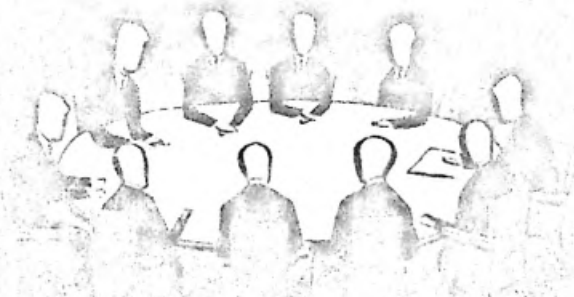


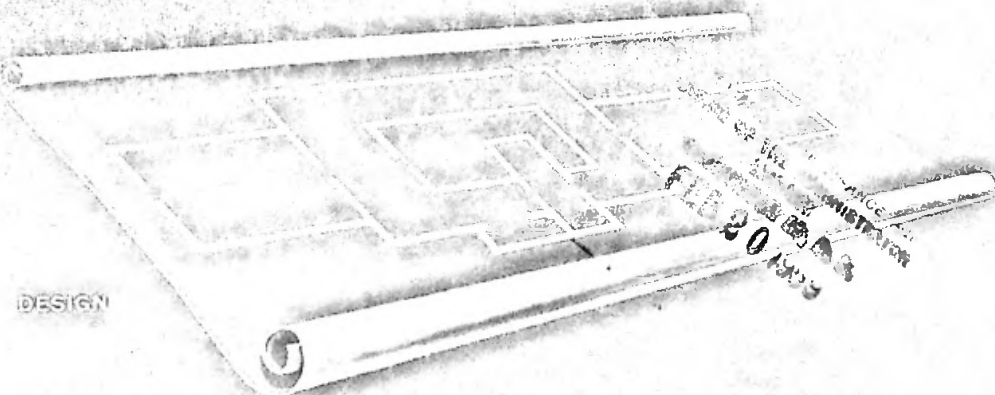
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Cost and Financing of College and University Buildings, 1951-55

College and University Facilities Survey



PLAN



DESIGN



CONSTRUCT

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education

HIGHLIGHTS

Costs of Buildings

Higher education institutions in the United States and its territories, according to this survey, reported for the 5-year period 1951-55 an investment of nearly \$1.8 billion for the construction of 3,272 physical facilities, exclusive of campus improvements and equipment. The \$544 million capital expenditures in 1955 more than doubled the \$251 million capital outlay of 1951.

Of the total amount expended for physical facilities during this period, \$812 million was for 1,189 instructional buildings, \$486 million for 1,031 residential structures, \$260 million for 582 general facilities, \$125 million for 277 auxiliary units, and \$99 million for 193 buildings devoted to research.

Seventy percent of the expenditure for instructional buildings in the continental United States was made by public colleges and universities and 30 percent by private institutions of higher education.

Ninety percent of the expenditure for residential buildings in the continental United States was for single student housing: Single men, 51 percent; single women, 39 percent.

In the Northeast, private institutions spent 43 percent more for the construction of research buildings in the biological and physical sciences than was spent for this purpose by all other institutions, both public and private, in the continental United States.

Financing of Buildings

Funds borrowed for capital expenditures in 1955 were almost three and one-half times those of 1951.

Public institutions received about 66 percent of their capital funds for residential construction from the issuance of revenue bonds; private institutions about 33 percent.

During 1951-55, public institutions borrowed for an average interest rate of 2.85 percent, while for substantially the same amortization period private institutions paid an average interest rate of 3.66 percent.

Slightly more than 85 percent of the funds borrowed for construction by private institutions were for residential facilities. This high proportion of borrowing for construction in the residential field reflects the availability of long-term loan funds at low interest rates under the College Housing Program of the Federal Government.

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College and University Facilities Survey

Part 1:

Cost and Financing of College and University Buildings, 1951-55

by

W. Robert Bokelman
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Division of Higher Education*

and

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Circular No. 540

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Arthur S. Flemming *Secretary*

Office of Education
Lawrence G. Derthick . . . *Commissioner*

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Foreword

THIS IS A REPORT on what the people of the United States invested in higher education buildings during the 5-year period 1951-55. It is the first of five related reports now planned for publication by the U. S. Office of Education on the adequacy of college and university plants, and on the replacements and expansions needed each year to 1970 to provide essential facilities for a rapidly expanding enrollment. These reports, described in the Introduction, are based on the first nationwide building-by-building survey of higher education facilities ever to be made in this country.

Comprehensive figures on the full extent of the building needs of higher education do not exist. However, an estimate by informed leaders in higher education indicates that the Nation needs to invest \$18 billion in higher education facilities to clear up the current backlog and to provide for increases in enrollment and for new programs expected periodically to 1970. The size of the backlog is indicated by the fact that about one-fourth of our three million college students still attend classes or live in temporary buildings that are fire or health hazards. To replace and rehabilitate these and other obsolescent structures will require at least \$7 billion. This leaves barely \$1 billion a year for expansion, including the purchase and development of land, utilities, buildings, and heavy equipment.

A physical-plant development program of the size and character indicated should obviously be based on a working knowledge of the amount, condition, and geographic distribution of existing educational facilities. Such an inventory does not exist. Moreover, prior to the issuance of this publication, comprehensive figures did not exist on trends in the amounts being spent for new construction, much less any information on whether acceleration in the rate of capital expenditures indicates that higher education is clearing its backlog and providing for future needs.

The Office of Education has undertaken the five-part College and University Facilities Survey to fill the expressed need for comprehensive and comparative information on college plant facilities. It will embrace the gathering of data on construction costs and methods used to finance college and university buildings for the period 1951-55 (the present study), the bringing together of projected costs and proposed methods of financing college and university physical plant facilities to 1970, the establishment of a permanent inventory of all college buildings in existence, a detailed study of college building needs, and the collection of data pertaining to new colleges and universities planned.

It is the hope of the Office of Education that the data obtained through the survey may be brought up-to-date at periodic intervals, resulting in a permanent and continuous inventory of facilities in the colleges and universities throughout the country.

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Introduction

EVENTS OF THE POSTWAR YEARS have created a forceful change in emphasis on the needs for sharing data on college and university building costs and on methods used to finance the construction. Until the close of World War II, recognition of the need for sharing such information was not widespread. New buildings were customarily planned and constructed by the independent action of a single institution and the exchange of information on building costs and financing was often looked upon with the same attitude of privacy which prevails among individuals with regard to building and financing their own homes.

The need for sharing data on college building programs has been heightened by the necessity of facing squarely the question of whether colleges and universities will be able to house the expanded and diversified educational program required to accommodate an enrollment which is expected to rise sharply in the early 1960's and to double by 1970.

As a result of rapid technological advances and economic and social changes, far greater numbers of youths are now seeking higher education as a desired goal than at any time in the Nation's history. The challenge of providing educational opportunities proportionate to the demand calls for concerted, coordinated, and imaginative planning. Thus, today, we find college administrators, voluntary associations, and governmental groups engaged in planning efforts to meet the impact of vastly increased enrollments. As these individuals and groups face the task of determining individual institutional building needs in relation to total needs of the community, State, or Nation, the lack of comprehensive data on what other institutions throughout the country are doing often impedes their efforts to evaluate many factors upon which realistic planning must be based. Although the problem of building expansion is only one of the many planning problems facing the colleges and

universities, it is the primary problem to which this survey is directed.

Two preliminary and partial studies on physical facilities in the colleges and universities, undertaken at an earlier date, led to a great demand by those who govern and control higher education and by government officials for a more comprehensive study of physical facilities in the institutions of higher education in the United States.

The first, reported in *College Building Needs*, was undertaken in 1947 by the Veterans Educational Facilities Program (administered jointly by the Federal Works Agency and the Office of Education) to provide assistance in making the best possible distribution of war-surplus buildings and equipment to colleges and universities.¹

The second, which provided an inventory of physical facilities and human resources in colleges and universities, was undertaken by the Office of Education at the request of the National Security Resources Board following the opening of hostilities in Korea.² The purpose of this study was not the preparation of a report, but to provide information to the several government agencies concerned with available facilities in colleges and universities.

One portion of the broad area of physical facilities was studied recently by Long and Weimer, under the sponsorship of the American Council on Education. Their study, which was so planned that it did not overlap the series of facilities studies planned by the Office of Education, collected data and reported on methods used to finance residential facilities constructed from 1920 through 1955.³

¹ Ernest V. Holls and associates. *College Building Needs*. Federal Security Agency (now U. S. Department of Health, Education, and Welfare), Office of Education (Special Series No. 1). Washington, U. S. Government Printing Office, 1949. 58 p.

² Unpublished.

³ John D. Long and Arthur M. Weimer. *Financing of College and University Student Permanent Housing*. Washington, D. C., American Council on Education, 1957. 458 p.

Purposes and Scope of the Survey

As a result of the demonstrated need for more comprehensive and comparative data on college and university buildings, the College and University Facilities Survey was undertaken in the spring of 1956. Its purpose was two-fold: (1) to collect facts on college building programs and needs, and (2) to initiate a perpetual inventory of college and university plant facilities.

According to present plans, the results of the survey will be reported in five separate Office of Education circulars, summarized below:

Part 1. *Cost and Financing of College and University Buildings, 1951-55*

This circular is designed to provide facts on dollar expenditures and financing methods used for college and university facilities constructed between January 1, 1951, and December 31, 1955. This 5-year period was selected since it was marked by transition, a period when the institutions moved from "crash" postwar construction programs to long-range programs dealing with the construction of permanent plant facilities.

Part 2. *Planning for College and University Physical Plant Expansion, 1956-70*

This study is concerned with the collection and analysis of data on important factors which have a direct or indirect bearing on facilities planning programs and on projections of buildings planned for construction between 1956 and 1970—anticipated costs, number and functional uses of buildings, and proposed methods of financing the construction. Data for this phase of the survey have been collected and tabulated. The results of the study will be published as Part 2 of the series.

Part 3. *Inventory of College and University Physical Facilities*

The purpose of this project is to establish a permanent inventory, building by building, of existing facilities on each campus throughout the United States. Data collected will cover such items as functional use of building; plant fund investment; year of construction; estimated present value of building; present condition; type of construction; and size and student capacity of various functional areas within the buildings. Forms for the collection of data were distributed to the colleges and universities in the spring of 1958.

Part 4. *Building Needs of Colleges and Universities*

This phase of the survey will seek data on physical facilities needed by institutions of higher education and the extent to which the needs will be fulfilled by current planning programs. It will be concerned, also, with the character and extent of the remaining unfilled needs of the institutions.

Part 5. *New Colleges and Universities Planned*

This study proposes to gather data on the establishment of new colleges and universities and will cover such items as anticipated costs of construction, number and functional uses of buildings planned, probable completion date, proposed size and student capacity, and anticipated sources of funds to pay for the construction.

Basic Plan and Procedures of Part 1

As indicated in the summary statement above, Part 1 deals with the costs of college and university buildings constructed during the 5-year period 1951-55 and the methods used to finance the construction. The questionnaire form used in Part 1 was designed to secure data on the cost of each building constructed, year of completion, functional use of building, amount and sources of funds used in the financing of the building, rates of interest, terms of loans, major security pledged, and types of lending agencies furnishing loans. Separate questionnaire forms were provided for each building reported. The questionnaire form (RSH-58, Schedule 2), instructions, and covering letter are reproduced in appendix A.

The questionnaire forms for Part 1, accompanied by questionnaire forms for the next study in the series, were mailed to the presidents of 1,905 institutions of higher education in the United States on May 25, 1956. The mailing list was based on the institutions of higher education appearing in the *Education Directory, 1955-56, Part 3, Higher Education*.⁴ It reflected additions and deletions in the Directory listing between the publication date of the Directory and the survey mailing. Although branch institutions appear in the Directory as units of the parent organization, the survey treated branch institutions as individual units.

Responses were received from 1,382 institutions, representing 72.5 percent of all institutions of higher education in the Nation. (See table A.) Replies were received from 73.9 percent of the public colleges and universities and from 71.8 percent of the private institutions. The highest regional rate of response for both public and private institutions within the continental United States (exclusive of U. S. Service Academies) was in the Northeast. The lowest regional rate for public institutions was in the North Central with 64.2 percent, followed closely by the South with 65.3 percent; for private institutions, the lowest regional rate of return was in the South with 64.3 percent.

By type of institution, universities led in the percentage of responding institutions: Public, 100

percent; private, 98.4 percent. The lowest rate of response was from the junior colleges: Public, 49.5 percent; private, 44.7 percent. (See table B.)

Although the percentage of the total number of institutions responding varied regionally from 69 in the West to 78.7 in the Northeast, an analysis of the responses in terms of the percentage of total enrollments represented by responding institutions showed a range from 78.9 in the West to 94.4 in both the Northeast and North Central regions. (See table C.) The percentage of total enrollments in the entire United States represented by returns was 90.2 percent. The outlying parts of the United States and the U. S. Service Academies showed a high percentage of participation, both in number of responding institutions and in enrollment representation.

The usefulness of the survey data to an individual institution or planning group will depend upon the extent to which the facts relate to its particular planning objectives. Therefore, the data have been presented by totals for the Nation as a whole, by geographic regions, by States, by types of institutional control (public and private), by types of institutions, by size of institutions (in terms of full-time students enrolled), and by the functional uses of the buildings constructed.

Definitions of terms used in the study appear in appendix B. Throughout the report, publicly controlled and privately controlled institutions of higher education are referred to as "public" and "private" institutions or as public and private colleges and universities. Totals for the "aggregate United States" pertain to data received from all institutions of higher education in the United States and its territories, including the U. S. Service Academies.

Many analyses presented in the report deal with types of buildings classified by functional uses under five functional group headings: Instructional, research, general, auxiliary, and residential. (See appendix B for a full listing of types of buildings classified under functional group headings.)

Expenditures for buildings reported in the study did not include cost of equipment or campus improvements such as land, parking lots, and utilities.

⁴ U. S. Department of Health, Education, and Welfare, Office of Education. *Education Directory, 1955-56, Part 3, Higher Education*. Washington, U. S. Government Printing Office, 1956. 174 p.

