources will be expanded through the development of a 2,700 square foot computer center, to be located on the second floor. It is believed that approximately 500 lineal feet of stack space can be condensed into other library areas and into long-term storage to make space for the addition of 76 computer terminals. The computer center will provide internet access to periodicals, journals and texts, many of which are abstracted on computer and reference paper copies on file elsewhere in the library. As this emerging technology expands and is assimilated into professional research fields, it is anticipated the dependence on periodicals and journals in paper format, can be reduced, but to the present this has not been the case.

**Non-Book Materials:** Technical processes are presently located in the original Library East, which is now part of Smith Memorial Center. To house Technical processes in a single library building, something on the order of 50% more space, or a total of 27,000 square feet would be needed. Other issues that might require additional square footage: a computer lab (like on the ground floor of the present Millar Library), better listening facilities, more library instruction space, archives storage, a temperature/humidity controlled special collection room. These needs, except for technical processes, are small compared to the expansion needed to house the collection.

Microforms are no longer broken down by type (microfilm, microfiche, etc.) and the area required to house these processes have been estimated based on average space need. We currently require between 1,600 and 2,000 square feet and will require between 2,400 and 3,000 square feet of additional space to store microform material in the year 2010. None music compact-disc data storage has been included in this estimate to meet the growing computer oriented periodical demand. Phonotapes, phonodiscs and music CDs have recently been moved within the library and these collections have not experiences notable growth. Also, there are no space standards for music CDs, therefore the space standards for phonotape were used. Estimates indicate 2,200 square feet is presently needed to accommodate the collection based on the space standards and around 4,000 square feet will be required in 2010. Government Documents require 9,600 feet at present and a need of 12,200 square feet is projected in 2010. Maps presently need 1,860 square feet and 2,500 square feet will be required in 2010.

Archives: About 1,000 square feet are required for archive storage at present and this could double in the next 10 years to 2,000. The University is using the Library Archives for document storage, and while not necessarily true archive materials, the library serves as a central depository for many university files.

In addition, while some materials are now available on computer, retention of paper copies continues to be required. These hard copies provide information access for students without computers and serve as backup during peak computer demand periods, when students requiring information access exceed computer terminal available. During this technology transition period, computerized media access has in fact increased library space need. While increasing space is dedicated to computer terminals and support equipment, the paper collection is also continuing to grow.

Library Administration and Services: The recommended OSSHE formula for calculating the area required for administration and services currently authorizes 25% of the reader, book and non-book stack space totals. There have been many changes since this standard was developed in 1980. Technology has required changes in how we do business. Space is required to maintain print reference material, in addition to computer access to reference material. While transitioning into an era in which Internet access is essential, additional index tables and computer reference stations continue to be needed. Currently access is provided to some materials only through the internet; however, since the publisher restricts access, it is necessary that the library provide the necessary access terminals. Separate rooms are also needed to allow group meetings and electronic teaching to orient new students in accessing computerized library documents through hands-on instruction. An electronic classroom with computer stations does not offer the flexibility needed for the meetings; hence two areas are needed. In addition, server rooms and other support spaces are required to facilitate accessibility to new information technologies. Present space utilization indicates that a 30% allocation for administration and services space is more accurate in meeting these additional administrative requirements, and therefore will be used in these space-need projections.

Based on the previous information, in 2010 the Library will require the following:

- 120,750 square feet of reader space.
- 116,000 square feet of stack space.
- 3,000 square feet of microform space.
- 4,000 square feet of audio equipment space.
- 12,200 square feet of government document space.
- 2,500 square feet for map collection space.
- 2,000 square feet of University archive space.
- 78,135 square feet for Administrative space.

The present Millar Library has a gross area of 194,712 square feet and a best case potential of adding an additional 60,000 square feet through 3 additional floors. In the year 2010, total library space need is anticipated to be approximately 338,600 square feet, resulting in a deficit of approximately 144,000 square feet, based on current library size.





## **Auxiliary Structures**

In addition to student housing and parking structures, which are discussed separately, auxiliary services on the PSU Campus include; the Helen Gordon Child Development Center, the Stott Center (Athletics), the Smith Memorial Center (College Union), and Student Health Services. Each of these are briefly discussed below:

### **Helen Gordon Child Development Center- Block 301**

Built in 1928 as a mission for children of the working poor, the Helen Gordon Child Development Center has continued to provide quality childcare since it's founding. The brick 3- story building with dormers is a modern interpretation of Georgian townhouse architecture by Fredrick A. Fritsch, of Sutton & Whitney Architects. The building was listed on the National Register of Historic Places in 1986.

The Center has seven classrooms serving children ages 2-5 years old, an art workshop and a "rainbow" room for physical activities during inclement weather. Currently Helen Gordon enrolls 113 children of students, faculty, staff of Portland State University, as well as 12 Portland area community children.

The existing building requires fire-life safety systems upgrades including seismic reinforcement, emergency lighting, fire alarm and sprinklers. Also the electrical and mechanical systems need to be overhauled to comply with current codes.

#### Expansion and Renovation of Helen Gordon & Adult Day Care

The Helen Gordon Child Development Center was supplemented this year with a short-term childcare facility in Smith Center. The demands for a variety of childcare options for PSU students, faculty and staff have continued as a reoccurring theme on campus. The campus climate report issued in December 1998, called for more childcare as well as other work/life initiatives including Adult Day Care. The national trend for the care of aging parents may develop to the point that an Adult Day Care could be part of the addition to Helen Gordon. Several campus groups will come together to review this issue as well as other Work/Life Initiatives for the PSU community

During a major renovation, the building occupants would need to be relocated. The University District Plan calls for doubling the size of Helen Gordon, which would require building an addition to the existing structure. By building an addition first, the children could move into new quarters during the renovation. Once the renovation is completed the program could be expanded.

A new building would provide an elevator, which would provide ADA access to all floor levels of the historic building as well as the new building.

Both the major renovation and the building addition will be needed to meet the demands of the Portland State University.

## **Stott Center- Block 231**

The Health and Physical Education Building was renamed the Peter W. Stott Center in 1997. Built in 1965, this two-story building has only had minor renovations. The building currently houses student recreation, health education and athletic team functions. A seismic study is needed before any further renovations will be allowed by the City of Portland. The building needs an elevator to provide full ADA access. The fire alarm, egress lighting and mechanical systems all need upgrading.

During the 1970's during the energy crisis, the systems were cut back to save energy. Due to this modification, the ventilation and lighting in the building need to be revamped to meet the current building codes. The swimming pool is overdue for a major overhaul. The structure surrounding the pool will need to be evaluated, due to the effects of the chlorine and inadequate ventilation system.

Division I status will force the expansion of the current gym operation to accommodate student athletes as well as a growing student intramural population.

Club Sports Building - Besides the expansion of the Stott Center, there has been student interest in the construction of a Club Sports and Intramural Facility. Club sports has grown steadily in recent years, and a facility to support indoor and outdoor activities is needed.

## **Smith Memorial Center – Block 200**

Smith Memorial Center is both Portland State University's College Union and its campus center and is intensely used by students, student organizations, faculty and outside groups. Both a technically and programmatically complicated building, it was originally built between 1954-1962 in four quadrants as four distinct projects.

### Master Plan & Remodel- Phase I Renovation

To respond to the growing programmatic pressures on the building, the Smith Center Renovation Committee completed a building Master Plan in May 1999. The Master Plan includes a multi-phase renovation plan. Phase I will be completed by Fall 2000. The planning funds have been allocated for Phase II. Remodeling will continue on primarily the ground floor and the third floor. New sprinklers, emergency lighting, fire alarm upgrade, hazardous material abatement, elevator upgrades, mechanical system upgrades will be included with each remodel.

### Expansion of Smith Memorial Center- Phase II Renovation

Adding 20,000 square foot to the upper floors of the building is also planned as part of Phase II. It is anticipated that if funds are allocated in 2001, the Phase II remodel will be complete by December 2002. Another expansion strategy could be converting the Library East portion of the building into student uses.

### Continued Expansion- Phase III Renovation

Phase III would continue necessary code work including seismic upgrades and elevator upgrades as well as remodeling of areas in Library East for expanded student use space. In order to provide the space for the students, additional space would be needed on campus for library, telecommunications and instruction and research services.

Growing student demand for food services, student information, advising and student organizations will force the need for expansion. The commuter nature of most students also compounds the need for on-campus space student and lounging between classes.

### **Student Health Services / Counseling & Psychological Services**

Student Health Services is currently located in the basement of Neuberger, an academic building. Counseling & Psychological Services are located on the 4<sup>th</sup> floor mezzanine of Library East. Both programs are hard for students to find due to their locations. It is also difficult for the disabled to access both of these locations.

Combining Counseling & Psychological Services with Student Health Services into one unit is a high priority. The two programs work together and refer students to each other's programs. Co-locating the programs will better serve the growing student population and will reduce administrative overhead. Current plans call for identifying a site, and obtaining legislative approval to raise student health fees to support such a facility on campus.

STUDENT HOUSING  
CONDITIONS

## **Student Housing**

In the early 1960's, the site for PSU was assembled from an Urban Renewal process that purchased various parcels. PSU was conceived as primarily a commuter campus and was not permitted to develop student residences. PSU was not to be considered as "of the "residential type" of campus". This political definition was changed in the early 1980's but only one project, West Hall, has been constructed specifically as university housing to date.

In the mid 1960's, student protests about the lack of close in student housing led to the formation of Portland Student Services. This nonprofit organization was organized and managed by students with the intent to manage the available older apartments. The University was demolishing older apartment housing that it had acquired in order to make room for new educational buildings. The initial goals of Portland Student Services were to rehabilitate and manage the dozen or so apartment buildings remaining on the campus, as PSU was not permitted to do so. This stock of housing units for our students remains to this day. Most date from the 1920's and 1930's and have been adequately maintained, but not significantly rehabilitated.

### **Summary of Housing Goals**

- Utilize Housing as a tool to help create a campus environment and support student recruitment.
- Create a Housing strategy to replace older uneconomical housing units with new units.
- Transition Ondine into a traditional dormitory operation as demand grows.
- Preserve a site for a mixed elementary school/family housing project within the University District.
- Establish a financing plan for renovation of existing housing to be kept.
- Explore mixed housing opportunities within the University District to meet University and City Housing goals.

## Temporary Housing to be Demolished

In 1996, College Housing Northwest analyzed all current housing and developed a list of buildings to be removed. These structures are antiquated, small apartments with code, electrical, HVAC and seismic adequacy issues. The following structures continue to degrade and should be removed as opportunities for redevelopment permit.

1) Adeline-Block 303

This building is a 1918 apartment building with 20 apartments. It has electrical, fire safety and exiting issues. It is not ADA accessible.

2) Birmingham-Block 269

This structure is a 1911 apartment building with 13 apartments. It has electrical, exiting and seismic issues. It is not ADA accessible. It is in very poor shape and could be a hazardous building in an earthquake.

3) Mary Anne- Block240

This 1910 apartment building has 17 units. It has electrical, code and seismic issues. It is not ADA accessible. In 1996, a large section of the stonework at the South East corner came loose probably from freeze thaw and a minor earthquake causing minor damage. It is in very poor shape and could be a hazardous building in an earthquake.

4) Stratford-Block 242

This 1927 3-story apartment building contains 31 units. It does have a functional elevator and has seismic and exiting issues. It is not ADA accessible. This building was scheduled for demolition in 1997, but that project is on hold so it continues to be used as student housing

5) Parkway-Block 227

This 1932 5-story apartment building has 54 units. It will need to be removed when a Fine and Performing Arts Center is built on the block. It does not have an elevator and is not ADA accessible. It is reinforced concrete with a brick exterior. A seismic study is needed. There is some interest in preserving this structure for historical reasons.

## Housing Structures to be Rehabilitated

The following structures are intended for long-term retention . Most have not been significantly upgraded since construction. These structures need to be remodeled and rehabilitated to meet current codes. This will require some buildings to be vacated for rehabilitation. Seismic studies are needed to really address life and safety issues. The three oldest buildings may be more expensive to rehabilitate and bring them up to code then to replace. The assumption is that the historical preservation value out-weighs the cost of replacement.

1) Montgomery Court-Block 229

This residential hotel was built in 2 phases in 1916 and 1925. It was (phase one) designed by A.E. Doyle and has a very nice interior courtyard. It is not currently on a national historic preservation list, but is on the City of Portland's Historic Preservation List. It has 145 sleepers with group toilet rooms. This building has significant code, access, seismic, occupancy and utilization issues that will need addressing with any longer term utilization. Office use should be considered as an option in retaining this structure.

2) Blackstone-Block 229

This 5-story 1931 apartment building contains 57 housing units. It is not accessible and does not have an operating elevator. It is on the City of Portland's Historic Preservation List. The building has significant code, access, seismic and utilization issues. Office use should be considered as an option in retaining this structure.

3) St. Helens-Block 268

This 5-story 1928 apartment building houses 51 apartments. The building is accessible on the ground floor, but does not have a functional elevator. It is on the City of Portland's Historic Preservation List. The building has significant code, access, seismic and utilization issues.

4) Ondine-Block 159

This 15-story 192 unit residential building was built in 1962 as a private women's residence hall. PSU acquired it in 1970. The three elevators were brought up to code in 1999. Seismic studies and code analysis are needed. The building appears to have a weak story at the lobby so a seismic is needed soon. The building needs significant HVAC and plumbing rehabilitation. Most of the office and retail spaces are very antiquated and need rehabilitation and ADA improvements.

5) West Hall-Block 268

This 9-story 189-unit apartment building with one-bedroom apartments was built for student residences in 1986. It is still in very good shape and probably will require little work in the next 10 years. A seismic study is needed as it was built under a previous code.





## Transportation & Parking

### General Outlook

- Of the 2,924 parking spaces on the campus in 1998, approximately 170 were reserved for student residential use, 20 were reserved for permitted visitors, 200 were reserved for faculty and staff use, and 200 were reserved for lease tenants. This left approximately 2,334 parking spaces available for general student, faculty and staff use.
- Between 1998 and 2010, the total student, faculty and staff population is projected to increase by 3,925, for an average increase of 20%.
- Because PSU serves a non-traditional student population, students and staff responsible for care and transportation of dependents are projected to increase 19% by the year 2010. Trip linking with dependents has been shown to be a major deterrent to mass-transit use. The expansion of on-site daycare would likely be required to reduce the parking demand by this sector of the population.
- It is also projected that increased tele-commuting and availability of mass-transit will reduce the S.O.V. and carpool mode splits by 3% and 1% respectively. Therefore, without additional student housing development within bicycling and walking distance of the campus, or the expansion of on-site daycare, an additional 422 parking spaces will be required in the year 2010 to maintain the present auto trip to parking space ratio of 3.2:1.
- The City of Portland zoning code now requires structured parking. 167 of the campus parking spaces are presently non-structured and in non-compliance. If removed they could only be replaced with structured parking, at a rate of 1 space per 1,000 square feet of newly developed academic space.
- PSU presently provides 1,300 bicycle parking spaces and is in non-conformance with the City of Portland's Bicycle Parking Regulations, requiring 38 additional structured parking spaces.
- By the year 2010, an additional 262 bicycle parking spaces will be required to maintain the present population to bicycle space ratio, 50% of which will be required to be covered.
- In 1996, the City of Portland set a ten-year benchmark that commercial establishments in the Downtown/University Districts provide on-site shower and changing facilities to accommodate cyclists. This need was reinforced through a forum with the campus community, which indicated a demand for end of trip facilities, possibly integrated into the existing Peter Stott health and physical education center.

## Summary of Transportation Goals

- Develop a balanced transportation strategy that meets campus needs .
- Expand parking to the degree necessary to accommodate growth.
- Develop transit programs that maintain the 50%+ transit use by students and faculty.
- Expand the streetcar service to the Urban Center and the North Macadam area.
- Develop a bicycle strategy that encourages safe use and storage on campus.
- Improve pedestrian safety on streets within the University District, and enhance the pedestrian nature of the internal portions of campus.

### Background

Portland State University is located within the University District, which forms the southern edge of downtown Portland. As a major downtown service provider, a study performed in 1986 indicated the University was the destination of 1 out of every 5 visits to the downtown. Throughout the years, PSU has worked with its' jurisdictional partners to provide the regional population educational access through transportation opportunities, while striving to mitigate the adverse effects associated with commuting.

Despite efforts to improve transportation and parking on and around the campus, between 1976 and 1989 the dependency on single occupant vehicle transportation increased 8.1 percent, increasing the demand for parking. The use of car-pooling also saw an increase during this period from 9.7 percent to 12 percent, while the use of mass-transit, bicycling and walking declined. This increase in automobile dependency came as a surprise to many, since the Ondine student housing was added to the campus inventory in 1978, and it reversed a trend toward increased mass-transit established between 1972 and 1976.

<b>TRANSPORTATION MODE SPLIT OF STUDENT, FACULTY, &amp; STAFF</b>				
MODE OF TRAVEL	S.O.V.	H.O.V.	TRANSIT	OTHER
1976	48.3%	9.7%	29.0%	13.1%
1989	56.4%	12.0%	18.9%	12.6%

In April 1991, the State Transportation Planning Rules, (TPR) were adopted as a means to implement and benchmark compliance with State Planning Goal 12: Transportation. Using 1990 parking inventories and vehicle miles traveled, (VMT) as baselines, the Planning Rules mandated statewide reductions in VMT of 10 percent by 2010 and 20 percent by 2020, and a 10 percent reduction in parking spaces per capita.

The Planning Rules required Metropolitan Planning Organizations, (MPO) to develop, in consultation with the Oregon Department of Transportation, a Regional Transportation Plan indicating means of attaining the established benchmarks, to be approved by the Land Conservation Development Commission, (LCDC). Once approved by LCDC, local agencies were required to adopt Transportation System Plans and amend their comprehensive plans to conform to the MPO Transportation Plans.

In response to House Bill 2214 approved in the 1993-94 Legislative session, which directed ODEQ to implement measures to reduce ozone levels in the Portland metropolitan area, in November of 1994, the Tri-Met Board of Directors agreed to participate in the PSU experimental fare partnership. The partnership program, begun January 1, 1995, involved Tri-Met selling all-zone passes to PSU at a discount with the condition that PSU provide a subsidy to its' employees and students that matched or exceeded Tri-Met's discount. Currently, Tri-Met all-zone passes are available to PSU students for \$25.40 per month, \$26.60 off the regular price of \$52, and less than the cost of a 2-zone pass (\$41). To encourage transit ridership, PSU has increased its' parking fees, provided preferential carpool parking, and continuously marketed the program to its' students and employees.

In 1995, the first year of the discount pass program, the average monthly sale over the year was 2,496 passes. In the same year, parking fees were increased an average of 25 percent. In September 1996, parking fees were increased an average of 15%, resulting in an increased demand for discount passes and reducing single occupant vehicle usage. In September 1997, parking fees were again increased, this time by 10%, but the average monthly sale of discount passes declined from 2,677 in the previous year to 2,621. This decline continued until mid-1998 when 8 percent of campus long-term parking was converted to short-term use, parking fees were increased by 20%, and the MAX light-rail line to Washington County was completed. Since that time, discount transit passes increased to a new high of 3,671 in October 1998, before declining to 3,197 in October of 1999.

As parking fees increased, transit lines have been added and discount passes have been offered, students have responded by increasing transit usage by 27.9%, but single occupant vehicle usage declined only by 2.6%. Instead, student carpool usage decreased by 40.9% and bicycling/ walking by 17%, opting for reduced fare mass-transit. In part, the changes in S.O.V. and transit usage may be due to a declining percentage of housed students, as enrollment increased nearly 11% during this time period and no new student housing within walking distance was provided. It is also likely due to the need of students to match daily schedules, days of attendance and meet off campus obligations, making singular modes of travel a preferred alternative. The data indicates that given present trends, as student population increases the need for additional parking will probably also increase at approximately a 40% rate.

While developing additional housing would likely increase bicycling/ walking, thereby reducing student vehicle miles traveled, the lifestyle demands of many students would still require automobile usage, and the need for additional pedestrian and bicycle facilities would need to be substituted for the cost of subsidizing discount transit passes.

<b>TRANSPORTATION MODE SPLIT OF STUDENTS 1994 Thru 1998</b>					
<b>MODE OF TRAVEL</b>	<b>S.O.V.</b>	<b>CARPOOL</b>	<b>TRANSIT</b>	<b>BIKE/WALK</b>	<b>OTHER</b>
1994	42.4%	9.9%	29.6%	18.0%	0.1%
1995	42.9%	5.7%	35.2%	16.1%	0.0%
1996	39.5%	10.0%	34.1%	16.0%	0.4%
1998	41.3%	5.8%	37.9%	14.9%	0.0%

Staff and faculty have a different pattern of transportation needs. Staff often need to be on campus very early and leave later than normal downtown jobs. Faculty hours change every quarter, and often include day and evening stays on campus. Single parent employees are often required to make daycare and school-age children trips, before, during and after work, making carpooling difficult or requiring multiple bus transfers, thereby encouraging automobile dependency. This is especially important, given the fact that in 1994, 30% of the staff, faculty and students lived within ¼ mile of a direct transit route to campus.

<b>TRANSPORTATION MODE SPLIT OF FACULTY, &amp; STAFF 1994 Thru 1998</b>					
<b>MODE OF TRAVEL</b>	<b>S.O.V.</b>	<b>CARPOOL</b>	<b>TRANSIT</b>	<b>BIKE/WALK</b>	<b>OTHER</b>
1994	45.5%	11.0%	25.9%	16.3%	1.3%
1995	40.1%	12.1%	30.0%	16.5%	1.3%
1996	49.3%	9.8%	30.8%	8.7%	1.3%
1998	49.5%	9.2%	30.1%	8.7%	2.6%

To conform to the Metro RTP, the Central City Transportation Management Plan, (CCTMP) was adopted by the City of Portland in December 1995, amending the Comprehensive Plan and Zoning Code. The CCTMP implemented a comprehensive set of strategies to maintain air quality, promote economic development, support an efficient transportation system, and encourage the use of alternative modes of transportation. With the goal of reducing Downtown/University VMT 20.9% and parking spaces by 10%, the CCTMP established a minimum transportation mode split for the University and Downtown areas of 60% Mass-Transit, 10% walking/bicycling/home-based, an average auto occupancy rate of 1.3 persons, with end-of-trip bicycle facilities and parking, by 2010. To effectively reduce vehicle parking spaces per capita, the CCTMP established maximum on and off street parking ratios for the downtown core and University areas and the development of parking management plans to “pinch” parking supply.

While preparing the CCTMP, the City of Portland recognized that Portland's University District represented an area with special needs, warranting additional attention with respect to transportation management strategies. Through a Memorandum of Understanding, dated November 1, 1995 and incorporated into the CCTMP policy and plan, Portland State University and the City agreed that, "*Portland State University is a non-traditional, urban university whose patterns of transportation do not meet conventional categories . . .*" Through a collaborative effort a comprehensive approach would be required to improve air quality, pedestrian and bicycle accessibility, and vehicle circulation within the capacity of the existing street system.

Under the University District Plan adopted in 1995, the encouragement and development of additional housing and various transportation alternatives were identified as necessary to protect the environmental quality of downtown Portland and Portland State University. Among other items, the plan identified the following as priorities, and called upon community leaders to, "*undertake agreed upon projects and to use community resources as well as government efforts to foster the enhancement of their area.*" The plan called upon partners to:

- Designate the University District a Pedestrian District in the Central City Transportation Management Plan and the Regional Transportation Plan, improve pedestrian and bicycle corridors within the District, and expand pedestrian connections with adjacent neighborhoods.
- Create at least 1,000 new market-rate housing units within the District to serve those who enjoy living in the district as well as those with formal ties to the University. ( In addition, through the 1986 Portland State University Campus Plan, a PSU goal of housing 15% of campus-I students on campus was established in an effort to preserve student housing affordability, reduce vehicle miles traveled and limit impact on the downtown housing market.)
- Route the Central City Streetcar through the District, providing service connection on the west side of the PSU Campus and transfer connection to other transportation modes.
- Extend the Bus Transit Mall south through the District providing connection to PSU and other transportation modes.
- Create light-rail access to connect PSU and the District to the region.
- Recognizing Portland State University as a primary regional destination, create an Urban Center to serve as a transfer point between bus, streetcar, and light-rail, connecting the campus to the city and region.
- Renovate and double the capacity of the Helen Gordon Child Development Center as a means to meet the demand for on-site childcare and reduce trip chaining.

