
THE STATE UNIVERSITY OF NEW JERSEY

RUTGERS

Addendum to the Physical Master Plan Phase I

NEW BRUNSWICK



CAMDEN



NEWARK



November 2001

899 Logan Street, Suite 508
Denver, Colorado 80203-3156
(303) 832-3272 • FAX (303) 832-3380

PAULIEN & ASSOCIATES, INC.

e-mail: dpaulien@paulien.com
www.paulien.com

Document Prepared by:

PAULIEN & ASSOCIATES, INC.

Denver, Colorado, Decatur, Georgia and Baton Rouge, Louisiana

Daniel K. Paulien, President
Mel Lockhart, Senior Associate
Lisa M. Keith, Associate II

Acknowledgments to:

Rutgers, The State University of New Jersey

PRESIDENT'S CABINET

Francis L. Lawrence, President
Roger J. Dennis, Provost – Camden
James L. Flanagan, Vice President for Research
JoAnne G. Jackson, Senior Vice President and Treasurer
Norman Samuels, Provost – Newark
Joseph P. Seneca, Vice President for Academic Affairs
Paul A. Snyder, Vice President for Institutional Research & Planning
Nancy Winterbauer, Vice President for University Budgeting

COORDINATING GROUP FOR CAMPUS MASTER PLAN

Jim Hughes, Dean, School of Planning
Ed Kozack, Associate Vice President for Auxiliary Services
Joe Quinlan, Senior Associate Director of Athletics
Mark Rozewski, Associate Provost, Camden Campus
Brent Ruben, Communication Professor
John Salapatas, Executive Associate for Academic Affairs
Paul Snyder, Vice President for Institutional Research & Planning
Gene Vincenti, Associate Provost, Newark Campus
Kyu-Jung Whang, University Architect
Frank Wong, University Planner

The Consultants express their thanks to JoAnne Jackson, Frank Wong, Kyu-Jung Whang, and Ed Kozack who served as day to day coordinators for the study.

The Consultants also thank the many Rutgers administrators, faculty and staff who met with the Consultants and/or provided information needed for the study.

The Consultants also thank the Mayors, City Council representatives and Planning officials of the five communities which house or border on the Rutgers – New Brunswick campus for meeting with the Consultants and sharing their ideas about planning for the future of Rutgers University.

**Addendum to the
Physical Master Plan Phase I
Table of Contents**

INTRODUCTION	1
EXECUTIVE SUMMARY	2
Benchmark Analysis	3
Rutgers University – Camden	3
Rutgers University – Newark	4
Cost of Enrollment Growth	4
SECTION 2 • BENCHMARK ANALYSIS OF ACADEMIC SPACE NEEDS	5
1.0 Background and Objectives	6
2.0 Process	6
Benchmark Data	6
Table: Camden Campus Comparison with Benchmark Institutions	6
Table: Newark Campus Comparison with Benchmark Institutions	7
Benchmarking Methodology	7
Table: Camden Campus Summary of Factors Used for Calculating Benchmark Analysis	7
Table: Newark Campus Academic Space Factors Used for Calculating Benchmark Analysis	8
Table: Newark Campus Physical Education/Recreation and Law School Space Factors Used for Calculating Benchmark Analysis	8
Project Space Requirements for the Fall 2011 Enrollment Scenarios	9
3.0 Benchmarking Analysis: Current Year	9
Table: Camden Campus Academic Space by Space Type for Benchmark Group	9
Graph: Camden Campus Instructional Space per Student	9
Graph: Camden Campus Research Space per Faculty Member for Benchmark Group	10
Table: Camden Campus Research Expenditures per Faculty and ASF per \$100,000 in Research Expenditures	10
Table: Camden Campus Physical Education and Recreation Space for Benchmark Group	11
Table: Camden Campus Law School Comparative Data	11
Table: Camden Campus Law Library Volume and Seating Comparative Data	11
Table: Newark Campus Academic Space by Space Type for Benchmark Group	12
Graph: Newark Campus Instructional Space per Student	12
Graph: Newark Campus Research Space per Faculty Member for Benchmark Group	13
Table: Newark Campus Research Expenditures per Faculty and ASF per \$100,000 in Research Expenditures	13
Table: Newark Campus Physical Education and Recreation Space for Benchmark Group	14
Table: Newark Campus Law School Comparative Data	14
Table: Newark Campus Law Library Volume and Seating Comparative Data	14
4.0 Benchmarking Analysis: Fall 2011 Enrollment Modeling	15
Table: Projected Increases in Student Headcount	15
Camden Campus	15
Table: Camden Campus Benchmarking Analysis	15

Table of Contents *(cont'd)*

Newark Campus	16
<i>Table: Newark Campus Benchmarking Analysis</i>	16
Comparison of Benchmarking and Normative Guideline Approaches	17
<i>Table: Camden Campus Comparison of Benchmarking & Normative Guideline Approaches</i>	18
<i>Table: Newark Campus Comparison of Benchmarking & Normative Guideline Approaches</i>	19
5.0 Limitations of the Benchmarking Approach	18
SECTION 2 • COST OF ENROLLMENT GROWTH	20
1.0 Capital Investments	21
<i>Table: Estimates of Facilities Requirements and Capital Costs</i>	21
Static Enrollment Growth Scenario	21
<i>Table: Estimate of Capital Costs by Space Category</i>	22
Moderate Enrollment Growth Scenario	23
Market Enrollment Growth Scenario	23
2.0 Annual Operating Costs (the Educational & General Budget)	23
<i>Table: Estimates of Staffing Requirements and Annual Operating Costs</i>	24
APPENDICES	25
Appendix A • Camden Campus Benchmark Analysis	
Assignable Square Feet per Student/Faculty by Institution	26
Appendix B • Newark Campus Benchmark Analysis	
Student Enrollment and Faculty Data by School/College	27
Appendix C • Newark Campus Benchmark Analysis	
Assignable Square Feet by Space Type by School/College	31
Appendix D • Newark Campus Benchmark Analysis	
Assignable Square Feet by Unit (Student/Faculty) by Institution	35
Appendix E • Newark Campus Benchmark Analysis for Classroom Space	38
Appendix F • Newark Campus Benchmark Guideline Application for Academic Space	39

Addendum to the Physical Master Plan Phase I

*Prepared by
Paulien & Associates, Inc.*

November 2001

INTRODUCTION

In February 2001, the University contracted with Paulien & Associates, Inc., to conduct Phase I of the physical master plan (“PMP”). Phase I was completed in July 2001. The report was the strategic review of Rutgers’ capital resources that reflected the integration of the University’s mission statement, strategic plan, academic program goals, development of a financial plan, and future enrollment modeling. That study included a Benchmark Analysis of academic space — the space that supports instruction and scholarly research — at the New Brunswick/Piscataway campus of Rutgers with that of six (6) other public flagship universities.

At the time the Benchmark Analysis was performed there was not an adequate amount of time to conduct similar analyses for the Camden and Newark campuses. In October 2001, the University contracted with the consultants to conduct a Benchmark Analysis for both the Camden and Newark campuses. The enrollment scenarios, faculty and staff projections, and research projections used in the July 2001 study are the same projections used in this study.

There are two sections in this report. Section 1 contains a separate comparative analyses for the Camden and Newark campuses. Each campus selected four (4) universities to be benchmarked against. This analysis calculates the amount of space required to bring each campus up to the benchmark levels for each enrollment scenario.

Section 2 updates the tables that model the impact of increased enrollments illustrating staffing requirements, space needs by major category, operating cost implications, as well as capital construction costs.

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

Executive Summary

NEWARK

NEW BRUNSWICK

CAMDEN

Addendum to the Physical Master Plan Phase I

*Prepared by
Paulien & Associates, Inc.*

November 2001

EXECUTIVE SUMMARY

Benchmark Analysis

- The comparative analysis was conducted using headcount enrollments and full-time faculty counts. In some cases regular faculty full-time equivalents (FTE) were substituted.
- Only classroom space, instructional laboratories (includes teaching and open laboratories), research laboratories, indoor physical education and recreation space, and law school space were compared.
- The Camden benchmark analysis for academic space (classroom, instructional laboratories, and research space) was conducted on a campuswide basis because the benchmark institutions did not have detailed data available. The Newark analysis for academic space was conducted on a program-by-program basis thus allowing for differences in program mix.
- For both campuses, the comparative analysis for physical education and recreation space and law school space was conducted in the same manner.
- The same enrollment scenarios, faculty and staff projections, and research expenditure projections used in the July 2001 Physical Master Plan Phase I study are used in this Addendum.
- Graduate enrollments are assumed to be static in all three enrollment scenarios. Therefore, in projecting each campuses' law school space requirements the student enrollments and faculty headcounts stay the same.
- To the degree possible, the analytical techniques and processes used in this analysis are consistent with the comparative analysis conducted for the New Brunswick/Piscataway campus in the July 2001 report.

Rutgers University – Camden

- Camden selected four institutions as part of its benchmark group. They were Cleveland State University, Saint Louis University, Seattle University, and the University of Southern Maine. Ultimately, Saint Louis University dropped out of the study leaving only three institutions in its benchmark group.

- The Camden campus has 54% less students than its benchmark group average and has 20% less classroom space, 13% less instructional laboratory space, 50% less physical education and recreation space, and 44% less law school space on a per student basis than the group's averages in those space categories.
- The normative analysis produced slightly larger needs for instructional laboratories. Benchmarking produced substantially larger deficits for classroom space and physical education and recreation space than the normative analysis.
- The overall additional deficit for the Camden campus is 75,700 ASF at the Fall 2011 Static Enrollment model. For both the Moderate and Market Enrollment models this deficit increases 27% to just over 96,200 ASF. This additional classroom, physical education and recreation, and law school space will bring the campus up to the benchmarked averages.

Rutgers University – Newark

- Newark selected four institutions as part of its benchmark group. They were University of Arizona, University of California — Riverside, SUNY — Albany and Ohio State University. Two of the groups institutions, UC — Riverside and SUNY — Albany did not have law schools.
- UC — Riverside and Ohio State University did not provide full-time faculty headcounts, therefore, regular faculty full-time equivalents were used instead.
- The consultants did not feel that Ohio State University and University of Arizona were good comparison schools because of their large enrollments, broad range of program offerings including medicine and their extensive research activities. The Rutgers' project managers instructed the consultants to use the schools recommended by Newark's administration.
- The Newark campus has 67% less students than its benchmark group average. The campus has 54% more classroom space, 9% less instructional laboratory space, 77% less research space per faculty, and 25% less law school space on a per student basis than the group's averages in those space categories.
- The normative analysis produced a slightly larger surpluses in classroom space than did the comparative analysis. For instructional laboratories, benchmarking produced a smaller deficit than the normative analysis. In physical education and recreation space, the normative analysis produced a larger deficit.
- The overall additional deficit for the Newark campus is 31,400 ASF at the Fall 2011 Static Enrollment model. For both the Moderate and Market Enrollment models this deficit increases 18% to just over 37,000 ASF. This additional research and law school space will bring the campus up to its benchmark group averages.