Table A.—Number of institutions participating in the College and University Facilities Survey, Part 1, by type of control and by geographic region: aggregate United States

| Region | Total public and private | | | Public | | | Private | | |
|--|--------------------------|-----------|---------|--------|-----------|---------|---------|-----------|---------|
| | Total | Responses | Percent | Total | Responses | Percent | Total | Responses | Percent |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Aggregate United States..... | 1,905 | 1,382 | 72.5 | 681 | 503 | 73.9 | 1,224 | 879 | 71.8 |
| Northeast..... | 469 | 369 | 78.7 | 105 | 93 | 88.6 | 364 | 276 | 75.8 |
| North Central..... | 561 | 399 | 71.1 | 193 | 124 | 64.2 | 368 | 275 | 74.7 |
| South..... | 603 | 424 | 70.3 | 228 | 183 | 80.3 | 375 | 241 | 64.3 |
| West..... | 258 | 178 | 69.0 | 144 | 94 | 65.3 | 114 | 84 | 73.7 |
| Outlying parts of the United States..... | 8 | 7 | 87.5 | 5 | 4 | 80.0 | 3 | 3 | 100.0 |
| U. S. Service Academies..... | 6 | 5 | 83.3 | 6 | 5 | 83.3 | | | |

Table B.—Number of institutions participating in the College and University Facilities Survey, Part 1, by type of control and by type of institution: aggregate United States

| Type of institution | Total public and private | | | Public | | | Private | | |
|--|--------------------------|-----------|---------|--------|-----------|---------|---------|-----------|---------|
| | Total | Responses | Percent | Total | Responses | Percent | Total | Responses | Percent |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Aggregate United States..... | 1,005 | 1,382 | 72.5 | 681 | 503 | 73.9 | 1,224 | 879 | 71.8 |
| University..... | 155 | 154 | 99.4 | 91 | 91 | 100.0 | 64 | 63 | 98.4 |
| Independent technical institute..... | 62 | 44 | 84.6 | 30 | 20 | 86.7 | 22 | 18 | 81.8 |
| Theological school..... | 124 | 72 | 58.1 | | | | 124 | 72 | 58.1 |
| Other independent professional school..... | 122 | 66 | 54.1 | 10 | 8 | 80.0 | 112 | 58 | 51.8 |
| Liberal arts college..... | 743 | 629 | 84.7 | 86 | 78 | 90.7 | 657 | 551 | 83.9 |
| Teachers college..... | 195 | 173 | 88.7 | 169 | 154 | 91.1 | 26 | 19 | 73.1 |
| Junior college..... | 514 | 244 | 47.5 | 295 | 146 | 49.5 | 219 | 98 | 44.7 |

Table C.—Percentage of enrollment¹ represented by colleges and universities participating in the College and University Facilities Survey, Part 1, by geographic region: aggregate United States

| Region | Total public and private enrollment | | | Public enrollment | | | Private enrollment | | |
|--|-------------------------------------|-----------|---------|-------------------|-----------|---------|--------------------|-----------|---------|
| | Total | Responses | Percent | Total | Responses | Percent | Total | Responses | Percent |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Aggregate United States..... | 2,734,504 | 2,467,400 | 90.2 | 1,538,486 | 1,380,714 | 89.7 | 1,196,018 | 1,086,686 | 90.9 |
| Northeast..... | 709,723 | 670,128 | 94.4 | 200,022 | 191,080 | 96.0 | 509,701 | 478,148 | 93.8 |
| North Central..... | 772,671 | 730,173 | 94.4 | 452,074 | 430,729 | 96.4 | 319,697 | 293,444 | 91.8 |
| South..... | 719,170 | 640,175 | 89.0 | 457,659 | 420,677 | 91.9 | 261,511 | 219,498 | 83.9 |
| West..... | 498,474 | 393,280 | 78.9 | 306,726 | 301,045 | 75.9 | 191,748 | 92,235 | 90.7 |
| Outlying parts of the United States..... | 25,539 | 25,268 | 98.7 | 22,228 | 21,905 | 98.5 | 3,311 | 3,363 | 100.0 |
| U. S. Service Academies..... | 8,877 | 8,378 | 94.4 | 8,877 | 8,378 | 94.4 | | | |

¹ Fall enrollments, 1955.

CHAPTER 1

Expenditures for College and University Buildings Completed, 1951-55

IN THE POSTWAR PERIOD, a peak enrollment of 2,456,841 students in the fall of 1949 exceeded the prewar high enrollment by more than one million students.¹ This peak was followed by a 2-year decline, but in the fall of 1952 enrollments resumed an upward rise, which has been continuous for each successive year up to the present time. The 1949 postwar peak was exceeded in 1953, and by the fall of 1955 enrollments totaled 2,720,929.

During the early 1950's, declining enrollments, deterioration of temporary facilities used for the "veterans' bulge," and the Korean conflict created problems which influenced the construction plans of institutions of higher learning. No one knew how long the Nation might be embroiled in a combination "cold war" and shooting war. The Controlled Materials Program was established for the allocation of critical metals and the restric-

tion of building to essential needs. As the Korean conflict tapered off in 1952 and as the first upturn in college enrollments developed in the fall of that year, college and university administrators felt a new concern about the adequacy of college and university physical plants. Not only were new peak enrollments in prospect, but temporary buildings furnished largely by the Federal Government to meet the postwar emergency were becoming liabilities which required replacement for existing enrollments.

Continued increases in enrollments in 1953, and again in 1954 when a new all-time high was set, further stimulated the planning and construction of new higher education facilities. In noting the volume of construction completed in a particular year, one must remember that planning precedes completed construction by one to two or more years.

Dollar Cost of Buildings by Year, 1951 through 1955

Capital expenditures of almost \$1.8 billion were reported for the 5-year period 1951-55, according to responses received from 1,382 institutions of higher education, representing 73 percent of the colleges and universities surveyed and 90 percent of the institutional enrollments (table 1). It appears safe to assume that the investment in plant facilities by nonresponding institutions

would have amounted to no more than \$148 million, making a total expenditure of about \$1.9 billion for all institutions.

Of the \$1,782,572,000 expended by the reporting institutions for 3,272 buildings, \$1,094,577,000 was spent by public institutions for 1,744 structures and \$687,995,000 by private colleges and universities for 1,528 buildings.

The yearly cost of buildings completed by higher education institutions, 1951 through 1955, are given in table 1. In 1955, colleges and

¹ Enrollment estimate for 1930 totaled 1,364,815. Office of Education Circular No. 518. *Opening Enrollment in Higher Educational Institutions, Fall, 1967*. Washington, U. S. Government Printing Office, 1958, p. 3.

universities spent \$543,764,000 for the construction of physical facilities. This was more than double the \$250,790,000 expended in 1951. During the 5-year period, expenditures for buildings by the private institutions increased annually. Although the public group experienced a downturn of one year's duration in 1953, it consistently spent more for the construction of physical facilities than did the private group. This decline probably indicates the responsiveness of public policy to an economic recession and to world conditions.

The regional and State patterns of college and university spending for buildings constructed annually from 1951 through 1955 are shown in tables 2A and 2B for public and private institutions.

In the Northeast, New York and Pennsylvania annually accounted for approximately two-thirds or more of the total 9-State regional expenditure for construction. In the private group in 1952 and in the public in 1954, the consolidated expenditure of the two States amounted to more than three-fourths of the group total for the year.

Investment in buildings by public institutions in Michigan during 1951-55 exceeded \$10 million each year except 1953. In 1955, the public and private institutions in this State spent \$40,628,000, or more than 28 percent of the 12-State regional total of \$144,185,000.

Although wide variations in dollar expenditures existed in all types of institutions from year to year and from region to region, universities and liberal arts colleges spent about the same proportion of the national total for physical plant facilities each year and teachers colleges showed a substantial downward trend from 1951 through 1955. (See tables 3A, 3B, and 4.)

A noticeable increase in the annual capital expenditures of other independent professional schools occurred in 1955, the group proportion of the total increasing from 1.1 percent in 1954 to 5.6 percent in 1955. In that year, two public medical colleges in the South completed the construction of teaching hospitals at a total cost of \$22,726,000. The total regional expenditure of the South for this type of public institution increased from \$1,828,000 in 1954 to \$23,584,000 in 1955.

A regional comparison of the percentage distribution of the spring 1956 full-time enrollments and

the costs of construction completed during the period under review is presented in table 5. Although for both public and private institutions there were significant fluctuations in the relationship between the regional percentages of enrollment and of annual costs of construction, there was a close relationship between regional percentages of enrollment and of costs of construction covering the full 5-year period. For example, the Northeast accounted for 12.12 percent of the total enrollments of public institutions in the spring of 1956 and for 12.96 percent of the total expenditures for buildings constructed by public colleges and universities in 1951, 8.37 in 1952, 17.92 in 1953, 10.62 in 1954, and 9.15 in 1955. However, for the full 5-year span, the costs of construction percentage was 11.12 percent, as contrasted with the spring 1956 enrollment percentage of 12.12 percent.

In the Northeast area, private institutions have accommodated a larger percentage of college students than have public institutions. There is evidence in this analysis that the pattern of their perspective and operation remains much as it has been. During the 1951-55 period the private colleges and universities in the Northeast spent more than double the expenditure of the private institutions in any other region and, in comparison to public institutions in the same region, their expenditures were substantially greater relative to spring 1956 full-time enrollments. Also, with the exception of the public institutions in the West, it was the only group where the percent of expenditures noticeably exceeded relative enrollments.

An important precaution to be observed in interpreting data in table 5 is to avoid the assumption that a particular regional group is not preparing for the future if the percent of total construction is not equal to or in excess of the percent of spring 1956 enrollments. During the period 1951-55, existing instructional and residential facilities may have been adequate for additional students without jeopardizing present standards of operation. Planning may have been in progress for construction to be undertaken in the years immediately ahead. This precautionary observation, however, in no way limits the apparent accomplishments of the public institutions in the South and West, primarily in California, and the private institutions in the Northeast and South.

Table 1.—Number and cost of buildings completed by higher education institutions, by year of construction and by type of control: aggregate United States, 1951-55

[Cost figures are in thousands of dollars]

| Type of control | Number | Cost of buildings | | | | | | Year not reported |
|------------------------------|--------|-------------------|-----------|-----------|-----------|-----------|-----------|-------------------|
| | | Total 1951-55 | 1951 | 1952 | 1953 | 1954 | 1955 | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Aggregate United States..... | 3,272 | \$1,782,572 | \$250,790 | \$335,599 | \$291,986 | \$353,716 | \$543,764 | \$8,417 |
| Public..... | 1,744 | 1,094,577 | 153,984 | 219,735 | 166,991 | 224,404 | 324,126 | 5,337 |
| Private..... | 1,528 | 687,995 | 96,806 | 116,164 | 124,995 | 129,312 | 219,638 | 1,080 |

Table 2.—Cost of buildings completed by higher education institutions, by year of construction, grouped by geographic regions and States: aggregate United States, 1951-55

A. PUBLICLY CONTROLLED INSTITUTIONS

[Cost figures are in thousands of dollars]

| Region and State | Total | 1951 | 1952 | 1953 | 1954 | 1955 | Year not reported |
|--|--------------------|------------------|------------------|------------------|------------------|------------------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Aggregate United States | \$1,094,577 | \$153,934 | \$219,735 | \$166,991 | \$224,404 | \$324,126 | \$5,337 |
| NORTHEAST | 121,759 | 19,960 | 18,359 | 29,934 | 23,820 | 20,647 | |
| Connecticut | 18,813 | 2,393 | 3,972 | 6,952 | 2,050 | 3,446 | |
| Maine | 1,555 | | | 850 | | 705 | |
| Massachusetts | 9,672 | 1,958 | 1,097 | 3,329 | 2,105 | 1,123 | |
| New Hampshire | 1,104 | 560 | 40 | | | 504 | |
| New Jersey | 5,469 | 960 | 25 | | 579 | 3,905 | |
| New York | 50,850 | 12,412 | 5,472 | 10,589 | 8,972 | 19,403 | |
| Pennsylvania | 24,445 | 1,292 | 6,783 | 6,517 | 9,497 | 356 | |
| Rhode Island | 3,266 | | 1,000 | 1,700 | 566 | | |
| Vermont | 585 | 385 | | | | 200 | |
| NORTH CENTRAL | 343,765 | 53,059 | 69,224 | 40,404 | 83,828 | 96,061 | 1,096 |
| Illinois | 43,051 | 3,733 | 6,740 | 11,154 | 12,108 | 9,316 | |
| Indiana | 42,396 | 1,307 | 6,644 | 8,944 | 18,330 | 14,075 | 1,096 |
| Iowa | 8,503 | | 2,287 | 2,510 | 1,165 | 2,541 | |
| Kansas | 35,462 | 7,130 | 6,740 | 1,902 | 8,222 | 11,468 | |
| Michigan | 76,245 | 10,777 | 12,929 | 7,513 | 11,601 | 33,422 | |
| Minnesota | 22,020 | 3,857 | 4,429 | 409 | 11,965 | 1,500 | |
| Missouri | 13,093 | 2,862 | 7,163 | 43 | 1,536 | 1,489 | |
| Nebraska | 10,616 | | 1,357 | 1,779 | 3,455 | 4,025 | |
| North Dakota | 8,039 | 1,815 | 1,529 | 2,330 | 1,942 | 423 | |
| Ohio | 49,339 | 18,981 | 7,151 | 4,547 | 8,091 | 10,539 | |
| South Dakota | 3,390 | 1,118 | 1,584 | | 618 | 90 | |
| Wisconsin | 31,611 | 1,670 | 10,661 | 7,363 | 4,792 | 7,116 | |
| SOUTH | 352,697 | 55,914 | 82,181 | 45,801 | 58,478 | 100,693 | 3,630 |
| Alabama | 12,500 | 4,476 | 3,071 | 1,837 | 540 | 2,576 | |
| Arkansas | 7,974 | 1,502 | 1,615 | 107 | 968 | 3,782 | |
| Delaware | 6,173 | 688 | 2,565 | 1,750 | 1,170 | | |
| Florida | 16,008 | 95 | 2,352 | 2,740 | 1,715 | 0,100 | |
| Georgia | 31,306 | 5,038 | 4,029 | 2,093 | 3,532 | 10,614 | |
| Kentucky | 8,243 | 412 | 1,297 | 1,817 | 1,964 | 2,753 | |
| Louisiana | 12,730 | 3,358 | | 2,268 | 5,190 | 1,854 | 60 |
| Maryland | 26,898 | 4,896 | 3,483 | 3,519 | 8,017 | 6,983 | |
| Mississippi | 19,955 | 3,822 | 1,462 | 1,895 | 2,325 | 10,651 | |
| North Carolina | 46,513 | 3,577 | 22,093 | 7,938 | 5,642 | 7,263 | |
| Oklahoma | 25,345 | 7,003 | 10,455 | 2,258 | 1,391 | 668 | 3,570 |
| South Carolina | 32,511 | 1,112 | 3,168 | 653 | 3,816 | 23,762 | |
| Tennessee | 16,561 | 3,931 | 2,668 | 2,557 | 2,457 | 4,948 | |
| Texas | 50,795 | 8,761 | 9,455 | 8,146 | 12,857 | 11,576 | |
| Virginia | 28,001 | 5,559 | 10,478 | 5,823 | 3,679 | 2,462 | |
| West Virginia | 11,184 | 1,884 | 3,990 | 400 | 3,215 | 1,095 | |
| District of Columbia | | | | | | | |
| WEST | 257,094 | 23,529 | 45,695 | 48,776 | 49,289 | 80,194 | 611 |
| Arizona | 11,935 | 3,188 | 2,178 | 2,622 | 1,605 | 2,342 | |
| California | 154,711 | 13,006 | 24,554 | 25,337 | 32,087 | 59,727 | |
| Colorado | 19,556 | 578 | 1,198 | 5,361 | 6,258 | 5,586 | 575 |
| Idaho | 4,340 | 838 | 881 | 150 | | 2,444 | 36 |
| Montana | 11,941 | 360 | 418 | 3,369 | 3,242 | 4,552 | |
| Nevada | | | | | | | |
| New Mexico | 7,772 | 948 | | | | | |
| Oregon | 13,020 | 1,351 | 3,119 | 1,465 | 793 | 1,458 | |
| Utah | 7,213 | | | 1,631 | 991 | 5,034 | |
| Washington | 18,454 | 2,170 | 4,339 | 2,706 | 520 | 3,085 | |
| Wyoming | 8,137 | 1,090 | 4,998 | 5,080 | 3,701 | 2,564 | |
| U. S. SERVICE ACADEMIES | 13,171 | 1 | 2,547 | 4 | 8,980 | 1,639 | |
| OUTLYING PARTS OF THE UNITED STATES | 6,091 | 1,621 | 1,099 | 1,982 | | 889 | |
| Puerto Rico | 3,998 | 1,621 | | 1,982 | | | |
| Hawaii | 2,093 | | 1,099 | | | 495 | 394 |