In addition, the Memorandum of Understanding called for addressing the demand for on and off street parking and the need to efficiently manage parking to prevent negatively impacting development opportunities.

Over the past four years, many of these objectives have already been met, improving utilization of existing transportation and parking capacities. But, others remain to be achieved, while student enrollment has increased by over 6 percent, further increasing transportation and parking demand.

## **Current Transportation & Parking - Conditions & Needs**

### **Student Profile & Outlook**

The lifestyle needs of the average PSU student and faculty make the use of alternatives to the single occupant vehicle unrealistic without providing additional campus housing and child development facilities. The average PSU campus institution (campus-I) student is 28 years old, works, and is a  $\frac{3}{4}$  time student. 6 % of the campus-I students presently live on campus, (958), 50 % are married or partnered, and 30 % are primary caregivers for dependents, with 80 % of the primary caregivers responsible for the transportation of dependents. Surveys of students enrolled in other PSU programs, non-campus-I students, have not been performed. Non-campus-I students are predominantly part-time students enrolled in professional and extended studies courses. No non-campus-I students presently live on campus. Because non-campus-I students are non-traditional students, it is presumed that they share many the live style traits of the typical PSU campus-I student.

At the end of fall term 1998, Portland State University served a total quarterly population of approximately 18,256 students, with an estimated faculty of 826 and a staff of 1,258, totaling 20,340. The average number of faculty, staff and campus-I students on the campus Monday through Friday, from 8:00 AM until 10:00 P.M., was approximately 4,800. Therefore, on a typical day, 1,400 of the persons on campus are responsible for the care of dependents, of which 1,152 are responsible for the transportation of dependents.

Of the 18,256 students enrolled at the end of fall term in 1998, 958 students lived on campus, with the remaining 17,298 commuting. Based on the 1998 mode split, of the students, faculty and staff, 7,183 used mass-transit, 2,758 used bicycles or walked and 67 tele-commuted, while the remaining 9,371 drove automobiles to the campus. Of those who drove, 7,144 students and 1,032 faculty and staff drove single occupant vehicles, while 1,003 students and 192 faculty and staff carpooled.

The student population is anticipated to increase approximately 20% between 1998 and 2010, while faculty and staff to support the student population is anticipated to rise approximately 11%, resulting in 21,943 students and 2,322 faculty and staff. Given the national trend of an aging population, it is anticipated that while in the short-term there may be an increase in lower division students the longer trend will be an increase in upper division and graduate students, taking fewer credit hours and requiring greater scheduling flexibility. It is also anticipated that as the new PSU Distance Learning Center program is developed the opportunity for internet and tele-commuting will reduce conventional commuting.

ESTIMATED TRANSPORTATION MODE SPLIT OF STUDENTS FACULTY, & STAFF 2005 AND 2010					
MODE OF TRAVEL	S.O.V.	CARPOOL	TRANSIT	BIKE/ WALK	OTHER
2000	43.0%	7.0%	35.0%	14.0%	1.0%
2005	42.0%	7.0%	36.0%	12.0%	3.0%
2010	40.0%	6.0%	39.0%	10.0%	5.0%

Therefore, it is anticipated that the use of carpooling and walking will continue to proportionally decline, as will distant single occupant vehicle transportation, while mass-transit and other methods of commuting will increase.

Based on the 2010 projected mode split, of the 23,312 projected student and employee commuters to the campus, (excluding visitors), 9,092 will use mass-transit, 2,331 will bicycle or walk and 1,166 will tele-commute.<sup>1</sup> This leaves 9,324 single occupant and 1,399 carpool vehicles commuting to the campus. Of these automobile trips, 22% or are anticipated being daily staff and faculty.

While family size has continued to decline over the past two decades, average student age can be anticipated to continue increasing over the next ten years, increasing the proportion of students with dependents. Of the average 5,700 campus-I students, faculty and staff that can be anticipated to be on campus Monday through Saturday, from 8:00 AM to 10:00 PM, 1,660 can be expected to be responsible for dependent care, of which 1,368 would also be responsible for dependent transportation. This can be anticipated to result in a 19% increased demand for on-site childcare.

### **Mass-Transit Accessibility**

Construction began this year on the Central City Streetcar by Portland Streetcar Incorporated. The streetcar line scheduled for completion in 2000 will strengthen connection of the campus with the downtown Pearl District and nearby Northwest Triangle District. The streetcar stops are planned on the west side of the PSU campus and at the Urban Center scheduled to open in January 2000. Upon completion of the PSU Urban Center, the downtown bus mall will be extended by Tri-Met to connect with the Central City Streetcar at the new facility, and the campus will serve as a south Portland transportation hub to the region.

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<sup>1</sup> This increase in parking demand assumes that the number of housing units is increased 20% to match student population growth. It can be expected that failure to increase housing stock in tandem with student growth will result in an increase in commuting and vehicle miles traveled.



## Pedestrian Accessibility

In 1995, the CCTMP classified the north/south streets within the University District pedestrian streets, and under the June 1999 draft of the RTP the University District has been redesignated as a pedestrian district. Presently 6% of PSU campus-I students are housed on campus, less than half of the 1986 established goal of 15%. As indicated in graph 1, when compared with 42 other national universities, PSU ranks third from the bottom in the provision of student housing.<sup>1</sup> With student campus-I population projected to increase from 15,160 in 1998 to 17,576 in 2010, 152 additional housing units would be required just to maintain status quo, and 1,678 additional units would be required to attain the established goal of housing 15% of the campus-I student on the PSU campus.

In order for the university to maintain and improve pedestrian accessibility as a home to school/work trip destination, additional housing would need to be supplied within a ¼ mile walking distance of the central campus.

## Bicycle Accessibility

Numerous bicycle routes run through Portland State University and the University District, linking the campus with adjacent neighborhoods and the regional bicycle path system. Portland State University presently provides 1,300 bicycle parking spaces of various types, which are distributed throughout the University District adjacent to campus housing, offices and academic buildings. While significant, this amount is in non-compliance with the City of Portland's Bicycle Parking Regulations. As indicated in the table below, the campus is presently deficient by 38 structured bicycle parking spaces. In addition, a campus forum was held with students, faculty and staff in October 1998, to solicit public input on campus bicycle facility needs. The participants of the forum identified the need to integrate the required additional bicycle parking adjacent to the Peter Stott Athletic Center, this would allow use of common end of trip facilities.

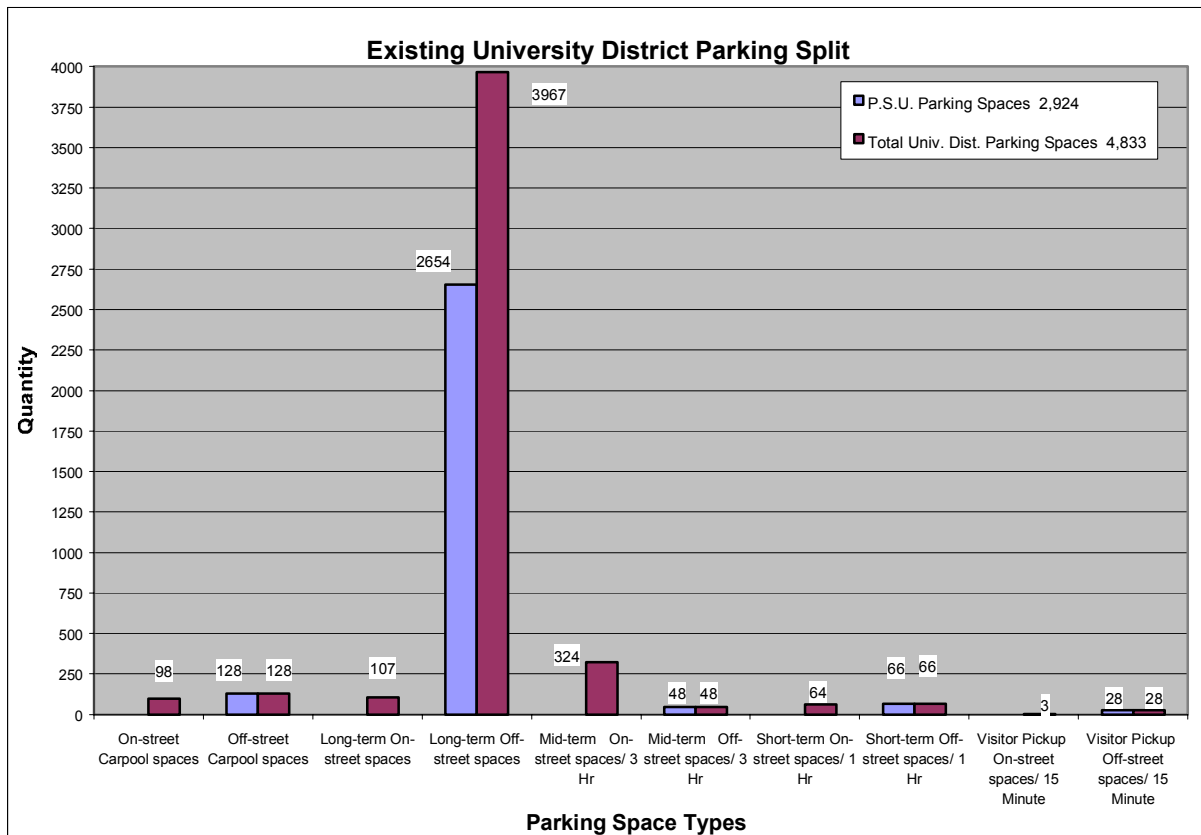
<b>EXISTING &amp; REQUIRED STUDENT, FACULTY, &amp; STAFF BICYCLE PARKING FACILITIES</b>			
<b>ASSOCIATED USE</b>		<b>EXISTING</b>	<b>ADDITIONAL REQUIRED</b>
Housing Long-term	Covered	812	0
	Uncovered	117	0
Housing Short-term	Covered	28	0
	Uncovered	20	0
Academic Long-term	Covered - *	76	35
	Uncovered	68	0
Academic Short-term	Covered	83	3
	Uncovered	164	0
* - Includes 68 On-campus Bicycle Lockers owned by the City of Portland			

<sup>1</sup> Beds Per Student and Persons Per Parking Space comparisons based on 1998 Campus Institution Students Only, (Campus-I). An additional 3,096 (Non-campus-I) professional & extended studies students are not included for comparative purposes.

Based on present building area, the City of Portland bicycle regulations require approximately 1 bicycle parking space per each 15 persons on campus. Portland State University's total combined student, staff and faculty population is anticipated to increase 19% by the year 2010, worsening the existing shortage of bicycle parking facilities. While minimum required bicycle parking is based on gross academic floor area and total campus housing units, the projected populations and mode split indicate that 1,592 bicycle riders will require bicycle parking by the year 2010. Based on the present ratio of 1 bicycle space per 15 additional persons, the campus will require an additional 262 bicycle parking spaces in 2010, of which 50% are required to be in secure structures.

### Automobile Accessibility

The University District and PSU are bound on the south and west by Interstate 405, which loops the City of Portland and provides easy regional accessibility. In order to avoid the high public costs associated with increasing local street capacities and parking facilities, the City of Portland, Tri-Met and PSU have sought to maximize the availability of alternatives to automobile commuting, while improving turn-over availability of the present parking inventory. Never the less, due to the nature of student, staff and faculty scheduling needs, the number of automobile trips to the campus can be expected to increase from 9,371 in 1998 to 10,723 in 2010.



## S.O.V., Carpool & On-Street Parking

Under the City of Portland parking regulations the quantity of parking allowed is proportional to the gross area of campus buildings, therefore the more efficiently PSU uses its' academic buildings, the more students are required to hunt for parking spaces. As indicated in graph 2, with 7.5 persons per parking space, PSU ties for the third highest person to parking space ratio among 42 universities surveyed in 1998.<sup>1</sup> When non-returning students were exit interviewed on their reason for not continuing their college education at PSU, the unavailability of parking was among the top three reasons.

As the campus map on the following page indicates, in 1998 PSU had 2,924 parking spaces distributed throughout the University District, of which 128 are designated for carpool use only. With previous revision of the city code prohibiting surface parking lots of more than 20 vehicles per site, 167 of the current spaces are in non-compliance and could not be preserved if these sites were developed. Based on the 1998 mode split there were 8,147 students and 1,224 faculty and staff using the existing 2,924 spaces. Data collected on parking structure occupancies indicated that on a typical day two of the three structures are completely full by 9:00 AM. Students unable to find parking on campus compete for the 593 parking meters within the district, limiting the viability of local retail. Based on the projected population growth and mode split, student/ faculty/ staff auto trips are anticipated to increase by 1,352 or 14% by the year 2010. Using the 1998 trip to parking space ratio of 3.2: 1, an additional 422 structured parking spaces will be essential to maintain current parking conditions.

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<sup>1</sup> Beds Per Student and Persons Per Parking Space comparisons based on 1998 Campus Institution Students Only. Additional 3,096 Non-campus-I not included for comparative purposes.

## Surface & Structured Parking Conditions

PSU is required by city code to provide **structured** parking in the University District; new on grade parking is prohibited in the downtown. In addition we are required to remove surface parking lots eventually and replace them with above or underground structures. We have been severely limited in providing additional parking. We are currently limited to one parking space for every 1000 gross square foot of new building area independent of usage. This has created a shortage of adequate parking for staff, faculty, visitors and students. In the fall of 1999 a bond issue was approved to allow the acquisition of the University Center Building that contains nearly 340 parking spaces to help meet the demand. Studies are recently complete that evaluate the conditions of our structures:

1) Parking 1- Block 191

This structure is an 8 level concrete parking structure that has significant repair needs. The structure has corroded reinforcing in the stairwells and roof. Repairs of this damage occurred in the early 1990's, but additional damage is evident as the reinforcing continues to rust. We can expect additional damage and higher repair costs. This structure was built in two phases in the early 1960's prior to seismic codes. A seismic study is needed to see if the building is adequate to resist seismic loading in an earthquake.

2) Parking 2 – Block 189

This structure is a half block containing a 5 level concrete parking structure that has some repair needs. The structure had leak damage though the structural roof and floors. Repairs of this damage occurred in the mid 1990's but additional damage is evident as the reinforcing continues to rust. This structure was built in the late 1960's prior to seismic codes. A recent seismic study indicated that the existing structure is adequate to resist earthquake loading, but significant strengthening with additional shear elements may be required for a proposed two story addition.

3) Parking 3 – Block 302

This structure has had a seismic analysis. The building is grossly under designed in the north/south axis to withstand earthquake loading required by current code. The study also evaluated if additional floors could be added. Two floors can easily be added to the structure at the same time as the seismic reinforcing occurs. Bond funding for this work was requested and granted in the 1997 capital budget request. This work was delayed pending the completion of the University District Parking Management Plan and the acquisition of the University Center Building. This structure is adjacent to the Helen Gordon Child Development Center that houses about 60 children between the ages of 5 and 7 in a day care program. A seismic event could impact this adjacent structure. This is a significant life safety concern.

4) West Hall Parking Structure – Block 268

The upper deck of the two level parking garage does not have a membrane to protect the reinforcing in the concrete from corrosion. A traffic membrane should be placed to avoid damage as occurred in Parking 1.

- 5) Ondine Parking Structure – Block 159  
This structure has an open parking deck and a sub-grade parking level. A seismic study has not been done on the structure. See comments on the Ondine for seismic concerns. The upper deck does not have a water-proof membrane rather an asphalt wear surface. The structure has a history of leakage into the offices and theater below. An investigation is needed to see if corrosion is occurring as on Parking 1 with its resultant corrosion.
- 6) Fourth Avenue Building Parking - Block 90/91  
This structure has two levels of sub-grade parking over two-thirds of the site. It was recently restriped to allow tandem parking due to the heavy parking demand. The building now has 432 spaces. Faculty use 35 spaces and there are 55 student spaces. The remaining 342 spaces are being used under lease agreement by the staff of the City of Portland Development Center. During a 1997 remodel the lighting was upgraded to meet current codes including egress lighting.
- 7) University Center Building Parking - Block 160  
Purchased in November 1999, the building holds 340 spaces. Under the lease agreements tied to purchase, 274 of these spaces are not available for University use. See the building description on page 20 of Academic and Support Buildings.
- 8) Helen Gordon Center Parking - Block 301  
The vacant 'green' parcel, adjacent to the Helen Gordon Child Development Center, provides 8 unstructured parking spaces at grade on the south half of the lot, adjacent to Parking structure 2. These spaces are designated for Helen Gordon Center staff parking, and are presently in non-conformance with city planning codes. This asphalt parking lot was grand-fathered in as preservation parking and would need to be removed if any development was performed on the site.
- 9) Extended Studies Parking - Block 227  
The surface parking lot adjacent to the Extended Studies Building and The Center for Population Research, (Harder House) are designated for staff parking. All of the buildings on this block are temporary structures requiring replacement. Because surface parking lots of more than 20 spaces are not permitted in the university District, if this block was redeveloped, these spaces would need to be removed and new parking would be based on the floor area of the building development.
- 10) Shattuck Hall Parking - Block 197  
The parking lot adjacent to Shattuck Hall and Campus Security is designated for security, visitor and dignitary parking. The parking on this surface lot are predominately 4-hour metered spaced. Any development on this site would trigger removal of these spaces and replacement under the current parking regulations.
- 11) Carpool Parking Lot - Block 153  
The carpool parking lot contains 77 metered spaces and uncovered bicycle parking. This is the primary student and faculty carpool park for the University.

All of the surface parking lots were improved in 1999, as a City condition of occupancy of the Urban Center Building.