Cost of Enrollment Growth

- Bringing the Camden and Newark campuses to meet their benchmark group averages adds 170,000 GSF to the original facilities requirements for the Fall 2011 Static Enrollment scenario which is approximately \$56,280,000 in construction.
- At the Moderate Enrollment Growth scenario almost 210,000 GSF of additional space will be needed to bring both campuses up to their benchmark averages. This will cost about \$70,850,000 to construct.
- The amount of additional space required for Camden and Newark to meet the benchmark group averages decreases to 180,000 GSF at the Market Enrollment Growth scenario. This is due to the fact that research expenditures are projected to be increase faster in the Market Enrollment scenario. This creates a larger deficit in the normative analysis thereby decreasing the difference between the benchmarking analysis and the normative analysis. The 180,000 GSF will cost approximately \$57,730,000 to construct.

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

NEWARK

Section 1

BENCHMARK ANALYSIS OF ACADEMIC SPACE NEEDS

NEW BRUNSWICK

CAMDEN

BENCHMARK ANALYSIS OF ACADEMIC SPACE NEEDS

1.0 BACKGROUND AND OBJECTIVES

The enrollment scenarios, faculty and staff projections, and research expenditure projections used in the July 2001 study are the same projections used in this study. In addition to the academic space, the space that supports instruction and scholarly research compared in the July 2001 New Brunswick/Piscataway Benchmark Analysis, the consultants were asked to compare physical education and recreation space and the amount of space law schools occupy at other universities. The data presented in this section supplement the conventional normative guideline analysis by comparing the above-mentioned spaces at the Camden and Newark campuses with that of other universities.

2.0 PROCESS

Benchmark Data

Four universities were selected by each campus for inclusion in their individual comparison groups. Camden officials had included Saint Louis University, but after they initially agreed to participate they chose not to supply the consultants with data. The comparison groups are:

<u>CAMDEN</u>	<u>NEWARK</u>
Cleveland State University	University of Arizona
Seattle University	University of California - Riverside
University of Southern Maine	SUNY - Albany
	Ohio State University

CAMDEN CAMPUS COMPARISON WITH BENCHMARK INSTITUTIONS

University	Total Student Enrollment	Undergraduate Student Headcount	Graduate & Professional Student Headcount	Total Full-Time Faculty
Cleveland State University	15,293	10,132	5,161	539
Seattle University	5,851	3,302	2,549	307
University of Southern Maine	10,820	8,726	2,094	351
MEAN	10,655	7,387	3,268	399
<i>MEDIAN</i>	10,820	8,726	2,549	351
Rutgers University • Camden	4,936	3,537	1,399	223

Data regarding enrollment and faculty distribution by academic division was obtained from university fact books, web sites, and/or planning offices. Key information about the benchmark universities is shown in the table to the right and on the following page. Detailed enrollment and faculty counts by school and college can be found in Appendix B.

The benchmark universities for Newark provided a facilities inventory describing the space assigned to each academic division (College or School). Facilities data included both total

NOTE: Rutgers' student enrollments and faculty counts are from Rutgers Fact Book 2000-2001.

assignable square feet (ASF) of space for each academic division and assignable square feet by room use code (Appendix C). For Camden, only Seattle University had facilities data available by academic division but did not have facilities data for their Law School. The University of Southern Maine only had campuswide data and Cleveland State University facilities data was derived from the Ohio Board of Regent's data. Facilities data gathered included space used for instruction (classrooms and instructional laboratories) and research. Physical Education/Recreation space data was collected and viewed as a campuswide resource.

Some of the benchmark institutions for both Camden and Newark did not have detailed information for their law schools. The Law School Admission Council, Inc. (“LSAC”) publishes its “*Official Guide to ABA-Approved Law Schools*” annually. It collects data in partnership with the American Bar Association (“ABA”). The types of data the guide publishes include: admissions, student enrollment, faculty, program, tuition, living expenses, grade point average, test scores, bar passage rates, degrees awarded, placement, facilities, and library statistics. The library data set includes: collections, reader stations, square footage, personnel, computer connections, etc. For purposes of this study, the data found in this guide was used for the law school comparisons at both Camden and Newark.

NEWARK CAMPUS COMPARISON WITH BENCHMARK INSTITUTIONS

University	Total Student Enrollment	Undergraduate Student Headcount	Graduate & Professional Student Headcount	Total Full-Time Faculty*
University of Arizona	34,943	26,410	8,533	1,994
University of California - Riverside	13,063	11,436	1,627	545
SUNY - Albany	16,751	11,780	4,971	583
Ohio State University	<u>47,952</u>	<u>35,749</u>	<u>12,203</u>	<u>2,390</u>
MEAN	28,177	21,344	6,834	1,378
<i>MEDIAN</i>	<i>25,847</i>	<i>19,095</i>	<i>6,752</i>	<i>1,289</i>
Rutgers University • Newark	9,221	5,776	3,445	445

NOTE: Rutgers' student enrollments and faculty counts are from Rutgers Fact Book 2000-2001.

* UC - Riverside and Ohio State did not provide FT Faculty headcount. Regular Faculty FTE was used instead.

Benchmarking Methodology

Academic Space Factors were generated for each benchmark group by analyzing assignable square feet (ASF) per student and assignable square feet per faculty. Instructional space (classrooms and instructional labs) is calculated based upon ASF per student. Research space is calculated based upon ASF per faculty. The process of how the academic space factors were generated and applied was different for each campus due to the differences in the level of detail provided in the facilities data.

CAMDEN

As mentioned earlier, the data obtained from most of the benchmark institutions for Camden was not detailed enough to perform a comparative analysis on a program by program basis. Therefore only a campuswide comparative study was performed. ASF per student and ASF per faculty for each space category at each benchmark institution was calculated (Appendix A).

CAMDEN CAMPUS

SPACE FACTORS USED FOR CALCULATING BENCHMARK ANALYSIS

University	Classrooms & Service	Instructional Labs & Service	Research Labs & Service	Physical Education & Recreation	Law School	Law Library	
Multiplier =	per Student	per Student	per Faculty	per Student	per Student	per Student	per Faculty
Cleveland State University	9.5	16.7	177.0	not available	70.1	107.3	2,419.1
Seattle University	10.9	10.0	8.2	13.1	90.4	33.4	922.6
University of Southern Maine	10.5	9.2	20.8	18.9	123.9	135.0	2,733.3
<i>Mean</i>	<i>10.3</i>	<i>12.0</i>	<i>68.7</i>	<i>16.0</i>	<i>94.8</i>	<i>91.9</i>	<i>2,025.0</i>
<i>Median</i>	<i>10.5</i>	<i>10.0</i>	<i>20.8</i>	<i>16.0</i>	<i>90.4</i>	<i>107.3</i>	<i>2,419.1</i>
SPACE FACTOR USED (IN ASF)	10.3	12.0	20.8	16.0	94.8	107.3	2,419.1

ASF = Assignable Square Feet

Space factors were determined by calculating the mean. In instances where one University's value was significantly out of line with those of other universities in the sample, the median was substituted for the mean to eliminate the effects of skewing. Medians used are shown in *Italics*.

NEWARK

Data obtained from the benchmark schools for the Newark campus were reorganized so that all space available could be compared on a discipline-by-discipline basis. Space data then were normalized to permit comparisons between universities with different enrollments and staffing levels. ASF per student and ASF per faculty for each space type by school/program in each University were calculated (Appendix D). To estimate the academic space required at the Newark campus, space factors were calculated for instructional labs and research labs by discipline/program. (See table on the following page.) Because classroom space is normally viewed as a campuswide resource, the mean and median were calculated on a campuswide level (Appendix E). The factors were applied according to enrollment patterns and program mix offered on the Newark campus. Then a campus total was calculated by combining the values obtained for each disciplinary group (Appendix F).

**NEWARK CAMPUS
ACADEMIC SPACE FACTORS USED FOR
CALCULATING BENCHMARK ANALYSIS**

School or Program	Classrooms & Service	Instructional Labs & Service	Research Labs & Service
Multiplier =	per Student	per Student	per Faculty*
Arts & Sciences/Criminal Justice**	8.3	14.4	437.9
Business/Management	8.3	2.0	12.2
Nursing	8.3	11.3	114.6

Factors are expressed as Assignable Square Feet

* UC - Riverside and Ohio State did not provide FT Faculty headcount. Regular Faculty FTE was used instead.

** Many of the benchmark institutions had their Criminal Justice program under Arts & Sciences.

**PHYSICAL EDUCATION/RECREATION AND
LAW SCHOOL SPACE FACTORS USED FOR
CALCULATING BENCHMARK ANALYSIS**

University	Physical Education & Recreation	Law School	Law Library	
Multiplier =	per Student	per Student	per Student	per Faculty
University of Arizona	3.7	98.7	97.4	1,649.2
University of California - Riverside	6.4	n/a	n/a	n/a
SUNY - Albany	9.4	n/a	n/a	n/a
Ohio State University	6.0	119.1	124.2	2,033.5
<i>Mean</i>	6.4	108.9	110.8	1,841.3
<i>Median</i>	6.2	108.9	110.8	1,841.3
SPACE FACTOR USED	6.4	108.9	110.8	1,841.3

Space factors were determined by calculating the mean value for those Universities that have schools in each discipline. In instances where one University's value was significantly out of line with those of other universities in the sample, the median was substituted for the mean to eliminate the effects of skewing. Medians are shown in *italics*.

component of the space needs for the campuses. Space requirements for student unions, general administration, residential complexes, athletic facilities, plant management operations and auxiliary services generally are not assigned to a particular school or academic program, so were not considered in the comparative analysis.

Physical Education and Recreation

Space is considered a campuswide resource. *In this analysis, only indoor physical education and recreation space is counted.* The space factor is ASF per student and applied on a campuswide level. The process of generating and applying the space factors for this space category was the same for both the Camden and Newark campuses.