Table 2.—Cost of buildings completed by higher education institutions, by year of construction, grouped by geographic regions and States: aggregate United States, 1951-55—Continued

B. PRIVATELY CONTROLLED INSTITUTIONS

[Cost figures are in thousands of dollars]

| Region and State | Total | 1951 | 1952 | 1953 | 1954 | 1955 | Year not reported |
|--|------------------|-----------------|------------------|------------------|------------------|------------------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Aggregate United States | \$687,995 | \$86,806 | \$116,164 | \$124,995 | \$129,312 | \$219,638 | \$1,099 |
| NORTHEAST | 325,413 | 41,080 | 62,814 | 64,183 | 68,064 | 108,834 | 458 |
| Connecticut | 11,690 | 427 | 1,659 | 939 | 2,025 | 6,640 | |
| Maine | 2,673 | 746 | 733 | 95 | 714 | 385 | |
| Massachusetts | 52,416 | 8,352 | 10,395 | 9,095 | 11,231 | 13,343 | |
| New Hampshire | 1,333 | | | | | 1,333 | |
| New Jersey | 25,696 | 6,592 | 1,233 | 4,696 | 5,049 | 7,908 | 318 |
| New York | 145,473 | 16,919 | 31,184 | 18,207 | 22,765 | 56,398 | |
| Pennsylvania | 79,571 | 6,910 | 16,497 | 20,758 | 16,162 | 19,104 | 140 |
| Rhode Island | 3,031 | 331 | | | | 2,700 | |
| Vermont | 3,530 | 803 | 1,113 | 473 | 118 | 1,023 | |
| NORTH CENTRAL | 153,144 | 22,938 | 25,202 | 32,662 | 24,211 | 48,121 | 10 |
| Illinois | 39,868 | 5,248 | 8,930 | 8,581 | 4,097 | 13,012 | |
| Indiana | 23,168 | 4,291 | 2,974 | 3,839 | 7,213 | 4,851 | |
| Iowa | 11,400 | 790 | 1,079 | 4,864 | 1,787 | 2,880 | |
| Kansas | 4,607 | 1,198 | 465 | 1,479 | 591 | 864 | 10 |
| Michigan | 12,390 | 1,313 | 3,431 | 440 | | 7,296 | |
| Minnesota | 8,025 | 2,834 | 1,132 | 245 | 530 | 3,284 | |
| Missouri | 11,613 | 1,725 | 2,024 | 3,746 | 2,033 | 2,085 | |
| Nebraska | 974 | 260 | 32 | 68 | 552 | 62 | |
| North Dakota | 27 | | | | | | |
| Ohio | 29,997 | 3,924 | 3,319 | 6,811 | 6,381 | 10,082 | |
| South Dakota | 1,191 | | | | | 1,191 | |
| Wisconsin | 9,884 | 1,355 | 1,789 | 3,089 | 1,047 | 2,604 | |
| SOUTH | 149,212 | 23,809 | 15,590 | 25,838 | 37,062 | 46,353 | 560 |
| Alabama | 5,740 | 2,160 | 100 | 687 | 608 | 2,205 | |
| Arkansas | 2,925 | 899 | 62 | 1,194 | 520 | 250 | |
| Delaware | | | | | | | |
| Florida | 6,624 | 622 | 849 | 317 | 1,276 | 3,434 | 228 |
| Georgia | 12,541 | 2,640 | 1,330 | 1,744 | 3,765 | 3,062 | |
| Kentucky | 7,054 | 908 | 171 | 1,618 | 3,374 | 1,493 | |
| Louisiana | 16,195 | 855 | 494 | 2,932 | 4,226 | 7,883 | |
| Maryland | 11,568 | 1,642 | 1,061 | 980 | 1,842 | 6,043 | |
| Mississippi | 609 | 6 | | 110 | 185 | 307 | |
| North Carolina | 11,411 | 897 | 1,863 | 4,853 | 475 | 3,160 | 160 |
| Oklahoma | 3,200 | 298 | | 815 | 631 | 1,452 | |
| South Carolina | 4,449 | 657 | 345 | 536 | 449 | 2,476 | |
| Tennessee | 10,592 | 1,668 | 1,237 | 2,529 | 2,927 | 2,172 | 55 |
| Texas | 31,037 | 4,777 | 3,635 | 5,043 | 10,278 | 7,304 | |
| Virginia | 8,488 | | 1,008 | 1,509 | 2,966 | 2,886 | 119 |
| West Virginia | 3,036 | 2,045 | 457 | 234 | | 2,300 | |
| District of Columbia | 13,143 | 3,745 | 2,974 | 757 | 3,536 | 2,131 | |
| WEST | 59,674 | 8,716 | 12,549 | 12,287 | 9,808 | 16,262 | 52 |
| Arizona | 251 | 251 | | | | | |
| California | 32,146 | 3,025 | 10,608 | 4,360 | 1,304 | 12,792 | 37 |
| Colorado | 913 | 678 | 235 | | | | |
| Idaho | 100 | | | 100 | | | |
| Montana | | | | | | | |
| Nevada | | | | | | 54 | |
| New Mexico | 1,054 | 1,000 | | | 1,585 | 1,964 | 15 |
| Oregon | 4,838 | 350 | 787 | 137 | | 450 | |
| Utah | 11,117 | 3,272 | | 6,395 | 1,000 | 1,002 | |
| Washington | 9,255 | 140 | 919 | 1,275 | 5,919 | | |
| Wyoming | | | | | | | |
| OUTLYING PARTS OF THE UNITED STATES | 552 | 263 | 9 | 45 | 167 | 68 | |
| Puerto Rico | 552 | 263 | 9 | 45 | 167 | 68 | |

Table 3.—Cost of buildings completed by higher education institutions, by year of construction and type of institution, grouped by geographic regions: aggregate United States, 1951-55

A. PUBLICLY CONTROLLED INSTITUTIONS

[Cost figures are in thousands of dollars]

| Region and type | Total, public and private | Public | | | | | | Year not reported |
|--|---------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|----------------------|
| | | Total | 1951 | 1952 | 1953 | 1954 | 1955 | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Aggregate United States | \$1,782,572 | \$1,094,577 | \$153,984 | \$219,735 | \$166,991 | \$224,404 | \$324,120 | \$5,337 |
| NORTHEAST | 447,172 | 121,759 | 19,980 | 18,389 | 29,934 | 23,829 | 29,647 | |
| University | 210,067 | 49,692 | 5,353 | 6,653 | 11,255 | 10,149 | 16,282 | |
| Independent technical institute | 21,429 | 2,000 | | | 2,000 | | | |
| Theological school | 5,777 | | | | | | | |
| Other independent professional school | 6,114 | 1,769 | | | 1,100 | 689 | | |
| Liberal arts college | 135,185 | 7,303 | | | 4,250 | 3,053 | | |
| Teachers college | 64,275 | 53,024 | 13,008 | 9,374 | 13,577 | 8,575 | 8,490 | |
| Junior college | 14,325 | 7,971 | 1,599 | 2,362 | 2,002 | 188 | 1,822 | |
| NORTH CENTRAL | 496,909 | 343,765 | 53,059 | 69,224 | 40,494 | 83,828 | 96,064 | 1,098 |
| University | 301,872 | 248,925 | 37,827 | 44,635 | 34,292 | 61,166 | 69,957 | 1,051 |
| Independent technical institute | 15,305 | 5,620 | 1,690 | 1,730 | | | 2,200 | |
| Theological school | 2,934 | | | | | | | |
| Other independent professional school | 5,523 | | | | | | | |
| Liberal arts college | 100,090 | 25,366 | 1,645 | 4,434 | 1,398 | 9,739 | 8,150 | |
| Teachers college | 59,840 | 57,612 | 11,897 | 16,384 | 3,892 | 11,292 | 14,147 | |
| Junior college | 11,345 | 6,239 | | 2,041 | 912 | 1,631 | 1,610 | 45 |
| SOUTH | 501,909 | 352,697 | 55,914 | 82,181 | 45,801 | 68,478 | 106,693 | 3,630 |
| University | 256,263 | 202,051 | 29,604 | 52,075 | 23,495 | 36,315 | 56,992 | 3,570 |
| Independent technical institute | 8,154 | 8,154 | | 1,909 | 1,978 | 1,432 | 2,567 | |
| Theological school | 8,736 | | | | | | | |
| Other independent professional school | 29,484 | 28,515 | | 1,326 | 1,789 | 1,828 | 23,572 | |
| Liberal arts college | 144,297 | 62,792 | 14,282 | 12,820 | 9,078 | 12,241 | 13,711 | |
| Teachers college | 38,543 | 38,543 | 8,697 | 10,170 | 6,637 | 4,906 | 8,133 | 60 |
| Junior college | 16,432 | 12,642 | 3,063 | 3,881 | 2,224 | 1,756 | 1,718 | |
| WEST | 316,768 | 257,094 | 23,529 | 45,695 | 48,770 | 49,289 | 89,104 | 611 |
| University | 179,956 | 153,090 | 13,628 | 33,200 | 21,209 | 25,264 | 64,753 | 36 |
| Independent technical institute | 13,059 | 13,059 | 606 | 3,649 | 975 | 3,434 | 4,495 | |
| Theological school | 3,152 | | | | | | | |
| Other independent professional school | 3,903 | | | | | | | |
| Liberal arts college | 79,071 | 49,439 | 342 | 3,753 | 17,530 | 16,994 | 10,820 | |
| Teachers college | 17,211 | 16,157 | 4,957 | 1,821 | 3,660 | 1,612 | 3,632 | 575 |
| Junior college | 20,416 | 20,349 | 4,096 | 3,272 | 5,402 | 2,085 | 5,494 | |
| U. S. SERVICE ACADEMIES | 13,171 | 13,171 | 1 | 2,547 | | | | |
| OUTLYING PARTS OF THE UNITED STATES | 6,643 | 6,091 | 1,521 | 1,609 | | 1,082 | 889 | |
| University | 6,091 | 6,091 | 1,521 | 1,609 | | 1,082 | 889 | |
| Liberal arts college | 552 | | | | | | | |

Table 3.—Cost of buildings completed by higher education institutions, by year of construction and type of institution, grouped by geographic regions: aggregate United States, 1951-55—Continued

B. PRIVATELY CONTROLLED INSTITUTIONS

[Cost figures are in thousands of dollars]

| Region and type | Private | | | | | | |
|--|------------------|-----------------|------------------|------------------|------------------|------------------|-------------------|
| | Total | 1951 | 1952 | 1953 | 1954 | 1955 | Year not reported |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Aggregate United States | \$837,995 | \$96,806 | \$116,164 | \$124,995 | \$129,312 | \$219,638 | \$1,089 |
| NORTHEAST | 325,413 | 41,080 | 62,814 | 54,163 | 58,064 | 108,834 | 458 |
| University..... | 100,375 | 18,738 | 24,387 | 31,372 | 34,344 | 51,536 | |
| Independent technical institute..... | 19,429 | 1,475 | 5,777 | 3,405 | 2,928 | 5,844 | |
| Theological school..... | 5,777 | 1,332 | 602 | 220 | 2,991 | 632 | |
| Other independent professional school..... | 4,345 | 2,053 | 1,201 | 1 | 467 | 623 | |
| Liberal arts college..... | 127,882 | 15,336 | 30,373 | 17,631 | 16,493 | 47,592 | 458 |
| Teachers college..... | 1,251 | 245 | | | | 1,006 | |
| Junior college..... | 6,354 | 1,904 | 474 | 1,534 | 841 | 1,601 | |
| NORTH CENTRAL | 153,144 | 22,938 | 25,202 | 32,662 | 24,211 | 48,121 | 10 |
| University..... | 62,944 | 5,822 | 11,253 | 15,925 | 8,537 | 11,407 | |
| Independent technical institute..... | 9,685 | 608 | 623 | 1,776 | 680 | 5,998 | |
| Theological school..... | 2,934 | 647 | 990 | 963 | 306 | 28 | |
| Other independent professional school..... | 5,523 | 806 | 1,253 | 29 | 225 | 3,210 | |
| Liberal arts college..... | 74,724 | 12,664 | 10,301 | 11,035 | 14,280 | 25,544 | |
| Teachers college..... | 2,228 | 764 | 132 | 1,082 | 125 | 125 | |
| Junior college..... | 5,106 | 1,627 | 650 | 952 | 58 | 1,809 | 10 |
| SOUTH | 149,212 | 23,809 | 15,590 | 25,838 | 37,062 | 46,353 | 560 |
| University..... | 64,212 | 8,222 | 6,427 | 7,472 | 15,343 | 16,522 | 226 |
| Independent technical institute..... | 8,736 | 361 | 372 | 2,568 | 1,628 | 3,507 | |
| Theological school..... | 969 | | | 957 | | 12 | |
| Other independent professional school..... | 81,505 | 14,069 | 8,774 | 14,086 | 19,678 | 24,843 | 55 |
| Liberal arts college..... | 3,790 | 1,157 | 17 | 755 | 413 | 1,169 | 279 |
| Teachers college..... | | | | | | | |
| Junior college..... | | | | | | | |
| West | 59,674 | 8,716 | 12,549 | 12,287 | 9,808 | 16,262 | 52 |
| University..... | 21,866 | 5,392 | 1,767 | 7,468 | 1,057 | 6,182 | |
| Independent technical institute..... | 3,152 | | 1,491 | | | | |
| Theological school..... | 3,903 | | 241 | 1,232 | 104 | 325 | |
| Other independent professional school..... | 29,632 | 2,324 | 9,050 | 3,635 | 8,071 | 6,615 | 37 |
| Liberal arts college..... | 1,054 | 1,000 | | | | 54 | |
| Teachers college..... | 67 | | | 52 | | | 15 |
| Junior college..... | | | | | | | |
| OUTLYING PARTS OF THE UNITED STATES | 552 | 263 | 9 | 45 | 167 | 68 | |
| University..... | | | | | | | |
| Liberal arts college..... | 552 | 263 | 9 | 45 | 167 | 68 | |