LS-A-57

DRAWN:  
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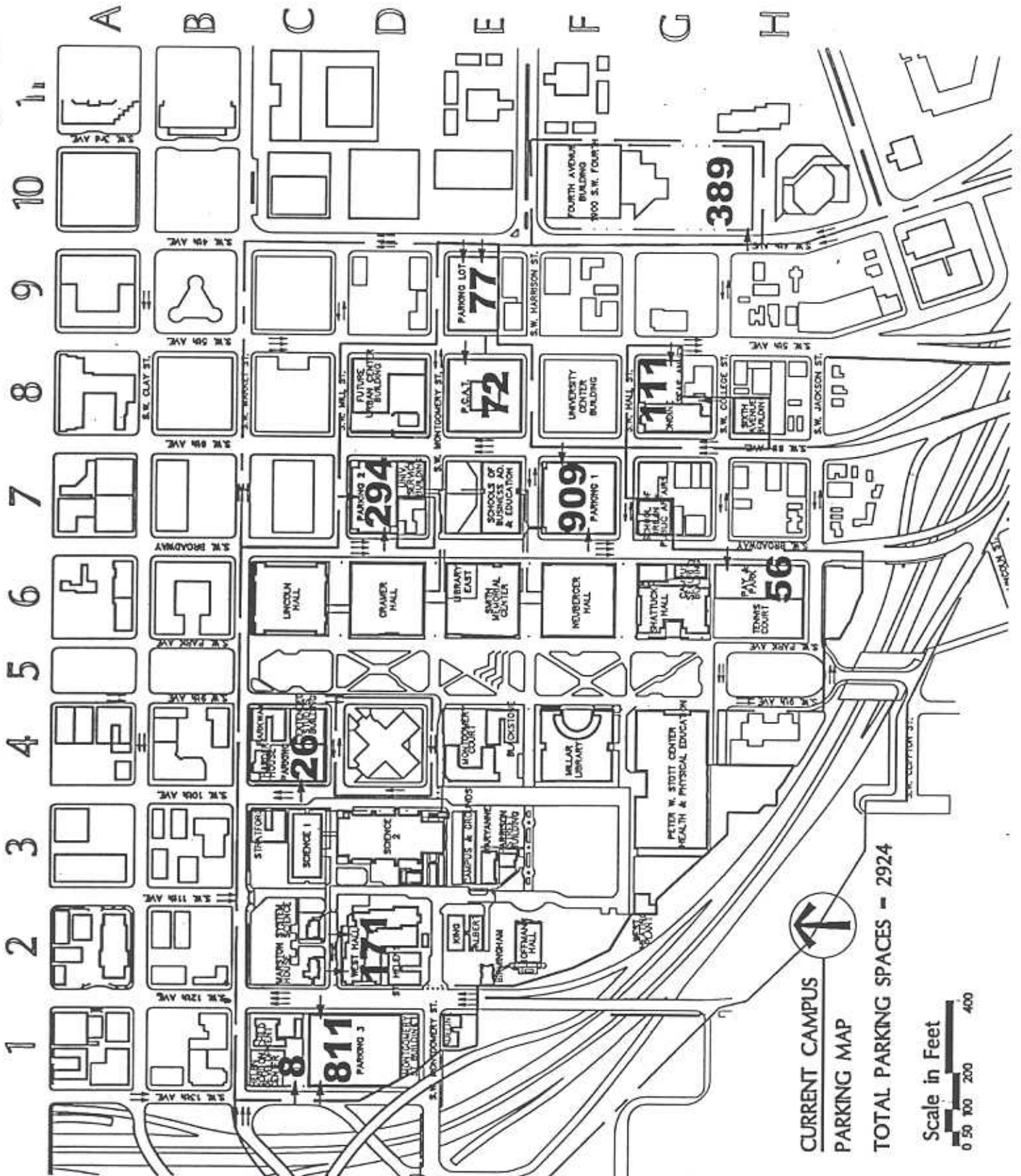
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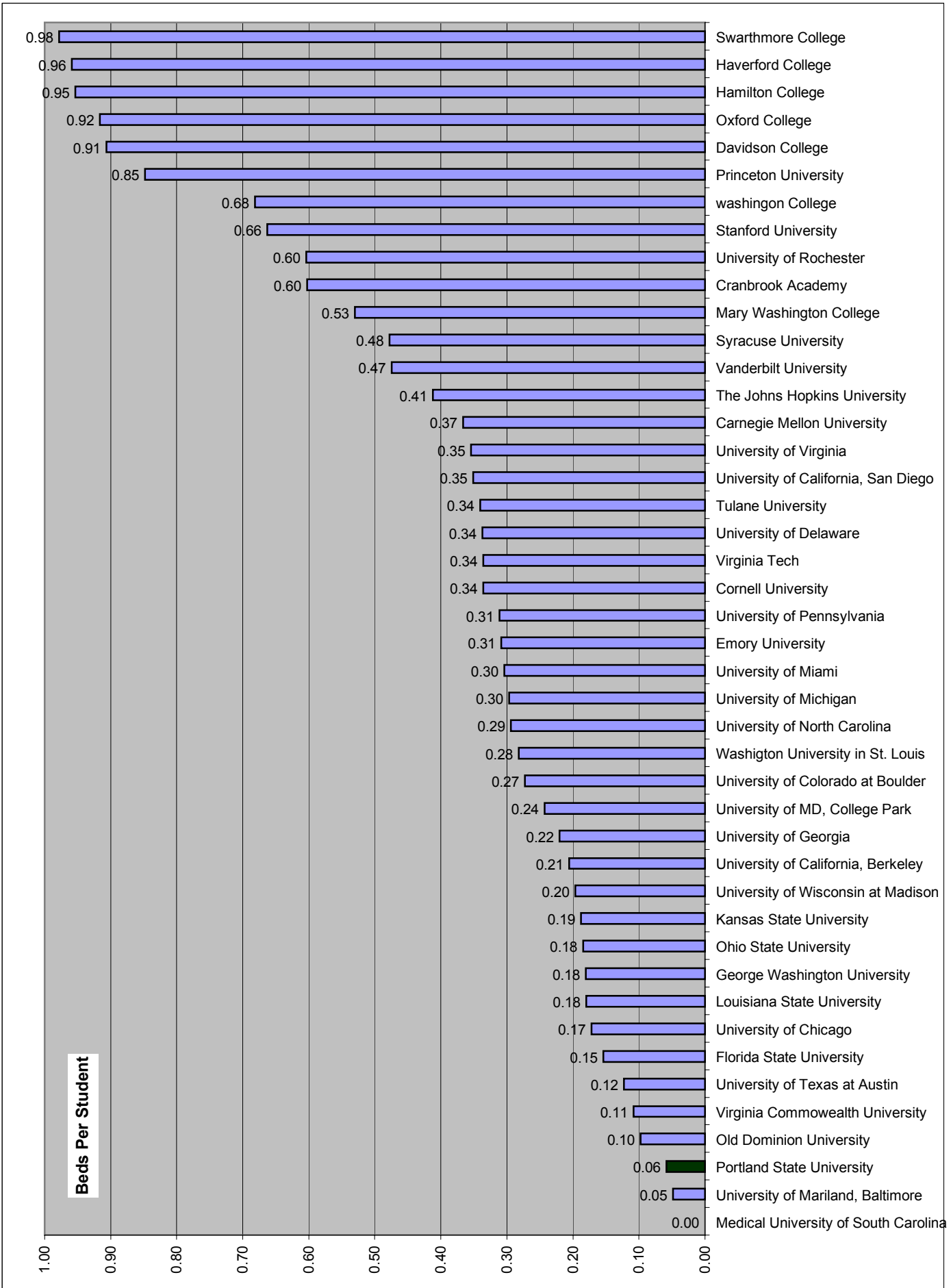
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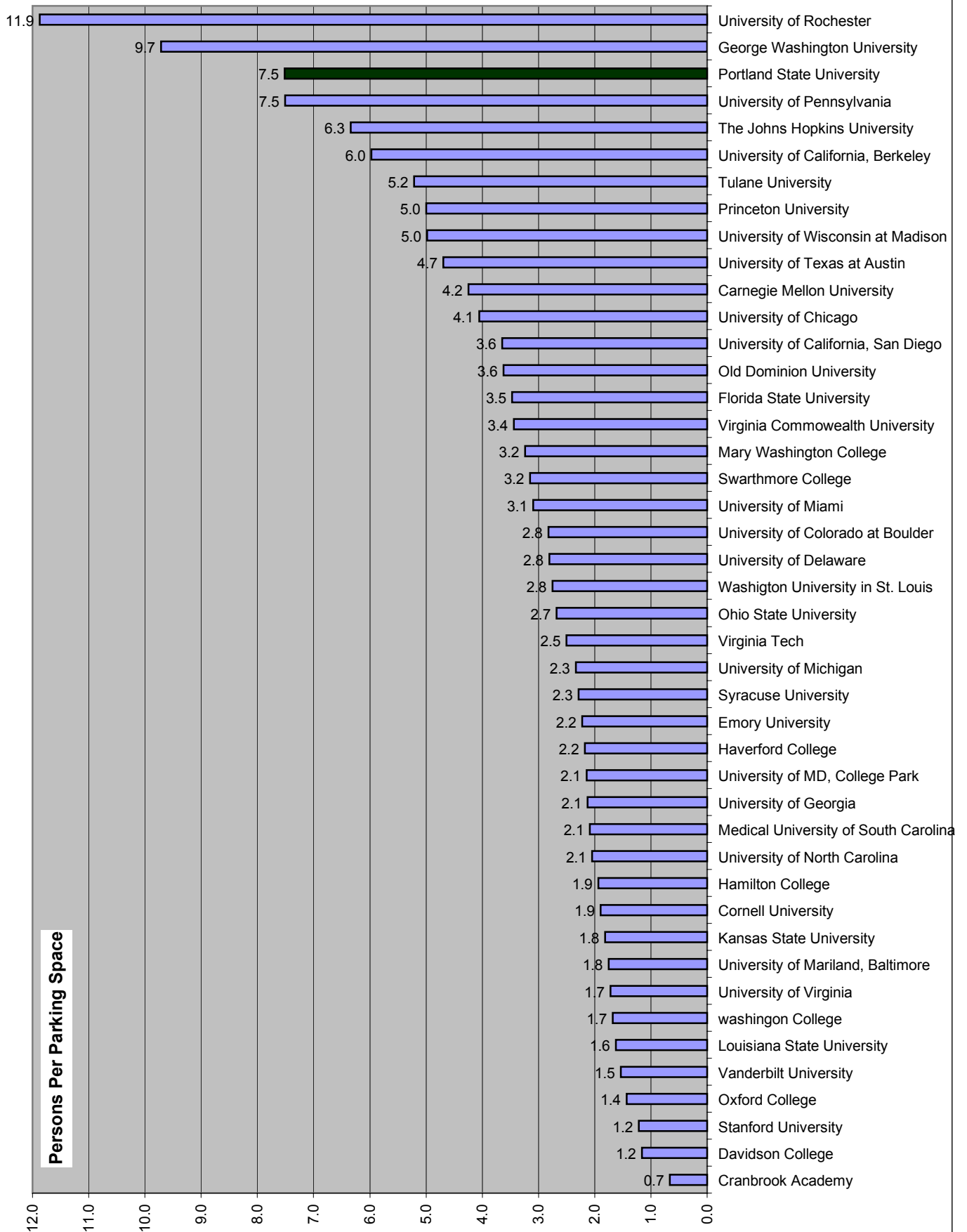
### CURRENT CAMPUS PARKING SPACE COUNT

PORTLAND STATE UNIVERSITY

FACILITIES  
617 S.W. MONTGOMERY ST.  
PORTLAND, OREGON 97201  
503-125-5730 FAX 503-125-4524









CLASSROOM  
OCCUPANCY ANALYSIS

## Room Occupancy Analysis

### General Outlook

- The 1990 OSSHE space standards recommend classroom student station densities that are not permitted under governing life and safety codes.
- Under local codes the maximum design standard for classrooms is one person/ student station per twenty square feet.
- The University is required by the Fire Marshal to comply with the one person per twenty square foot standard. This will result in the loss of approximately 607 student stations, equivalent to 11% of the previously scheduled classroom capacity.
- An 11% increase in classroom building area, using twenty square feet per occupant, (12,140 square feet), will be required to meet this code compliance need.

### Background

This analysis was undertaken by Facilities staff in the summer of 1999. The goal was to develop a clear understanding of how PSU's classrooms, class laboratories, seminar and auditorium spaces are used. The actual layout of each space was examined for appropriateness of intended use and maximum allowable fit of student stations.

### Method of Student Station Inventorying and Maximum Occupancy Calculations

Existing Occupancy - The number of student stations inventoried represents recorded seat counts on the day visited.

Code Allowed Occupancy – Educational Facilities above the 12<sup>th</sup> grade are classified by the National Fire Protection Agency, Life Safety Code and the local governing jurisdictions as either A (Assembly), or B (Business) occupancies. Determination of occupancy classification and maximum occupant load is based on both the function and size of individual spaces as follows<sup>1</sup>:

Group A-2.1: A building or portion of a building having an assembly room with an occupant load of 300 or more without a legitimate stage, including such buildings used for educational purposes and not classified as B or E occupancies.

Group A-3: A building or portion of a building having an assembly room with an occupant load of more than 50 and less than 300 without a legitimate stage, including such buildings used for educational purposes and not classified as B or E occupancies.

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<sup>1</sup> NFPA, Life and Safety Code, 1991 Edition, Section 11-1.1.3.

Group B: A building or portion of a building used for professional and service transactions . . . including, but not limited to educational occupancies above the 12<sup>th</sup> grade with an occupant load of 50 or less.

Under the building and fire codes, the maximum number of occupants permitted in each room is determined by the use, which in-turn dictates the maximum room occupancy.

Concentrated Assembly Use, (Without Fixed seats) : 1 occupant per 7 square feet

Less- Concentrated Assembly Use, (With Fixed seats) : 1 occupant per 15 square feet

Classrooms : 1 occupant per 20 square feet

Scheduled Occupancy – Records of scheduled occupancies were provided by the Office of Admissions and Records, 113 Neuberger Hall, Classroom Scheduling Department.

Optimum Potential Occupancy with Existing Furniture Layout - Furniture layouts follow basic requirements for fire escape routes. Occupancy reflects previous building code approvals.

### **OUS Standards**

The Oregon State System of Higher Education, Facilities Standard and Guidelines were last revised in 1992. These space utilization standards established the maximum area in square feet per occupant as a tiered system varying with the number of student stations in the classroom. The standards were based on a seat spacing of 42" back to back and 26" center to center, not allowing for exit isles or A.D.A. accessibility. Under the OSSHE utilization standards, the following maximum square footage is permitted per occupant in classrooms:

<u>No. of Student Stations</u>	<u>Sq. Ft. per Student Station</u>
15	20
20	17.5
25	16
30	15
40	14.2
50	13.5

In nearly every classroom size group the density goal exceeds those permitted by the local governing jurisdictions. These goals were established without the realization that the Oregon Building Codes and National Fire Codes had a maximum classroom occupancy rate of one person per every twenty square feet. This is still true today. In discussions with the Fire Marshall, it is clear that PSU must eventually be in compliance with the maximum occupant load of one person per twenty square feet.

With this in mind, the square footage of the space was measured and the maximum code allowable occupant load was calculated. The number of existing student stations in each space was inventoried and compared against the code allowable based on room size and the ability to provide required ADA accessibility and exiting widths with existing furniture.

Layouts of the existing spaces were developed to illustrate:

- 1) Actual Code Permitted Occupancy.
- 2) Required ADA door access, wheelchair turning radii and required ADA seating.
- 3) A layout of seating showing actual seating, teaching stations and other physical constraints in the rooms.

Based on 'practice' the scheduling office previously assignable the number of student stations per classroom on the 'average' OSSHE standard of 15 square feet each. In addition, instructors have typically additional seats to accommodate over registration of student. These practices have resulted in classroom over crowding throughout the campus.

This plan then represents the 'optimum' occupancy we can hope to achieve. *The result is the removal of 607 seats, (from 5,601 to 4,994) from existing classrooms. These over crowded student stations will need to be relocated to new building area or eliminated.*

# PSU Occupancy Summary for Fixed and Moveable Seating in Classrooms

16-Dec-99

Use Code		Departments Assigned to										Seat Type			
111-Classrooms	F - Fixed	ARCH-Dept. of Architecture	CHEM-Chemistry Dept.	ED-Sch of Education	GEOL-Geology Dept.	ME-Mechanical Engr	PSY-Psychology Dept.	UNST-University Studies							
214-Labs	M - Moveable	ART - Art Department	CMPS-Computer Sciences	ECE-Elect. & Computer Engineering	GPC-General Purpose Clrm	MTH-Math. Sciences	SBA-Business Administration	UPA-Urban & Public Affairs							
614-Auditorium		AUX-Auxiliary Services	CSE-Ctr for Science Educator	EMP-Engineering Management	HST-History Dept.	MUS-Music Dept.	SP-Speech Communication	USP-Urban Studies & Planning							
112-Seminar		BIO-Biology Department	EAS-Engr. & Applied Sciences	FPA-Fine & Performing Arts	IRS-Instn. & Research Serv.	PHY-Physics Dept.	SPHR-Speech & Hearing Sci.	XS-Extended Studies							
		CE-Civil Engineering Dept.	ED-Sch of Education	GEO-Geography Department	LING-Apppl Linguistics Dept.	PS-Europan Studies	TA-Theater Arts								
<b>PSU Occupancy Summary for Seating in Lecture Rooms</b>															
Use Code	Type of Seating														
111 CLASSROOM	F-	FIXED SEAT													
211 LABS	M-	MOVEABLE SEAT													
611 AUDITORIUM															
112 SEMINAR															
<b>EXISTING CLASSROOM OCCUPANCY</b>															
Building Name	Room Number	Usage Code	Assigned To	Area (SQ.FT)	Code Occupancy	TEACHER STATION	WHEELCHAIR ACCESSIBLE	SEATS	TYPE	TOTAL	NO. OF CLASSROOMS IN BUILDING	MAXIMUM CODE ALLOWED	STUDENTS CURRENTLY SCHEDULED	OCCUPANCY WITH CURRENT FURNITURE	EXISTING OVER OCCUPANCY
Cramer Hall	63	111	GPC	2,456	A-3	1	4	157	F	162	163	162	161	1	
	71	111	GPC	2,480	A-3	1	-	211	F	212	213	212	212	-	
	101	111	UNST	899	B	1	-	44	M	45	44	45	40	5	
	103	111	UNST	723	B	1	-	40	M	41	36	41	35	28	
	150	111	GPC	996	B	1	-	97	F	99	99	99	100	99	
	158	111	GPC	723	B	1	-	49	F	49	49	49	49	-	
	171	111	GPC	1,096	A-3	1	-	97	F	99	99	99	100	99	
	183	111	GPC	707	B	1	-	48	F	49	49	49	49	-	
	201	111	UNST	899	B	1	-	51	M	52	44	44	40	12	
	203	111	UNST	723	B	1	-	38	M	38	36	35	30	8	
	221	111	GPC	662	B	1	-	52	M	53	32	43	32	21	
	224	111	GPC	659	B	1	-	48	M	48	32	43	32	17	
	225	111	GPC	912	B	1	-	56	M	57	45	49	45	12	
	228	111	GPC	904	B	1	-	53	M	54	45	49	45	9	
	260	111	GPC	1,136	A-3	1	-	74	F	77	77	77	100	-	
	264	111	GPC	363	B	1	-	20	M	21	18	21	18	3	
	266	111	GPC	717	B	1	-	47	F	48	49	49	49	(1)	
	259	111	GPC	584	B	1	-	35	M	36	18	24	18	18	
	269	111	GPC	666	B	1	-	54	M	56	33	42	33	23	
	271	111	GPC	1,099	A-3	1	-	99	F	100	101	100	101	(1)	
	283	111	GPC	707	B	1	-	47	F	48	49	49	49	(1)	
	371	111	GPC	1,099	A-3	1	-	99	F	100	101	100	101	(1)	
	383	111	GPC	707	B	1	-	48	F	49	49	49	49	-	
	403	111	GPC	724	B	1	-	45	M	46	36	45	36	10	
	418	111	GEOG	985	B	1	-	50	M	51	49	45	38	13	
	449	111	GPC	922	B	1	-	56	M	57	46	49	46	11	
<b>BUILDING TOTALS:</b>				<b>24,537</b>		<b>26</b>	<b>10</b>	<b>1,712</b>		<b>1,748</b>	<b>26</b>	<b>1,623</b>	<b>1,679</b>	<b>1,576</b>	<b>172</b>
<b>School of Education</b>															
	202	111	ED	383	B	1	-	15	M	16	19	25	18	(2)	
	212	111	ED	848	B	1	-	29	M	30	43	35	34	(4)	
	220	111	ED	385	B	1	-	25	M	26	19	25	19	7	
	302	111	ED	531	B	1	-	28	M	29	27	25	27	2	
	308	111	ED	579	B	1	-	28	M	28	28	28	28	-	
	314	111	ED	483	B	1	-	29	M	30	24	25	24	6	
	402	111	ED	481	B	1	-	24	M	25	24	25	25	8	
	408	111	ED	1,022	A-3	1	-	61	M	62	68	65	68	(2)	
	414	111	ED	1,317	A-3	1	-	62	M	64	87	65	64	(2)	
	502	111	ED	376	B	1	-	15	M	16	19	20	19	(3)	
<b>BUILDING TOTALS:</b>				<b>6,404</b>		<b>10</b>	<b>-</b>	<b>314</b>		<b>324</b>	<b>10</b>	<b>368</b>	<b>325</b>	<b>300</b>	<b>24</b>

Building code	Room Number	Usage Code	Assigned To	Area (SQ FT)	Code Occupancy	EXISTING CLASSROOM OCCUPANCY										
						Teacher Station	Wheelchair Accessible	Seats	Type	Total	No. of Classrooms in Building	Maximum Code Allowed	Students Currently Scheduled	Optimum Occupancy with Current Furniture	Existing Over Occupancy	
Lincoln Hall	205	111	GPC	609	B	1	-	33	M	34		31	35	31	3	
	247	111	GPC	873	B	1	-	52	M	53		44	49	44	9	
	249	111	GPC	907	B	1	-	45	M	46		45	45	45	1	
	331	111	GPC	881	B	1	-	59	M	60		44	46	44	16	
	335	111	GPC	878	B	1	-	49	M	50		44	49	44	6	
	339	111	GPC	1,087	A-3	1	-	65	M	66		71	88	71	(5)	
	<b>BUILDING TOTALS:</b>						<b>6</b>	<b>-</b>	<b>303</b>		<b>309</b>	<b>6</b>	<b>279</b>	<b>312</b>	<b>279</b>	<b>30</b>
	Neuberger Hall	8	111	IRS	718	B	-	-	45	F	45		45	30	45	-
		11	111	GPC	1,038	A-3	1	-	62	M	63		69	69	69	(6)
		42	111	SP	693	B	1	-	47	M	48		35	45	35	13
47		111	SPHR	503	B	1	-	35	M	36		25	35	25	11	
59		111	SP	733	B	1	2	44	F	47		47	35	47	-	
77		111	SPHR	467	B	1	-	32	M	33		24	25	24	9	
307		111	GPC	627	B	1	-	32	M	33		31	46	31	2	
341		111	GPC	625	B	1	-	43	M	44		32	41	32	12	
343		111	GPC	628	B	1	-	37	M	38		41	41	32	6	
350		111	MTH	723	B	1	-	48	M	49		36	65	36	13	
352		111	GPC	355	B	1	-	28	M	29		18	21	18	11	
358		111	GPC	515	B	1	-	29	M	30		26	26	26	4	
362		111	GPC	482	B	1	-	29	M	30		23	26	23	7	
364		111	GPC	981	B	1	-	84	M	85		48	88	48	37	
366		111	GPC	482	B	1	-	37	M	38		23	25	23	16	
373		111	GPC	493	B	1	-	27	M	28		25	31	25	3	
381		111	GPC	483	B	1	-	29	M	30		24	25	24	9	
382		111	GPC	543	B	1	-	30	M	31		27	32	27	3	
385		111	GPC	341	B	1	-	18	M	19		17	18	17	2	
386		111	GPC	581	B	1	-	42	M	43		28	39	28	15	
387	111	GPC	488	B	1	-	35	M	36		22	32	22	14		
388	111	GPC	549	B	1	-	40	M	41		28	40	28	13		
391	111	GPC	538	B	1	-	38	M	39		27	38	27	12		
396	111	GPC	566	B	1	-	44	M	45		28	41	28	17		
454	111	GPS-TV	409	B	1	-	30	M	31		21	25	21	10		
468	111	GPC	1,042	A-3	1	-	53	M	54		69	69	69	1		
468	111	GPC	545	B	1	-	33	M	34		27	36	27	7		
462	111	GPC	1,231	A-3	1	-	95	F	96		96	97	97	(1)		
472	111	GPC	489	B	1	-	33	M	34		25	30	25	9		
<b>BUILDING TOTALS:</b>						<b>28</b>	<b>2</b>	<b>1,181</b>		<b>1,211</b>	<b>29</b>	<b>978</b>	<b>1,181</b>	<b>963</b>	<b>248</b>	

EXISTING CLASSROOM OCCUPANCY																
Building Name	Room Number	Usage Code	Assigned To	Area (SQ.FT.)	Code Occupancy	Teacher Station	Wheelchair Accessible	Seats	Type	Total	No. of Classrooms in Building	Maximum Code Allowed	Currently Scheduled	Optimum Occupancy with Current Furniture	Existing Over Occupancy	
																1
Science One	107	111	GPC	1,699	A-3	1	4	139	F	144		144	136	144	29	
	304	111	CHEM	724	B	2	4	54	M	55	2	180	180	170	29	
<b>BUILDING TOTALS:</b>											<b>2</b>	<b>180</b>	<b>180</b>	<b>170</b>	<b>29</b>	
Science Two	101	111	GPC	1,173	A-3	1	-	46	M	47		78	43	49	(2)	
	104	111	GPC	485	B	1	-	33	M	34		24	32	10		
	108	111	EAS	485	B	1	-	36	M	37		24	32	24	13	
	155	111	ME / CE	1,091	A-3	1	-	48	M	49		72	57	49	-	
	162	111	BIO	485	B	1	-	41	M	42		24	32	24	18	
	166	111	GPC	485	B	1	-	33	M	34		24	32	24	18	
	238E	111	GPC	381	B	1	-	22	M	23		18	23	18	5	
	247	111	GPC	1,167	A-3	1	-	61	M	62		77	60	77	(15)	
	<b>BUILDING TOTALS:</b>											<b>8</b>	<b>320</b>	<b>311</b>	<b>288</b>	<b>38</b>
	Shattuck	212	111	GPC	3,621	A-3	1	4	215	M	220		241	220	220	-
225		111	GPC	744	B	1	-	44	M	45		37	49	37	8	
242		111	GPC	734	B	1	-	44	M	45		37	49	37	8	
249		111	GPC	745	B	1	-	46	M	47		37	49	37	10	
335		111	LING	745	B	1	-	48	M	49		37	49	37	12	
<b>BUILDING TOTALS:</b>											<b>5</b>	<b>397</b>	<b>416</b>	<b>388</b>	<b>38</b>	
Sixth Avenue		204	111	GPC	597	B	1	-	29	M	30		30	30	30	-
	206	111	GPC	615	B	1	-	30	M	31		31	30	31	-	
	208	111	GPC	1,907	A-3	1	-	128	M	127		127	95	127	-	
	210	111	GPC	1,162	A-3	1	-	66	M	67		77	49	67	-	
	212	111	GPC	532	B	1	-	25	M	26		26	26	26	-	
	<b>BUILDING TOTALS:</b>											<b>5</b>	<b>276</b>	<b>281</b>	<b>281</b>	<b>-</b>
	Peter Stott Center	218	111	GPC	577	B	1	-	43	M	44		28	40	28	16
219		111	GPC	584	B	1	-	38	M	39		29	40	29	10	
<b>BUILDING TOTALS:</b>											<b>2</b>	<b>81</b>	<b>83</b>	<b>80</b>	<b>26</b>	
PCAT	28	111	ECE / CMPS	1,364	A-3	1	-	79	M	80		90	85	67	13	
	136	111	CMPS	1,564	A-3	1	-	50	M	51		104	49	58	(7)	
	<b>BUILDING TOTALS:</b>											<b>2</b>	<b>129</b>	<b>131</b>	<b>134</b>	<b>6</b>
Fourth Avenue Building	60-06	111	EMP	640	B	1	-	24	M	25		32	21	29	(4)	
	60-08	111	ECE	588	B	1	-	29	M	30		29	21	29	1	
	<b>BUILDING TOTALS:</b>											<b>2</b>	<b>53</b>	<b>42</b>	<b>58</b>	<b>(3)</b>