Law School Space Factors

were also generated for each benchmark group by analyzing: the ASF per student for non-library space; and ASF per student and per faculty for library space. Library space is used both by students and faculty. To evaluate library space by looking at only one user group would be inaccurate. Therefore, law library space factors were generated and applied on a per student basis and then on a per faculty basis. The results were added together and averaged. The law library average was added to the law non-library space (which is calculated on a per student basis) to generate the total Law School space need. The final step is to subtract the Law School's portion of the non-library law school space (classrooms and instructional labs) and law library collection space that was generated in the normative analysis in order to determine the total Law School's space deficiency or surplus (Appendix G).

It is important to remember that the data gathered represent only one

Project Space Requirements for the Fall 2011 Enrollment Scenarios

The University developed three possible enrollment scenarios: Static Growth, Moderate Growth, and Market Growth. For a description of the enrollment scenarios refer to Section 1 of the July 2001 Physical Master Plan - Phase 1 report. For purposes of estimating future space needs using the comparison school approach, faculty numbers were assumed to increase in proportion to enrollment increases. For both campuses, the graduate enrollment is assumed to be static in all three enrollment scenarios. Therefore, in projecting the Law School space needs for both campuses the student enrollment and faculty headcount stays the same.

3.0 BENCHMARKING ANALYSIS: CURRENT YEAR

Camden Campus

Enrollment for Camden's benchmark group ranged from 5,851 at Seattle University to nearly 15,300 at Cleveland State University. Mean enrollment for the group is 10,655. Enrollment at Camden is 4,936, about 54% less than the group's average.

CAMDEN CAMPUS

ACADEMIC SPACE BY SPACE TYPE FOR BENCHMARK GROUP

University	Total Student Enrollment	Total Full-Time Faculty	Assignable Square Feet (ASF)		
			Classrooms & Service	Instructional Labs & Service	Research Labs & Service
Cleveland State University	15,293	539	145,648	256,025	95,422
Seattle University	5,851	307	63,686	58,711	2,503
University of Southern Maine	10,820	351	113,797	99,350	7,300
MEAN	10,655	399	107,710	138,029	35,075
MEDIAN	10,820	351	113,797	99,350	7,300
Rutgers University • Camden	4,936	223	40,945	51,235	12,317

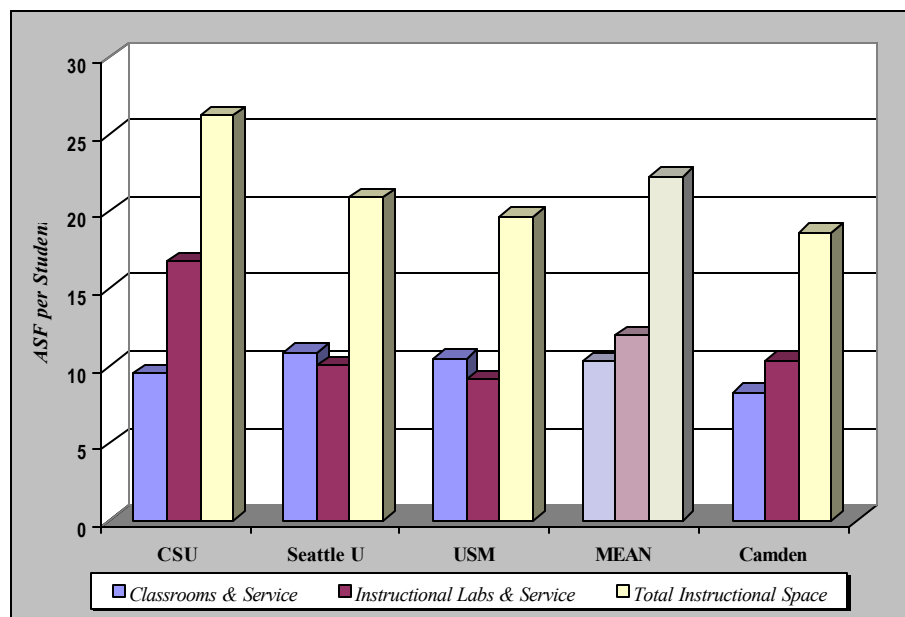
Camden has 54% less students than the benchmarked average. The campus also has 20% less classroom and classroom service space per student than the benchmark group. The overall deficit in this category is about 11,000 ASF.

Camden has about 13% less instructional laboratory space per student than the benchmark universities. The deficit in this category totals about 9,500 ASF.

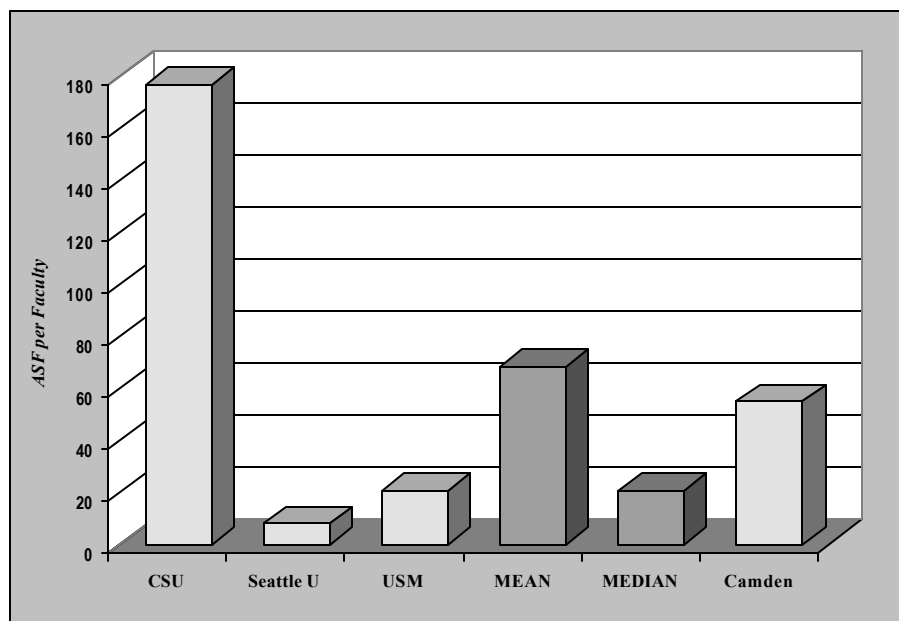
NOTE: Rutgers' student enrollments and faculty counts are from Rutgers Fact Book 2000-2001.

The benchmark group reported having between 9.5 and 11 ASF of classroom space per student. They have between 9 and 17 ASF of teaching and open laboratory space per student. For the group as a whole, the weighted average amount of classroom plus classroom service space (RUC 110 and 115) per student is about 10.3 ASF. The group has on average about 12 ASF of instructional laboratory and laboratory service (RUC 210 and 215 and RUC 220 and 225) per student. At the Camden campus, those values are about 8.3 ASF and 10.4 ASF, respectively.

INSTRUCTIONAL SPACE PER STUDENT



CAMDEN CAMPUS
RESEARCH SPACE PER
FACULTY MEMBER FOR BENCHMARK GROUP



As shown in the graph above, Camden has about 80% as much total research space per faculty (RUC 250 and 255) as the benchmark group's mean (68.7 ASF), however, it has over two and one-half times more space than the group's median (20.8 ASF). Research space per faculty member varied widely in the benchmark group, ranging from a low of 8.2 ASF per faculty member at Seattle University to 177 ASF per faculty member at Cleveland State University. At Camden, the average is just over 55 ASF per faculty member.

Because the research space per faculty findings varied so much, the consultants looked at research expenditures per faculty member and the assignable square feet per \$100,000 in research expenditures. The research expenditures came from the National Science Foundation, Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges for Fiscal Year 1999. There was no research expenditure data available for Seattle University.

As can be seen, Camden's research expenditure per faculty member is significantly less (73%) than the benchmark group's average. However, the campus has about two and one-half times the amount of ASF per \$100,000 in research expenditures than the group's average. The campus has an extraordinarily high research space to research expenditure ratio.

After reviewing this additional information the consultants decided that the median of 20.8 ASF per faculty member was the appropriate space factor to apply in this analysis. The application of the benchmark median value produced a 7,500 ASF surplus for Fall 2000.

RESEARCH EXPENDITURES PER FACULTY AND
ASF PER \$100,000 IN RESEARCH EXPENDITURES

University	FY 1999 NSF Research Expenditures	Expenditures per Faculty	ASF per \$100,000 in Research Expenditures
Cleveland State University	\$11,893,000	\$22,065	802
Seattle University	n/a	n/a	n/a
University of Southern Maine	\$1,366,000	\$3,892	534
MEAN	\$6,629,500	\$12,978	668
Rutgers University • Camden*	\$779,242	\$3,494	1,581

Source: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges

* Fall 2000 Sponsored Research Expenditures supplied by Rutgers' Office of the University Controller, Division of Grant and Contract Accounting

The Camden campus only has 50% of the benchmark group's average ASF per student in Physical Education and Recreation Space. Using 16 ASF per student as the space factor produces a deficit of about 30,500 ASF for Fall 2000.

As mentioned earlier in this report, Law School data was collected from "The Official Guide to ABA-Approved Law Schools, Searchable Edition." The data for the Camden campus came for the data collected for the July 2001 Physical Master Plan Phase 1 report with the exception of the library volumes and seating counts which came from the aforementioned guide.

CAMDEN CAMPUS PHYSICAL EDUCATION AND RECREATION SPACE FOR BENCHMARK GROUP

University	Total Student Enrollment	Total ASF	ASF per Student
Cleveland State University	15,293	not available	n/a
Seattle University	5,851	76,758	13.1
University of Southern Maine	10,820	204,909	18.9
MEAN	10,655	140,834	16.0
Rutgers University • Camden	4,936	40,945	8.3

NOTE: Rutgers' student enrollments are from Rutgers Fact Book 2000-2001.

CAMDEN CAMPUS LAW SCHOOL COMPARATIVE DATA

Institution	Enrollment	Full-Time Faculty	Faculty Student Ratio	Assignable Square Feet							Library as Percent of Total	Library ASF per Full-Time Faculty
				Non-Library	Library	TOTAL	ASF per Student					
							Non-Library	Library	TOTAL			
Cleveland State University	789	35	16.2	55,343	84,670	140,013	70.1	107.3	177.5	60%	2,419.1	
Seattle University	938	34	21.2	84,820	31,369	116,189	90.4	33.4	123.9	27%	922.6	
University of Southern Maine	243	12	16.7	30,115	32,800	62,915	123.9	135.0	258.9	52%	2,733.3	
MEAN	657	27	18.0	56,759	49,613	106,372	94.8	91.9	186.7	47%	2,025.0	
MEDIAN	789	34	16.7	55,343	32,800	116,189	90.4	107.3	177.5	52%	2,419.1	
Rutgers University • Camden*	760	32	17.3	38,448	41,330	79,778	50.6	54.4	105.0	52%	1,291.6	

As can be seen, Camden has approximately 25% less space for its Law School than the average of the benchmark group – of which more than two-thirds is non-library space. The Law School has 28% less volumes per student than the benchmark group but has a little over the group's average in seating capacity.