Table 4.—Percentage distribution of costs of construction completed each year from 1951 through 1955, by type of institution: aggregate United States
[Cost figures are in thousands of dollars]

| Type of institution | Percent of total construction costs | | | | | |
|--|-------------------------------------|-----------|-----------|-----------|-----------|-----------|
| | 1951-55 | 1951 | 1952 | 1953 | 1954 | 1955 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Aggregate construction costs..... | \$1,782,572 | \$250,790 | \$335,899 | \$291,980 | \$353,716 | \$543,784 |
| Total percent..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| University..... | 53.5 | 50.3 | 54.2 | 52.9 | 54.3 | 54.2 |
| Independent technical institute..... | 3.3 | 1.8 | 4.1 | 3.5 | 2.4 | 3.9 |
| Theological school..... | 1.2 | .9 | 1.0 | 1.7 | 1.4 | .9 |
| Other independent professional school..... | 2.5 | 1.1 | 1.2 | 1.3 | 1.1 | 5.6 |
| Liberal arts college..... | 25.8 | 24.3 | 23.7 | 26.0 | 28.8 | 25.8 |
| Teachers college..... | 9.5 | 16.2 | 11.3 | 9.9 | 7.5 | 6.5 |
| Junior college..... | 3.5 | 5.4 | 3.8 | 4.7 | 2.0 | 2.8 |
| U. S. Service Academies..... | .7 | | .7 | | 2.5 | .3 |

¹ Includes \$6,417,000 expended during the 5-year period for buildings for which the year of completion was not reported.

Table 5.—Percentage distribution of annual costs of construction, 1951-55, and percentage distribution of spring 1956 enrollments, by type of control and by geographic regions: aggregate United States

| Control and region | Percent spring 1956 enrollment | Percent of total construction costs | | | | | |
|--|--------------------------------|-------------------------------------|--------|--------|--------|--------|--------|
| | | 1951-55 | 1951 | 1952 | 1953 | 1954 | 1955 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| PUBLIC | | | | | | | |
| Aggregate United States..... | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Northeast..... | 12.12 | 11.12 | 12.96 | 8.37 | 17.92 | 10.62 | 9.15 |
| North Central..... | 33.28 | 31.41 | 34.40 | 31.50 | 24.25 | 37.30 | 29.04 |
| South..... | 31.55 | 32.22 | 30.31 | 37.40 | 27.43 | 26.06 | 32.92 |
| West..... | 20.87 | 23.49 | 15.28 | 20.80 | 29.21 | 21.06 | 27.52 |
| U. S. Service Academies..... | .61 | 1.20 | 1.16 | | | 4.00 | .50 |
| Outlying parts of the United States..... | 1.37 | .56 | .99 | .77 | 1.19 | | .27 |
| PRIVATE | | | | | | | |
| Aggregate United States..... | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Northeast..... | 41.87 | 47.30 | 42.44 | 54.07 | 43.33 | 44.90 | 49.55 |
| North Central..... | 28.97 | 22.20 | 23.70 | 21.70 | 26.13 | 18.72 | 21.91 |
| South..... | 21.48 | 21.69 | 24.59 | 13.42 | 20.67 | 28.66 | 21.11 |
| West..... | 9.02 | 8.67 | 9.00 | 10.80 | 9.83 | 7.59 | 7.40 |
| Outlying parts of the United States..... | .66 | .08 | .27 | .01 | .04 | .13 | .03 |

Expenditures for Buildings, by Functional Groupings

Construction of instructional facilities predominated during this 5-year period, with a total of 1,189 buildings in the United States and its territories. (See table 6.) Residential facilities numbered 1,031; general, 582; auxiliary, 277; and research, 193. Instructional and residential installations accounted for slightly more than two-thirds of the units built (2,220 of 3,272) and for about three-fourths of the total funds disbursed (\$1,298,233,000 of \$1,782,572,000). The costs of buildings completed for instructional, research, general, auxiliary, and residential use are shown in tables 6 through 9. Specific types of buildings classified under the five functional groupings are listed in appendix B.

By Regions and States

In the geographic distribution of expenditures for public and private institutions, the South leads with \$501,909,000, 28 percent of the total; the West, the least active region, spent \$316,768,000, 18 percent of the total.

Approximately 45 percent of the total disbursements were for instructional buildings. In the instructional category, expenditures in the South totaled \$254,305,000, or 51 percent of the region's capital outlay. Although the West spent only \$178,092,000 for instructional facilities, this expenditure represents 56 percent of total capital expenditures in the region.

The Northeast, with total expenditures of

\$37,443,000 for research facilities, exceeded other regions both in dollar expenditures for research buildings and in the percentage of total expenditures allocated to this type of construction.

The cost of buildings in the general facilities classification totaled \$260,125,000. Slightly more than two-fifths of this amount, \$106,424,000, was spent in the Northeast.

Expenditures for auxiliary facilities showed less variation, dollarwise, from region to region, than any other category, ranging from \$23,038,000 in the West to \$38,374,000 in the North Central.

Disbursements for residential buildings amounted to \$485,863,000, slightly more than 27 percent of the total capital outlay for the period. In residential construction, expenditures show the North Central region most active with 35 percent of the total, and the West the least active with only 12 percent.

Significant variations in construction spending during this 5-year period are evident in a State-by-State analysis of the distribution of capital expenditures by type of control and by function of building. (See tables 7A and 7B.)

In the Northeast, public and private colleges and universities in each of three States (Maine, New Hampshire, and Vermont) invested less than \$5 million in buildings during this 5-year period. Massachusetts and Vermont spent almost as much for residential as for instructional facilities, while in New Hampshire both the public and private institutions spent more than 90 percent of their total construction funds for residential

Table 6.—Number and cost of buildings completed by higher education institutions, by function of buildings and by geographic regions: aggregate United States, 1951-55

[Cost figures are in thousands of dollars]

| Region | Total | | Instructional | | Research | | General | | Auxiliary | | Residential | |
|--|--------|-------------|---------------|-----------|----------|----------|---------|-----------|-----------|-----------|-------------|-----------|
| | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Aggregate United States..... | 3,272 | \$1,782,572 | 1,189 | \$812,370 | 193 | \$99,103 | 582 | \$260,125 | 277 | \$125,111 | 1,031 | \$485,863 |
| Northeast..... | 685 | 447,172 | 213 | 158,506 | 40 | 37,443 | 157 | 106,424 | 48 | 27,153 | 227 | 117,646 |
| North Central..... | 744 | 496,909 | 243 | 207,960 | 40 | 24,261 | 120 | 57,002 | 56 | 38,374 | 265 | 169,312 |
| South..... | 1,251 | 501,909 | 479 | 254,305 | 61 | 14,231 | 197 | 59,672 | 112 | 35,441 | 402 | 138,260 |
| West..... | 564 | 316,768 | 245 | 178,092 | 60 | 22,746 | 102 | 35,108 | 58 | 23,038 | 109 | 57,784 |
| U. S. Service Academies..... | 8 | 13,171 | 2 | 8,980 | | | 3 | 1,643 | 2 | 977 | 1 | 1,571 |
| Outlying parts of the United States..... | 20 | 6,043 | 7 | 4,527 | 2 | 422 | 3 | 276 | 1 | 128 | 7 | 1,290 |

Table 7.—Number and cost of buildings completed by higher education institutions, by function of buildings,¹ grouped by geographic regions and States: aggregate United States, 1951-55A. PUBLICLY CONTROLLED INSTITUTIONS
[Cost figures are in thousands of dollars]

| Region and State | Total public expenditures | Instructional | Research | General | Auxiliary | Residential | Total number of buildings |
|--|---------------------------|------------------|-----------------|------------------|-----------------|------------------|---------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Aggregate United States | \$1,094,577 | \$576,257 | \$51,066 | \$128,051 | \$78,080 | \$261,123 | 1,744 |
| NORTHEAST | 121,759 | 40,988 | 4,115 | 38,493 | 8,109 | 30,054 | 162 |
| Connecticut..... | 18,813 | 6,019 | 1,704 | 4,520 | 1,512 | 4,959 | 27 |
| Maine..... | 1,555 | | | | 850 | 705 | 3 |
| Massachusetts..... | 9,672 | 3,009 | 756 | 2,339 | 985 | 2,583 | 19 |
| New Hampshire..... | 1,104 | 40 | | 54 | | 1,010 | 6 |
| New Jersey..... | 5,469 | 1,929 | | 60 | 1,285 | 2,195 | 14 |
| New York..... | 56,850 | 16,617 | | 28,081 | | 12,152 | 46 |
| Pennsylvania..... | 24,445 | 10,474 | 1,565 | 3,430 | 2,911 | 6,065 | 42 |
| Rhode Island..... | 3,266 | 2,700 | | | 666 | | 3 |
| Vermont..... | 585 | 200 | | | | 385 | 2 |
| NORTH CENTRAL | 343,785 | 162,087 | 16,848 | 31,772 | 25,035 | 108,023 | 383 |
| Illinois..... | 43,051 | 25,048 | 657 | 1,057 | | 10,280 | 33 |
| Indiana..... | 42,396 | 18,975 | 1,371 | 3,353 | 5,303 | 15,394 | 30 |
| Iowa..... | 8,503 | 3,900 | 250 | 670 | 950 | 2,733 | 11 |
| Kansas..... | 35,462 | 15,773 | 1,062 | 5,070 | 4,558 | 8,999 | 52 |
| Michigan..... | 70,245 | 30,623 | 7,255 | 4,549 | 4,374 | 20,444 | 63 |
| Minnesota..... | 22,020 | 6,123 | 865 | 12,602 | 387 | 2,043 | 26 |
| Missouri..... | 13,093 | 3,447 | | 1,370 | 2,977 | 5,293 | 30 |
| Nebraska..... | 10,618 | 5,161 | 1,000 | 1,045 | | 3,410 | 15 |
| North Dakota..... | 8,039 | 4,912 | 265 | 636 | 641 | 1,585 | 29 |
| Ohio..... | 49,339 | 23,139 | 995 | 1,247 | 5,825 | 18,133 | 48 |
| South Dakota..... | 3,390 | 2,772 | | 18 | | 600 | 9 |
| Wisconsin..... | 31,611 | 24,214 | 3,128 | 149 | 20 | 4,100 | 38 |
| SOUTH | 352,697 | 201,743 | 9,458 | 30,946 | 24,926 | 85,624 | 762 |
| Alabama..... | 12,500 | 5,834 | 20 | 385 | 2,269 | 3,992 | 40 |
| Arkansas..... | 7,974 | 3,254 | | | 902 | 3,818 | 31 |
| Delaware..... | 6,173 | 2,062 | 1,600 | 221 | | 2,290 | 8 |
| Florida..... | 16,008 | 4,224 | 728 | 2,455 | 800 | 7,501 | 61 |
| Georgia..... | 31,306 | 23,219 | 92 | 2,529 | 354 | 6,112 | 42 |
| Kentucky..... | 8,243 | 3,980 | | 130 | 660 | 3,463 | 12 |
| Louisiana..... | 12,730 | 9,776 | 30 | 61 | 513 | 2,350 | 31 |
| Maryland..... | 26,598 | 15,709 | 677 | 4,504 | 1,028 | 4,080 | 77 |
| Mississippi..... | 19,955 | 14,858 | | 2,466 | 711 | 1,020 | 52 |
| North Carolina..... | 46,513 | 28,790 | 3,151 | 1,866 | 2,845 | 9,861 | 80 |
| Oklahoma..... | 25,345 | 13,037 | 427 | 4,200 | 2,600 | 4,091 | 66 |
| South Carolina..... | 32,511 | 19,021 | 441 | 1,179 | 1,071 | 9,899 | 41 |
| Tennessee..... | 16,561 | 8,362 | 1,212 | 1,433 | 2,158 | 3,396 | 38 |
| Texas..... | 50,795 | 28,331 | 597 | 4,582 | 5,185 | 12,100 | 121 |
| Virginia..... | 28,001 | 13,242 | 483 | 3,370 | 2,710 | 8,196 | 43 |
| West Virginia..... | 11,184 | 7,134 | | 1,565 | 130 | 2,355 | 19 |
| District of Columbia..... | | | | | | | |
| WEST | 257,094 | 158,124 | 20,223 | 25,097 | 18,905 | 34,745 | 416 |
| Arizona..... | 11,935 | 3,439 | 235 | 3,462 | 2,846 | 1,953 | 28 |
| California..... | 154,711 | 117,421 | 17,024 | 8,376 | 6,117 | 5,173 | 199 |
| Colorado..... | 19,556 | 5,209 | 381 | 1,662 | 3,230 | 9,074 | 40 |
| Idaho..... | 4,349 | 2,370 | 30 | 320 | | 1,623 | 13 |
| Montana..... | 11,941 | 4,172 | 827 | 1,515 | 90 | 5,837 | 24 |
| Nevada..... | | | | | | | |
| New Mexico..... | 7,772 | 4,546 | 383 | 825 | 254 | 1,784 | 31 |
| Oregon..... | 13,026 | 5,844 | 66 | 4,810 | | 2,306 | 27 |
| Utah..... | 7,213 | 4,008 | 925 | 1,070 | 1,210 | | 16 |
| Washington..... | 18,454 | 6,162 | 266 | 1,137 | 5,158 | 5,731 | 24 |
| Wyoming..... | 8,137 | 4,953 | | 1,920 | | 1,264 | 14 |
| U. S. SERVICE ACADEMIES | 13,171 | 8,980 | | 1,643 | 977 | 1,571 | 8 |
| OUTLYING PARTS OF THE UNITED STATES | 6,091 | 4,335 | 422 | 100 | 128 | 1,106 | 13 |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary, and residential) are itemized in appendix B.Table 7.—Number and cost of buildings completed by higher education institutions, by function of buildings,¹ grouped by geographic regions and States: aggregate United States, 1951-55—ContinuedB. PRIVATELY CONTROLLED INSTITUTIONS
[Cost figures are in thousands of dollars]