EXISTING CLASSROOM OCCUPANCY												OPTIMUM OCCUPANCY WITH CURRENT FURNITURE			EXISTING OVER OCCUPANCY								
Building Name	Room number	Usage Code	Assigned To	Area (SQ FT)	Code Occupancy	Teacher Station	Wheelchair Accessible	Seats	Type	Total	No. of Classrooms in Building	Code Allowed	Currently Scheduled	Optimum Occupancy with Current Furniture	Existing Over Occupancy								
Business Administration	130	111	SBA	780	B	1	3	43	F	47	47	47	45	47	47	-							
	140	111	SBA	920	B	1	3	47	F	51	51	51	52	51	50	1							
	160	111	SBA	920	B	1	3	47	F	51	51	51	52	51	50	1							
	170	111	SBA	780	B	1	3	43	F	47	47	47	45	47	47	-							
	190	111	GPC	1,736	A-3	1	4	152	F	157	157	153	155	157	157	-							
	290	111	SBA	922	B	1	-	38	M	46	38	39	45	45	38	1							
	390	111	SBA	760	B	1	-	30	M	31	30	31	35	32	(1)								
	490	111	SBA	1,006	A-3	1	-	61	F	62	61	62	66	66	(4)								
	<b>BUILDING TOTALS:</b>										<b>7,824</b>	<b>8</b>	<b>16</b>	<b>461</b>	<b>485</b>	<b>489</b>	<b>495</b>	<b>487</b>	<b>(2)</b>				
	Online	54	111	ECE	911	B	1	2	38	M	41	41	45	40	41	41	-						
<b>BUILDING TOTALS:</b>										<b>911</b>	<b>1</b>	<b>2</b>	<b>38</b>	<b>41</b>	<b>45</b>	<b>40</b>	<b>41</b>	<b>-</b>					
<b>CAMPUS CLASSROOM SEATING TOTAL:</b>												<b>87,570</b>	<b>Sq. Ft.</b>	<b>105</b>	<b>38</b>	<b>5,458</b>	<b>-</b>	<b>5,601</b>	<b>106</b>	<b>5,295</b>	<b>5,395</b>	<b>4,994</b>	<b>607</b>
FUTURE CLASSROOM OCCUPANCY												OPTIMUM OCCUPANCY WITH CURRENT FURNITURE			EXISTING OVER OCCUPANCY								
Building Name	Room number	Usage Code	Assigned To	Area (SQ FT)	Code Occupancy	Teacher Station	Wheelchair Accessible	Seats	Type	Total	No. of Classrooms in Building	Maximum Code Allowed	Currently Scheduled	Optimum Occupancy with Current Furniture	Existing Over Occupancy								
Urban center	204	111	XS-Dist/TV	872	B	1	2	33	M	36	36	44	36	36	-								
	205	111	XS-Dist/TV	435	B	1	1	16	M	18	18	22	18	18	-								
	250	111	UPA	1,509	A-3	1	4	67	M	72	72	75	72	72	-								
	303	111	XS-Dist/TV	657	B	1	2	21	M	24	24	33	24	24	-								
	304	111	XS-Dist/TV	654	B	1	2	21	M	24	24	33	24	24	-								
	305	111	XS-Dist/TV	435	B	1	1	16	M	18	18	22	18	18	-								
<b>BUILDING TOTALS:</b>										<b>4,562</b>	<b>6</b>	<b>12</b>	<b>174</b>	<b>192</b>	<b>229</b>	<b>192</b>	<b>182</b>	<b>-</b>					
SH	301	111	USP	799	B	1	2	34	M	37	37	40	37	37	-								
<b>BUILDING TOTALS:</b>										<b>799</b>	<b>1</b>	<b>2</b>	<b>34</b>	<b>37</b>	<b>40</b>	<b>37</b>	<b>37</b>	<b>-</b>					
<b>FUTURE CLASSROOM SEATING TOTAL:</b>												<b>9,024</b>	<b>Sq. Ft.</b>	<b>7</b>	<b>14</b>	<b>208</b>	<b>-</b>	<b>229</b>	<b>7</b>	<b>269</b>	<b>229</b>	<b>-</b>	
<b>CAMPUS GRAND TOTAL CLASSROOM SEATING:</b>												<b>96,594</b>	<b>Sq. Ft.</b>	<b>112</b>	<b>52</b>	<b>5,666</b>	<b>-</b>	<b>5,830</b>	<b>113</b>	<b>5,564</b>	<b>5,624</b>	<b>607</b>	



# PSU Occupancy Summary for Seating in Seminar Rooms

Use Code	Room number	Type of Seating		Usage Code	Assigned To	Area (SQ FT)	Code Occupancy	EXISTING SEMINAR ROOMS OCCUPANCY		OPTIMUM OCCUPANCY WITH CURRENT FURNITURE			EXISTING OVER OCCUPANCY						
		Room number	Room number					TEACHER STATION	WHEELCHAIR ACCESSIBLE	SEATS	TYPE	TOTAL		NO. OF SEMINAR ROOMS IN BUILDING	Maximum CODE ALLOWED	CURRENTLY SCHEDULED			
111 CLASSROOM																			
211 LABS		F-	FIXED SEAT																
611 AUDITORIUM		M-	MOVEABLE SEAT																
112 SEMINAR																			
<b>Building Name</b>	<b>Room number</b>	<b>Usage Code</b>	<b>Assigned To</b>	<b>Area (SQ FT)</b>	<b>Code Occupancy</b>	<b>TEACHER STATION</b>	<b>WHEELCHAIR ACCESSIBLE</b>	<b>SEATS</b>	<b>TYPE</b>	<b>TOTAL</b>	<b>NO. OF SEMINAR ROOMS IN BUILDING</b>	<b>Maximum CODE ALLOWED</b>	<b>CURRENTLY SCHEDULED</b>	<b>OPTIMUM OCCUPANCY WITH CURRENT FURNITURE</b>	<b>EXISTING OVER OCCUPANCY</b>				
Cramer	159	112	PS	611	B	-	2	42	F/M	44	44	30	30	30	30	30	14		
	187	112	PS	446	B	-	1	23	F/M	24	24	22	22	22	24	24	-		
	359	112	GPC	455	B	-	1	30	M	31	31	22	22	20	16	16	15		
	369	112	PSY	454	B	-	1	28	M	29	29	22	22	20	18	18	11		
	494	112	HST	487	B	-	1	32	M	33	33	24	24	26	21	21	12		
				<b>2,453</b>			<b>6</b>	<b>155</b>		<b>161</b>	<b>5</b>	<b>120</b>	<b>136</b>	<b>109</b>	<b>52</b>				
ED	510	112	ED	382	B	-	1	20	M	21	21	19	19	20	12	12	9		
				<b>382</b>			<b>1</b>	<b>20</b>		<b>21</b>	<b>1</b>	<b>19</b>	<b>20</b>	<b>12</b>	<b>12</b>	<b>9</b>			
Neuberger Hall	346	112	MTH	354	B	-	1	13	M	14	14	17	17	17	12	12	2		
	389	112	GPC	315	B	-	1	20	M	21	21	16	16	20	14	14	7		
				<b>669</b>			<b>2</b>	<b>33</b>		<b>35</b>	<b>2</b>	<b>33</b>	<b>37</b>	<b>28</b>	<b>9</b>				
Urban And Public Affairs	109	112	UPA	628	B	-	2	38	M	40	40	31	31	24	31	31	9		
				<b>628</b>			<b>2</b>	<b>38</b>		<b>40</b>	<b>1</b>	<b>31</b>	<b>24</b>	<b>31</b>	<b>9</b>				
<b>SEMINAR SEATING TOTALS:</b>											<b>4,131 Sq. Ft.</b>	<b>11</b>	<b>246</b>	<b>257</b>	<b>9</b>	<b>203</b>	<b>217</b>	<b>178</b>	<b>79</b>

PSU Occupancy Summary for Seating in Class Labs																
Use Code	Room number	Building Name	Usage Code	Assigned To	Area (Sq Ft)	Code Occupancy	Teacher Station	EXISTING CLASS LAB OCCUPANCY			NO. OF CLASS LABS IN BUILDING	Maximum CODE ALLOWED	CURRENTLY SCHEDULED STUDENTS	OPTIMUM OCCUPANCY WITH CURRENT FURNITURE	EXISTING OVER OCCUPANCY	
								Wheelchair Accessible	Seats	Type						Total
111 CLASSROOM	340	Business Administration	F. FIXED SEAT	SBA	1,031	B	1	1	27	M	29	1	49	20	30	(1)
211 LABS			M. MOVEABLE SEAT		1,031		1	1	27		29	1	49	20	30	(1)
611 AUDITORIUM																
112 SEMINAR																
<b>BUILDING TOTALS:</b>																
					10,454		12	17	450		479	12	488	351	399	86
Cramer Hall	S17			GEOL	1,011	B	1	-	46	M	47		49	36	36	11
	S19			GEOL	927	B	1	1	30	M	32		46	36	36	(4)
	69			GEOL	688	B	1	1	31	M	33		34	24	30	3
	145			UNST	458	B	1	1	17	M	19		22	19	19	-
	147			UNST	445	B	1	1	15	M	17		22	15	18	(1)
	149			UNST	465	B	1	1	16	M	18		23	15	19	(1)
	247			UNST	445	B	1	1	16	M	18		22	15	22	(4)
	249			UNST	465	B	1	1	16	M	18		22	15	23	(5)
	287			CSE	941	B	1	2	46	M	49		47	40	42	7
	387			CSE	765	B	1	2	48	M	51		38	30	38	13
	413			GEOG	1,534	B	1	2	46	M	49		49	30	36	13
	453			MUS	2,309	B	1	4	123	M	128		115	80	80	48
<b>BUILDING TOTALS:</b>																
					10,454		12	17	450		479	12	488	351	399	86
Fourth Avenue Building	60-10			ECE	1,551		1	2	37	M	40	1	77	32	36	4
<b>BUILDING TOTALS:</b>																
					1,551		1	2	37		40	1	77	32	36	4
Lincoln Hall	37			MUS	1,851	B	1	4	60	M	65		123	65	110	(45)
	119			TA	924	B	1	1	27	M	29		46	25	46	(17)
	121			TA	827	B	1	1	59	M	61		41	25	46	15
	135			MUS	915	B	1	2	92	M	95		45	49	56	39
	211			MUS	582	B	1	-	33	M	34		29	30	29	6
	219			MUS	903	B	1	2	47	M	50		45	40	45	6
	221			MUS	634	B	1	2	35	M	38		32	35	30	6
	225			MUS	1,254	B	1	2	41	F	44		62	30	30	14
Fixed electric piano stations	301			MUS	1,095	B	1	2	35	M	38		49	49	49	(11)
make-up lab w/ fixed tables	315			MUS	768	B	1	-	28	M	29		38	20	20	9
<b>BUILDING TOTALS:</b>																
					9,753		10	16	457		483	10	510	368	461	22
Neuberger Hall	209			ART	1,115	B	1	1	29	M	31		49	26	26	5
	222			ART	889	B	1	1	10	M	12		49	14	49	(2)
	227			ART	1,119	B	1	1	42	M	44		49	25	25	19
	241			ART	844	B	1	1	33	M	35		49	30	30	5
	251			ART	900	B	1	2	25	M	28		45	30	30	(2)
	255			ART	1,188	B	1	2	39	M	42		49	30	20	22
	260			ART	1,064	B	1	1	26	M	28		49	13	13	16
Ceramics lab	275			ART	1,291	B	1	1	22	M	24		49	25	25	(1)
	285			ART	1,291	B	1	1	33	M	35		49	30	30	5
	297			ART	1,454	B	1	1	25	M	27		49	30	30	(9)
	375			ART	1,297	B	1	2	35	M	38		49	32	32	6
<b>BUILDING TOTALS:</b>																
					12,482		11	14	319		344	11	566	285	275	69

Building Name	Room number	USAGE CODE		Assigned To	Area (SQ FT)	Code Occupancy	EXISTING CLASS LAB OCCUPANCY				OPTIMUM OCCUPANCY WITH CURRENT FURNITURE				
		TEACHER STATION	WHEELCHAIR ACCESSIBLE				SEATS	TYPE	TOTAL	NO. OF CLASS LABS IN BUILDING	Maximum CODE ALLOWED	CURRENTLY SCHEDULED STUDENTS	EXISTING OVER OCCUPANCY		
Science Building 1	205	211	BIO		885	B	1	-	22	M	23	44	16	7	
	fixed work stations	211	CHEM / CSE		885	B	1	-	26	M	27	44	16	11	
	403	211	BIO		1,168	B	1	-	24	M	25	77	24	1	
	fixed work stations	211	BIO		1,162	B	1	-	28	M	29	76	24	5	
	409	211	BIO		1,077	B	1	-	23	M	24	67	25	5	
	fixed work stations	211	BIO		1,166	B	1	-	23	M	24	77	20	5	
	426	211	BIO		6,272	B	6	-	147	M	153	385	125	33	
<b>BUILDING TOTALS:</b>															
Science Building 2	U30	211	CE		843	B	1	1	17	M	19	42	20	18	
	L32	211	CE		1,743	B	1	1	39	M	41	49	30	40	
	113	211	PHY		1,089	B	1	2	72	M	74	72	22	30	
	161	211	PHY		1,089	B	1	2	27	M	30	72	22	30	
	*fixed work stations	211	CHEM		1,173	B	1	-	24	M	25	78	24	25	
	*fixed work stations	207	CHEM		1,171	B	1	-	24	M	25	77	24	25	
	223	211	BIO		1,259	B	1	1	24	M	26	83	24	24	
	237	211	BIO		1,171	B	1	1	26	M	28	78	24	24	
	261	211	CHEM		1,171	B	1	-	24	M	25	78	24	25	
	269	211	CHEM		1,173	B	1	-	24	M	25	78	24	25	
	*fixed work stations	301	CHEM		1,260	B	1	-	18	M	19	84	18	25	
	*fixed work stations	313	CHEM		1,255	B	1	-	18	M	19	83	18	25	
	*fixed work stations	355	CHEM		1,248	B	1	-	24	M	25	83	24	25	
	*fixed work stations	361	CHEM		1,269	B	1	1	24	M	26	84	24	25	
	*fixed work stations	369	211	CHEM		1,091	B	1	-	18	M	19	72	18	25
	<b>BUILDING TOTALS:</b>														
	17,993 15 9 363 387 15 1,113 340 391 (4)														
Shaftuck Hall	307	211	ARCH		800	B	1	1	13	M	15	39	16	12	
	310	211	ARCH		1,043	B	1	-	16	M	17	49	15	16	
	311	211	ARCH		810	B	1	1	11	M	13	40	12	12	
	329	211	ARCH		810	B	1	1	5	M	7	40	18	12	
	339	211	ARCH		744	B	1	1	14	M	16	37	16	12	
	342	211	ARCH		793	B	1	1	14	M	16	39	16	12	
	344	211	ARCH		1,050	B	1	-	16	M	17	49	16	16	
349	211	ARCH		810	B	1	1	14	M	16	40	15	12		
<b>BUILDING TOTALS:</b>															
6,860 8 6 103 117 8 333 127 104 13															
<b>CLASS LAB SEATING TOTALS:</b>															
66,395 Sq. Ft. 64 65 1,903 2,032 64 3,514 1,648 1,816 216															

## PSU Occupancy Summary for Seating in Auditoriums and Meeting Rooms

Use Code	Room Number	Type of Seating			Assigned To	Area (SQ. FT)	Code	Occupancy	TEACHER STATION	WHEELCHAIR ACCESSIBLE	SEATS	TYPE	TOTAL	NO. OF AUDITORIUM ROOMS IN BUILDING	Maximum CODE ALLOWED	CURRENTLY SCHEDULED	OPTIMUM OCCUPANCY WITH CURRENT FURNITURE	EXISTING OVER OCCUPANCY			
		CLASSROOM	F-	MOVABLE SEAT																	
111 CLASSROOM	109	F-	3,708	A-3	3,708	1	1	4	4	276	M	281	1	324	320	281	-				
211 LABS	75	M-	3,972	A-3	3,972	-	-	4	4	252	F	256	1	264	272	256	-				
611 AUDITORIUM	1169		1,230	A-3	1,230	-	-	-	-	63	F	63	1	63	65	63	-				
112 SEMINAR	175		3,383	A-3	3,383	-	-	6	6	473	F	479	1	479	476	479	-				
<b>EXISTING AUDITORIUM OCCUPANCY</b>													3	806	813	798	-				
<b>BUILDING TOTALS:</b>													10	788	798	798	813	-			
OND	fall 1999		1,917	A-3	1,917	1	4	4	4	100	F	105	1	207	100	100	5				
	92		1,746	A-3	1,746	1	4	4	4	100	F	105	1	190	100	100	5				
<b>BUILDING TOTALS:</b>													2	397	200	210	200	10			
Smith Memorial Center	365		6,529	A-3	6,529	-	-	-	-	750		750	1	750	386	386	364				
<b>BUILDING TOTALS:</b>													7	750	386	750	386	364			
<b>AUDITORIUM SEATING TOTALS:</b>													7	2,277	1,719	2,039	1,665	374			
<b>EXISTING OCCUPANCY</b>																					
Room Number	USAGE CODE							Assigned To	Area (SQ. FT)	Code	Occupancy	TEACHER STATION	WHEELCHAIR ACCESSIBLE	SEATS	TYPE	TOTAL	NO. OF CLASSROOMS IN BUILDING	MAXIMUM CODE ALLOWED	STUDENTS CURRENTLY SCHEDULED	OPTIMUM OCCUPANCY WITH CURRENT FURNITURE	EXISTING OVER OCCUPANCY
EXISTING CLASSROOM SEATING TOTAL:											105	38	5,458		5,601	106	5,295	5,395	4,994	607	
SEMINAR SEATING TOTAL:												11	246		257	9	203	217	178	79	
CLASS LAB SEATING TOTAL:	211										64	65	1,903		2,032	64	3,514	1,648	1,816	216	
AUDITORIUM SEATING TOTAL:	611										3	22	2,014		2,039	7	2,277	1,719	1,665	374	
<b>EXISTING CAMPUS SEATING TOTAL:</b>													172	136	9,621	9,929	186	11,289	8,979	8,653	1,276

# CURRENTLY SCHEDULED OCCUPANCY/TEACHING SPACES ANALYSIS & SUMMARY

2-Nov-99

I:\classm\_seating\seating2.xls(sheet 2)

CLASSROOMS		Room capacity (seats)	Number of Rooms	Total Seats
0-20			2	38
21-30			23	564
31-40			23	821
41-50			35	1,628
51-60			8	486
61-70			10	953
71-80			5	885
81-90			5	885
91-100			106	5,395
<b>TOTAL</b>				

CLASS LABS		Room capacity (seats)	Number of Rooms	Total Seats
0-20			24	395
21-30			29	759
31-40			7	251
41-50			2	98
51-60			2	145
61-70			0	0
71-80			0	0
81-90			0	0
91-100			64	1,648
<b>TOTAL</b>				

SEMINAR ROOMS		Room capacity (seats)	Number of Rooms	Total Seats
0-20			4	77
21-30			5	140
31-50			0	0
<b>TOTAL</b>			9	217

LARGE SPACES AUDITORIUM/MEETING		Room	Capacity (seats)	Uses	Schedule
Hoffmann Hall 101			320	Classroom/Auxiliary	
Lincoln Hall 75			272	Performance	
Lincoln Hall 115			65	Performance	
Lincoln Hall 175			476	Performance	
Smith Mem. Ctr. 355			386	Auxiliary	
Ordline 90			100	Classroom/Auxiliary	Fall 1999
Ordline 92			100	Classroom/Auxiliary	Fall 1999
<b>TOTAL</b>			<b>1,719</b>		

NEW SPACES		Room	Capacity (seats)	Uses	Schedule
Shattuck Hall 301			37	Classroom	Spring 2000
Urban Center 204			36	Distance Learning Class	Winter 2000*
Urban Center 205			18	Distance Learning Class	Winter 2000*
Urban Center 220			24	Class Lab	Winter 2000*
Urban Center 225			11	Class Lab	Winter 2000*
Urban Center 230			26	Class Lab	Winter 2000*
Urban Center 240			17	Class Lab	Winter 2000*
Urban Center 250			72	Classroom	Winter 2000
Urban Center 260			12	Class Lab	Winter 2000*
Urban Center 270			36	Class Lab	Winter 2000*
Urban Center 303			24	Distance Learning Class	Winter 2000*
Urban Center 304			24	Distance Learning Class	Winter 2000*
Urban Center 305			18	Distance Learning Class	Winter 2000*
Urban Center 311			16	Seminar	Winter 2000*
Urban Center 411			16	Seminar	Winter 2000*
Urban Center 511			16	Seminar	Winter 2000*
Urban Center 611			16	Seminar	Winter 2000*
<b>TOTAL</b>			<b>419</b>		

SUMMARY OF EXISTING TEACHING SPACES *		CLASS ROOMS		SEMINAR ROOMS		CLASS LABS		TOTALS	
ASSIGNED TO	#ROOM	SEATS	#ROOM	SEATS	#ROOM	SEATS	#ROOM	SEATS	#ROOM
GENERAL PURPOSE	69	3,930	2	40	0	0	0	71	3,970
BUSINESS ADMINISTRATION	7	340	0	0	1	20	0	8	360
EDUCATION	10	325	1	20	0	0	0	11	345
ENGINEERING & APPLIES SCIENCE	7	305	0	0	3	82	0	10	387
FINE & PERFORMING ARTS	0	0	0	0	30	860	30	30	860
LIBERAL ARTS & SCIENCE	11	416	5	133	30	686	46	46	1,235
SOCIAL WORK	0	0	0	0	0	0	0	0	0
URBAN AND PUBLIC AFFAIRS	0	0	1	24	0	0	0	1	24
DISTANCE LEARNING	1	49	0	0	0	0	0	1	49
IR/SO THER (Incls. Hoffman 101)	2	350	0	0	0	0	0	2	350
<b>SUMMARY TOTALS</b>	<b>107</b>	<b>5,715</b>	<b>9</b>	<b>217</b>	<b>64</b>	<b>1,648</b>	<b>180</b>	<b>7,680</b>	

\* - Does not include New spaces or Auditorium/Meeting spaces, except Hoffman Hall 101

<b>TOTAL - SPRING 1999</b>	<b>107</b>	<b>5,715</b>	<b>9</b>	<b>217</b>	<b>64</b>	<b>1,648</b>	<b>180</b>	<b>7,680</b>
<b>TOTAL - FALL 1999 +</b>	<b>109</b>	<b>5,915</b>	<b>9</b>	<b>217</b>	<b>64</b>	<b>1,648</b>	<b>182</b>	<b>7,780</b>
<b>TOTAL - WINTER OF 2000 @</b>	<b>115</b>	<b>6,107</b>	<b>13</b>	<b>281</b>	<b>70</b>	<b>1,774</b>	<b>198</b>	<b>8,162</b>
<b>TOTAL - SPRING OF 2000 #</b>	<b>116</b>	<b>6,144</b>	<b>13</b>	<b>281</b>	<b>70</b>	<b>1,774</b>	<b>199</b>	<b>8,199</b>

+ - Includes Ordline 90 and 92

@ Urban Center to open January 2000 with only room 250 available for classroom use; includes Fall 1999 totals and UPA.

# Includes Winter 2000 totals and Shattuck Hall 301

\* These rooms will open during the Winter term, not at the start of term. Only Rm. 250 will be available for classroom use.