After applying the Law School's space factors for non-library and library space as described earlier, the Law School has an approximate 55,000 ASF deficit.

At current enrollment levels, the Camden campus is in deficit relative to its benchmark group for every space group studied with the exception of research space. Combined, these deficits total over 106,000 ASF.

LAW LIBRARY VOLUME AND SEATING COMPARATIVE DATA

Institution	Volumes		Seating	
	Volumes	Volumes per Student	Seating	Percent of Students
Cleveland State University	463,106	587	396	50%
Seattle University	325,162	347	313	33%
University of Southern Maine	325,199	1,338	172	71%
MEAN	371,156	757	294	51%
MEDIAN	325,199	587	313	50%
Rutgers University • Camden*	413,548	544	403	53%

NOTE: All Law School peer data is from the "The Official Guide to ABA-Approved Law Schools, Searchable Edition".

* All Rutgers data is from the data collection effort and analysis conducted for the Physical Master Plan Phase 1 completed in July 2001 with the exception of volume and seating counts. This data is from "The Official Guide to ABA-Approved Law Schools, Searchable Edition".

Newark Campus

Enrollment for Newark's benchmark group ranged from about 13,000 at University of California - Riverside to nearly 48,000 at Ohio State University. Mean enrollment for the group is about 28,177. Enrollment at Newark is 9,221, about 67% less than the group's average.

Even though Newark has 67% less students than the benchmarked average, it has 54% more classroom and classroom service space per student than the benchmark group. The overall surplus in this category is about 36,000 ASF.

Newark has about 9% less instructional laboratory space per student than the benchmark universities. The deficit in this category totals just over 7,500 ASF.

The benchmark group reported having between 5 and 9 ASF of classroom space per student. They have between 7 and 18 ASF of teaching and open laboratory space per student. For the group as a whole, the weighted average amount of classroom plus classroom service space (RUC 110 and 115) per student is about 7.6 ASF. The group has on average about 11.7 ASF of instructional laboratory and laboratory service (RUC 210 and 215 and RUC 220 and 225) per student. At the Newark campus, those values are about 11.7 ASF and 10.7 ASF, respectively.

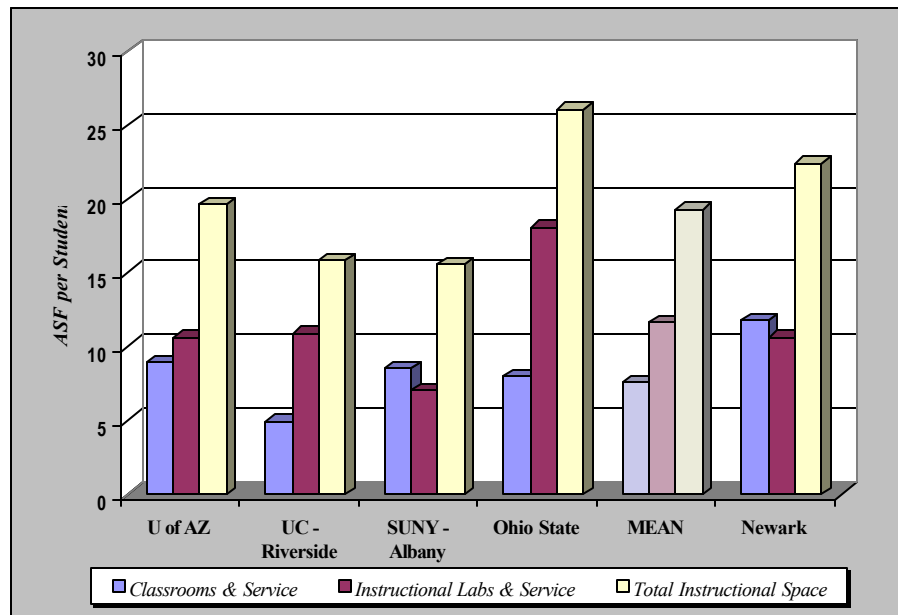
NEWARK CAMPUS ACADEMIC SPACE BY SPACE TYPE FOR BENCHMARK GROUP

University	Total Student Enrollment	Total Full-Time Faculty*	Assignable Square Feet (ASF)		
			Classrooms & Service	Instructional Labs & Service	Research Labs & Service
University of Arizona	34,943	1,994	313,598	371,848	901,943
University of California - Riverside	13,063	545	64,382	142,396	400,142
SUNY - Albany	16,751	583	142,890	117,797	319,292
Ohio State University	47,952	2,390	383,818	867,347	1,333,028
MEAN	28,177	1,378	226,172	374,847	738,601
MEDIAN	25,847	1,289	228,244	257,122	651,043
Rutgers University • Newark	9,221	445	108,308	98,211	57,391

NOTE: Rutgers' student enrollments and faculty counts are from Rutgers Fact Book 2000-2001.

* UC - Riverside and Ohio State did not provide FT Faculty headcount. Regular Faculty FTE was used instead.

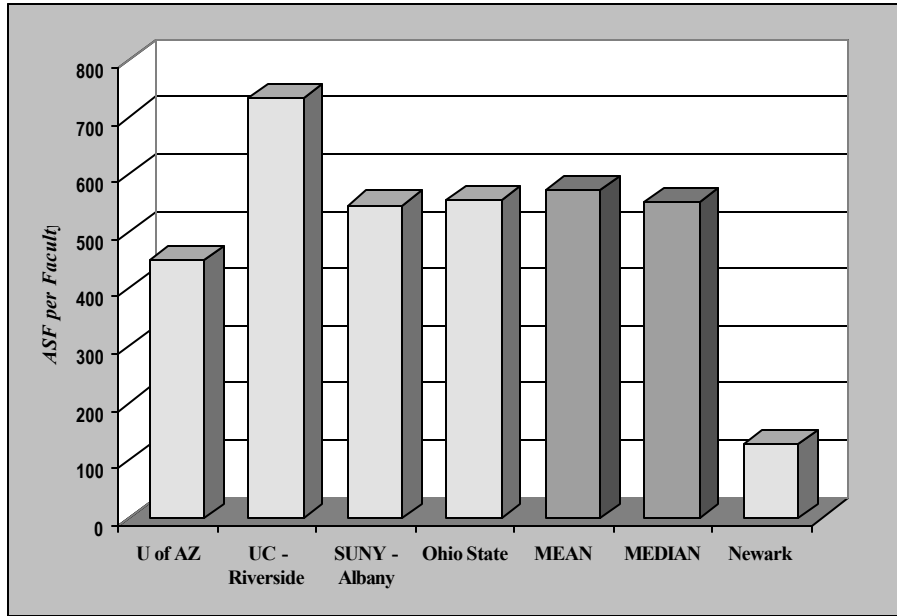
INSTRUCTIONAL SPACE PER STUDENT



As shown in the graph on the following page, Newark has about 77% less research space per faculty (RUC 250 and 255) than the benchmark group's average (573 ASF). Research space per faculty member varied widely in the benchmark group, ranging from a low of 452 ASF per faculty member at the University of Arizona to 735 ASF per faculty member at UC - Riverside. At Newark, the average is 129 ASF per faculty member.

As with the Camden campus, the consultants also looked at research expenditures per faculty member

NEWARK CAMPUS
RESEARCH SPACE PER
FACULTY MEMBER FOR BENCHMARK GROUP



RESEARCH EXPENDITURES PER FACULTY AND
ASF PER \$100,000 IN RESEARCH EXPENDITURES

University	FY 1999 NSF Research Expenditures	Expenditures per Faculty	ASF per \$100,000 in Research Expenditures
University of Arizona	\$320,245,000	\$160,604	282
University of California - Riverside	\$75,821,000	\$139,188	528
SUNY - Albany	\$64,278,000	\$110,254	497
Ohio State University	\$322,810,000	\$135,084	413
MEAN	\$195,788,500	\$136,283	430
Rutgers University • Newark*	\$8,420,696	\$18,923	682

Source: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges

* Fall 2000 Sponsored Research Expenditures supplied by Rutgers' Office of the University Controller, Division of Grant and Contract Accounting

and the assignable square feet per \$100,000 in research expenditures. As can be seen, Newark's research expenditure per faculty member is significantly less (86%) than the benchmark group's average. However, the campus has about 59% more assignable square footage per \$100,000 in research expenditures.

The application of the research space factors on a program-by-program basis produced an approximate 53,000 ASF deficit in research space for Fall 2000.

The Newark campus has 83% more space per student for Physical Education and Recreation Space. It should be noted that Newark does not have any dedicated athletic space; therefore, all of its existing Physical Education and Recreation Space is shared with its athletic programs. Using 6.4 ASF per student as the space factor produces a deficit of about 4,300 ASF for Fall 2000. (See table on the following page.)

As mentioned earlier in this report, Law School data was collected from "The Official Guide to ABA-Approved Law Schools, Searchable Edition." The data for the Newark campus came for the data collected for the July 2001 Physical Master Plan Phase I report with the exception of the library volumes and seating counts which came from the aforementioned guide. UC - Riverside and SUNY - Albany do not have law schools.

Newark's Law School enrollment is 24% **greater** than that of benchmark group's average. The Law School has approximately

NEWARK CAMPUS PHYSICAL EDUCATION AND RECREATION SPACE FOR BENCHMARK GROUP

University	Total Student Enrollment	Total ASF	ASF per Student
University of Arizona	34,943	127,639	3.7
University of California - Riverside	13,063	83,233	6.4
SUNY - Albany	16,751	156,642	9.4
Ohio State University	<u>47,952</u>	<u>289,739</u>	<u>6.0</u>
MEAN	28,177	164,313	6.4
Rutgers University • Newark	9,221	108,308	11.7

NOTE: Rutgers' student enrollments are from Rutgers Fact Book 2000-2001.