| Region and State | Total private expenditures | Instructional | Research | General | Auxiliary | Residential | Total number of buildings |
|--|----------------------------|------------------|-----------------|------------------|-----------------|------------------|---------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Aggregate United States | \$687,995 | \$236,113 | \$48,037 | \$132,074 | \$47,031 | \$224,740 | 1,523 |
| NORTHEAST | 325,413 | 117,618 | 33,328 | 67,931 | 19,044 | 87,592 | 523 |
| Connecticut..... | 11,690 | 3,917 | 2,350 | 173 | 378 | 4,872 | 23 |
| Maine..... | 2,673 | 1,431 | | 902 | 311 | 29 | 10 |
| Massachusetts..... | 52,416 | 16,981 | 4,584 | 8,892 | 6,509 | 15,450 | 81 |
| New Hampshire..... | 1,333 | | | | 70 | 1,263 | 3 |
| New Jersey..... | 25,696 | 11,301 | 5,085 | 3,374 | 1,195 | 4,741 | 38 |
| New York..... | 145,473 | 46,876 | 18,425 | 38,965 | 6,691 | 34,516 | 197 |
| Pennsylvania..... | 79,571 | 35,549 | 2,884 | 12,324 | 3,837 | 24,977 | 144 |
| Rhode Island..... | 3,031 | | | 2,631 | | 500 | 3 |
| Vermont..... | 3,530 | 1,463 | | 770 | 53 | 1,244 | 15 |
| NORTH CENTRAL | 153,144 | 45,873 | 7,413 | 25,230 | 13,339 | 61,289 | 361 |
| Illinois..... | 39,808 | 8,865 | 6,374 | 7,373 | 2,025 | 15,231 | 74 |
| Indiana..... | 23,168 | 8,124 | 53 | 4,039 | 4,244 | 6,708 | 34 |
| Iowa..... | 11,400 | 2,219 | | 1,220 | 1,415 | 6,546 | 34 |
| Kansas..... | 4,607 | 1,287 | | 1,015 | 7 | 2,298 | 26 |
| Michigan..... | 12,300 | 2,965 | | 3,838 | 2,617 | 2,970 | 14 |
| Minnesota..... | 8,025 | 1,657 | | 596 | 1,156 | 4,616 | 17 |
| Missouri..... | 11,613 | 7,473 | 585 | 845 | 43 | 2,667 | 28 |
| Nebraska..... | 974 | 477 | | 328 | | 169 | 7 |
| North Dakota..... | 27 | | | | | 27 | 1 |
| Ohio..... | 29,997 | 9,352 | 401 | 3,378 | 629 | 16,237 | 104 |
| South Dakota..... | 1,191 | 444 | | 10 | | 737 | 4 |
| Wisconsin..... | 9,884 | 3,010 | | 2,588 | 1,203 | 3,083 | 18 |
| SOUTH | 149,212 | 52,562 | 4,773 | 28,726 | 10,515 | 52,636 | 489 |
| Alabama..... | 5,740 | 1,749 | 152 | 1,334 | 353 | 2,152 | 25 |
| Arkansas..... | 2,925 | 620 | | 1,447 | 148 | 710 | 16 |
| Delaware..... | | | | | | | |
| Florida..... | 6,024 | 1,941 | | 2,297 | | 2,386 | 19 |
| Georgia..... | 12,541 | 3,185 | 3,212 | 2,015 | 15 | 4,114 | 44 |
| Kentucky..... | 7,654 | 2,277 | | 2,886 | 832 | 1,859 | 32 |
| Louisiana..... | 16,195 | 4,440 | | 4,687 | 386 | 6,682 | 28 |
| Maryland..... | 11,568 | 3,698 | | 4,341 | | 3,529 | 18 |
| Mississippi..... | 609 | 333 | | | | 276 | 5 |
| North Carolina..... | 11,411 | 762 | 404 | 4,241 | 1,213 | 4,701 | 45 |
| Oklahoma..... | 3,200 | 1,232 | | 602 | 301 | 1,065 | 16 |
| South Carolina..... | 4,449 | 3,794 | 70 | 445 | 75 | 2,215 | 32 |
| Tennessee..... | 10,502 | 1,644 | | 1,221 | 1,554 | 4,023 | 61 |
| Texas..... | 31,037 | 13,367 | | 458 | 6,181 | 12,031 | 75 |
| Virginia..... | 8,438 | 3,702 | 205 | 255 | 413 | 3,913 | 40 |
| West Virginia..... | 3,036 | 818 | | 1,627 | | 591 | 7 |
| District of Columbia..... | 13,143 | 9,000 | 640 | 870 | 44 | 2,589 | 26 |
| WEST | 59,674 | 19,968 | 2,523 | 10,011 | 4,133 | 23,039 | 148 |
| Arizona..... | 251 | 111 | | 28 | 56 | 56 | 7 |
| California..... | 32,140 | 12,001 | 2,523 | 6,652 | 1,150 | 9,820 | 77 |
| Colorado..... | 913 | | | | 678 | | 2 |
| Idaho..... | 100 | | | | | 100 | 1 |
| Montana..... | | | | | | | |
| Nevada..... | | 54 | | 1,000 | | | 2 |
| New Mexico..... | 1,054 | 862 | | 1,198 | 536 | 2,242 | 21 |
| Oregon..... | 4,838 | 5,075 | | 145 | 747 | 5,150 | 13 |
| Utah..... | 11,117 | 1,865 | | 753 | 966 | 5,671 | 25 |
| Washington..... | 9,255 | | | | | | |
| Wyoming..... | | | | | | | |
| OUTLYING PARTS OF THE UNITED STATES | 552 | 192 | | 176 | | 184 | 7 |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary and residential) are itemized in appendix B.

Table 8.—Number and cost of buildings completed by higher education institutions, by function of buildings,¹ and by type of institution, grouped by geographic regions: aggregate United States, 1951-55

A. PUBLICLY CONTROLLED INSTITUTIONS

[Cost figures are in thousands of dollars]

| Region and type | Total | | Instructional | | Research | | General | | Auxiliary | | Residential | |
|--|-------|-------------|---------------|-----------|----------|----------|---------|-----------|-----------|----------|-------------|-----------|
| | No. | Cost | No. | Cost | No. | Cost | No. | Cost | No. | Cost | No. | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Aggregate United States | 1,744 | \$1,094,577 | 732 | \$576,257 | 136 | \$51,066 | 309 | \$128,051 | 143 | \$78,080 | 424 | \$261,123 |
| University | 834 | 664,852 | 330 | 346,790 | 118 | 44,708 | 146 | 60,108 | 56 | 52,940 | 184 | 151,306 |
| Independent technical institute | 62 | 42,004 | 26 | 25,851 | 4 | 3,490 | 18 | 4,788 | 5 | 2,627 | 9 | 5,242 |
| Other independent professional school | 14 | 30,284 | 7 | 26,573 | 1 | 120 | 4 | 1,674 | | | 2 | 1,917 |
| Liberal arts college | 296 | 144,900 | 137 | 82,371 | 9 | 1,683 | 47 | 16,412 | 30 | 8,963 | 73 | 35,471 |
| Teachers college | 355 | 165,336 | 121 | 62,248 | 2 | 271 | 63 | 28,441 | 35 | 10,637 | 134 | 63,739 |
| Junior college | 183 | 47,201 | 111 | 32,424 | 2 | 788 | 31 | 7,628 | 17 | 2,913 | 22 | 3,448 |
| NORTHEAST | 162 | 121,759 | 47 | 40,988 | 15 | 4,115 | 46 | 38,493 | 11 | 8,109 | 43 | 30,054 |
| University | 64 | 49,692 | 15 | 13,588 | 15 | 4,115 | 14 | 16,311 | 6 | 6,451 | 14 | 9,227 |
| Independent technical institute | 1 | 2,000 | 1 | 2,000 | | | | | | | | |
| Other independent professional school | 4 | 1,769 | 2 | 1,100 | | | 2 | 669 | | | | |
| Liberal arts college | 2 | 7,303 | 1 | 3,053 | | | 1 | 4,250 | | | | |
| Teachers college | 75 | 53,024 | 23 | 16,688 | | | 22 | 14,068 | 5 | 1,658 | 25 | 20,010 |
| Junior college | 16 | 7,971 | 5 | 4,559 | | | 7 | 2,595 | | | 4 | 817 |
| NORTH CENTRAL | 383 | 343,765 | 147 | 162,087 | 28 | 16,848 | 67 | 31,772 | 22 | 25,035 | 119 | 108,023 |
| University | 223 | 248,928 | 91 | 121,869 | 26 | 15,511 | 35 | 21,253 | 14 | 20,955 | 57 | 69,340 |
| Independent technical institute | 9 | 5,620 | 4 | 1,333 | 1 | 737 | 2 | 950 | 1 | 1,131 | 1 | 1,463 |
| Other independent professional school | | | | | | | | | | | | |
| Liberal arts college | 41 | 25,366 | 15 | 11,900 | | | 8 | 2,089 | 1 | 316 | 17 | 11,061 |
| Teachers college | 95 | 57,612 | 31 | 23,617 | | | 15 | 5,403 | 6 | 2,633 | 43 | 25,959 |
| Junior college | 15 | 6,239 | 6 | 3,368 | 1 | 600 | 7 | 2,071 | | | 1 | 200 |
| SOUTH | 762 | 352,697 | 332 | 201,743 | 49 | 9,458 | 118 | 30,940 | 69 | 24,920 | 194 | 85,624 |
| University | 356 | 202,051 | 150 | 114,559 | 41 | 8,740 | 63 | 20,015 | 21 | 12,356 | 81 | 46,381 |
| Independent technical institute | 19 | 8,154 | 6 | 5,934 | 1 | 92 | 7 | 1,232 | 1 | 217 | 4 | 679 |
| Other independent professional school | 10 | 28,515 | 5 | 25,473 | 1 | 120 | 2 | 1,005 | | | 2 | 1,917 |
| Liberal arts college | 165 | 62,792 | 73 | 29,687 | 4 | 235 | 18 | 4,616 | 21 | 6,989 | 49 | 21,265 |
| Teachers college | 137 | 38,543 | 55 | 18,275 | 2 | 271 | 19 | 2,896 | 16 | 3,699 | 45 | 13,402 |
| Junior college | 75 | 12,642 | 43 | 7,815 | | | 9 | 1,182 | 10 | 1,065 | 13 | 1,980 |
| WEST | 416 | 257,094 | 198 | 158,124 | 42 | 20,223 | 74 | 25,097 | 38 | 18,905 | 64 | 34,745 |
| University | 178 | 168,090 | 68 | 92,439 | 34 | 15,020 | 33 | 11,429 | 14 | 13,050 | 29 | 25,252 |
| Independent technical institute | 25 | 13,059 | 13 | 7,604 | 2 | 2,067 | 6 | 957 | 1 | 302 | 3 | 1,529 |
| Other independent professional school | | | | | | | | | | | | |
| Liberal arts college | 88 | 49,439 | 48 | 37,731 | 5 | 1,448 | 20 | 5,457 | 8 | 1,658 | 7 | 3,145 |
| Teachers college | 48 | 16,157 | 12 | 3,608 | | | 7 | 5,474 | 8 | 2,647 | 21 | 4,368 |
| Junior college | 77 | 20,349 | 57 | 16,682 | 1 | 188 | 8 | 1,780 | 7 | 1,248 | 4 | 451 |
| U. S. SERVICE ACADEMIES | 8 | 13,171 | 2 | 8,980 | | | 3 | 1,643 | 2 | 977 | 1 | 1,671 |
| OUTLYING PARTS OF THE UNITED STATES | 13 | 6,091 | 6 | 4,335 | 2 | 422 | 1 | 100 | 1 | 128 | 3 | 1,106 |
| University | 13 | 6,091 | 6 | 4,335 | 2 | 422 | 1 | 100 | 1 | 128 | 3 | 1,106 |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary, and residential) are itemized in appendix B.Table 8.—Number and cost of buildings completed by higher education institutions, by function of buildings,¹ and by type of institution, grouped by geographic regions: aggregate United States, 1951-55—Continued