# PSU Classroom Best Fit Analysis

11/2/1999

Best Fit Class Matrix - Fall 1998							
Classroom Sizes	150+	100-149	75-99	50-74	30-49	29-under	Total
Correct Fit Classes	3	5	1	1	114	81	205
Incorrect Fit Class Adjustments (Classroom Grouped by Station Sizes)							
150 and over	7						7
100 to 149	3	10					13
75 to 99	6	11	12		4		33
50 to 74	3	4	6		22	1	36
30 to 49	1	5	3		174		196
29 and under							
Total	20	30	21	35	178	1	285
<b>Total</b>	<b>23</b>	<b>35</b>	<b>22</b>	<b>36</b>	<b>292</b>	<b>82</b>	<b>490</b>

Optimum Enrollment & Capacity		
Classroom Grouped by Station Sizes	Available Rooms	Available Stations
150 and over	5	1069
100 to 149	6	636
75 to 99	5	453
50 to 74	9	536
30 to 49	65	2639
29 and under	26	599
<b>Total</b>	<b>116</b>	<b>5932</b>



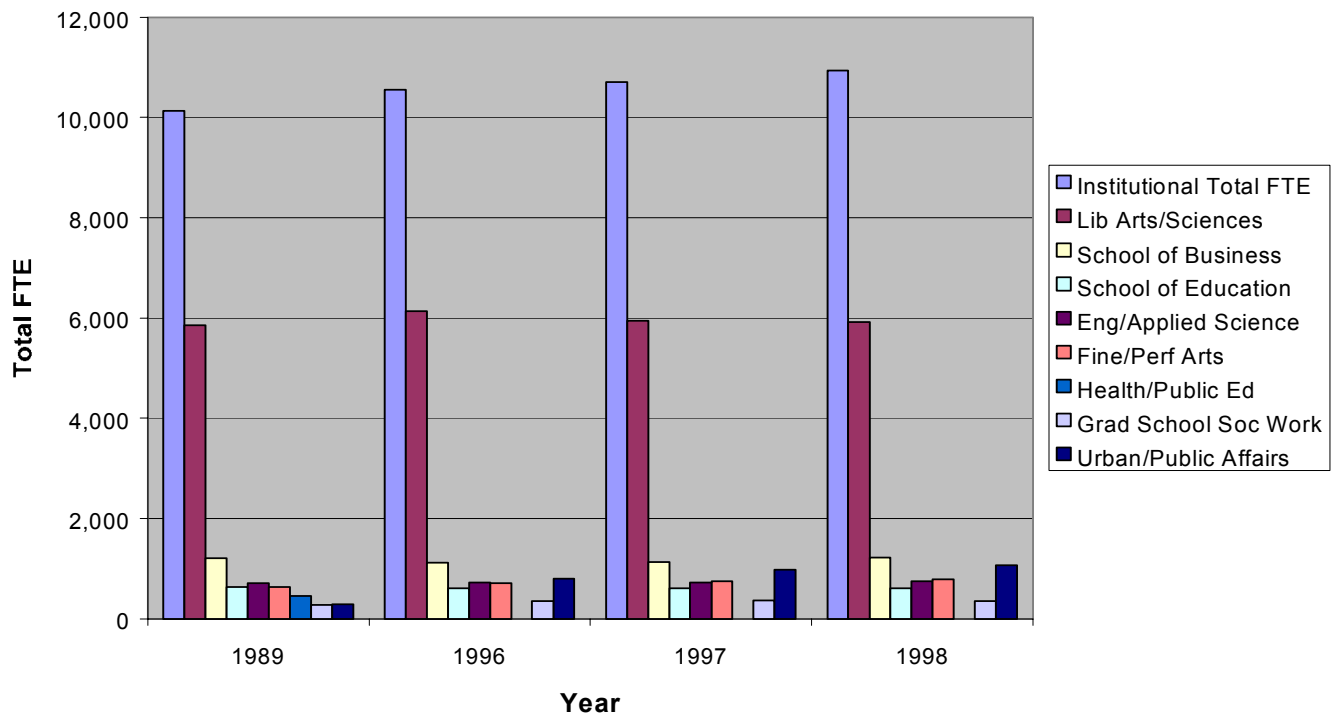
**PORTLAND STATE UNIVERSITY  
CLASSROOM AND LABORATORY SPACE UTILIZATION  
FALL TERM 1998**

The Classroom and Laboratory Space Utilization studies for Portland State University are based on data that reflects the actual use of facilities during a typical week of the fall term, October 19-23, 1998.

**ENROLLMENT**

Portland State University has realized both increases and decreases in headcount and full-time equivalent (FTE) enrollment over the period 1989-1998. The net result is a gain in headcount of 472, or 3.2%. Total fall term FTE increased over the period from 10,130 to 10,938, an 8% gain. Lower division FTE has decreased by 438 FTE, a 12.9% loss. Upper division enrollment, including graduates, has increased by 1,246 FTE, a gain of 18.5%. It should be noted that the method for calculating FTE has changed since the last utilization study, 1989.

**PSU ENROLLMENT TRENDS**





The university has increased enrollment in the School of Fine and Performing Arts, Graduate School of Social Work, and the School of Engineering and Applied Science but especially in the College of Urban and Public Affairs.

A new approach to lower division curriculum was adopted at PSU, University Studies. To accommodate these and many other changes, Portland State University has converted several former classrooms to class labs and offices.

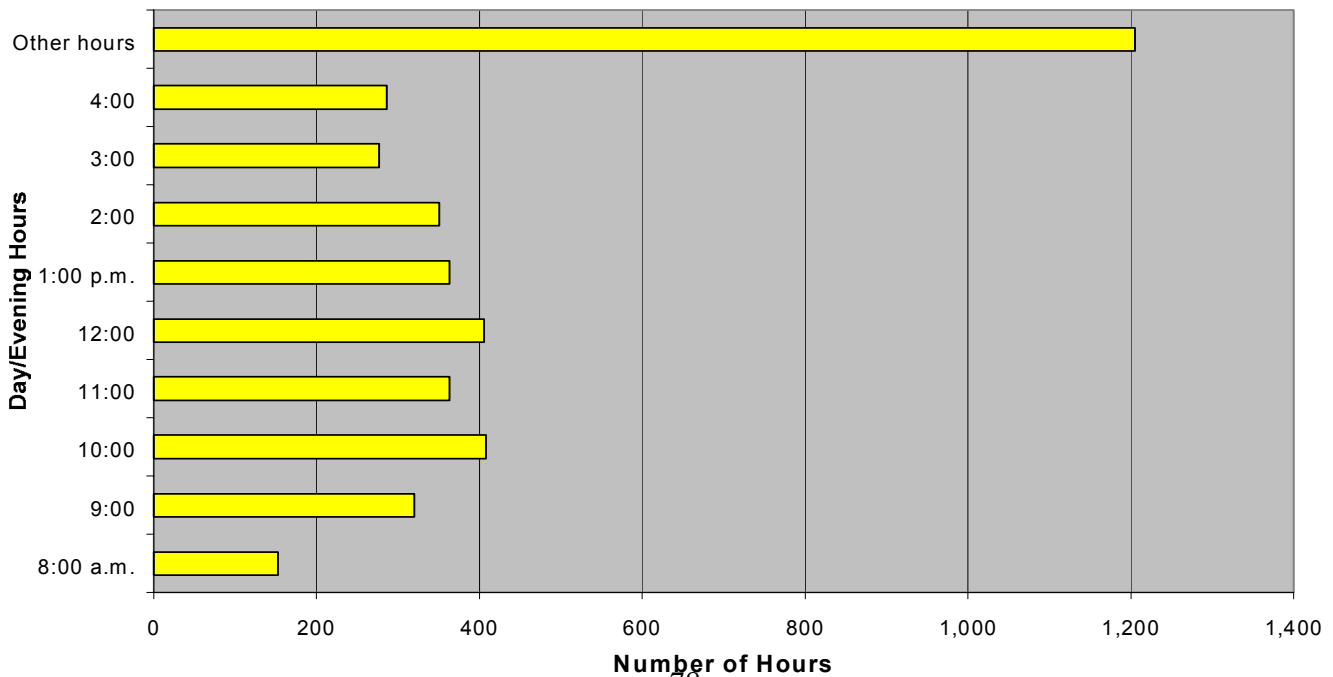
**CLASSROOMS**

The data representing the utilization of teaching facilities are based on an analysis of 116 rooms containing 5,932 student stations that were available for scheduling during fall, 1998. The total hours of scheduled occupancy of classrooms per week increased by 300 hours, or 7.8%. This is 108% of the Board’s minimum objective of an average of 33 hours per week.

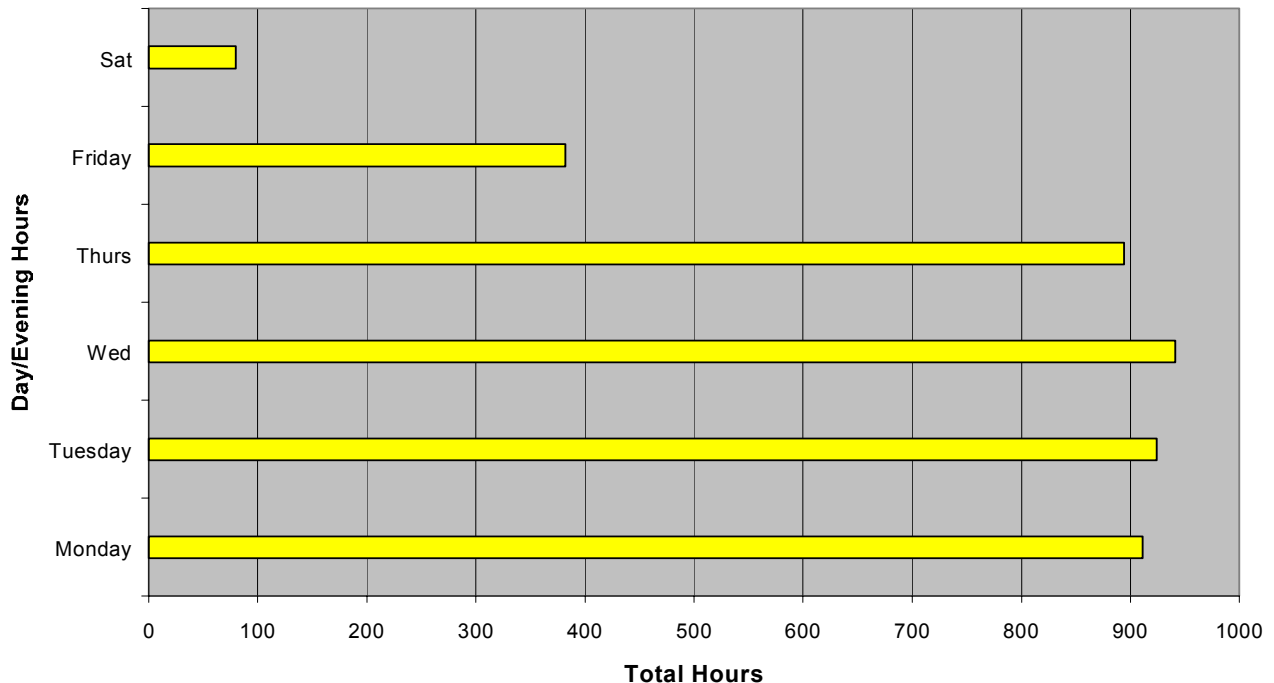
The scheduled occupancy of classroom student stations increased 6,698 hours or 5.2%. The scheduled occupancy of classroom student stations exceeds the Boards minimum standards by 2.6%.

Admission and Records schedules 60% of the classrooms on campus. Individual departments schedule 40% of the classrooms. The utilization study includes all of the classrooms and seminar rooms.

**PORTLAND STATE UNIVERSITY  
NUMBER OF CLASSROOMS SCHEDULED EACH HOUR  
DURING TYPICAL WEEK OF FALL TERM, 1998**



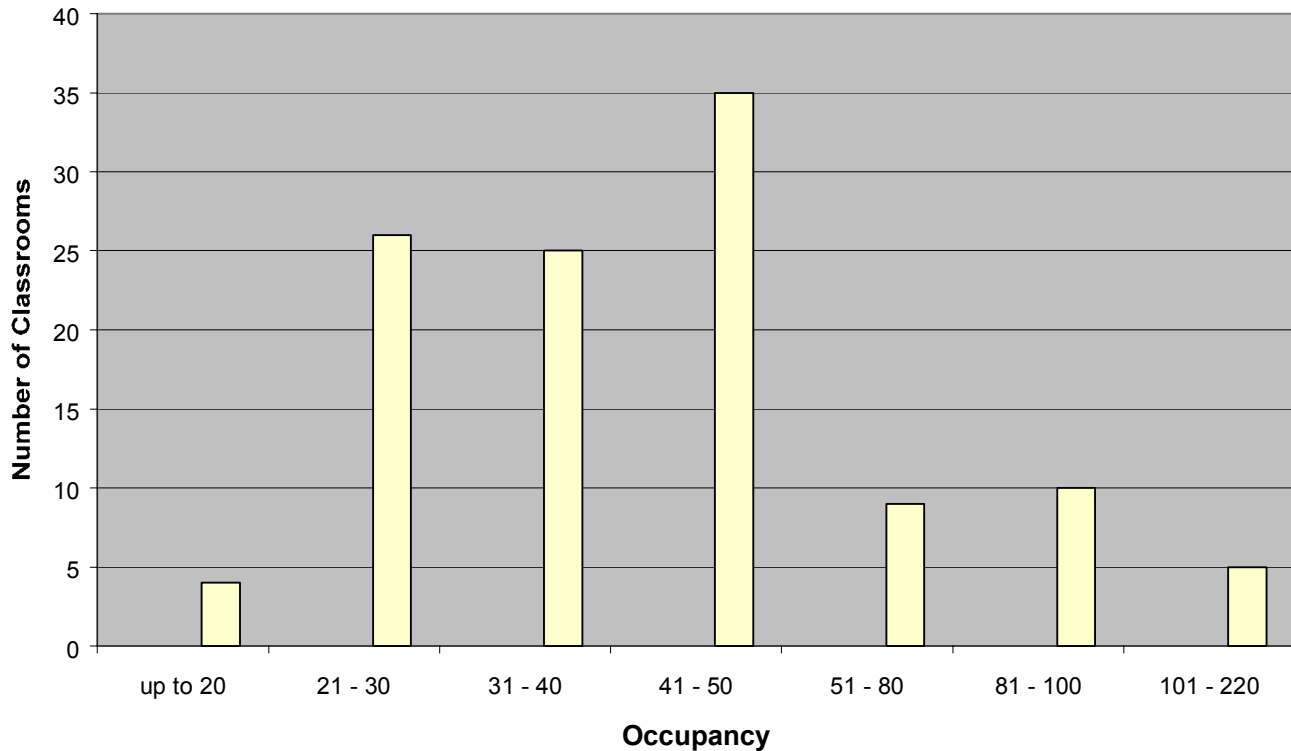
**PORTLAND STATE UNIVERSITY  
NUMBER OF CLASSROOMS SCHEDULED EACH DAY  
DURING A TYPICAL WEEK OF FALL TERM, 1998**



Approximately half of our classrooms, both departmental and general purpose, have a capacity of 40 or under. Of the remainder only six have a capacity of over 100. Of these six, BA 190 and CH 71 need to be refurbished as the seating is inadequate the technology is either non-existent or far behind the university's high tech goal.

Of the ten classrooms in the 81-100 capacity, none of them have been refurbished or updated since they were built at least 25 years ago. The finishes and seating are in poor condition, the technology non-existent. NH 364 and LH 339 have capacities highly overstated because of our need for large classrooms. They are scheduled for 88 students but should, by the fire marshal's standard, not have more than 48 and 70, respectively. SAB 208 is furnished for 95 but it is a second floor classroom in a building with no elevator. Maintenance and furniture is a need many of Portland State University's classrooms share.

## Portland State University Classrooms by Size, 1998

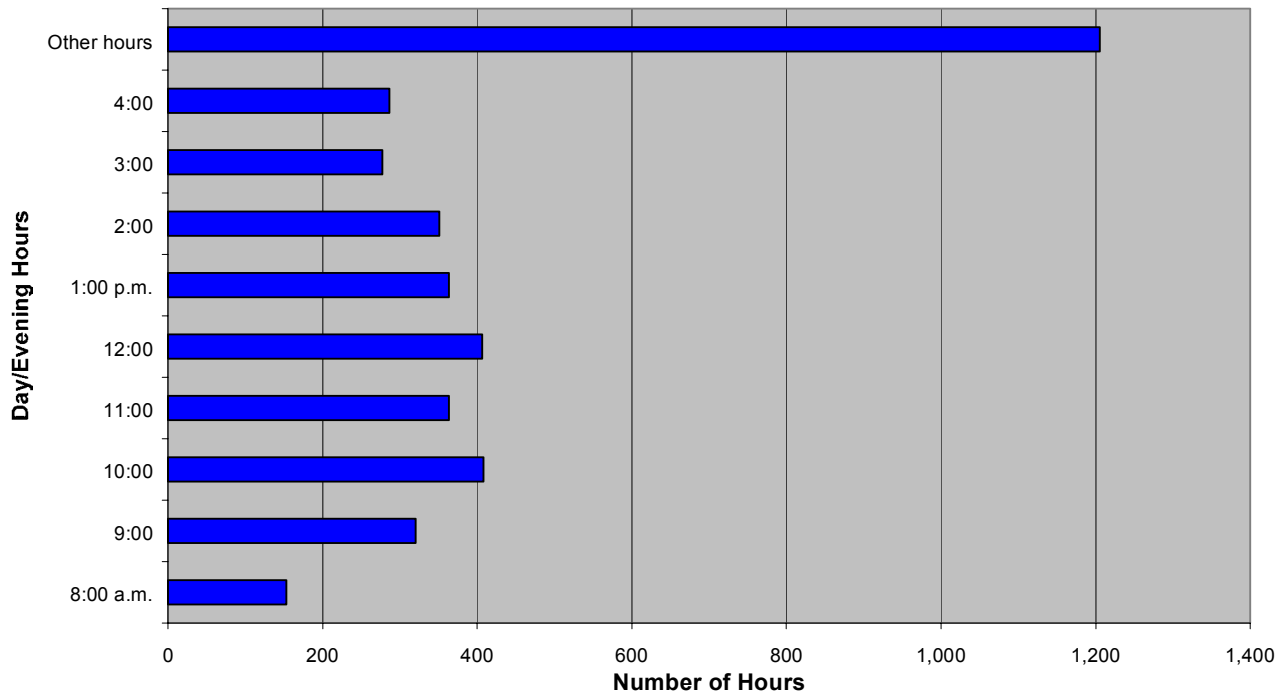


Because of our shortage of classrooms, we find that we sometimes have to teach in rooms that are far from the department's offices or inappropriate for the class. Since fall, 1998, we have had to prepare for two of our large, 85 and 136 station classrooms to be offline during construction projects. We are temporarily placing the displaced classes in remodeled theatres.

### **LABORATORIES - LOWER DIVISION**

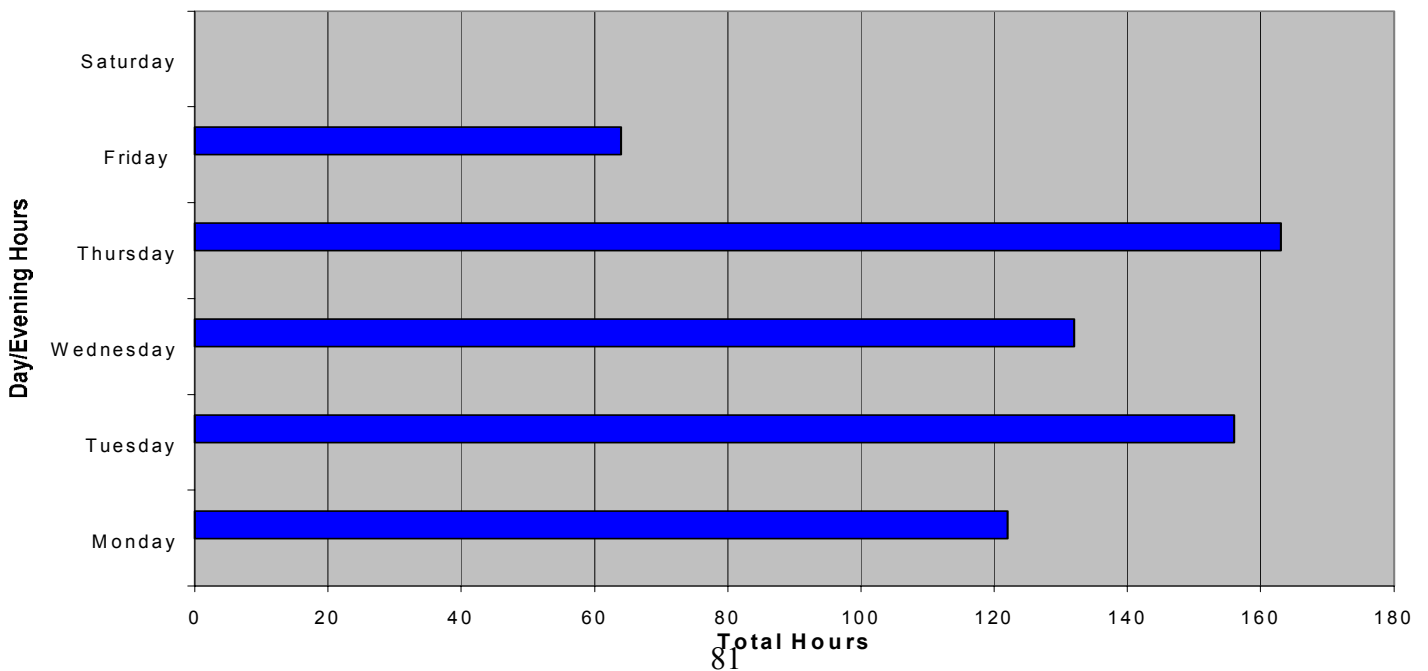
The data for lower division laboratories are based on the analysis of 25 rooms containing 593 student stations. This is a decrease in facilities equal to 688 student stations in 21 rooms. Many things have happened to explain the loss in lower division labs. In the Fine and Performing Arts, many space inventory reclassifications were made. We have more studios and practice rooms by concentrating our classes in the most appropriate rooms. In Neuberger Hall several lower division labs are being scheduled for more upper division courses. In the science buildings, we find the same to be true. The teaching methods for some lab classes have changed in recent years. The computer has introduced new ways to teach in all departments thereby requiring different facilities to meet the class needs.

**PORTLAND STATE UNIVERSITY  
NUMBER OF LOWER DIVISION LABS SCHEDULED EACH HOUR  
DURING A TYPICAL WEEK OF FALL TERM, 1998**



The total hours of scheduled occupancy of laboratories per week decreased by 98 hours or 13.3% while the average hours of scheduled occupancy of laboratories per week increased by 10, up almost 60%. This increase was due primarily to the decreased number of lower division labs.

**PORTLAND STATE UNIVERSITY  
NUMBER OF LOWER DIVISION LABS SCHEDULED EACH DAY  
DURING A TYPICAL WEEK OF FALL TERM, 1998**



The total hours of scheduled occupancy of student stations per week decreased by 2,691 hours or 18.8%. These decreases were due to the drop in lower division FTE, more students taking classes that don't require related lab classes and the increasing use of independent or non-scheduled lab facilities.

The previous University's General Education requirements (c.1989) for science distribution resulted in most undergraduate students taking a lab science in the freshmen or sophomore year. The new University Studies Freshmen Inquiry (15 credits in three consecutive quarters, starting in 1994) requirement involves a theme whose interdisciplinary team-teaching approach incorporates the traditional science and writing in the program content.