NEWARK CAMPUS LAW SCHOOL BENCHMARK ANALYSIS

Institution	Enrollment	Full-Time Faculty	Faculty Student Ratio	Assignable Square Feet							Library as Percent of Total	Library ASF per Full-Time Faculty
				Non-Library	Library	TOTAL	ASF per Student					
							Non-Library	Library	TOTAL			
University of Arizona	457	27	14.1	45,117	44,528	89,645	98.7	97.4	196.2	50%	1,649.2	
University of California - Riverside (No Law School)												
SUNY - Albany (No Law School)												
Ohio State University	655	40	13.6	78,009	81,340	159,349	119.1	124.2	243.3	51%	2,033.5	
MEAN	556	34	13.9	61,563	62,934	124,497	108.9	110.8	219.7	50%	1,841.3	
Rutgers • Newark*	691	25	16.5	62,149	51,009	113,158	89.9	73.8	163.8	45%	2,040.4	

LAW LIBRARY VOLUME AND SEATING COMPARATIVE DATA

Institution	Volumes		Seating	
	Volumes	Volumes per Student	Seating	Percent of Students
University of Arizona	382,871	838	368	81%
University of California - Riverside (No Law School)				
SUNY - Albany (No Law School)				
Ohio State University	691,723	1,056	660	101%
MEAN	537,297	947	514	91%
Rutgers University • Newark*	488,100	706	425	62%

NOTE: All Law School peer data is from the "The Official Guide to ABA-Approved Law Schools, Searchable Edition".

* All Rutgers data is from the data collection effort and analysis conducted for the Physical Master Plan Phase I completed in July 2001 with the exception of volume and seating counts. This data is from "The Official Guide to ABA-Approved Law Schools, Searchable Edition".

25% **less** space for its Law School than the average of the benchmark group – of which two-thirds is library space. The Law School also has 25% **less** volumes per student than the benchmark group as well as a third less than the group's average in seating capacity.

After applying the Law School's space factors for non-library and library space as described earlier, the Law School has an approximate 11,000 ASF deficit.

At current enrollment levels, the Newark campus is in deficit relative to its benchmark group for every space group studied with the exception of classroom space. Combined, these deficits total just under 76,000 ASF.

4.0 BENCHMARKING ANALYSIS: FALL 2011 ENROLLMENT MODELING

The University is considering three potential strategies for increasing enrollment over the next decade. Enrollment targets for the Camden and Newark campuses under the three enrollment models are shown in the table below. For purposes of this study, the consultant assumed that enrollment would be distributed proportionately among existing programs. Faculty numbers were projected to increase in proportion to enrollment growth.

PROJECTED INCREASES IN STUDENT HEADCOUNT

	Fall 2000 • Current Enrollment	Fall 2011 • Static Enrollment Growth	Fall 2011 • Moderate Enrollment Growth	Fall 2011 • Market Enrollment Growth
Camden	5,059	5,125	6,066	6,066
Newark	8,868	9,100	10,925	10,925

Using the enrollment targets shown for Fall 2011, space needs were calculated for classrooms and classroom service, instructional laboratories and instructional lab service, research laboratories and research lab service, physical education and recreation space, and law school space using the benchmark process and space factors described earlier in this Section. The values calculated for Fall 2011 not only reflect projected changes in enrollment and staffing levels, but also include factors for inflationary growth in the level of sponsored support for research at 2% per year.

For both campuses, the graduate enrollment is assumed to be static in all three enrollment scenarios. Therefore, in projecting the Law School space needs for both campuses the student enrollment and faculty headcount stays the same.

Camden Campus

INSTRUCTIONAL SPACE

Under the Static Enrollment Model, enrollment at the Camden campus is projected to increase slightly from 5,059 students to about 5,125 students. Consequently, deficits in classroom and instructional laboratory space also increase. Those deficits would be about 11,800 ASF and 10,300 ASF respectively.

CAMDEN CAMPUS BENCHMARKING ANALYSIS

	FALL 2011 • STATIC ENROLLMENT GROWTH				FALL 2011 • MODERATE ENROLLMENT GROWTH			FALL 2011 • MARKET ENROLLMENT GROWTH		
	Fall 2011 Existing ASF	Benchmark Average ASF	Surplus/ (Deficit)	Percent Surplus/ (Deficit)	Benchmark Average ASF	Surplus/ (Deficit)	Percent Surplus/ (Deficit)	Benchmark Average ASF	Surplus/ (Deficit)	Percent Surplus/ (Deficit)
<i>Student FTE</i>	3,884				4,659			4,659		
<i>Faculty FTE</i>	259				307			307		
<i>Student Headcount</i>	5,125				6,066			6,066		
<i>FT Faculty Headcount</i>	240				284			284		
<i>S:F Ratio</i>	21.4				21.4			21.4		
<i>Law School Students</i>	760				760			760		
<i>Law School FT Faculty</i>	32				32			32		
SPACE CATEGORY										
Classrooms & Service	40,945	52,788	(11,843)	(29%)	62,480	(21,535)	(53%)	62,480	(21,535)	(53%)
Instructional Labs & Service	51,235	61,500	(10,265)	(20%)	72,792	(21,557)	(42%)	72,792	(21,557)	(42%)
Research Labs & Services	12,317	4,989	7,328	59%	5,905	6,412	52%	5,905	6,412	52%
Physical Education & Recreation	50,414	82,000	(31,586)	(63%)	97,056	(46,642)	(93%)	97,056	(46,642)	(93%)
Law School*	79,778	135,608	(55,830)	(70%)	135,608	(55,830)	(70%)	135,608	(55,830)	(70%)
TOTAL ASF	234,689	336,884	(102,195)	(44%)	373,840	(139,151)	(59%)	373,840	(139,151)	(59%)

ASF = Assignable Square Feet

* Law School Students and Faculty times the appropriate Law School Factors minus that portion of Classroom, Instructional Laboratory Space, and Library Collections Space calculated in the Normative Analysis.

If enrollment at Camden increases to 6,066 (Moderate and Market Enrollment Growth), approximately 21,500 ASF for both classroom space and instructional laboratory space will be required to achieve the benchmark group averages.

RESEARCH SPACE

After applying the space factors, the Camden campus shows a 7,300 ASF surplus of research space at the Static Enrollment Model. This surplus decreases slightly to 6,400 ASF at the Moderate and Market Enrollment Models. Camden does not require any additional research space to meet the averages of the benchmark group.

PHYSICAL EDUCATION AND RECREATION SPACE

In order to meet its benchmark group, Camden requires approximately 31,600 ASF of physical education and recreation space at the Static Enrollment Model. If enrollments increase to the Moderate and Market Enrollment Models, the campus will require 46,600 ASF additional physical education and recreation space.

LAW SCHOOL SPACE

For all three enrollment models, it is estimated that the Camden Law School will require an additional 56,300 ASF to meet its benchmark group. This includes law school instructional space as well as law library space not already provided for in the normative analysis.

Newark Campus

INSTRUCTIONAL SPACE

Under the Static Enrollment Model, enrollment at the Newark campus is projected to increase slightly from 8,868 students to about 9,100 students. Under all three enrollment scenarios, Newark shows a surplus of classroom space. However, the campus shows a deficits in instructional laboratory space of about 3,600 ASF. If enrollment at Newark increases to 10,925 (Moderate and Market Enrollment Growth), that deficit will increase dramatically to just under 24,000 ASF which is the required amount of space to achieve the benchmark group averages.

RESEARCH SPACE

After applying the space factors, the Newark campus shows a 54,300 ASF deficit of research space at the Static Enrollment Model. This deficit increases to 76,700 ASF at the Moderate and Market Enrollment Models.

**NEWARK CAMPUS
BENCHMARKING
ANALYSIS**

		FALL 2011 • STATIC ENROLLMENT GROWTH			FALL 2011 • MODERATE ENROLLMENT GROWTH			FALL 2011 • MARKET ENROLLMENT GROWTH			
<i>Student FTE</i>		6,615			8,234			8,234			
<i>Faculty FTE</i>		564			678			678			
<i>Student Headcount</i>		9,100			10,925			10,925			
<i>FT Faculty Headcount</i>		416			500			500			
<i>S:F Ratio</i>		21.9			21.9			21.9			
<i>Law School Students</i>		691			691			691			
<i>Law School FT Faculty</i>		25			25			25			
		Fall 2011 Existing ASF	Benchmark Average ASF	Surplus/ (Deficit)	Percent Surplus/ (Deficit)	Benchmark Average ASF	Surplus/ (Deficit)	Percent Surplus/ (Deficit)	Benchmark Average ASF	Surplus/ (Deficit)	Percent Surplus/ (Deficit)
SPACE CATEGORY											
Classrooms & Service		108,308	70,010	38,298	35%	84,051	24,257	22%	84,051	24,257	22%
Instructional Labs & Service		98,211	101,789	(3,578)	(4%)	122,203	(23,992)	(24%)	122,203	(23,992)	(24%)
Research Labs & Services		57,391	111,703	(54,312)	(95%)	134,105	(76,714)	(134%)	134,105	(76,714)	(134%)
Physical Education & Recreation		52,497	58,240	(5,743)	(11%)	69,920	(17,423)	(33%)	69,920	(17,423)	(33%)
Law School*		113,158	125,301	(12,143)	(11%)	125,301	(12,143)	(11%)	125,301	(12,143)	(11%)
TOTAL ASF		429,565	467,043	(37,478)	(9%)	535,580	(106,015)	(25%)	535,580	(106,015)	(25%)

ASF = Assignable Square Feet

* Law School Students and Faculty times the appropriate Law School Factors minus that portion of Classroom, Instructional Laboratory Space, and Library Collections Space calculated in the Normative Analysis.

PHYSICAL EDUCATION AND RECREATION SPACE

In order to meet its benchmark group, Newark requires approximately 5,700 ASF of physical education and recreation space at the Static Enrollment Model. If enrollments increase to the Moderate and Market Enrollment Models, the campus will require 17,400 ASF additional physical education and recreation space to meet its benchmark averages.

LAW SCHOOL SPACE

For all three enrollment models, it is estimated that the Newark Law School will require an additional 12,100 ASF to meet its benchmark group. This includes law school instructional space as well as law library space not already provided for in the normative analysis.

Comparison of Benchmarking and Normative Guideline Approaches

The benchmarking approach provides a second estimate of future Campuswide space needs for five key categories of academic space: classroom and classroom service space; instructional laboratory space, which includes regularly scheduled teaching laboratories, open laboratories, and related service space; research and research service space; physical education and recreation space; and law school space. The tables below and on the following page compares the estimates of space needs derived using the benchmarking approach with those calculated using the normative guideline methodology.