B. PRIVATELY CONTROLLED INSTITUTIONS

[Cost figures are in thousands of dollars]

| Region and type | Total | | Instructional | | Research | | General | | Auxiliary | | Residential | |
|--|-------|-----------|---------------|-----------|----------|----------|---------|-----------|-----------|----------|-------------|-----------|
| | No. | Cost | No. | Cost | No. | Cost | No. | Cost | No. | Cost | No. | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Aggregate United States | 1,528 | \$687,995 | 457 | \$236,113 | 57 | \$48,037 | 273 | \$132,074 | 134 | \$47,031 | 607 | \$224,746 |
| University | 294 | 289,397 | 98 | 116,629 | 40 | 20,404 | 56 | 43,286 | 22 | 17,656 | 78 | 82,422 |
| Independent technical institute | 38 | 20,114 | 12 | 9,819 | 4 | 4,211 | 5 | 3,739 | 4 | 1,147 | 13 | 10,198 |
| Theological school | 77 | 20,599 | 13 | 4,079 | | | 22 | 8,582 | 4 | 699 | 38 | 7,239 |
| Other independent professional school | 32 | 14,740 | 14 | 9,053 | 3 | 1,745 | 6 | 1,188 | 2 | 259 | 7 | 2,495 |
| Liberal arts college | 983 | 314,295 | 292 | 90,813 | 10 | 12,677 | 159 | 68,107 | 95 | 26,813 | 427 | 115,885 |
| Teachers college | 15 | 4,533 | 6 | 2,089 | | | 4 | 1,573 | | | 5 | 871 |
| Junior college | 89 | 15,317 | 22 | 3,631 | | | 21 | 5,599 | 7 | 457 | 39 | 5,630 |
| NORTHEAST | 523 | 325,413 | 166 | 117,518 | 25 | 33,328 | 111 | 67,931 | 37 | 19,044 | 184 | 87,592 |
| University | 136 | 160,375 | 50 | 69,767 | 18 | 16,177 | 26 | 26,546 | 9 | 7,571 | 33 | 40,314 |
| Independent technical institute | 23 | 19,429 | 9 | 6,901 | 2 | 3,356 | 2 | 2,543 | 2 | 467 | 8 | 6,162 |
| Theological school | 23 | 5,777 | 2 | 295 | | | 8 | 2,610 | | | 13 | 2,872 |
| Other independent professional school | 13 | 4,345 | 3 | 701 | 2 | 1,738 | 3 | 161 | | | 5 | 1,745 |
| Liberal arts college | 290 | 127,882 | 93 | 37,619 | 3 | 12,057 | 60 | 33,304 | 23 | 10,608 | 111 | 34,294 |
| Teachers college | 2 | 1,251 | 1 | 1,006 | | | 1 | 245 | | | 14 | 2,205 |
| Junior college | 36 | 6,354 | 8 | 1,229 | | | 11 | 2,522 | 3 | 398 | 14 | 2,205 |
| NORTH CENTRAL | 361 | 153,144 | 96 | 45,873 | 12 | 7,413 | 53 | 25,230 | 34 | 13,339 | 166 | 61,289 |
| University | 60 | 52,944 | 18 | 17,413 | 9 | 6,544 | 10 | 9,594 | 6 | 4,864 | 17 | 14,529 |
| Independent technical institute | 15 | 9,685 | 3 | 2,918 | 2 | 855 | 3 | 1,196 | 2 | 680 | 5 | 4,036 |
| Theological school | 16 | 2,934 | 4 | 1,610 | | | 4 | 403 | 1 | 15 | 7 | 906 |
| Other independent professional school | 8 | 5,523 | 4 | 4,467 | | | 3 | 1,027 | 1 | 29 | 29 | 38,797 |
| Liberal arts college | 235 | 74,724 | 58 | 17,174 | 1 | 14 | 28 | 10,995 | 23 | 7,744 | 126 | 38,797 |
| Teachers college | 11 | 2,228 | 4 | 1,029 | | | 2 | 328 | | | 5 | 871 |
| Junior college | 15 | 5,106 | 5 | 1,262 | | | 3 | 1,687 | 1 | 7 | 6 | 2,150 |
| SOUTH | 489 | 149,212 | 147 | 52,562 | 12 | 4,773 | 79 | 28,726 | 43 | 10,515 | 208 | 52,636 |
| University | 68 | 54,212 | 23 | 22,950 | 6 | 4,167 | 14 | 6,781 | 3 | 3,962 | 22 | 16,352 |
| Independent technical institute | | | | | | | | | | | | |
| Theological school | 19 | 8,736 | 4 | 1,115 | | | 3 | 4,161 | 2 | 388 | 10 | 3,074 |
| Other independent professional school | 4 | 969 | 2 | 212 | | | 56 | 16,409 | 1 | 230 | 1 | 527 |
| Liberal arts college | 362 | 81,505 | 110 | 27,197 | 6 | 606 | 56 | 16,409 | 34 | 5,885 | 156 | 31,408 |
| Teachers college | 36 | 3,790 | 8 | 1,088 | | | 3 | 1,375 | 3 | 52 | 19 | 1,275 |
| Junior college | | | | | | | | | | | | |
| WEST | 148 | 59,674 | 47 | 19,968 | 8 | 2,523 | 28 | 10,011 | 20 | 4,133 | 45 | 23,039 |
| University | 30 | 21,866 | 7 | 6,499 | 7 | 2,516 | 6 | 365 | 4 | 1,259 | 6 | 11,227 |
| Independent technical institute | | | | | | | | | | | | |
| Theological school | 19 | 3,152 | 3 | 1,050 | | | 7 | 1,408 | 1 | 298 | 8 | 387 |
| Other independent professional school | 7 | 3,003 | 5 | 3,673 | 1 | 7 | 13 | 7,223 | 15 | 2,576 | 30 | 223 |
| Liberal arts college | 88 | 29,632 | 30 | 8,631 | | | 1 | 1,000 | | | 1 | 11,202 |
| Teachers college | 2 | 1,054 | 1 | 54 | | | 1 | 15 | | | | |
| Junior college | 2 | 67 | 1 | 52 | | | | | | | | |
| OUTLYING PARTS OF THE UNITED STATES | 7 | 552 | 1 | 192 | | | 2 | 176 | | | 4 | 184 |
| Liberal arts college | 7 | 552 | 1 | 192 | | | 2 | 176 | | | 4 | 184 |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary, and residential) are itemized in appendix B.

buildings. In Pennsylvania, the cost of instructional facilities represented about 45 percent of the capital expenditures of both public and private institutions. Colleges and universities located in New York spent \$67,046,000 for general facilities, which was more than they spent for either instructional or residential buildings. This sum represented more than three-fifths of the total capital outlay for general facilities in the entire Northeast region. Institutions in New York also were responsible for about one-half of the total cost of research buildings erected in the region, and it is interesting to note that all of the expenditures for research facilities in New York were reported by private institutions.

In the North Central, four States (Michigan, Illinois, Ohio, and Indiana) spent more than three-fifths of the \$496,909,000 regional total, each having spent substantial sums for instructional and residential facilities. Minnesota spent more for buildings in the general category than it did for instructional or residential facilities. By type of control, capital expenditures for research buildings in this region were concentrated in two States: Michigan—43 percent of the public total, and Illinois—86 percent of the private.

Of all regions, the South showed the most uniform capital spending pattern on a State-by-State basis even though higher education institutions in one State (Texas) spent slightly more than 16 percent of the regional total. This region exceeded all others in dollar disbursements for instructional facilities but expenditures for research buildings were relatively small.

In contrast to the uniform capital spending pattern of the South, more than one-half of the capital funds for the construction of physical facilities in the 11 States in the West were expended by higher education institutions in California. By type of control, this represented 60 percent of the public and 54 percent of the private capital expenditures of the region. Although the West spent 56 percent of its total capital outlay for instructional facilities, 73 percent of that amount was expended by California. On a national basis, the public institutions in California were responsible for approximately 14 percent of the cost of all instructional buildings completed by higher education institutions during 1951-55 and for 18 percent of the capital outlay for research buildings.

By Type of Institution

An examination of the 1951-55 expenditures from the standpoint of the different types of higher education institutions shows that universities spent 53.5 percent of the total, liberal arts colleges, 25.8 percent, and teachers colleges, 9.5 percent. (See table 4.) The remaining 11.2 percent was divided among technical institutes, professional colleges, and junior colleges. Because of the relatively low response rate from theological schools, other independent professional colleges, and junior colleges, it seems possible that their actual expenditures would have constituted more than 11.2 percent of the total if their rate of response had been as great as for the other types.

In general, universities and liberal arts colleges spent sizable amounts in all functional categories as shown in tables 8A and 8B. Three types of institutions expended more than half of their construction funds for instructional buildings— independent technical institutes, \$35,670,000 (50.2 percent); junior colleges, \$36,055,000 (57.7 percent); and other independent professional schools, \$35,626,000 (79.1 percent). Slightly more than three-fourths of the capital expenditures of theological schools were for general and residential facilities. Teachers colleges spent a comparable proportion of their construction funds in the instructional and residential areas.

Expenditures for instructional facilities in the public other independent professional schools in the South and in the private institutions of the same type in the North Central and West were large when compared with the total expenditures— 89.3, 80.9, and 94.1 percent, respectively. Also in the West, public junior colleges stressed instructional buildings by spending more than four-fifths of their capital funds for such facilities.

In the United States and its territories, public institutions spent over \$51 million for the construction of research buildings and the private institutions slightly more than \$48 million during the 5-year period 1951-55. Universities located in two regions spent more than three-fifths of the total public expenditures for research buildings—the West (31 percent) and the North Central (30 percent). In the private group, approximately 60 percent of all funds for research buildings was spent by universities and liberal arts colleges in the Northeast.

More than half of the \$260,125,000 expended for buildings in the general category and more than three-fifths of the \$125,111,000 expended for auxiliary facilities represented the disbursements of public universities and private liberal arts colleges. For general facilities, public and private institutions in the Northeast spent \$106,424,000, about 41 percent of the national total. Public universities in the North Central, South, and West spent 37 percent of the total expenditure for auxiliary facilities.

Public universities and teachers colleges spent \$215,045,000, or slightly more than 82 percent of the total public residential expenditures, during this 5-year period. A comparable situation existed in the private institutions, with liberal arts colleges (\$115,885,000) and universities (\$82,422,000) accounting for more than four-fifths of the total (\$224,740,000). In the private group, the smallest expenditure, \$871,000, for residential buildings was made by teachers colleges, and this was all spent in one geographic region, the North Central.

By Enrollment Categories

Expenditures for buildings completed by higher education institutions during 1951-55, classified by building function and by spring 1956 full-time enrollments, are presented in tables 9A and 9B. In this analysis, a significant difference appears in the concentration of spending between public and private institutions. Public colleges and universities enrolling 2,000-9,999 full-time students constructed more than one-half of the buildings and spent slightly more than 50 percent of the capital funds of the public group. In the private group, institutions enrolling 200-999 full-time students accounted for slightly more than one-half of the buildings but only one-third of the capital outlay. The distribution of expenditures of the private institutions was more uniform and extensive within the four enrollment categories 500-999 through 5,000-9,999 than was the case in the public institutions. Public institutions with 10,000 or more students spent about \$242 million, while private counterparts spent slightly less than \$30 million.

In examining the 1951-55 expenditures by function of buildings, we find that for each dollar spent

for instructional facilities, 45 cents was spent for residential facilities by the public group and 95 cents by the private. Institutions in all enrollment categories expended more for instructional facilities than residential, except the private institutions with enrollments below 2,000, where expenditures for residential buildings exceeded those for instructional by 22 percent.

An analysis of the spending pattern where the instructional expenditures exceeded the residential shows that the public institutions with enrollments below 2,000 and those with enrollments above 2,000 closely maintained the national ratio of .45 to 1 for public institutions, but that the private institutions enrolling over 2,000 had a ratio of .72 to 1, which was below the .95 to 1 ratio for private institutions as a whole.

In the research area, expenditures for buildings were proportionately heavy in institutions enrolling from 1,000 to 9,999 full-time students—public, 61 percent; private, 91 percent. Column 7 of table 9A shows the highest regional expenditures for the public group in the West and table 9B shows the highest for the private institutions in the Northeast. In each instance, specific enrollment categories were dominant—in the West, 1,000-1,999; and in the Northeast, 1,000-1,999 and 5,000-9,999.

Capital expenditures in excess of \$10 million for general buildings varied substantially by enrollment category from region to region and within regions. Column 9 of table 9A for the public institutions shows two in the Northeast (500-999, 5,000-9,999), one in the North Central (20,000 and more), and one in the South (5,000-9,999). For the private institutions, column 9 of table 9B shows greater concentration of such expenditures in one region, the Northeast, where four enrollment categories (200-499, 500-999, 5,000-9,999, and 10,000-19,999) exceeded this amount. In addition, private colleges and universities in the South enrolling 500-999 students spent \$13,320,000 for general buildings.

Institutions enrolling less than 2,000 full-time students spent approximately 60 percent of the \$47,031,000 expended by the private colleges and universities for auxiliary facilities from 1951 through 1955. For the public group, 54 percent of the total capital disbursement for these facilities was made by institutions with enrollments from 2,000 to 9,999 students.