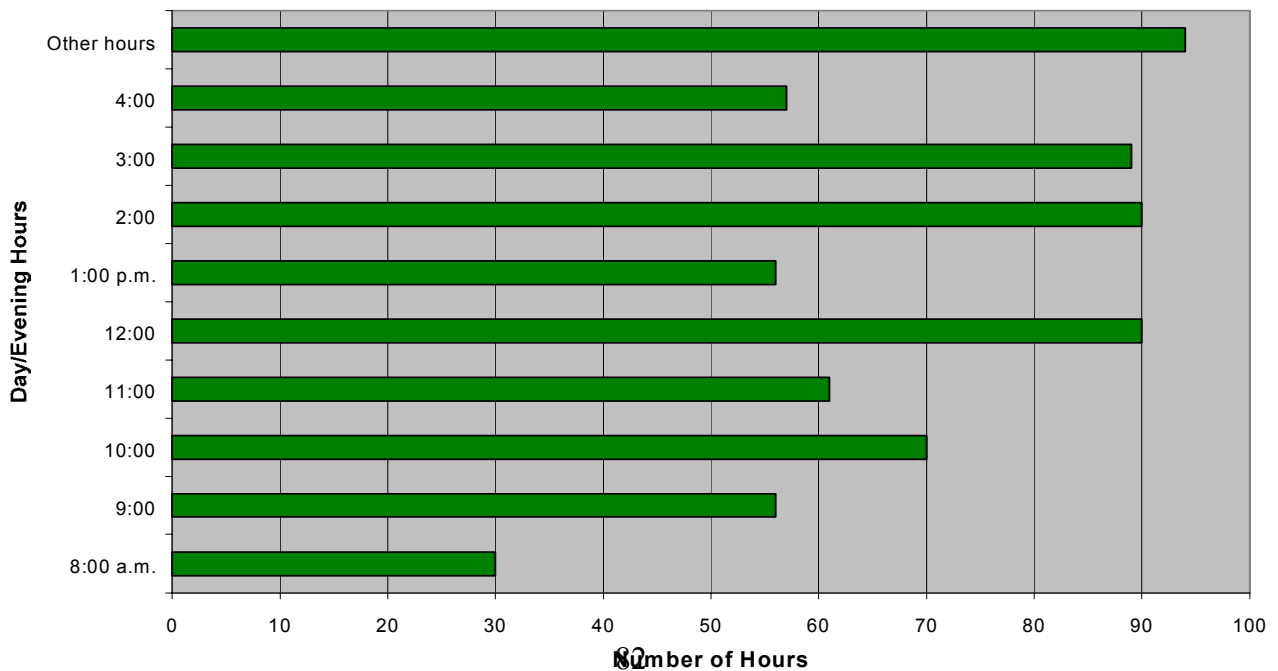
With the above decreases in room and station occupancy of lower division labs, the average hours of scheduled room occupancy per week is 115% of the minimum objective set by the Board and the lower division lab student stations were at 108%.

**LABORATORIES – UPPER DIVISION AND GRADUATE**

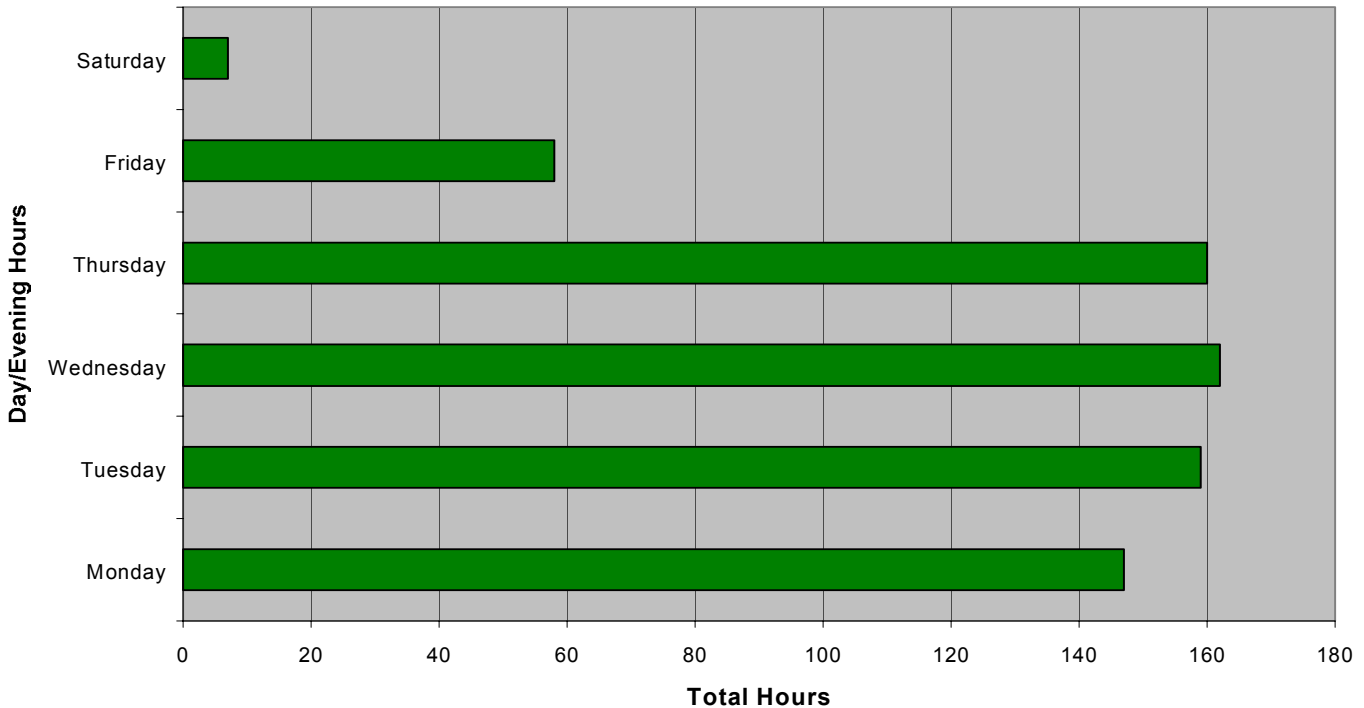
The data for upper division and graduate laboratories are based on the analysis of 39 rooms containing 1,033 student stations.

The total hours of scheduled occupancy for upper division and graduate laboratories per week increased by 205 hours, a 42% increase. The average hours of scheduled occupancy increased by 3, a 20.3% increase. This exceeds the Board's minimum standard by 11%.

**PORTLAND STATE UNIVERSITY  
NUMBER OF UPPER DIVISION LABS SCHEDULED EACH HOUR  
DURING A TYPICAL WEEK OF FALL TERM, 1998**



**PORTLAND STATE UNIVERSITY  
NUMBER OF UPPER DIVISION LABS SCHEDULED EACH DAY  
DURING A TYPICAL WEEK OF FALL TERM, 1998**



The total hours of scheduled occupancy of upper division and graduate laboratory student stations increased by 3,528 or 36.3%. The average hours of scheduled occupancy of upper division and graduate laboratory student stations increased by .1 or .8%. This is 6% above the Board's minimum standard.

**SUMMARY**

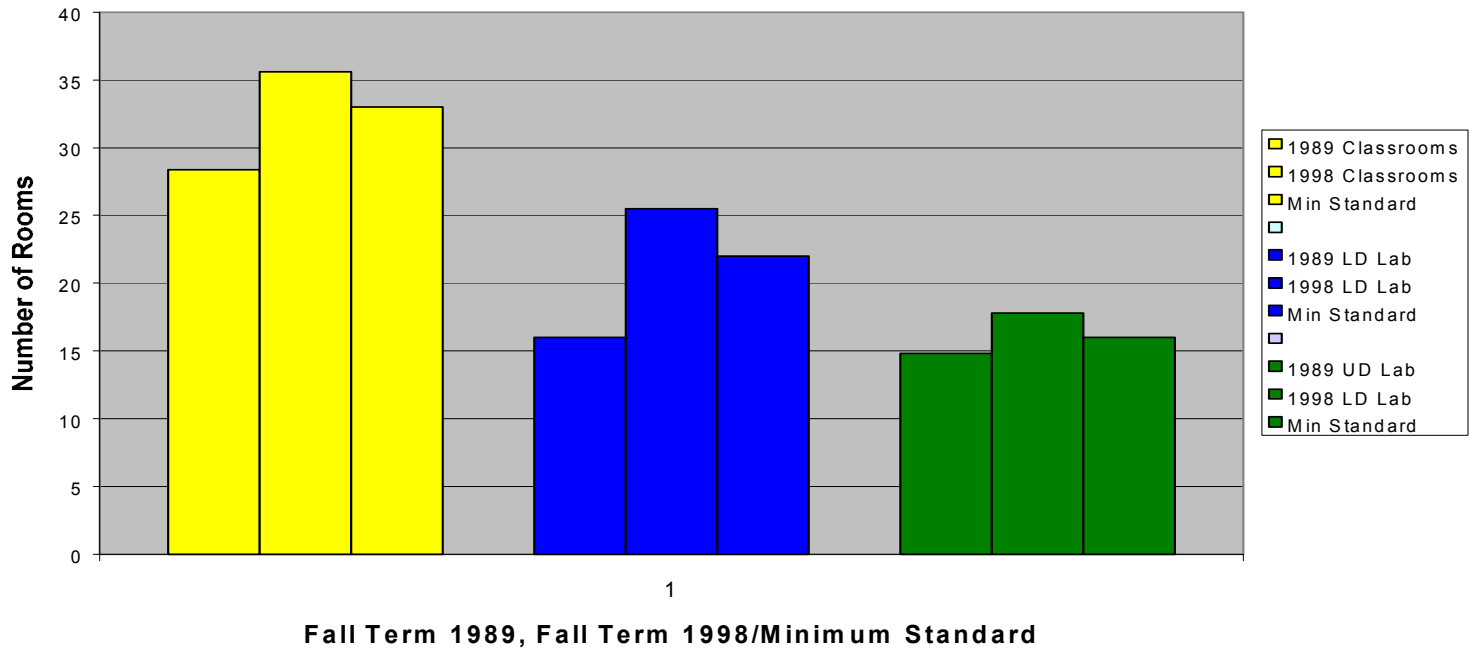
Portland State University would have exceeded the minimum objectives by more if not for the fact we have several teaching spaces that are not designated classrooms. They do not get included in this study. They add up to an additional 308 hours of scheduled occupancy of classrooms during a typical week of fall, 1998. Student stations scheduled in the temporary classrooms were 3,801 during a typical week. This is an increase over fall term, 1989. The increase is due to many factors but one is small classes. They want to meet in more appropriately furnished spaces, conference rooms, offices, etc. Several of our smaller classrooms are poorly furnished. Many departments do not have the luxury of seminar rooms and choose to teach in departmental conference rooms. The cinema, prior to the 1999 renovation, was another space that had been considered a temporary classroom.

Although the minimum utilization standards set by OSSHE many years ago were based on an 8a-5p day, I have included all hours as PSU teaches many of its classes in the evening.

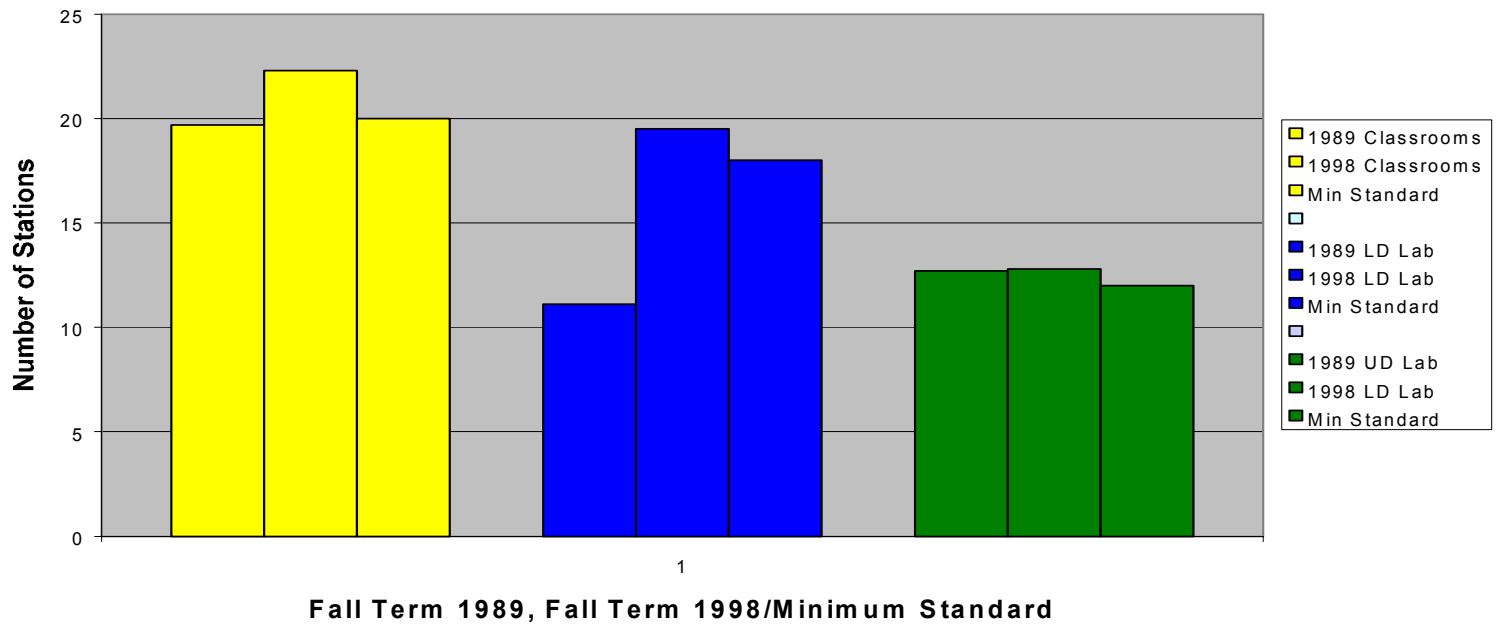
Portland State University's total fall headcount for 1998 was 15,230 and the fall headcount on October 1, 1999 is 16,041. The additional 811 students will give Admissions and Records a challenge to accommodate the additional classes required. If a

similar projection for 2000-01 holds true it will be very difficult, if not impossible, to accommodate all classroom needs with existing facilities. We will compound this shortage when we move towards complying with the fire marshal's code for student occupancy.

**Portland State University Number of Rooms Scheduled During a Typical Week of Fall Term 1989, Fall 1998/Minimum Standard**



**Portland State University Number of Classroom Stations Scheduled During a Typical Week of Fall Term 1989, Fall Term 1998/Minimum Standard**



It has been recommended that we add growth. They find their need to be twelve the 180-250 student station lecture hall.

classrooms to accommodate this projected classrooms in the 45-75 size and four in

utilization98doc.doc





## Land Usage & Capacity

### General Outlook

- As of January 1, 2000, Portland State University will comprise 45 acres of which 33 acres can be developed.<sup>1</sup>
- 
- The campus will contain approximately 3,863,000 square feet of buildings, of which 2,533,000 square feet will be academic and student auxiliary space, 567,000 square feet will be student housing and 765,000 square feet will be structured parking.<sup>2</sup> This results in an average building floor area to total campus site area ratio of 2:1.
- 186,600 square feet of the campus is zoned RXd, for central city residential development use. The remaining 1,253,200 square feet of the campus area is zoned CXd, for central city commercial. Under conditional use requirements, land zoned CXd may be used for commercial, academic, residential or related parking.
- The total 1999 end of fall term student headcount was 19,883, of which 15,976 were campus-I students and 3,904 were non-campus-I students. Based on the total student population, Portland State University had 127 gross square feet of combined academic and auxiliary space per enrolled student at the end of fall term 1999. Total student population is anticipated to increase approximately 11 percent by the year 2010.
- Twelve academic buildings totaling 219,645 square feet are identified as temporary and in need of replacement.<sup>3</sup> Of these structures, three are single-family residences over eighty years old and the remaining nine are a mix of converted apartment houses and small commercial buildings ranging between 28 and 93 years old. Included in this is the Campus and Grounds building, presently used for library space.
- Five of the student housing structures are identified as temporary and in need of replacement. These structures were inherited in the early 1970's and are all over seventy years old. Totaling 96,172 square feet, these account for 45 percent of the student resident buildings and 15 percent of the housing units.
- After removal of temporary structures, 618 thousand square feet of residentially zoned development potential and 2.4 million square feet of commercially zoned development potential will remain on the PSU campus. Therefore, 46 percent of the RXd, and 32 percent of the CXd development capacity are remaining on the PSU campus.
- Of the CXd development capacity remaining, 146,000 square feet is in possible parking structure expansion and 105,000 is in possible auxiliary space expansion, leaving a maximum of 2.1 million square feet for academic expansion.

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<sup>1</sup> The 12 acres of remaining property is vacated street area that must remain undeveloped under city super-block regulations.

<sup>2</sup> Based on City of Portland definition of floor area to be used in calculating allowable floor : area ratio. Excludes open decks of parking garages and unenclosed roof terraces, balconies and porches.

<sup>3</sup> Includes the Marston House which may be relocated elsewhere on the campus.

## Capacity Assessment

The following land capacity report examines the existing land use intensity and remaining development potential of properties presently owned by the Oregon State Board of Higher Education, all other lands contained within the City of Portland approved University District, and the Auditorium District Fourth Avenue Parcel. The Potential Development Capacity Tables provided herein detail the existing development and remaining development potential, assuming removal of obsolete/ temporary buildings on a per block basis.

Based on the area of the existing city blocks and the allowable building floor area to site area ratio (FAR), established by the City of Portland, the Gross Allowable Floor Area represents the maximum above grade development volume permitted under current code, as shown in Table 1. Where streets around blocks have been vacated for pedestrian mall use, the blocks fall under super-block regulations. The dedication property lines of most PSU super-blocks follow the centerline of the dedicated streets, increasing the block surface area and subsequent Gross Allowable Floor Area. But, under the super-block regulations a minimum of 50 % of vacated streets must be maintained as open space in the form of plazas, pedestrian malls, or courtyards. While this represents the greatest above grade volumetric land use intensity permitted under current code, assumed adjustments are required in determining the buildable or practical development potential.

Due to building height regulations, established view and solar accessibility corridors and the need to provide external circulation, previous experience indicates that achieving the Gross Allowable Floor Area in future developments is unlikely. In addition, the Oregon State Board of Higher Education, Planning & Procedures Handbook For Campus & Building Development specifies that 100 square feet of outdoor activity area should be projected per equivalent full-time enrolled student for physical education, athletics and physical activities. In part, future roof areas could serve as outdoor open space, and some blocks will likely be developed at greater intensity than others. Given these factors, it is assumed that the average Practical Above Grade Development Potential that can be achieved per block is 80 percent of the Gross Allowable Floor Area

Below grade development is not restricted by the FAR or the super-block coverage regulations, but is limited by economics and user driven considerations. Existing PSU buildings contain as many as three levels below grade. Not only has previous below grade construction proven to be cost intensive, it has been difficult to schedule users in these underground spaces, reducing facility utilization. Therefore, in projecting Practical Below Grade Development Capacity, one level of below grade construction is assumed in future construction. The maximum area of the potential below grade level has been assumed to be 80 % of the sum of the block area plus ½ of the vacated street area, or equivalent to one level of above grade development, allowing for stacked construction.

Tables 2 & 3 address the potential development capacity available on properties presently owned by the Oregon State Board of Higher Education, (OSBHE) and private parties in the University District respectively. The consolidated developable area given represents the total site area per block owned by OSBHE and those properties that could be purchased from private owners and consolidated for development. The Remaining Property Development Potential per block reflects the total Practical Development Potential on OSBHE sites and

privately owned sites, less the square footage of buildings and open spaces scheduled for retention. In conforming to the City's definition of floor area in calculating the allowable FAR, existing floor area included all building areas enclosed on three or more sides, excluding roof top mechanical spaces. Therefore, the net existing floor area indicated is approximately equivalent to Gross Building Area as shown on the official PSU inventory less roof-top parks, athletic areas and building terraces.

## **Land and Building Profile**

The University District Property Information Sheets with summary provide a complete list of all properties, uses, valuations, and code regulations within the District. The combined University District and Fourth Avenue site comprise approximately 47.6 acres of developable land, of which 1,429,800 square feet, (32.8 acres) are owned by the Oregon State Board of Higher Education and 642,984 square feet, (14.8 acres) are privately owned. Portland State University presently contains 3,862,927 square feet<sup>4</sup> of building space, of which 7,633,23 square feet is structured parking, 566,661 square feet is student housing and the remaining 2,532,943 square feet is academic and student auxiliary. A list of campus of campus buildings is provided herein.

The 1999 fall end of term student headcount was 19,883, of which 15,979 were campus-I students and 3,904 were non-campus-I students. The estimated 1999 end of term full-time equivalent enrollment was 12,286.<sup>5</sup> As shown in Graph 1, based on student population, when compared with 42 other universities, Portland State University ranks second in most densely populated campus environment, with 273 full-time equivalent students enrolled per acre. As student population has continued to increase, this intensity of facility usage has also carried through to academic space. Upon completion of the new College of Urban and Public Affairs Building and acquisition of the four-story University Center Building, there will be 127 square feet of gross PSU campus building area per enrolled student, with an additional 1,495 faculty and staff using the same space. As seen in graph 2, this places PSU as the most crowded among the 42 institutions from which survey results were available. It should also be noted that gross building area includes structured parking and student housing areas, which together account for approximately 1/3 of gross campus buildings. While PSU will take possession of the University Center Building in January 2000, much of this space will initially be under pre-existing lease agreements and unavailable for academic or student parking use.

Twelve of the academic buildings on the PSU campus have already been in use beyond the point of diminishing economic return. Of these twelve structures, three were originally single-family dwellings built between 1890 and 1910, which were converted to academic space in the 1960's. The remaining nine structures are a mixture of small commercial buildings and apartment houses ranging in age from 93 years old to 28 years old; including the present prefabricated security building installed as a "temporary" structure in 1971. A

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<sup>4</sup> Includes 110,385 square foot College of Urban and Public Affairs Building scheduled to open Spring Term 2000, and 125,833 square foot University Center Building (Academic and Parking Area) in acquisition and scheduled for possession January 1, 2000. Total number of parking spaces anticipated to be added 340, not included in this report.

<sup>5</sup> Excludes Non-campus-I FTE of 760 for comparison purposes. Undergraduate FTE is based on 15 credit hours equals full-time enrollment. Graduate FTE is based on 12 credit hours equals full-time enrollment.

total of 219,645 square feet of academic space is in need of replacement. Well this accounts for only approximately 6 percent of the present academic space, the total requiring replacement exceeds that which will be provided through the purchase of the University Center Building. Assuming removal of these antiquated academic buildings to allow for new development, the Retained Net PSU Academic Floor Area would be 3.6 million square feet.

Of the 11 student housing structures presently on the PSU campus, six of the structures are over 70 years old and five are identified as unviable to maintain and in need of replacement. In total 95,672 square feet of housing stock presently require replacement. Well this accounts for approximately 17 percent of the housing stock floor area and 45 percent of the buildings, these antiquated structures represent a disproportionate maintenance and operating expense and only 15 percent of the campus student housing units. Based on the premise that these inefficient buildings are removed for replacement, the Retained Net PSU Housing Floor Area would be 471,000 square feet.

Portland State University presently has three structured parking garages for academic use, structured parking for student housing at Ondine and West Hall, and underground parking located in the Fourth Avenue Building. Additional underground structured parking will be obtained with the acquisition of the University Center Building. All of these parking structures, totaling 566,661 square feet are presently believed to be in adequate condition to be retained, and the possibility exists to add additional levels to parking structures 2 and 3, provided the presently required seismic upgrades are performed.

### **Remaining PSU Land Capacities**

As shown in the accompanying map, many of the campus blocks are presently fully occupied by PSU buildings. While these buildings may not provide the total development potential possible, redevelopment of these blocks have been omitted do to the cost of demolishing and replacing retainable buildings. After the removal of obsolete buildings, a maximum of approximately 3.7 million square feet could be developed on properties presently owned by the Oregon University System and comprising Portland State University.

OUS owned properties on Blocks 153, 158, 267, 268 and 269, are presently zoned RXd, for central city housing and could be used for development of student housing. Of these blocks, block 268 is presently fully occupied; development of the carpool surface parking lot on block 153 would require reassigning existing parking elsewhere on campus as carpool parking, resulting in the loss of standard spaces; and the quarter block site on block 158 would likely be to small by itself to economically achieve its' full development potential. As listed in Table 4, if these sites were developed, approximately 618,000 square feet of additional floor area could realistically be provided, of which two-thirds can be anticipated as new student housing with the remaining one-third developed as parking for the housed students. This would provide a maximum total of 408,000 square feet of student housing. Accounting for removal of existing temporary housing structures, this would provide a maximum net increase in student housing building area of 54 percent.