CAMDEN CAMPUS

- *The benchmarking approach produces lower deficits in instructional laboratory space but larger deficits in all other space categories with the exception of research space than the normative guideline methodology.*
- *To provide levels of classroom space comparable to its benchmark group, the Camden campus would have to add between 17,000 and 26,000 GSF over and above the level provided in the normative analysis.*
- *To achieve levels of physical education and recreation space comparable to those found at the comparison institutions, Camden would have to add about 11,500 GSF of space at the Static Enrollment Model. If enrollment were to grow as projected in the Moderate or Market Enrollment Growth Scenarios approximately 36,000 additional GSF of physical education and recreation space will be required to meet the benchmark group.*
- *The Camden Law School requires an additional 91,500 GSF of instructional and law library space to meet its benchmark group averages.*

NEWARK CAMPUS

- *The benchmarking approach produces lower surpluses in classroom space and lower deficits in instructional laboratory space and physical education and recreation space than the normative analysis.*
- *To achieve levels of research space comparable to those found at the comparison institutions, Newark would have to add about 13,600 GSF of space for Fall 2011 at the Market Enrollment growth scenario. The reason the amount of space required is higher at the static and moderate growth scenarios is because the normative analysis projects an increase of research expenditures at every enrollment scenario.*
- *The Newark Law School requires an additional 20,000 GSF of instructional and law library space to meet its benchmark group averages.*

CAMDEN CAMPUS
COMPARISON OF BENCHMARKING &
NORMATIVE GUIDELINE APPROACHES

Space Type • Methodology	Fall 2011 • Static Enrollment Growth	Fall 2011 • Moderate Enrollment Growth	Fall 2011 • Market Enrollment Growth
Classrooms & Service Space			
Benchmarking Surplus / (Deficit) ASF	(11,843)	(21,535)	(21,535)
Normative Analysis Surplus / (Deficit) ASF	<u>1,633</u>	<u>(5,647)</u>	<u>(5,647)</u>
Difference (Benchmark-Normative) ASF	(10,210)	(15,887)	(15,887)
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	(16,737)	(26,045)	(26,045)
Instructional Labs & Service Space			
Benchmarking Surplus / (Deficit) ASF	(10,265)	(21,557)	(21,557)
Normative Analysis Surplus / (Deficit) ASF	<u>(11,665)</u>	<u>(23,313)</u>	<u>(23,313)</u>
Difference (Benchmark-Normative) ASF	1,400	1,756	1,756
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	2,295	2,878	2,878
Research Labs & Service			
Benchmarking Surplus / (Deficit) ASF	7,328	6,412	6,412
Normative Analysis Surplus / (Deficit) ASF	3,761	2,218	675
Difference (Benchmark-Normative) ASF	3,567	4,194	5,737
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	5,848	6,876	9,405
Physical Education/Recreation			
Benchmarking Surplus / (Deficit) ASF	(31,586)	(46,642)	(46,642)
Normative Analysis Surplus / (Deficit) ASF	<u>(24,586)</u>	<u>(24,586)</u>	<u>(24,586)</u>
Difference (Benchmark-Normative) ASF	(7,000)	(22,056)	(22,056)
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	(11,475)	(36,157)	(36,157)
Law School			
Benchmarking Surplus / (Deficit) ASF	(55,830)	(55,830)	(55,830)
Normative Analysis Surplus / (Deficit) ASF	<u>0</u>	<u>0</u>	<u>0</u>
Difference (Benchmark-Normative) ASF	(55,830)	(55,830)	(55,830)
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	(91,524)	(91,524)	(91,524)
TOTAL ASF DEFICIT	(73,040)	(93,773)	(93,773)
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	(119,737)	(153,727)	(153,727)

5.0 LIMITATIONS OF THE BENCHMARKING APPROACH

The focus of this benchmarking analysis has been on the amount of space available at the selected universities. The applicability of the benchmarking outcomes are totally dependent on the institutions selected for comparison. A different set of institutions may produce a different set of results. Quality of space also contributes importantly to instructional effectiveness and scholarly productivity. Some academic space at both the Camden and Newark

NEWARK CAMPUS
COMPARISON OF BENCHMARKING &
NORMATIVE GUIDELINE APPROACHES

Space Type • Methodology	Fall 2011 • Static Enrollment Growth	Fall 2011 • Moderate Enrollment Growth	Fall 2011 • Market Enrollment Growth
Classrooms & Service Space			
Benchmarking Surplus / (Deficit) ASF	38,298	24,257	24,257
Normative Analysis Surplus / (Deficit) ASF	<u>42,159</u>	<u>25,969</u>	<u>25,969</u>
Difference (Benchmark-Normative) ASF	(3,861)	(1,711)	(1,711)
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	(6,330)	(2,806)	(2,806)
Instructional Labs & Service Space			
Benchmarking Surplus / (Deficit) ASF	(3,578)	(23,992)	(23,992)
Normative Analysis Surplus / (Deficit) ASF	<u>(7,627)</u>	<u>(33,531)</u>	<u>(33,531)</u>
Difference (Benchmark-Normative) ASF	4,049	9,539	9,539
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	6,638	15,638	15,638
Research Labs & Service			
Benchmarking Surplus / (Deficit) ASF	(54,312)	(76,714)	(76,714)
Normative Analysis Surplus / (Deficit) ASF	<u>(35,068)</u>	<u>(51,741)</u>	<u>(68,414)</u>
Difference (Benchmark-Normative) ASF	(19,244)	(24,973)	(8,300)
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	(31,547)	(40,939)	(13,606)
Physical Education/Recreation			
Benchmarking Surplus / (Deficit) ASF	(5,743)	(17,423)	(17,423)
Normative Analysis Surplus / (Deficit) ASF	<u>(22,503)</u>	<u>(30,024)</u>	<u>(30,024)</u>
Difference (Benchmark-Normative) ASF	16,760	12,601	12,601
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	27,475	20,657	20,657
Law School			
Benchmarking Surplus / (Deficit) ASF	(12,143)	(12,143)	(12,143)
Normative Analysis Surplus / (Deficit) ASF	<u>0</u>	<u>0</u>	<u>0</u>
Difference (Benchmark-Normative) ASF	(12,143)	(12,143)	(12,143)
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	(19,907)	(19,907)	(19,907)
TOTAL ASF DEFICIT	(31,387)	(37,116)	(20,443)
DIFFERENCE IN GROSS SQ. FT. <i>(using a 61% conversion factor)</i>	(51,454)	(60,846)	(33,513)

campuses are outdated and in need of renovation and upgrade. In some cases, it may be more cost effective to build new space than to try to convert older facilities to support sophisticated high-tech programs.

The methodology used for the Newark campus controls for differences in program mix by allocating research and teaching space by disciplinary cluster (arts & sciences, criminal justice, management, and nursing, etc.). Because of the limited amount of data available for the Camden benchmark group, it was impossible to control for the difference in program mix for the Camden campus.

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

Section 2

COST OF ENROLLMENT GROWTH

NEWARK

NEW BRUNSWICK

CAMDEN

COST OF ENROLLMENT GROWTH

The purpose of this Section is to update the estimate of Capital Investments and estimate of Annual Operating Costs (the Education and General Budget). The background, overview of methodology, assumptions and caveats that were identified in the July 2001 Physical Master Plan Phase 1 report apply in this Addendum.

1.0 CAPITAL INVESTMENTS

On the following page is the detail Estimate of Capital Costs by Space Category. Rutgers' officials initially provided costs per GSF based upon type of space. Because the space requirements for the law schools cover a variety of different space types, the consultants used an average of \$300 per GSF. Below are updates to the key findings reflecting the additional space needs to bring the Camden and Newark campuses equal to their benchmark groups.

Static Enrollment Growth Scenario

This model holds total enrollment for Fall 2011 at approximately the same level as Fall 2000, though distribution of students among campuses changes slightly. The increases in space required to support this enrollment model include:

- Space needed to resolve deficits identified in the normative space needs analysis; and
- Space needed to bring Rutgers to benchmark averages for classroom space, research space, physical education and recreation space, and law school space.

ESTIMATES OF FACILITIES REQUIREMENTS AND CAPITAL COSTS

	Fall 2011 • Static Enrollment Growth	Fall 2011 • Moderate Enrollment Growth	Fall 2011 • Market Enrollment Growth
<i>Student Headcount</i>	48,625	53,429	57,578
<i>Student FTE</i>	38,994	43,079	46,848
Existing Facilities	(Gross Square Feet in Millions)		
Fall 2000 Base in GSF; ASF/GSF = 61%	15.35	15.35	15.35
New Construction Required			
Facilities to Achieve Guideline Levels at Base Year	2.06	2.06	2.06
Facilities to Accommodate Enrollment Growth			
Academic Space	0.00	0.77	1.58
Residential Space	0.00	0.91	1.66
Facilities to meet Benchmark Averages			
Classroom Space	0.07	0.08	0.08
Research Space	0.82	0.87	0.91
Physical Education/Recreation Space	0.01	0.04	0.04
Law School Space	<u>0.11</u>	<u>0.11</u>	<u>0.11</u>
TOTAL ADDITIONAL GSF (in millions)	3.06	4.83	6.43
Cost of New Construction (\$ in millions)	\$1,234.44	\$1,721.31	\$2,199.19
<i>Actual Costs</i>	<i>Adjust for Inflation on Construction Costs to Project Date</i>		
	Funding to be Determined		

Sources for Rutgers University Data:

- (a) The Office of University Planning and Development provided net to gross ratios for existing buildings and estimated cost per gsf for new construction.