Table 9.—Number and cost of buildings completed by higher education institutions, by function of buildings,¹ grouped by geographic regions and by spring 1956 full-time enrollments: aggregate United States, 1951-55

A. PUBLICLY CONTROLLED INSTITUTIONS

[Cost figures are in thousands of dollars]

| Region and enrollment | Total | | Instructional | | Research | | General | | Auxiliary | | Residential | |
|---|--------------|--------------------|---------------|------------------|------------|-----------------|------------|------------------|------------|-----------------|-------------|------------------|
| | No. | Cost | No. | Cost | No. | Cost | No. | Cost | No. | Cost | No. | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Aggregate United States... | 1,744 | \$1,094,577 | 732 | \$576,257 | 136 | \$51,066 | 309 | \$128,051 | 143 | \$78,080 | 424 | \$261,123 |
| Below 200..... | 28 | 6,277 | 8 | 1,445 | 2 | 2,667 | 8 | 760 | 4 | 603 | 6 | 742 |
| 200-499..... | 115 | 35,931 | 67 | 25,163 | 22 | 65 | 22 | 5,514 | 7 | 1,013 | 27 | 4,176 |
| 500-999..... | 243 | 114,690 | 103 | 65,217 | 4 | 634 | 52 | 19,123 | 17 | 3,310 | 67 | 26,406 |
| 1,000-1,999..... | 304 | 147,616 | 103 | 61,939 | 20 | 15,931 | 47 | 15,279 | 42 | 13,167 | 92 | 41,250 |
| 2,000-4,999..... | 497 | 302,176 | 236 | 167,358 | 34 | 5,015 | 77 | 25,674 | 34 | 19,262 | 116 | 84,807 |
| 5,000-9,999..... | 399 | 245,906 | 163 | 113,064 | 48 | 10,344 | 78 | 42,685 | 30 | 22,807 | 90 | 56,036 |
| 10,000-19,999..... | 120 | 193,438 | 56 | 124,386 | 22 | 9,627 | 14 | 6,412 | 7 | 14,244 | 21 | 38,789 |
| 20,000 and more..... | 38 | 48,543 | 16 | 16,735 | 4 | 6,783 | 11 | 12,594 | 2 | 3,554 | 5 | 8,877 |
| NORTHEAST..... | 162 | 121,759 | 47 | 40,988 | 15 | 4,115 | 46 | 38,493 | 11 | 8,109 | 43 | 30,054 |
| Below 200..... | 3 | 771 | 1 | 200 | — | — | 1 | 186 | — | — | 1 | 385 |
| 200-499..... | 8 | 3,528 | 4 | 2,929 | — | — | 2 | 80 | — | — | 2 | 519 |
| 500-999..... | 52 | 31,435 | 11 | 6,755 | — | — | 21 | 13,873 | 5 | 1,658 | 15 | 9,149 |
| 1,000-1,999..... | 29 | 24,988 | 12 | 12,061 | — | — | 7 | 3,793 | — | — | 10 | 9,134 |
| 2,000-4,999..... | 27 | 19,028 | 7 | 8,559 | 4 | 750 | 3 | 1,689 | 3 | 2,401 | 10 | 5,593 |
| 5,000-9,999..... | 24 | 29,496 | 4 | 2,833 | 5 | 1,794 | 0 | 18,398 | 2 | 1,512 | 4 | 4,959 |
| 10,000-19,999..... | 19 | 12,513 | 8 | 7,621 | 6 | 1,565 | 3 | 474 | 1 | 2,538 | 1 | 315 |
| 20,000 and more..... | — | — | — | — | — | — | — | — | — | — | — | — |
| NORTH CENTRAL..... | 383 | 343,765 | 147 | 162,087 | 28 | 16,848 | 67 | 31,772 | 22 | 25,035 | 119 | 108,023 |
| Below 200..... | 18 | 4,190 | 8 | 1,505 | — | — | 7 | 2,230 | — | — | 3 | 455 |
| 200-499..... | 27 | 13,730 | 12 | 8,082 | — | — | 4 | 789 | — | — | 11 | 4,850 |
| 500-999..... | 56 | 21,857 | 18 | 7,607 | 2 | 1,337 | 9 | 2,483 | 5 | 2,252 | 22 | 8,178 |
| 1,000-1,999..... | 105 | 85,094 | 38 | 43,682 | 8 | 475 | 17 | 5,775 | 5 | 2,629 | 37 | 32,533 |
| 2,000-4,999..... | 82 | 69,547 | 33 | 32,769 | 3 | 2,227 | 12 | 4,973 | 8 | 8,458 | 26 | 21,120 |
| 5,000-9,999..... | 57 | 100,804 | 22 | 51,707 | 11 | 6,026 | 7 | 2,919 | 2 | 8,142 | 15 | 32,010 |
| 10,000-19,999..... | 38 | 48,543 | 16 | 16,735 | 4 | 6,783 | 11 | 12,594 | 2 | 3,554 | 5 | 8,877 |
| 20,000 and more..... | — | — | — | — | — | — | — | — | — | — | — | — |
| SOUTH..... | 762 | 352,697 | 332 | 201,743 | 49 | 9,453 | 118 | 30,946 | 69 | 24,926 | 194 | 85,624 |
| Below 200..... | 11 | 1,355 | 4 | 810 | — | — | 3 | 367 | 2 | 147 | 2 | 31 |
| 200-499..... | 75 | 24,158 | 36 | 18,214 | 2 | 65 | 10 | 1,780 | 7 | 1,013 | 20 | 3,080 |
| 500-999..... | 95 | 38,574 | 48 | 26,144 | 1 | 250 | 18 | 2,671 | 6 | 1,048 | 22 | 8,455 |
| 1,000-1,999..... | 135 | 51,403 | 43 | 19,647 | 5 | 1,601 | 17 | 4,785 | 23 | 7,087 | 50 | 18,343 |
| 2,000-4,999..... | 206 | 114,591 | 107 | 70,028 | 8 | 2,560 | 28 | 7,467 | 17 | 6,457 | 46 | 28,073 |
| 5,000-9,999..... | 223 | 106,444 | 86 | 56,642 | 33 | 4,970 | 41 | 13,095 | 13 | 7,745 | 60 | 23,992 |
| 10,000-19,999..... | 14 | 16,112 | 8 | 10,258 | — | — | 1 | 781 | 1 | 1,429 | 4 | 3,644 |
| 20,000 and more..... | — | — | — | — | — | — | — | — | — | — | — | — |
| WEST..... | 416 | 257,094 | 198 | 158,124 | 42 | 20,223 | 74 | 25,097 | 38 | 18,905 | 64 | 34,745 |
| Below 200..... | 14 | 4,161 | 3 | 435 | 2 | 2,667 | 4 | 207 | 2 | 516 | 3 | 326 |
| 200-499..... | 14 | 4,035 | 9 | 2,515 | — | — | 3 | 1,424 | — | — | 2 | 110 |
| 500-999..... | 68 | 22,251 | 31 | 15,536 | 3 | 378 | 9 | 1,781 | 6 | 604 | 10 | 3,952 |
| 1,000-1,999..... | 81 | 49,308 | 30 | 22,674 | 13 | 12,993 | 14 | 4,218 | 14 | 3,828 | 10 | 5,595 |
| 2,000-4,999..... | 149 | 76,899 | 82 | 43,531 | 13 | 824 | 26 | 9,100 | 7 | 0,798 | 21 | 10,046 |
| 5,000-9,999..... | 60 | 36,421 | 25 | 18,633 | 6 | 1,325 | 15 | 6,129 | 6 | 5,024 | 8 | 5,310 |
| 10,000-19,999..... | 30 | 64,009 | 18 | 54,800 | 5 | 2,036 | 3 | 2,238 | 3 | 2,135 | 1 | 2,800 |
| 20,000 and more..... | — | — | — | — | — | — | — | — | — | — | — | — |
| U. S. SERVICE ACADE- MIES..... | 8 | 13,171 | 2 | 8,080 | — | — | 3 | 1,643 | 2 | 977 | 1 | 1,571 |
| Below 200..... | — | — | — | — | — | — | — | — | — | — | — | — |
| 200-499..... | — | — | — | — | — | — | — | — | — | — | — | — |
| 500-999..... | 1 | 8,700 | 1 | 8,700 | — | — | — | — | — | — | — | — |
| 1,000-1,999..... | — | — | — | — | — | — | — | — | — | — | — | — |
| 2,000-4,999..... | 7 | 4,471 | 1 | 250 | — | — | — | — | — | — | — | — |
| 5,000-9,999..... | — | — | — | — | — | — | — | — | — | — | — | — |
| 10,000-19,999..... | — | — | — | — | — | — | 3 | 1,643 | 2 | 977 | 1 | 1,571 |
| 20,000 and more..... | — | — | — | — | — | — | — | — | — | — | — | — |
| OUTLYING PARTS OF THE UNITED STATES..... | 13 | 6,091 | 6 | 4,335 | 2 | 422 | 1 | 100 | 1 | 128 | 3 | 1,106 |
| Below 200..... | — | — | — | — | — | — | — | — | — | — | — | — |
| 200-499..... | — | — | — | — | — | — | — | — | — | — | — | — |
| 500-999..... | — | — | — | — | — | — | — | — | — | — | — | — |
| 1,000-1,999..... | — | — | — | — | — | — | — | — | — | — | — | — |
| 2,000-4,999..... | 3 | 2,093 | 1 | 1,248 | — | — | — | — | — | — | — | — |
| 5,000-9,999..... | 10 | 3,993 | 5 | 3,057 | 1 | 394 | 1 | 100 | 1 | 128 | 1 | 451 |
| 10,000-19,999..... | — | — | — | — | — | — | — | — | — | — | — | — |
| 20,000 and more..... | — | — | — | — | — | — | — | — | — | — | — | — |

¹ Specific types of buildings under each functional classification (Instructional, research, general, auxiliary, and residential) are itemized in appendix B.

Table 9.—Number and cost of buildings completed by higher education institutions, by function of buildings,¹ grouped by geographic regions and by spring 1956 full-time enrollments: aggregate United States, 1951-55—Continued

B. PRIVATELY CONTROLLED INSTITUTIONS

[Cost figures are in thousands of dollars]

| Region and enrollment | Total | | Instructional | | Research | | General | | Auxiliary | | Residential | |
|--|-------|-----------|---------------|-----------|----------|----------|---------|-----------|-----------|----------|-------------|-----------|
| | No. | Cost | No. | Cost | No. | Cost | No. | Cost | No. | Cost | No. | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Aggregate United States..... | 1,528 | \$687,995 | 457 | \$236,113 | 57 | \$48,037 | 273 | \$132,074 | 134 | \$47,031 | 607 | \$224,740 |
| Below 200..... | 156 | 30,475 | 35 | 6,192 | 1 | 1,703 | 43 | 14,340 | 9 | 256 | 68 | 7,984 |
| 200-499..... | 327 | 75,873 | 95 | 21,503 | 6 | 409 | 60 | 24,082 | 32 | 4,643 | 134 | 25,236 |
| 500-999..... | 451 | 154,066 | 135 | 52,267 | 1 | 16 | 70 | 32,362 | 36 | 9,116 | 209 | 60,315 |
| 1,000-1,999..... | 251 | 110,248 | 78 | 29,016 | 5 | 12,401 | 35 | 13,757 | 32 | 13,573 | 101 | 40,601 |
| 2,000-4,999..... | 164 | 134,910 | 58 | 55,444 | 15 | 14,071 | 27 | 12,499 | 11 | 9,228 | 63 | 43,674 |
| 5,000-9,999..... | 161 | 153,303 | 64 | 66,723 | 23 | 17,343 | 32 | 20,102 | 12 | 6,200 | 40 | 42,935 |
| 10,000-19,999..... | 18 | 29,114 | 2 | 4,068 | 6 | 2,094 | 6 | 14,942 | 2 | 4,015 | 2 | 3,995 |
| 20,000 and more..... | | | | | | | | | | | | |
| NORTHEAST..... | 523 | 325,413 | 166 | 117,518 | 25 | 33,328 | 111 | 67,931 | 37 | 19,044 | 184 | 87,592 |
| Below 200..... | 57 | 10,678 | 10 | 1,075 | 1 | 1,703 | 19 | 4,160 | 2 | 66 | 25 | 3,665 |
| 200-499..... | 85 | 26,997 | 20 | 5,751 | 2 | 65 | 23 | 12,717 | 3 | 361 | 37 | 8,103 |
| 500-999..... | 125 | 60,183 | 46 | 22,432 | | | 22 | 13,131 | 10 | 3,413 | 47 | 21,207 |
| 1,000-1,999..... | 93 | 51,942 | 28 | 13,462 | 2 | 12,134 | 16 | 7,572 | 12 | 6,611 | 35 | 12,163 |
| 2,000-4,999..... | 70 | 58,492 | 31 | 27,072 | 4 | 5,112 | 13 | 4,545 | 5 | 3,488 | 17 | 18,275 |
| 5,000-9,999..... | 75 | 88,007 | 29 | 43,658 | 10 | 12,220 | 12 | 10,855 | 3 | 1,090 | 21 | 20,184 |
| 10,000-19,999..... | 18 | 29,114 | 2 | 4,068 | 6 | 2,094 | 6 | 14,942 | 2 | 4,015 | 2 | 3,995 |
| 20,000 and more..... | | | | | | | | | | | | |
| NORTH CENTRAL..... | 361 | 153,144 | 96 | 45,873 | 12 | 7,413 | 53 | 25,230 | 34 | 13,339 | 166 | 61,289 |
| Below 200..... | 23 | 3,908 | 6 | 1,155 | | | 6 | 1,817 | 1 | 7 | 10 | 929 |
| 200-499..... | 86 | 10,092 | 28 | 6,370 | 1 | 14 | 14 | 4,432 | 6 | 575 | 37 | 8,601 |
| 500-999..... | 121 | 38,700 | 27 | 10,512 | | | 13 | 4,787 | 8 | 2,061 | 73 | 19,349 |
| 1,000-1,999..... | 59 | 28,507 | 14 | 5,846 | | | 8 | 4,315 | 12 | 5,492 | 25 | 13,244 |
| 2,000-4,999..... | 29 | 26,986 | 6 | 5,780 | 6 | 5,123 | 4 | 4,584 | 3 | 1,955 | 10 | 9,538 |
| 5,000-9,999..... | 43 | 30,742 | 15 | 16,204 | 6 | 2,276 | 8 | 5,295 | 4 | 3,339 | 11 | 9,628 |
| 10,000-19,999..... | | | | | | | | | | | | |
| 20,000 and more..... | | | | | | | | | | | | |
| SOUTH..... | 489 | 140,212 | 147 | 52,562 | 12 | 4,773 | 79 | 28,726 | 43 | 10,515 | 208 | 52,636 |
| Below 200..... | 46 | 5,335 | 9 | 1,020 | | | 9 | 1,542 | 2 | 65 | 26 | 2,699 |
| 200-499..... | 128 | 22,474 | 41 | 7,003 | 2 | 323 | 16 | 5,239 | 19 | 2,261 | 50 | 6,698 |
| 500-999..... | 170 | 45,339 | 48 | 13,208 | 1 | 16 | 30 | 13,320 | 14 | 3,016 | 77 | 15,779 |
| 1,000-1,999..... | 76 | 21,146 | 20 | 7,660 | 3 | 267 | 10 | 1,794 | 5 | 1,211 | 32 | 10,208 |
| 2,000-4,999..... | 55 | 40,569 | 20 | 22,394 | 5 | 8,836 | 8 | 3,194 | 2 | 3,450 | 20 | 13,695 |
| 5,000-9,999..... | 14 | 8,349 | 3 | 362 | 1 | 331 | 6 | 3,587 | 1 | 512 | 3 | 3,557 |
| 10,000-19,999..... | | | | | | | | | | | | |
| 20,000 and more..... | | | | | | | | | | | | |
| WEST..... | 148 | 59,074 | 47 | 19,968 | 8 | 2,523 | 28 | 10,011 | 20 | 4,133 | 45 | 23,039 |
| Below 200..... | 30 | 10,554 | 10 | 2,033 | | | 9 | 6,812 | 4 | 118 | 7 | 691 |
| 200-499..... | 28 | 6,410 | 6 | 1,479 | 1 | 7 | 7 | 1,044 | 4 | 1,446 | 10 | 1,534 |
| 500-999..... | 35 | 11,835 | 14 | 6,115 | | | 5 | 1,114 | 4 | 625 | 12 | 3,980 |
| 1,000-1,999..... | 23 | 8,353 | 10 | 2,942 | | | 1 | 76 | 3 | 349 | 9 | 4,056 |
| 2,000-4,999..... | 3 | 2,317 | | | | | | | 1 | 335 | 2 | 1,982 |
| 5,000-9,999..... | 20 | 20,205 | 7 | 6,499 | 7 | 2,516 | 6 | 365 | 4 | 1,259 | 5 | 9,566 |
| 10,000-19,999..... | | | | | | | | | | | | |
| 20,000 and more..... | | | | | | | | | | | | |
| OUTLYING PARTS OF THE UNITED STATES..... | 7 | 552 | 1 | 192 | | | 2 | 176 | | | 4 | 184 |
| 2,000-4,999..... | 7 | 552 | 1 | 192 | | | 2 | 176 | | | 4 | 184 |