Blocks 189 and 302 are presently zoned CXd, for central city commercial and are occupied in part by parking structures 2 & 3 respectively. Adding two additional levels to parking

structure 2 would increase the parking floor area by 46,272 square feet, and adding two levels to parking structure 3 would provide an additional 99, 532 square feet. These additions would increase the parking floor area as defined under the city floor area definition to 899,095 square feet.<sup>6</sup>

The remaining OSBHE properties are presently zoned CXd, and through conditional use are permitted to be used for academic purposes. After subtracting areas zoned for housing and presently dedicated for parking, a maximum of approximately 2,163,000 square feet of additional academic and student auxiliary space could be added to the present properties. The following per block inventory briefly describes the opportunities and constraints assumed in these estimates as illustrated on the Potential Development Map.

#### Block 90/91

This land parcel consists of three surface and air condominium development rights, in addition to underground condominium parking and office space. The Portland Development Center occupies to center of the parcel and presently exceeds its' proportional FAR. Additional floors could be added to the Fourth Avenue Building on block 90, but relocation of the roof top mechanical system make this uneconomically viable. The full remaining above grade development potential of 202,366 square feet was therefore transferred to Block 91.

#### Block 153

As previously mentioned this  $\frac{3}{4}$  block is presently occupied by the unstructured campus carpool parking. If removed it would have to be replaced with new structured carpool parking or through reassignment of existing campus parking spaces. This partial block has the potential to provide 151,000 square feet of housing and related parking development. If this block were developed, it would probably be advantageous to acquire and incorporate the adjacent private properties.

#### Block 158

This partial block site is 100'X100' and is occupied by the Sixth Avenue building, which is presently used for academic space and in need of replacement. Upon removal, this site would provide a maximum potential housing and related parking development of 56,000 square feet. As central city housing in an active use zone, the ground level is required to be occupied by pedestrian oriented activities, and the size of the site makes ramping to parking impossible. Without acquiring and consolidating adjacent private properties, achieving the development potential on this site is improbable.

#### Block 159

The Ondine building and associated parking occupy approximately  $\frac{3}{4}$  of the block and presently provides student housing and academic space. No addition development potential is assumed to exist on this block.

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<sup>6</sup> Under the definition of the allowable floor area / site area, (FAR), the exterior top deck of existing parking structures is not included as floor area, a difference of approximately 125,000 square feet.

#### Block 160

The University Center Building occupies this entire block and was recently purchased by OUS. Once PSU takes possession, this building will provide additional academic space and parking. No further development potential remains on this block.

#### Block 161

The PSU Portland Center for Advanced Technology, which is identified as a temporary building, occupies this block. Once removed, a 224,000 square foot building could be constructed on the site.

#### Block 162

This block is occupied by the new College of Urban and Public Affairs and related transit plaza. While not developed to full potential density, no new buildings or additions are proposed on this block.

#### Block 189

Approximately three-fourths of this block is occupied by Parking structure 2 and the University Services Building. Development potential of 46,000 square feet remains on this site and would be used if two additional levels were added to the Parking Structure.

#### Block 190

This block is presently half occupied by the Schools of Business Administration and Education. An additional 90,000 square feet could be added to this building completing development of this block. If this site were to be developed, it would eliminate the only green open space in the eastern half of the University District.

#### Block 191

Parking Structure 1 occupies this entire site and no additional development potential remains.

#### Block 192

East Hall, previously the College of Urban and Public Affairs occupies this entire 100'X100' site. This structure is presently in need of replacement and once removed the site could accommodate a 56,000 square foot development.

#### Block 196

This site is presently vacant and occupancy by the future Native American Cultural Center is proposed. A 92,000 square foot building can be developed on this site.

#### Block 197

Visitor Parking and tennis courts presently occupy this block, which can be developed with a 257,000 square foot building. If removed for construction, the tennis courts and parking should be provided in conjunction with the new building or elsewhere on campus.

#### Block 198

The third-and-a-half story, 1917 Shattuck Hall occupies the majority of this site. After removal of temporary structures, up to 142,000 square feet could be added to the front of this building. Full block development potential is unlikely given the height of the existing

structure. Matching the height of the existing structure, an additional 30,000 square feet is more realistic.

#### Block 199

This block is completely occupied by Neuberger Hall, which is to remain and cannot accommodate additional floors. Therefore, no development potential exists on this block.

#### Block 200

Smith Memorial Center occupies this entire block and approximately 44,500 square feet can be added as an additional floor.

#### Block 201

Cramer Hall occupies this entire block and is developed at its' full potential.

#### Block 202

The 1911 Lincoln Hall occupies this entire block. It is not developed to the full block potential. Due to the age and historic significance of this building no additions are proposed.

#### Block 227

All buildings on this block are in need of removal at which time a 224,000 building could be developed.

#### Block 229

This block is occupied by the Montgomery Court and Blackstone student housing, which are identified to remain. These retained structures divide the unoccupied area into two developable sites approximately 80'X100' each. The retained buildings are not, and cannot, be developed to their maximum zoning code potential, and their arrangement on the block also makes it unlikely that the remaining sites can be fully developed. While 169,000 square feet could be added to this block, the historic Simon Benson House is presently planned for relocation to the northwest corner, and the Marston House is proposed to be relocated to the southwest corner of the block, eliminating all of the remaining development potential.

#### Block 230

Millar Library completely occupies this block and has the capability to support additional floors on the west half of the structure. Additional development capacity of 86,500 square feet is available on this block, but the existing structure is only capable of supporting a maximum addition of 60,000 square feet.

#### Block 231/ 238

The Peter Stott Center, an on grade rubbish and recycling center, and the West Heating Plant presently occupy this double block. Additional floors could be added to short span areas of the Peter Stott Center. The opportunity exists to develop over the recycling area providing weather protection and connecting with the West Heating Plant. Through various combinations of these strategies the potential exists to develop the remaining allowable 345,400 square feet.



### Block 232

This half block could be developed with a 90,000 square foot building, but accessibility and connection to the main campus are problematic.

### Block 239/ 270

The community recreation field was constructed on this double block site in 1998, to assist in filling the ongoing shortage of required outdoor athletic and recreation space. Funding conditions mandate that this site not be redeveloped for at least 25 years. No development potential presently exists on this site, but the potential can be banked for future consideration.

### Block 240

All of the buildings on this block are in need of removal. While the developable area is limited by the encroachment of Science Building 2, attainment of the full 313,000 square feet of development potential can be anticipated.

### Block 241

Science Building 2 and related structures presently occupy the majority of this block and portions of the adjacent vacated streets. No additional development potential is assumed for this block.

### Block 242

Science Building 1 occupies the south half of this block and is planned for an addition of approximately 7,500 enclosing the ground floor terrace. The north half of the block is partially occupied by the Stratford student housing, which is in need of replacement. Upon removal of the Stratford housing, the potential exists for the development of 132,000 square feet.

### Block 267

This Block is occupied in part by the System Science House and the Marston House, which are presently being used as academic spaces and in need of replacement. Once these structures are removed, a potential 267,000 square feet of student housing could be developed on the block.

### Block 268

West Hall and St. Helens student housing completely occupy this block and no additional development potential exists.

### Block 269

In conjunction with the vacated Harrison Street adjacent, this block is partially occupied by the King Albert student housing and the student auxiliary Hoffman Hall, both of which are to be retained. Neither of these structures are developed to their full volume potential permitted by the FAR and are not designed for vertical expansion. The opportunity exists to develop the south and west halves of the block, which would provide approximately 200,000 square feet for student housing and related parking.

### Block 301/ 302

The temporary Montgomery Street Building occupies this site and requires replacement, in addition to Parking Structure 3 and the Helen Gordon Child Development Center, which are in need of rehabilitation and identified for retention. Adding two levels to Parking Structure 3 would leave 157,000 square feet of development potential to expand the childcare facility and develop the south 50' of block 302 with related academic space.

### Block 303/ 304

The obsolete Adeline student housing presently occupies this 9,300 square foot site zoned for commercial/ academic use. Upon removing the Adeline and replacing the housing elsewhere on campus, this site has the potential of providing a 52,000 square foot development. The vertical circulation required on this site may make it too small for efficient academic development without acquisition and consolidation of adjacent state highway properties.

## **Remaining Private University District Land Capacities**

Whole or portions of approximately twenty-one blocks within the University District and primarily east of Broadway, are privately owned, representing 672,984 square feet. Of these privately owned properties, 274,380 square feet or 40% of the privately owned land is occupied by high-rise structures or operations of significance to the local community and needing to be retained. The remaining 398,604 square feet of land could provide a maximum development potential of 2,430,000 square feet of academic, parking and student housing, and be acquired for present development or land banked with tenants in place to provide for future student population growth.

Blocks 152-156, 158 and 193 are presently zoned RXd for central city housing. This represents 1,226,265 square feet of development potential, or 50% of the overall private development that could be acquired. Assuming that two-thirds of this potential is developed as housing units and the remaining one-third as parking and ground floor active uses, this could provide approximately 800,000 square feet of additional housing.

The remaining 1,200,000 square feet of development potential is presently zoned CXd for central city commercial, and with conditional use approval could be acquired and developed for academic purposes and support parking. The following per block list briefly indicates the advantages and disadvantages in acquiring and developing these private properties.

### Block 90/ 91

This land parcel consists of three surface and air condominium development rights, in addition to underground condominium parking and office space. The City of Portland's Development Center occupies the center parcel and presently exceeds its' proportional FAR. This is a new high-rise facility brought into operation in 1999, and therefore is not included as a potential property.

### Block 151

This block is presently vacant and is consolidated under single ownership. With an FAR of 9:1 this block allows the highest development density in the district. The site presently has a one-story retaining wall along the east side, (Fourth Avenue) which could allow for

economical underground development, potentially support parking. This property has a development potential of 320,000 square feet and 360,000 if an additional below grade level was developed.

#### Block 152

Three-fourths of this block is occupied by historic St. Michael's Church and is identified to remain. The southern quarter of this block is fully occupied by a three-story hotel and could be developed as student housing with a maximum development potential of 56,000 square feet. It is unlikely this full potential could be achieved, as it would require a six-story structure adjacent to a historic landmark blocking the southern exposure.

#### Block 153

Three-fourths of this block is presently owned by OSBHE, with the southern fourth in private ownership. Zoned for housing, if this block were developed, acquiring the private properties would provide an additional 72,800 square feet of development potential.

#### Block 154

This block is presently under three ownerships, zoned for housing, and occupied by a bank, motel and five-story apartment building. The existing apartment building affectively uses a large percentage of its' available FAR and could be retained as student housing. If the full block were acquired, 224,000 of housing development could be provided.

#### Block 155

This block is partially occupied by a single story bank with the remainder used for surface parking. The east and west halves are under two separate ownerships, and the block slopes one-story from west to east. If purchased separately, each half block could provide 112,000 square feet of housing development potential.

#### Block 156

This is the north half of a double block and is zoned for residential. This half block is under seven different ownerships making consolidation more difficult. It is occupied by numerous small residential buildings, retail establishments and a gas station. If acquired and consolidated it could provide a housing development potential of approximately 257,000 square feet.

#### Block 21

This is the south half of a double block and is zoned for commercial, allowing academic use. This half block is under four ownerships and is primarily occupied by a privately operated art college, the Portland Art Institute. Other occupants include a café and rental car agency, with the east half of the block used primarily for surface parking. The Art Institute building could be retained and used as temporary academic space. If fully developed this block could provide 238,000 square feet of additional academic space.

#### Block 22

This block is presently occupied by the Oregon Telco high-rise office building, and a high-rise condominium office building owned by Guardian Properties. This block is assumed not to have development potential.

### Block 23

At the most southeast edge of the University District, this irregularly shaped block is remote from any of PSU's present facilities. But, the site is also vacant and under single ownership presently used as overflow surface parking by Oregon Telco. In the CXd zone, academic or associated parking uses would be permitted, with a maximum development potential of 54,000 square feet. Due to the size and shape it could not be efficiently used for structured parking or typical academic use.

### Block 157/ 30

Numerous residential units under separate ownership, which could make consolidation difficult, presently occupy this irregularly shaped block. If acquired and consolidated this block could provide 146,000 square feet of academic development potential.

### Block 158

One fourth of this block is presently owned by OSBHE and occupied by the Sixth Avenue Building. The remaining three-fourths of the block is under eight separate ownerships and is occupied by numerous three to four story commercial and residential buildings that would likely need to be removed. This three-quarters of the block is zoned RXd and if acquired and consolidated could potentially provide a maximum additional 168,000 square feet of student housing development.

### Block 159

The Portland Fire Bureau occupies this site and no development potential is anticipated.

### Block 163

St. Mary's Academy occupies this entire block and no development potential is anticipated.

### Block 188

The American Automobile Association occupies this entire site and no development potential is anticipated.

### Block 189

This quarter block site is occupied by Campus Ministry, with the remaining three-quarters of the block fully developed with PSU parking and staff space. While not developed to its full potential, redeveloping this quarter block for an additional 16,700 square feet would not be practical. Therefore, no development potential was assumed for this site.

### Block 228

This block is completely occupied by the Ione Plaza residential tower. Providing diversity and market rate housing in the University District, this block is presently developed to its' full potential.

### Block 232

The Park Plaza Apartments occupy three-quarters of this block with the remainder owned by the OSBHE and undeveloped. The Park Plaza Apartments provides diversity and market rate housing in the University District and is developed to its' full potential.

Block 303/ 304

The northeast corner of this irregularly shaped block is presently owned by the OSBHE with the adjacent properties vacant and owned by the Oregon State Highway Department. Acquisition of this property and consolidation with presently owned site could greatly improve development efficiency of the present site and potentially add a maximum of an additional 120,000 square feet. Due to the property configuration and conflicts and adverse affects produced by the adjacent freeway interchange, it is likely that only around half of this additional square footage would actually be realized.

## Long-term Satellite Campus Expansion

### General Outlook

- Many of our structures are very old and have limited capacity for remodeling. Constraints such as asbestos, mechanical and electrical obsolescence and seismic retrofitting will require buildings to be shut down for replacement or renewal for long periods of time. *We lack space for construction staging areas around the existing structures, let alone capacity to house the current occupants elsewhere.*
- Given the enormous land and development costs and constraints in the urban core, it seems prudent to develop a strategy to supplement our limited resources in downtown Portland with suburban locations. This ten year demographic update is inadequate to appropriately address this rather complex issue. *A study and implementation plan needs to be developed as academic, athletics, parking and housing goals have changed over the last 30 years and have not been adequately addressed in a long-range plan to date.*
- These comments do not address the issue of Academic Program growth that may have impact on the amount or type of lands needed for PSU's future growth.
- Recent issues such as noise and vibration impacts with the Central City Streetcar project have pointed out that some academic research functions are incompatible with our dense urban environment and would be best located in more isolated areas. *A Long Range Academic Plan is needed to supplement the Facilities Plan to appropriately plan for a realistic future for PSU.*

### Location Constraints

PSU is an urban campus located in the Central Business District in the heart of Portland. PSU occupies approximately 45 acres, which is about 20 percent of the Central Business District. PSU has a very compact campus of only 1/6 to 1/10 of most campuses with similar sized student populations. PSU was always conceived as a dense urban campus but our roles and goals have changed greatly over the last 50 years as the Oregon University System functions have changed.

There are a number of issues and constraints on PSU's growth as a result of its historical placement in the downtown:

#### Parking

- PSU was allowed and required by the City of Portland to provide a large number of surface parking spaces until the Federal Clean Air Act took effect in the late 1960's. The City of Portland was required to improve air quality. It did so by limiting the growth of parking, requiring that all new parking be in structures, and encouraged use of buses, bikes and transit service to the downtown to control air quality by limiting the number of

spaces to park. Our 4600 parking space goal was changed to a 2200 space lid. The City did not evaluate the air quality impact of streets full of vehicles searching for open parking spaces.

### Housing

- PSU was prohibited from developing student housing on the campus until the late 1970s, as the Oregon legislature viewed PSU as a commuter campus. The legislature reversed itself in the late 1970's allowing PSU student housing. We now have a goal of providing housing for 15% of the campus-I student population. Campus Housing Northwest presently manages 928 on-campus units and 432 Portland area off-campus units, providing campus housing for 958 students, and inner-city for an additional 508 students. Campus housing often requires the provision of recreational playfields and open spaces for student use and activity. When housing became a goal, it was not recognized that additional land was necessary to provide appropriate open spaces for a residential population.
- Students in campus housing have asked for unstructured recreational areas, community gardening space, daycare centers and provision of a recreational building similar to a YMCA in function. Our plan should address this as a need.

### Athletics

- Athletics has noted that we have very limited access to public sports and recreational fields in the city. PSU joined the Big Sky Conference in the mid 1990s. That has required more sports and student athletics, but no space was added to recognize this need. The Community Recreation Field provides some relief for these needs, but the issue needs to be addressed in more detail on a campus-wide basis and city basis. Campuses of this size often have extensive play and recreational fields.
- Big Sky designation requires a football stadium, a basketball arena and appropriate facilities and fields for soccer and other sports. These issues may best be addressed as a metropolitan space issue with other institutions such as other universities, cities, the community college system, and school and park districts.

### Campus Long-Term Space Need Issues

- A 10-year projection of space needs is inadequate in this case, as a much greater urban density is being projected for 2040 by Metro, and there will be very few opportunities in the future for appropriate campus sized educational spaces. Institutions must identify their long-term land needs and plan for at least a fifty-year time frame. An effort should be made to identify institutional space needs in this plan and Metro's 2040 plan.
- The City of Portland is intent on creating a dense urban environment in the downtown to create a lively, populated urban environment, and is considering increased density overlays on the campus and University District. The zoning code has no open space requirements and treats a campus the same as any other commercial use in downtown and ignores open space needs.

- The ability of suburban and rural campuses to develop new types of structures and new uses for their open land reserves has allowed them to grow. We are land-locked and must demolish existing structures before we can implement plans for growth. This both raises the projects costs, and delays projects as current occupants must be moved off campus and relocated. In short, we need building sites, which can be developed easily without significant impact on existing users and uses.



Portland State University		
Gross Sq Ft Building Space		
1999-00		
Building	Gross Sq Ft	Comments
Lincoln Hall	135,052	
Neuberger Hall	222,515	Richard L. Neuberger Hall
Science Building I	91,164	
Peter Stott Center	156,752	Health and PE Building
Science Building II	213,333	
University Services Building	59,067	
School of Education	53,293	
School of Business Administration	52,270	-
1025 S.W. Harrison Building	1,960	
Cramer Hall	239,564	
Library East	59,285	
University Honors Program	7,128	
Millar Library	194,783	
College of Urban and Public Affairs	23,042	Reverts to East Hall Winter 2000
Heating Plant	4,237	
Shattuck Hall	67,940	Shattuck School
Campus Security Building	2,288	
Extended Studies Building	30,000	DCE-Office-Conference Bldg
PCAT Building	42,094	70,453-28,359(parking)
President's Residence	6,262	
President's Garage	1,740	
Harder House	5,045	Harder Residence
Systems Science PhD Program	4,770	
Campus & Grounds Building	10,025	
1207 S.W. Montgomery Building	634	
University Center Building	90,755	Not including parking
Sixth Avenue Building	19,812	
Hoffmann Hall	9,638	
Campus & Grounds Trailer	800	New entry
Fourth Avenue Building	223,473	Not including parking
Fruit & Flower Building	15,692	Helen Gordon Child Development Center
Ondine	64,767	State funded portion of bldg
Urban Center Building	143,319	
Subtotal	2,252,499	E&G gsf
	2,245,714	E&G gsf on campus minus Pres Res

Auxiliary Buildings		
Ondine Residence	149,264	
Smith Memorial Center	163,106	
Parking Structure II	110,877	
Parking Structure I	315,937	-
Parking Structure III	234,256	
PCAT	28,359	Parking portion only
FAB	147,043	Parking portion only
Parkway Building	40,500	
Blackstone	40,655	
Montgomery Court	43,320	
Maryanne Building	13,320	
Stratford Building	22,950	
St. Helen's Building	36,280	
King Albert	31,950	
Birmingham	9,480	
Adeline	11,190	
West Hall	195,900	
Subtotal Auxiliaries	1,594,387	
Total Square Footage	3,846,886	
Off-Campus Land Owned	2.645	acres
On-Campus Land Owned	33.024	acres
On-Campus Land Not Owned	16.649	acres
Total Acres On-Campus	49.673	acres
Total Acres Off-Campus	2.645	acres

**PORTLAND STATE UNIVERSITY**  
**POTENTIAL DEVELOPMENT CAPACITY**  
**TABLE 1**

	BLOCK	TOTAL BLOCK AREA (gsf)	CODE ALLOWABLE DEVELOPMENT VOLUME		PRACTICAL GROSS BLOCK DEVELOPMENT POTENTIAL		
			ALLOWED FLOOR AREA / SITE AREA RATIO	GROSS ALLOWABLE FLOOR AREA	ABOVE GRADE DEVELOPMENT POTENTIAL	BELOW GRADE DEVELOPMENT POTENTIAL	MAX. ALLOWED DEVELOPMENT POTENTIAL
	90/91	130,784	6	784,704	627,763	168,117	795,880
	151	40,000	9	360,000	288,000	32,000	320,000
	152	40,000	6	240,000	192,000	32,000	224,000
	153	40,000	6	240,000	192,000	32,000	224,000
	154	40,000	6	240,000	192,000	32,000	224,000
	155	40,000	6	240,000	192,000	32,000	224,000
	156/21	88,576	6	531,456	425,165	70,861	496,026
	22	42,600	6	255,600	204,480	34,080	238,560
	23	9,820	6	58,920	47,136	7,856	54,992
	30/157	26,135	6	156,810	125,448	20,908	146,356
	158	40,000	6	240,000	192,000	32,000	224,000
	159	40,000	6	240,000	192,000	32,000	224,000
	160	40,000	6	240,000	192,000	32,000	224,000
	161	40,000	6	240,000	192,000	32,000	224,000
	162	40,000	6	240,000	192,000	32,000	224,000
	163	40,000	9	360,000	288,000	32,000	320,000
	188	40,000	9	360,000	288,000	32,000	320,000
	189	40,000	6	240,000	192,000	59,641	251,641
	190	40,000	6	240,000	192,000	16,000	208,000
	191	40,000	6	240,000	240,000	23,681	263,681
	192	40,000	6	240,000	192,000	32,000	224,000
	193	40,000	6	240,000	192,000	32,000	224,000
	194	27,586	6	165,516	132,413	22,069	154,482
	196	16,553	6	99,318	79,454	13,242	92,697
	197	52,000	6	276,000	220,800	36,800	257,600
	198	40,000	6	240,000	192,000	13,440	205,440
	199	40,000	6	240,000	240,000	35,173	275,173
	200	40,000	6	240,000	240,000	59,911	299,911
	201	40,000	6	240,000	240,000	79,600	319,600
	202	40,000	6	240,000	117,374	27,761	145,135
	227	40,000	6	240,000	192,000	32,000	224,000
	228	40,000	6	240,000	192,000	60,000	252,000
	229	55,321	6	285,963	285,963	38,128	324,091
	230	62,290	6	306,870	245,496	40,916	286,412
	231 & 238	125,400	6	616,200	492,960	82,160	575,120
	232	49,180	6	295,080	236,064	39,344	275,408
	239 & 270	120,640	6	601,920	481,536	80,256	561,792
	240	71,600	6	334,800	267,840	44,640	312,480
	241	62,400	6	307,200	245,760	40,960	286,720
	242	42,200	6	253,200	202,560	32,880	235,440
	267	55,200	6	285,600	228,480	38,080	266,560
	268	62,400	6	307,200	245,760	71,968	317,728
	269	61,600	6	304,800	243,840	44,350	288,190
	301 & 302	90,100	6	510,300	408,240	68,040	476,280
	303 & 304	30,982	6	185,892	148,714	24,786	173,499
<b>TOTAL POTENTIAL DEVELOPMENT CAPACITY</b>		<b>2,243,367</b>		<b>13,043,349</b>	<b>7,547,254</b>	<b>1,317,826</b>	<b>8,865,080</b>