ESTIMATE OF CAPITAL COSTS BY SPACE CATEGORY

Cost per GSF	FALL 2011 • STATIC ENROLLMENT GROWTH		FALL 2011 • MODERATE ENROLLMENT GROWTH		FALL 2011 • MARKET ENROLLMENT GROWTH		
	Facilities Required (GSF in millions)	Capital Construction (\$ in millions)	Facilities Required (GSF in millions)	Capital Construction (\$ in millions)	Facilities Required (GSF in millions)	Capital Construction (\$ in millions)	
SPACE CATEGORY							
Instructional Space							
Classroom Space	\$245	0.00	\$0.00	0.01	\$3.41	0.08	\$18.56
Teaching Laboratories	\$480	0.02	7.82	0.08	36.74	0.13	63.46
Open Laboratories	\$480	0.12	57.40	0.17	79.90	0.21	100.68
Offices & Service	\$210	0.00	0.00	0.08	16.91	0.25	52.65
Library	\$350	<u>0.00</u>	<u>0.52</u>	<u>0.04</u>	<u>12.93</u>	<u>0.07</u>	<u>24.07</u>
Subtotal		0.14	\$65.73	0.37	\$149.89	0.74	\$259.42
Research Space	\$480	0.21	\$100.71	0.37	\$175.22	0.52	\$249.74
Student Space							
Physical Education & Recreation	\$315	0.20	\$62.79	0.24	\$76.66	0.32	\$100.44
Student Union	\$385	0.14	55.68	0.21	81.46	0.27	105.27
Subtotal		0.34	\$118.47	0.45	\$158.12	0.59	\$205.71
Other Space							
Other Departmental Space	\$350	0.00	\$0.00	0.00	\$0.00	0.05	\$16.33
Athletics (dedicated space only)	\$315	0.22	69.76	0.22	69.76	0.22	69.76
Physical Plant	\$175	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
Subtotal		0.22	\$69.76	0.22	\$69.76	0.27	\$86.09
Academic Space Subtotal		0.91	\$354.67	1.42	\$553.00	2.12	\$800.96
New Construction to meet Benchmark Institution Averages							
<i>Camden</i>							
Classroom Space	\$245	0.02	\$4.10	0.03	\$6.38	0.03	\$6.38
Physical Education & Recreation	\$315	0.01	3.61	0.04	11.39	0.04	11.39
Law School	\$300	<u>0.09</u>	<u>27.46</u>	<u>0.09</u>	<u>27.46</u>	<u>0.09</u>	<u>27.46</u>
Subtotal		0.12	\$35.17	0.15	\$45.23	0.15	\$45.23
<i>Newark</i>							
Research Space	\$480	0.03	\$15.14	0.04	\$19.65	0.01	\$6.53
Law School	\$300	0.02	5.97	0.02	5.97	0.02	5.97
Subtotal		0.05	\$21.11	0.06	\$25.62	0.03	\$12.50
<i>New Brunswick/Piscataway</i>							
Classroom Space	\$245	0.05	\$12.17	0.05	\$12.68	0.05	\$12.78
Research Space	\$480	<u>0.79</u>	<u>377.05</u>	<u>0.83</u>	<u>396.17</u>	<u>0.89</u>	<u>429.57</u>
Subtotal		0.84	\$389.22	0.88	\$408.85	0.95	\$442.35
ACADEMIC SPACE TOTAL		1.92	\$800.19	2.51	\$1,032.70	3.25	\$1,301.05
Residence Life Space (expressed as a range)							
Low	\$280	0.04	\$9.84	0.93	\$259.14	1.67	\$468.68
		\	\	\	\	\	\
High	\$280	1.55	\$434.25	2.46	\$688.61	3.21	\$898.15
TOTAL (expressed as a range)							
Low		1.95	\$810.02	3.43	\$1,291.84	4.93	\$1,769.73
		\	\	\	\	\	\
High		3.47	\$1,234.44	4.97	\$1,721.31	6.46	\$2,199.19

The benchmarking studies identified additional shortfalls in classrooms, research, physical education and recreation, and law school space, relative to each campuses' benchmark grouping of universities. Together, it would require an additional 614,000 ASF of space over and above that provided in the normative analysis to resolve these deficits. This is an increase of 170,000 GSF to the original facilities requirements which is approximately \$56,280,000 in construction costs.

To eliminate the normative guideline deficits plus bring Rutgers to their benchmark averages, approximately 3 million GSF of additional space would have to be created, at an estimated cost of \$1.23 billion.

Moderate Enrollment Growth Scenario

An additional 210,000 GSF is required to bring the Camden and Newark campuses up to their benchmark averages. The construction costs for the additional space is about \$70,850,000. This brings the total to approximately 4.83 million GSF of new space, costing about \$1.7 billion will be needed to accommodate a total headcount enrollment of 53,400 (about 4,000 additional student FTE) and the faculty and staff who will educate them, based on current average costs. This figure includes space to resolve deficits identified in the normative and benchmarking analyses. It does not include additional outdoor space for athletics and outdoor recreation, nor does it include space for new programmatic initiatives or funds for addressing qualitative deficiencies of existing space.

Market Enrollment Growth Scenario

The amount of additional space required for Camden and Newark to meet their benchmark group averages decreases from 210,000 GSF at the Moderate Enrollment Growth Scenario to 180,000 GSF for the Market Enrollment Growth Scenario. This is because research expenditures are projected to increase faster in the Market Enrollment Scenario than in the Moderate Enrollment Scenario. This creates a larger deficit in the normative analysis thereby decreasing the difference between the benchmarking analysis and the normative analysis. The 180,000 GSF will cost approximately \$57,730,000 to construct.

The additional space requirements for Camden and Newark bring the total space requirements to approximately 6.43 million GSF of new space, costing about \$2.2 billion will be needed to accommodate a total headcount enrollment of 57,600 (nearly 8,000 more student FTE than the static enrollment model) and the faculty and staff who will educate them, based on current average costs. This figure includes space to resolve deficits identified in the normative and benchmarking analyses. It does not include additional outdoor space for athletics and outdoor recreation, nor does it include space for new programmatic initiatives or funds for addressing qualitative deficiencies of existing space.

2.0 ANNUAL OPERATING COSTS (*THE EDUCATIONAL & GENERAL BUDGET*)

On the following page is the detailed Estimate of Staffing Requirements and Annual Operating Costs. Below are updates to the key findings reflecting the additional space needs to bring the Camden and Newark campuses equal to their benchmark groups. The operating costs increased less than \$1,000,000 for each of the enrollment scenarios and due to the rounding of costs to the nearest million dollars, did not produce a statistically significant change.

ESTIMATES OF STAFFING REQUIREMENTS AND ANNUAL OPERATING COSTS

	Fall 2011 • Static Enrollment Growth	Fall 2011 • Moderate Enrollment Growth	Fall 2011 • Market Enrollment Growth
<i>Student Headcount</i>	48,625	53,429	57,578
<i>Student FTE</i>	38,994	43,079	46,848
Staffing Requirements			
Full-time Faculty Count (a) <i>Growth vs. Static</i>	2,543	2,783 240	3,010 467
Faculty Budgeted FTE (b) <i>Growth vs. Static</i>	2,832	3,110 278	3,354 522
Faculty & Staff FTE (c) <i>Growth vs. Static</i>	8,632	9,158 526	9,691 1,059
Education & General Budget		<i>(Dollars in Millions)</i>	
Fiscal 2000 (1999-2000) (d)	\$678	\$735	\$784
Fiscal 2011 (inflation at 3.5%) (e) <i>Growth vs. Static</i>	\$1,100	\$1,193 \$93	\$1,274 \$174

Sources for Rutgers University Data:

- (a) Human Resources records, counts by physical location.
- (b) Director of Budget and Resource Studies, FTE by reporting assignment.
- (c) Office of Institutional Research
- (d) Division of University Accounting, Expenditures for FY 2000 by executive level.
- (e) Office of University Planning and Development provided net to gross ratios for existing buildings and estimated cost per gsff for new construction.

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

NEWARK

NEW BRUNSWICK

CAMDEN

Appendices

Appendix A

CAMDEN CAMPUS

BENCHMARK ANALYSIS

ASSIGNABLE SQUARE FEET BY STUDENT/FACULTY BY INSTITUTION

University	Total Student Enrollment	Total Full-Time Faculty	ASF per Student			ASF per Faculty
			Classrooms & Service	Instructional Labs & Service	Total Instructional Space	Research Labs & Service
Cleveland State University	15,293	539	9.5	16.7	26.3	177.0
Seattle University	5,851	307	10.9	10.0	20.9	8.2
University of Southern Maine	10,820	351	10.5	9.2	19.7	20.8
MEAN	10,655	399	10.3	12.0	22.3	68.7
<i>MEDIAN</i>	<i>10,820</i>	<i>351</i>	<i>10.5</i>	<i>10.0</i>	<i>20.9</i>	<i>20.8</i>
Rutgers University • Camden	4,936	223	8.3	10.4	18.7	55.2

NOTE: Rutgers' student enrollments and faculty counts are from Rutgers Fact Book 2000-2001.

Appendix B

NEWARK CAMPUS

BENCHMARK ANALYSIS STUDENT ENROLLMENT AND FACULTY DATA

UNIVERSITY OF ARIZONA

College/Unit	Student/Faculty			
	Student Head- count	HC Under- graduate	HC Graduate	FT Faculty Head- count
Agriculture & Life Sciences, College of	2,331	1,866	465	170
Architecture, Planning & Landscape, College of	479	367	112	31
Business & Public Admn, Eller College of	4,240	3,642	598	119
Education, College of	1,698	881	817	91
Engineering & Mines, College of	3,104	2,412	692	154
Fine Arts, College of	2,277	2,000	277	133
Humanities, College of	1,315	926	389	202
Law, James E. Rogers College of	475		475	30
Medicine, College of	417		417	435
Nursing, College of	382	235	147	53
Pharmacy, College of	217		217	43
Public Health, College of	112		112	31
Science, College of	3,565	2,934	631	375
Social & Behavioral Sciences, College of	5,176	4,256	920	268
Graduate College	1,683		1,683	0
Optical Sciences Center	132		132	0
Health Professions, School of	0			8
University College	6,037	6,037		0
University General Programs	0			12
TOTAL	33,640	25,556	8,084	2,155

Appendix B

NEWARK CAMPUS

BENCHMARK ANALYSIS STUDENT ENROLLMENT AND FACULTY DATA

UNIVERSITY OF CALIFORNIA — RIVERSIDE

College/Unit	Student/Faculty			
	Student Head- count	HC Under- graduate	HC Graduate	Faculty FTE
Education, Graduate School of	271		271	30
Engineering, Bourns College of	1,416	1,272	144	46
Health Sciences/Biomedical Sciences	48		48	1
Humanities, Arts and Social Sciences, College of	7,494	6,991	503	280
Management, Anderson Graduate School of	152		152	33
Natural and Agricultural Sciences, College of	3,683	3,174	509	155
TOTAL	13,063	11,436	1,627	545