**U. DISTRICT PER BLOCK DEVELOPMENT CAPACITIES**

**PORTLAND STATE UNIVERSITY**  
**POTENTIAL LAND DEVELOPMENT CAPACITY**  
**TABLE 2**

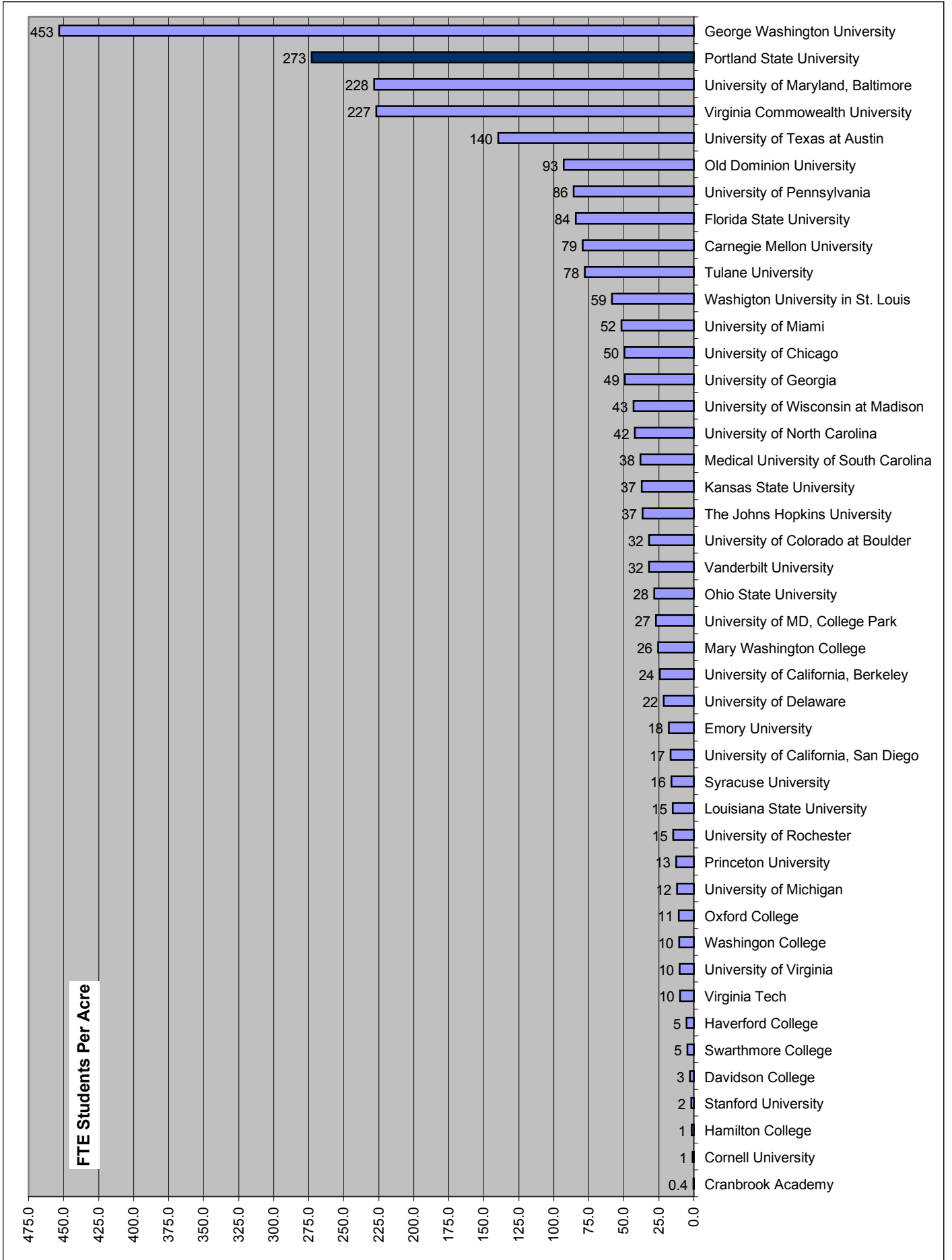
U. DISTRICT PER BLOCK DEVELOPMENT CAPACITIES	BLOCK	TOTAL BLOCK AREA (gsf)	EXISTING OREGON STATE BD. OF HIGHER EDUCATION OWNED PROPERTIES						REMAINING PROPERTY DEVELOPMENT POTENTIAL
			CONSOLIDATED DEVELOPABLE SITE AREA	GROSS BUILDING FLOOR AREA	NET ABOVE	NET BELOW	FLOOR AREA OF TEMPORARY BUILDINGS	RETAINED NET PSU FLOOR AREA	
					GRADE AREA	GRADE AREA			
90/91	130,784	115,184	370,483	202,366	168,117	-	370,483	421,153	
151	40,000	-	-	-	-	-	-	-	
152	40,000	-	-	-	-	-	-	-	
153	40,000	27,000	-	-	-	-	-	151,200	
154	40,000	-	-	-	-	-	-	-	
155	40,000	-	-	-	-	-	-	-	
156/21	88,576	-	-	-	-	-	-	-	
22	42,600	-	-	-	-	-	-	-	
23	9,820	-	-	-	-	-	-	-	
30/157	26,135	-	-	-	-	-	-	-	
158	40,000	10,000	19,831	19,830	-	19,830	-	56,000	
159	40,000	32,000	225,340	170,481	39,352	-	209,833	-	
160	40,000	40,000	179,694	91,919	33,914	-	125,833	-	
161	40,000	40,000	79,889	38,102	19,856	79,889	-	224,000	
162	40,000	40,000	143,320	105,577	18,130	-	123,707	0	
163	40,000	-	-	-	-	-	-	-	
188	40,000	-	-	-	-	-	-	-	
189	40,000	33,000	183,083	111,738	59,641	-	171,379	46,662	
190	40,000	40,000	132,775	113,881	4,113	-	117,994	90,006	
191	40,000	40,000	317,828	256,009	23,681	-	279,690	0	
192	40,000	10,000	30,321	23,190	-	30,321	-	56,000	
193	40,000	-	-	-	-	-	-	-	
194	27,586	-	-	-	-	-	-	-	
196	16,553	16,553	-	-	-	-	-	92,697	
197	52,000	46,000	-	-	-	-	-	257,600	
198	40,000	40,000	96,797	54,616	13,440	10,060	57,996	147,444	
199	40,000	40,000	359,656	153,703	35,173	-	188,876	-	
200	40,000	40,000	335,285	195,441	59,911	-	255,352	44,559	
201	40,000	40,000	317,292	179,991	79,600	-	259,591	-	
202	40,000	40,000	145,139	117,374	27,761	-	145,135	0	
227	40,000	40,000	74,359	62,553	11,806	74,359	-	224,000	
228	40,000	-	-	-	-	-	-	-	
229	55,321	47,661	97,275	86,034	11,241	-	97,275	169,627	
230	62,290	51,145	230,108	153,577	46,371	-	199,948	86,464	
231 & 238	125,400	102,700	229,635	152,235	77,470	-	229,705	345,415	
232	49,180	16,180	-	-	-	-	-	90,608	
239 & 270	120,640	100,320	0	0	0	0	0	0	
240	71,600	55,800	24,320	20,197	4,123	24,320	-	312,480	
241	62,400	51,200	243,275	141,957	71,968	-	213,925	-	
242	42,200	41,100	128,420	85,935	28,339	21,666	92,608	137,552	
267	55,200	47,600	11,898	6,618	2,905	10,424	-	266,560	
268	62,400	51,200	205,948	195,916	10,032	-	205,948	0	
269	61,600	50,800	66,401	59,185	7,216	9,064	57,337	227,143	
301 & 302	90,100	85,050	27,222	167,074	52,628	-	219,702	256,578	
303 & 304	30,982	9,315	13,830	8,430	5,400	13,830	-	52,164	
<b>TOTAL POTENTIAL DEVELOPMENT CAPACITY</b>		<b>1,439,808</b>	<b>4,289,424</b>	<b>2,973,929</b>	<b>912,188</b>	<b>293,763</b>	<b>3,622,317</b>	<b>3,755,911</b>	

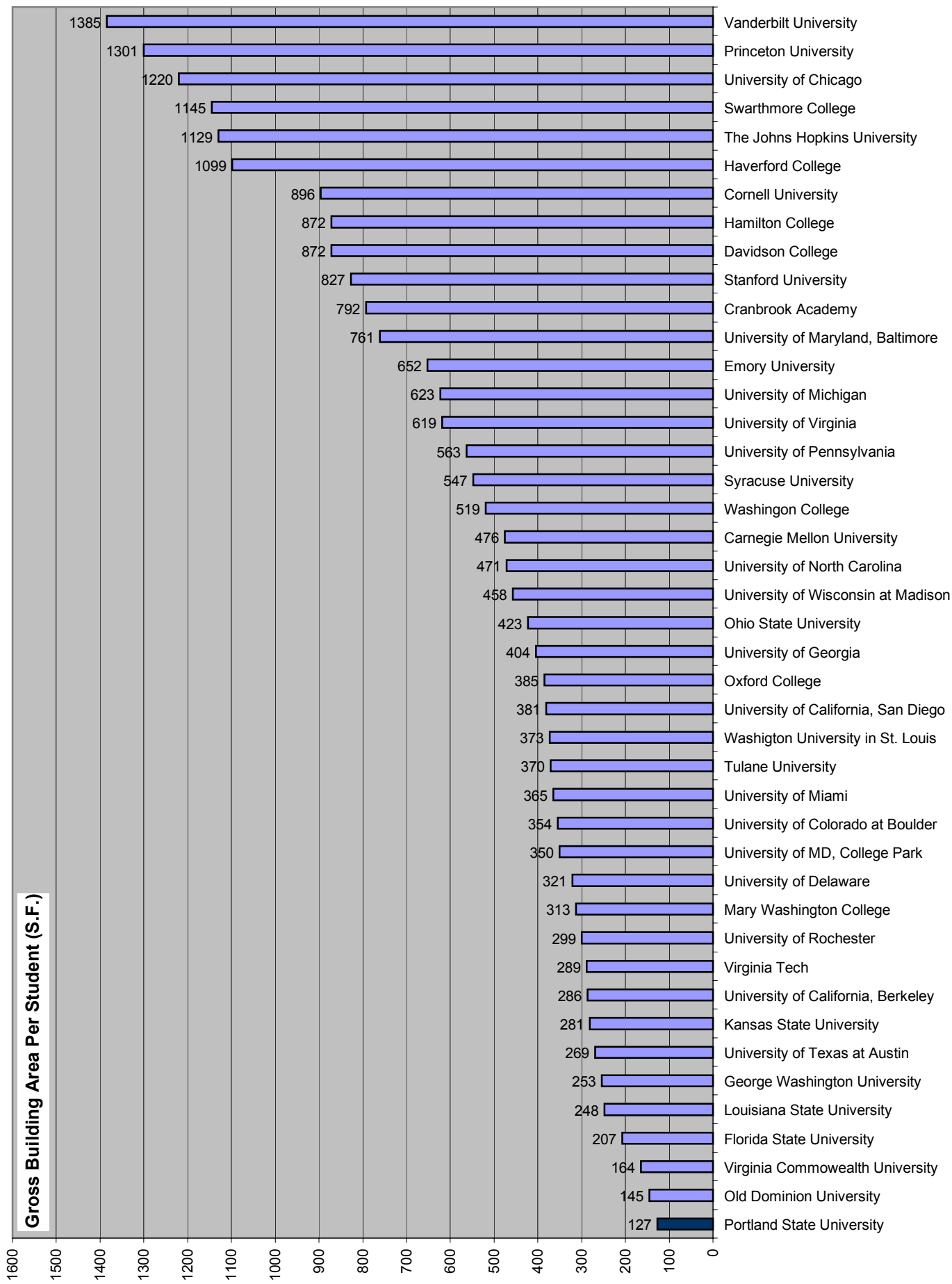
**PORTLAND STATE UNIVERSITY  
POTENTIAL DEVELOPMENT CAPACITY  
TABLE 3**

U. DISTRICT PER BLOCK DEVELOPMENT CAPACITIES	BLOCK	TOTAL BLOCK AREA (gsf)	EXISTING PRIVATELY OWNED PROPERTIES						
			CONSOLIDATED DEVELOPABLE SITE AREA	GROSS BUILDING FLOOR AREA	NET ABOVE	NET BELOW	EST. FLOOR AREA OF TEMPORARY BUILDINGS	EST. RETAINED NET FLOOR AREA	REMAINING PROPERTY POTENTIAL
					GRADE AREA	GRADE AREA			
90/91	130,784	15,600	161,185	161,185	-	-	161,185	0	
151	40,000	40,000	-	-	-	-	-	320,000	
152	40,000	10,000	17,500	17,500	-	17,500	-	56,000	
153	40,000	13,000	21,071	21,071	-	21,071	-	72,800	
154	40,000	40,000	46,566	46,566	-	46,566	-	224,000	
155	40,000	40,000	7,240	7,240	-	7,240	-	224,000	
156/21	88,576	88,576	52,814	52,814	-	52,814	-	496,026	
22	42,600	42,600	Unknown	Unknown	Unknown	-	Unknown	-	
23	9,820	9,820	-	-	-	-	-	54,992	
30/157	26,135	26,135	Unknown	Unknown	Unknown	Unknown	-	146,356	
158	40,000	30,000	73,379	73,379	-	73,379	-	168,000	
159	40,000	8,000	10,000	10,000	-	-	10,000	-	
160	40,000	0	-	-	-	-	-	-	
161	40,000	0	-	-	-	-	-	-	
162	40,000	0	-	-	-	-	-	-	
163	40,000	40,000	150,400	118,400	32,000	-	150,400	-	
188	40,000	40,000	40,000	40,000	-	-	40,000	-	
189	40,000	7,000	22,500	15,000	7,500	-	22,500	-	
190	40,000	0	-	-	-	-	-	-	
191	40,000	0	-	-	-	-	-	-	
192	40,000	30,000	28,200	28,200	-	28,200	-	168,000	
193	40,000	40,000	Unknown	Unknown	Unknown	Unknown	-	224,000	
194	27,586	27,586	Unknown	Unknown	Unknown	Unknown	-	154,482	
196	16,553								
197	52,000	0	-	-	-	-	-	-	
198	40,000	0	-	-	-	-	-	-	
199	40,000	0	-	-	-	-	-	-	
200	40,000	0	-	-	-	-	-	-	
201	40,000	0	-	-	-	-	-	-	
202	40,000	0	-	-	-	-	-	-	
227	40,000	0	-	-	-	-	-	-	
228	40,000	40,000	300,000	240,000	60,000	-	300,000	-	
229	55,321	0	-	-	-	-	-	-	
230	62,290	0	-	-	-	-	-	-	
231 & 238	125,400	0	-	-	-	-	-	-	
232	49,180	33,000	184,800	154,800	30,000	-	184,800	-	
239 & 270	120,640	0	-	-	-	-	-	-	
240	71,600	0	-	-	-	-	-	-	
241	62,400	0	-	-	-	-	-	-	
242	42,200	0	-	-	-	-	-	-	
267	55,200	0	-	-	-	-	-	-	
268	62,400	0	-	-	-	-	-	-	
269	61,600	0	-	-	-	-	-	-	
301 & 302	90,100	0	-	-	-	-	-	-	
303 & 304	30,982	21,667	-	-	-	-	-	121,335	
<b>TOTAL POTENTIAL DEVELOPMENT</b>		<b>642,984</b>	<b>1,115,655</b>	<b>986,155</b>	<b>129,500</b>	<b>246,770</b>	<b>868,885</b>	<b>2,429,990</b>	

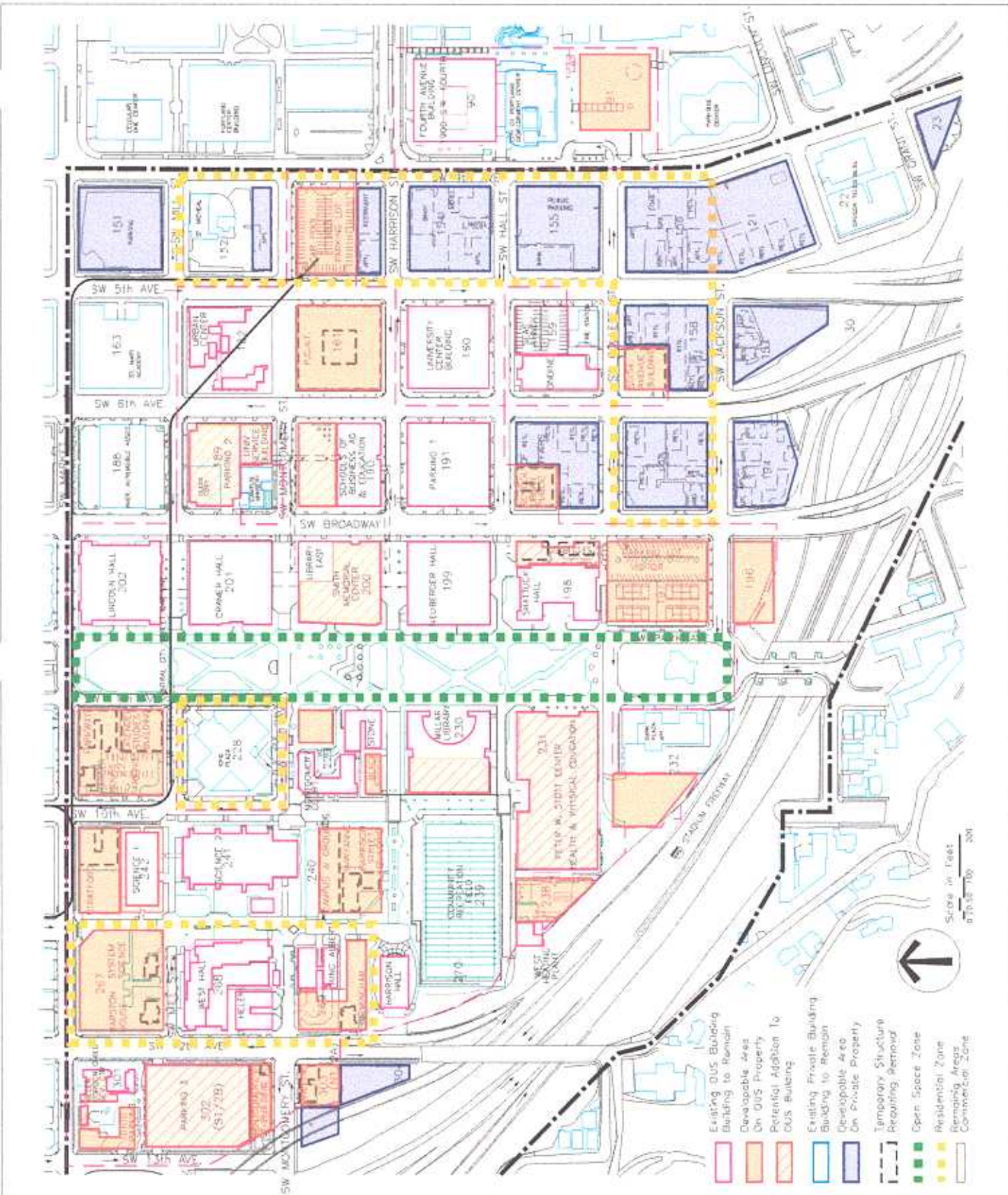
**PORTLAND STATE UNIVERSITY**  
**POTENTIAL DEVELOPMENT CAPACITY**  
**TABLE 4**

UNIVERSITY DISTRICT PER BLOCK DEVELOPMENT CAPACITIES	BLOCK	TOTAL BLOCK AREA (gsf)	EXISTING OREGON STATE BD. OF HIGHER EDUCATION OWNED PROPERTIES		EXISTING PRIVATELY OWNED PROPERTIES		TOTAL POTENTIAL DEVELOPMENT CAPACITY
			CONSOLIDATED DEVELOPABLE SITE AREA	REMAINING PROPERTY DEVELOPMENT POTENTIAL	CONSOLIDATED DEVELOPABLE SITE AREA	REMAINING PROPERTY DEVELOPMENT POTENTIAL	
90/91	130,784	115,184	421,153	15,600	0	421,153	
151	40,000	-	-	40,000	320,000	320,000	
152	40,000	-	-	10,000	56,000	56,000	
153	40,000	27,000	151,200	13,000	72,800	224,000	
154	40,000	-	-	40,000	224,000	224,000	
155	40,000	-	-	40,000	224,000	224,000	
156/21	88,576	-	-	88,576	496,026	496,026	
22	42,600	-	-	42,600	-	0	
23	9,820	-	-	9,820	54,992	54,992	
30/157	26,135	-	-	26,135	146,356	146,356	
158	40,000	10,000	56,000	30,000	168,000	224,000	
159	40,000	32,000	-	8,000	-	0	
160	40,000	40,000	-	0	-	0	
161	40,000	40,000	224,000	0	-	224,000	
162	40,000	40,000	-	0	-	0	
163	40,000	-	-	40,000	-	0	
188	40,000	-	-	40,000	-	0	
189	40,000	33,000	46,662	7,000	-	0	
190	40,000	40,000	90,006	0	-	90,006	
191	40,000	40,000	-	0	-	0	
192	40,000	10,000	56,000	30,000	168,000	224,000	
193	40,000	-	-	40,000	224,000	224,000	
194	27,586	-	-	27,586	154,482	154,482	
196	16,553	16,553	92,697	-	-	92,697	
197	52,000	46,000	257,600	0	-	257,600	
198	40,000	40,000	147,444	0	-	142,816	
199	40,000	40,000	-	0	-	0	
200	40,000	40,000	44,559	0	-	44,559	
201	40,000	40,000	-	0	-	0	
202	40,000	40,000	-	0	-	0	
227	40,000	40,000	224,000	0	-	224,000	
228	40,000	-	-	40,000	-	0	
229	55,321	47,661	169,627	0	-	169,627	
230	62,290	51,145	86,464	0	-	86,464	
231 & 238	125,400	102,700	345,415	0	-	345,415	
232	49,180	16,180	90,608	33,000	-	90,608	
239 & 270	120,640	100,320	-	0	-	0	
240	71,600	55,800	312,480	0	-	312,480	
241	62,400	51,200	-	0	-	0	
242	42,200	41,100	137,552	0	-	137,552	
267	55,200	47,600	266,560	0	-	266,560	
268	62,400	51,200	-	0	-	0	
269	61,600	50,800	227,143	0	-	227,143	
301 & 302	90,100	85,050	256,578	0	-	256,578	
303 & 304	30,982	9,315	52,164	21,667	121,335	173,499	
<b>TOTAL POTENTIAL DEVELOPMENT CAPACITY</b>			<b>1,439,808</b>	<b>3,755,911</b>	<b>642,984</b>	<b>2,429,990</b>	<b>6,134,612</b>









- Existing OUS Building Building to Remain
- Developable Area On OUS Property
- Potential Addition To OUS Building
- Existing Private Building Building to Remain
- Developable Area On Private Property
- Temporary Structure Requiring Removal
- Open Space Zone
- Residential Zone
- Remaining Areas
- Commercial Zone

**PORTLAND STATE UNIVERSITY**  
 FACILITIES  
 617 SW MONTGOMERY ST.  
 PORTLAND, OREGON 97201  
 503-125-3738 FAX 503-125-4324

**POTENTIAL DEVELOPMENT MAP  
 PORTLAND STATE UNIVERSITY  
 & UNIVERSITY DISTRICT**  
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DRAWN BY:  
 BT  
 DATE:  
 11-17-99

**MAP B**