Appendix B

NEWARK CAMPUS

BENCHMARK ANALYSIS STUDENT ENROLLMENT AND FACULTY DATA

SUNY — ALBANY

College/Unit	Student/Faculty			
	Student Head- count	HC Under- graduate	HC Graduate	FT Faculty Head- count
Arts & Sciences, College of	6,172	4,856	1,316	340
Business, School of	1,441	919	522	41
Criminal Justice	273	125	148	11
Education, School of	1,473	0	1,473	54
Info Science & Policy, School of	359	100	259	8
Public Health, School of	285	0	285	15
Public Affairs and Policy, Rockefeller College c	730	383	347	37
Social Welfare, School of	691	70	621	28
Other/Undeclared	5,327	5,327	0	49
TOTAL	16,751	11,780	4,971	583

Appendix B

NEWARK CAMPUS

BENCHMARK ANALYSIS STUDENT ENROLLMENT AND FACULTY DATA OHIO STATE UNIVERSITY

College/Unit	Student/Faculty			
	Student Head- count	HC Under- graduate	HC Graduate	Faculty FTE
Arts & Sciences	17,309	14,257	3,052	941
Business, Fisher College of	4,503	3,797	706	95
Continuing Education	1,024	1,024		
Dentistry	606	117	489	93
Education	2,214	308	1,906	126
Engineering	6,528	5,130	1,398	258
Food, Agricultural and Environmental Sciences	2,219	1,797	422	73
Human Ecology	2,105	1,981	124	33
Law, Moritz College of	655		655	32
Medicine/Allied Medical Professions	1,949	740	1,209	542
Nursing	629	431	198	28
Optometry	259		259	21
Other Graduate Interdisciplinary	620		620	
Pharmacy	561	166	395	39
Social Work	476	141	335	25
UG Student Academic Svcs	6,160	6,160		
Veterinary Medicine	660		660	83
TOTAL	48,477	36,049	12,428	2,390

Appendix C

NEWARK CAMPUS

BENCHMARK ANALYSIS ASSIGNABLE SQUARE FEET BY SPACE TYPE

UNIVERSITY OF ARIZONA

College/Unit	Student/Faculty		Assignable Sq. Ft.	
	Student Head-count	FT Faculty Head-count	Instructional Laboratories	Research Space
Agriculture & Life Sciences, College of	2,331	170	28,193	133,037
Architecture, Planning & Landscape, College	479	31	13,245	538
Business & Public Admn, Eller College of	4,240	119	8,210	7,865
Education, College of	1,698	91	4,936	1,776
Engineering & Mines, College of	3,104	154	46,874	129,215
Fine Arts, College of	2,277	133	114,816	0
Humanities, College of	1,315	202	3,818	280
Law, James E. Rogers College of	475	30	3,171	0
Medicine, College of	417	435	19,139	187,038
Nursing, College of	382	53	5,211	4,754
Pharmacy, College of	217	43	2,049	23,516
Public Health, College of	112	31	0	4,601
Science, College of	3,565	375	94,098	298,431
Social & Behavioral Sciences, College of	5,176	268	9,011	18,042
Graduate College	1,683	0	0	2,794
Optical Sciences Center	132	0	2,468	38,935
Health Professions, School of	0	8	3,721	4,377
University College	6,037	0		
University General Programs	0	12		
TOTAL	33,640	2,155	358,960	855,199

Appendix C

NEWARK CAMPUS

BENCHMARK ANALYSIS ASSIGNABLE SQUARE FEET BY SPACE TYPE

UNIVERSITY OF CALIFORNIA — RIVERSIDE

College/Unit	Student/Faculty		Assignable Sq. Ft.	
	Student Head-count	Faculty FTE	Instructional Laboratories	Research Space
Education, Graduate School of	271	30	949	1,572
Engineering, Bourns College of	1,416	46	21,384	38,900
Health Sciences/Biomedical Sciences	48	1		
Humanities, Arts and Social Sciences, College of	7,494	280	45,966	29,988
Management, Anderson Graduate School of	152	33	4,924	410
Natural and Agricultural Sciences, College of	3,683	155	55,842	306,595
TOTAL	13,063	545	129,065	377,465

Appendix C

NEWARK CAMPUS

BENCHMARK ANALYSIS ASSIGNABLE SQUARE FEET BY SPACE TYPE

SUNY — ALBANY

College/Unit	Student/Faculty		Assignable Sq. Ft.	
	Student Head-count	FT Faculty Head-count	Instructional Laboratories	Research Space
Arts & Sciences, College of	6,172	340	86,765	149,280
Business, School of	1,441	41	2,926	
Criminal Justice	273	11	300	2,147
Education, School of	1,473	54	2,749	
Info Science & Policy, School of	359	8	516	756
Public Health, School of	285	15	2,894	12,829
Public Affairs and Policy, Rockefeller College of	730	37		
Social Welfare, School of	691	28		1,885
Other/Undeclared	5,327	49		
TOTAL	16,751	583	96,150	166,897

Appendix C

NEWARK CAMPUS

BENCHMARK ANALYSIS ASSIGNABLE SQUARE FEET BY SPACE TYPE

OHIO STATE UNIVERSITY

College/Unit	Student/Faculty		Assignable Sq. Ft.	
	Student Head-count	Faculty FTE	Instructional Laboratories	Research Space
Arts & Sciences	17,309	941	307,257	418,247
Business, Fisher College of	4,503	95	7,431	745
Continuing Education	1,024			
Dentistry	606	93	27,906	18,018
Education	2,214	126	36,556	3,270
Engineering	6,528	258	195,478	278,885
Food, Agricultural and Environmental Sciences	2,219	73	88,895	137,691
Human Ecology	2,105	33	14,652	8,647
Law, Moritz College of	655	32	560	
Medicine/Allied Medical Professions	1,949	542	45,341	232,260
Nursing	629	28	5,600	3,859
Optometry	259	21	9,795	7,177
Other Graduate Interdisciplinary	620			
Pharmacy	561	39	7,160	53,554
Social Work	476	25		
UG Student Academic Svcs	6,160			
Veterinary Medicine	660	83	48,487	39,203
TOTAL	48,477	2,390	795,118	1,201,556

Appendix D

NEWARK CAMPUS

BENCHMARK ANALYSIS ASSIGNABLE SQUARE FEET PER UNIT ARTS & SCIENCES

College/Unit	Student/Faculty		Assignable Square Feet		Assignable Sq. Ft. per Unit	
	Student Head-count	FT Faculty Head-count*	Instructional Laboratories	Research Space	Instructional Laboratories per Student	Research Space per Faculty
University of Arizona**	14,664	1,148	249,936	449,790	17.0	391.8
University of California - Riverside* / ***	11,177	435	101,808	336,583	9.1	773.5
SUNY - Albany****	6,445	351	87,065	151,427	13.5	431.4
Ohio State University*	17,309	941	307,257	418,247	17.8	444.4
<i>Mean</i>	12,399	719			14.4	510.3
<i>Median</i>	12,920	688			15.3	437.9
SPACE FACTOR USED					14.4	437.9

* UC - Riverside and Ohio State University did not provide FT Faculty Headcount. Regular Faculty FTE has been used instead.

** Includes the Colleges of: Fine Arts, Humanities, Science, and Social & Behavioral Sciences

*** Includes the Colleges of: Humanities, Arts & Social Sciences and Natural & Agricultural Sciences

**** Includes Criminal Justice

Appendix D

NEWARK CAMPUS

BENCHMARK ANALYSIS ASSIGNABLE SQUARE FEET PER UNIT

BUSINESS/MANAGEMENT

College/Unit	Student/Faculty		Assignable Square Feet		Assignable Sq. Ft. per Unit	
	Student Head-count	FT Faculty Head-count*	Instructional Laboratories	Research Space	Instructional Laboratories per Student	Research Space per Faculty
University of Arizona	4,240	119	8,210	7,865	1.9	66.1
University of California - Riverside*	152	33	4,924	410	32.4	12.2
SUNY - Albany	1,441	41	2,926	0	2.0	
Ohio State University*	4,503	95	7,431	745	1.7	7.8
<i>Mean</i>	2,584	72			9.5	28.7
<i>Median</i>	2,841	68			2.0	12.2
SPACE FACTOR USED					2.0	12.2

* UC - Riverside and Ohio State University did not provide FT Faculty Headcount. Regular Faculty FTE has been used instead.

Appendix D

NEWARK CAMPUS

BENCHMARK ANALYSIS ASSIGNABLE SQUARE FEET PER UNIT NURSING

College/Unit	Student/Faculty		Assignable Square Feet		Assignable Sq. Ft. per Unit	
	Student Head-count	FT Faculty Head-count*	Instructional Laboratories	Research Space	Instructional Laboratories per Student	Research Space per Faculty
University of Arizona	382	53	5,211	4,754	13.6	89.7
University of California - Riverside**						
SUNY - Albany**						
Ohio State University*	629	28	5,600	3,859	8.9	139.6
<i>Mean</i>	506	40			11.3	114.6
<i>Median</i>	506	40			11.3	114.6
SPACE FACTOR USED					11.3	114.6

* Ohio State University did not provide FT Faculty Headcount. Regular Faculty FTE has been used instead.

** Does not have a Nursing program.

Appendix E

NEWARK CAMPUS

**BENCHMARK ANALYSIS FOR
CLASSROOM SPACE**

Institution	Classroom Space		
	Student Head- count	Assignable Square Feet	ASF per Student
University of Arizona	34,943	313,598	9.0
University of California - Riverside	13,063	64,382	4.9
SUNY - Albany	16,751	142,890	8.5
Ohio State University	47,952	383,818	8.0
MEAN	28,177		7.6
<i>MEDIAN</i>	<i>25,847</i>		<i>8.3</i>
Rutgers University • Newark	9,221	108,308	11.7

Appendix F

NEWARK CAMPUS

BENCHMARK GUIDELINE APPLICATION FOR ACADEMIC SPACE

College/Unit	Student/Faculty		Assignable Square Feet per Unit			Benchmark Average ASF		
	Student Head-count	FT Faculty Head-count	Classroom Space per Student	Instructional Laboratories per Student	Research Space per Faculty	Classroom Space	Instructional Laboratories	Research Space
Arts & Sciences	3,665	207	8.3	14.4	437.9	30,420	52,776	90,645
Criminal Justice, School of	290	13	8.3	14.4	437.9	2,407	4,176	5,693
Graduate School	1,166	19	8.3	14.4	437.9	9,678	16,790	8,320
Law, School of	691	42				<i>Calculated in a different manner</i>		
Management, Graduate School of	1,532	91	8.3	2.0	12.2	12,716	3,064	1,110
Nursing, College of	466	39	8.3	11.3	114.6	3,868	5,266	4,469
University College	1,645		8.3	14.4	437.9	13,654	23,688	0
TOTAL	9,455	411				72,741	105,760	110,238