Table 10.—Number and cost of buildings completed by higher education institutions, by type of control and function of buildings: continental United States,¹ 1951-55

[Cost figures are in thousands of dollars]

| Buildings classified by function | Total | | Public | | Private | |
|--|--------------|-------------------|--------------|-------------------|--------------|-----------------|
| | Number | Cost | Number | Cost | Number | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Continental United States¹ | 3,244 | 81,762,758 | 1,723 | 81,075,315 | 1,521 | 8687,443 |
| INSTRUCTIONAL | 1,180 | 798,863 | 724 | 502,942 | 456 | 235,921 |
| Educational laboratory | 40 | 21,978 | 29 | 19,150 | 11 | 2,828 |
| Fieldhouse | 32 | 22,690 | 19 | 15,115 | 13 | 7,575 |
| Gymnasium | 97 | 59,590 | 57 | 37,830 | 40 | 22,160 |
| Home management laboratory house | 18 | 872 | 13 | 733 | 5 | 139 |
| Instructional (academic) | 485 | 336,774 | 312 | 241,631 | 173 | 95,143 |
| Library | 174 | 102,014 | 79 | 61,976 | 95 | 40,638 |
| Museum | 9 | 4,204 | 2 | 967 | 7 | 3,207 |
| Instructional laboratories | 227 | 110,887 | 156 | 74,224 | 71 | 45,663 |
| Swimming pool | 19 | 3,093 | 12 | 3,120 | 7 | 573 |
| Teaching hospital | 25 | 114,495 | 17 | 99,351 | 8 | 15,144 |
| Other instructional | 54 | 11,666 | 28 | 8,815 | 26 | 2,851 |
| RESEARCH | 191 | 98,681 | 134 | 50,644 | 57 | 48,037 |
| Agriculture | 83 | 15,469 | 80 | 15,158 | 3 | 311 |
| Astronomy | 4 | 2,575 | 3 | 2,465 | 1 | 110 |
| Biology | 12 | 7,615 | 5 | 1,458 | 7 | 6,057 |
| Chemistry | 6 | 3,010 | 2 | 2,347 | 4 | 663 |
| Mathematics and statistics | 3 | 707 | 1 | 92 | 2 | 705 |
| Physics | 11 | 8,514 | 4 | 2,088 | 7 | 6,426 |
| Other physical sciences | 16 | 6,905 | 9 | 2,797 | 7 | 4,108 |
| Social sciences | 4 | 1,271 | 1 | 188 | 1 | 401 |
| Dentistry | 15 | 5,322 | 8 | 2,316 | 7 | 3,006 |
| Engineering | 35 | 46,714 | 20 | 20,828 | 15 | 25,886 |
| Medicine | | | | | | |
| GENERAL | 576 | 258,206 | 305 | 126,308 | 271 | 131,898 |
| Administration building | 45 | 17,047 | 23 | 9,526 | 22 | 7,521 |
| Armory | 12 | 1,039 | 5 | 828 | 7 | 413 |
| Auditorium | 28 | 10,080 | 15 | 8,003 | 13 | 8,083 |
| Chapel | 43 | 10,133 | 6 | 1,386 | 37 | 14,747 |
| Faculty club and facilities | 2 | 500 | | | 2 | 506 |
| Hospital (nonteaching) | 6 | 9,746 | 2 | 71 | 4 | 9,675 |
| Office building | 8 | 876 | 6 | 615 | 2 | 361 |
| Stadium | 26 | 7,205 | 21 | 6,807 | 5 | 398 |
| Power and heating plant | 77 | 40,293 | 56 | 28,117 | 21 | 12,176 |
| Multipurpose | 137 | 124,542 | 89 | 53,330 | 98 | 71,212 |
| Other general | 192 | 24,733 | 132 | 17,927 | 60 | 6,806 |
| AUXILIARY | 274 | 124,006 | 140 | 76,975 | 134 | 47,031 |
| College union or student center | 140 | 92,278 | 68 | 59,521 | 72 | 32,757 |
| Infirmery (student health) | 42 | 8,912 | 21 | 5,901 | 21 | 3,011 |
| Food facilities | 54 | 17,725 | 26 | 7,511 | 28 | 10,214 |
| Other auxiliary enterprises | 38 | 5,091 | 25 | 4,042 | 13 | 1,049 |
| RESIDENTIAL | 1,023 | 483,002 | 420 | 258,446 | 603 | 224,556 |
| Faculty apartments | 49 | 9,698 | 19 | 5,142 | 30 | 4,556 |
| Faculty and staff houses | 111 | 5,997 | 20 | 755 | 91 | 5,242 |
| Fraternity and sorority houses | 33 | 5,679 | 22 | 4,365 | 11 | 1,314 |
| Hotel-type accommodations | 10 | 5,701 | 7 | 3,075 | 3 | 2,626 |
| Married student apartments | 61 | 22,086 | 19 | 13,185 | 32 | 8,901 |
| Men's residence hall | 390 | 244,317 | 164 | 123,840 | 226 | 120,477 |
| Women's residence hall | 347 | 186,626 | 156 | 106,181 | 191 | 80,445 |
| Other residential | 32 | 2,898 | 13 | 1,903 | 19 | 895 |

¹ U. S. Service Academies have not been included.

CHAPTER 2

Expenditures by Function of Buildings Completed, 1951-55

WHAT KIND OF BUILDINGS did the colleges and universities construct during the 1951-55 period? How were they distributed geographically by type of control and by major uses? Are any significant patterns discernible when the buildings constructed during this period are compared by type of institution? By number of full-time students enrolled? Are there any indications of trends to provide for educational programs or student services for which the institutions had little responsibility prior to World War II? Some of the information needed to

answer the foregoing questions and others of equal importance will be found in the tables and interpretations in this chapter.

Comparisons of the costs of specific types of buildings constructed during this period within the four major geographic regions of the continental United States (exclusive of the U. S. Service Academies) are included in this chapter. They are followed by separate sections dealing with construction activities in the U. S. Service Academies and the outlying parts of the United States.

Comparison of Expenditures Within the Continental United States

Expenditures for buildings constructed in colleges and universities in the continental United States from 1951 through 1955 are discussed in this section by specific types of buildings classified under five functional categories—instructional, research, general, auxiliary, and residential. The specific types of buildings included under each functional category are listed in appendix B and table 10.

Instructional Facilities

Tables 11A and 11B reveal in detail the functional uses of the buildings constructed from 1951 through 1955 by colleges and universities in the continental United States. Instructional installations during this 5-year period accounted for slightly more than 36 percent of the units built

and about 46 percent of the total funds disbursed. Expenditures for instructional facilities totaled \$798,863,000, 70 percent by public institutions and 30 percent by private. In the instructional area, \$456,661,000, approximately 57 percent of the total, was used for the construction of academic classroom and laboratory facilities. For these two categories, the pattern of percentage distribution by type of control was almost identical with that for the instructional area as a whole, with 69 percent spent by public and 31 percent by private institutions.

Each region used more than one-fifth of its total construction funds to provide academic classroom and laboratory facilities. By geographic regions, the proportions spent were: Northeast, 21 percent; North Central, 23 percent; South, 30 percent; and West, 32 percent.

Table 11.—Number and cost of buildings completed by higher education institutions, by type of control and by function of buildings, grouped by geographic regions: continental United States,¹ 1951-55

A. NORTHEAST AND NORTH CENTRAL

[Cost figures are in thousands of dollars]

| Buildings classified by function | NORTHEAST | | | | | | NORTH CENTRAL | | | | | |
|--|------------|------------------|------------|------------------|------------|------------------|---------------|------------------|------------|------------------|------------|------------------|
| | Public | | Private | | Total | | Public | | Private | | Total | |
| | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Continental United States¹ | 162 | \$121,759 | 523 | \$325,413 | 685 | \$147,172 | 383 | \$343,765 | 361 | \$153,144 | 744 | \$496,909 |
| INSTRUCTIONAL | 47 | 40,988 | 166 | 117,518 | 213 | 158,506 | 147 | 162,087 | 96 | 45,873 | 243 | 207,960 |
| Educational laboratory | 3 | 1,500 | 4 | 652 | 7 | 2,152 | 8 | 10,039 | 2 | 727 | 10 | 10,766 |
| Fieldhouse | 2 | 2,025 | 5 | 3,173 | 7 | 5,198 | 7 | 10,157 | 4 | 2,449 | 11 | 12,606 |
| Gymnasium | 7 | 7,449 | 16 | 13,705 | 23 | 21,254 | 4 | 4,046 | 5 | 2,042 | 9 | 6,088 |
| Home management laboratory house | | | 1 | 25 | 1 | 25 | 4 | 371 | 2 | 76 | 6 | 447 |
| Instructional (academic) | 18 | 15,436 | 66 | 47,220 | 84 | 62,656 | 56 | 66,239 | 39 | 22,991 | 95 | 89,230 |
| Library | 6 | 6,478 | 31 | 17,118 | 37 | 23,594 | 29 | 28,074 | 19 | 6,616 | 48 | 34,690 |
| Museum | | | 3 | 2,365 | 3 | 2,365 | | | | | | |
| Instructional laboratories | 11 | 8,000 | 29 | 24,229 | 40 | 32,229 | 26 | 17,451 | 13 | 5,529 | 39 | 22,980 |
| Swimming pool | | | | | | | 2 | 1,675 | 3 | 322 | 4 | 1,997 |
| Teaching hospital | | | 4 | 8,104 | 4 | 8,104 | 6 | 22,753 | 3 | 4,574 | 9 | 27,327 |
| Other instructional | | | 7 | 929 | 7 | 929 | 5 | 1,282 | 7 | 547 | 12 | 1,829 |
| RESEARCH | 15 | 4,115 | 25 | 33,328 | 40 | 37,443 | 28 | 16,848 | 12 | 7,413 | 40 | 24,261 |
| Agriculture | 12 | 3,302 | 1 | 114 | 13 | 3,416 | 12 | 3,658 | | | 12 | 3,658 |
| Astronomy | | | 1 | 110 | 1 | 110 | | | | | | |
| Biology | | | 3 | 5,807 | 3 | 5,807 | | | 1 | 53 | 1 | 53 |
| Chemistry | | | 1 | 30 | 1 | 30 | | | 1 | 48 | 1 | 48 |
| Mathematics and statistics | | | 1 | 591 | 1 | 591 | | | | | | |
| Physics | | | 4 | 5,023 | 4 | 5,023 | 1 | 1,559 | 1 | 346 | 2 | 1,905 |
| Other physical sciences | 3 | 813 | 6 | 3,703 | 8 | 4,516 | 3 | 999 | 1 | 14 | 4 | 1,013 |
| Social sciences | | | | | | | | | 1 | 401 | 1 | 401 |
| Dentistry | | | 2 | 357 | 2 | 357 | | | | | | |
| Engineering | | | 3 | 1,303 | 3 | 1,303 | 3 | 1,849 | 3 | 1,380 | 6 | 3,229 |
| Medicine | | | 4 | 15,690 | 4 | 15,690 | 9 | 8,783 | 4 | 5,171 | 13 | 13,954 |
| GENERAL | 46 | 38,493 | 111 | 67,931 | 157 | 106,424 | 67 | 31,772 | 53 | 25,230 | 120 | 57,002 |
| Administration building | 3 | 1,090 | 3 | 2,200 | 6 | 3,290 | 1 | 377 | 4 | 1,032 | 5 | 1,409 |
| Armory | | | 2 | 95 | 2 | 95 | 3 | 388 | 3 | 241 | 6 | 629 |
| Auditorium | 4 | 3,073 | 4 | 2,892 | 8 | 5,965 | 2 | 1,350 | 6 | 3,240 | 8 | 4,590 |
| Chapel | | | 12 | 6,102 | 12 | 6,102 | 4 | 717 | 7 | 1,296 | 11 | 2,013 |
| Faculty club and facilities | | | 1 | 321 | 1 | 321 | | | | | | |
| Hospital (nonteaching) | | | 2 | 5,350 | 2 | 5,350 | 1 | 30 | 1 | 4,290 | 2 | 4,320 |
| Office building | | | 2 | 361 | 2 | 361 | | | | | | |
| Stadium | 1 | 503 | | | 1 | 503 | 4 | 302 | 2 | 115 | 6 | 417 |
| Power and heating plant | 16 | 8,162 | 9 | 7,634 | 25 | 15,796 | 13 | 5,955 | 4 | 3,062 | 17 | 9,017 |
| Multipurpose | 10 | 24,713 | 42 | 37,638 | 52 | 62,401 | 9 | 16,522 | 18 | 11,409 | 27 | 27,931 |
| Other general | 12 | 952 | 34 | 6,288 | 46 | 6,240 | 30 | 6,131 | 8 | 545 | 38 | 6,076 |
| AUXILIARY | 11 | 8,109 | 37 | 19,044 | 48 | 27,153 | 22 | 25,035 | 34 | 13,339 | 56 | 38,374 |
| College union or student center | 5 | 5,098 | 14 | 10,741 | 19 | 15,839 | 17 | 24,100 | 25 | 10,259 | 42 | 34,449 |
| Infirmary (student health) | 2 | 516 | 9 | 1,738 | 11 | 2,254 | | | 2 | 185 | 2 | 185 |
| Food facilities | 4 | 2,495 | 13 | 6,342 | 17 | 8,837 | | | 4 | 2,280 | 5 | 2,440 |
| Other auxiliary enterprises | | | 1 | 223 | 1 | 223 | 4 | 100 | 3 | 615 | 7 | 1,300 |
| RESIDENTIAL | 43 | 30,054 | 184 | 87,592 | 227 | 117,640 | 110 | 108,023 | 166 | 61,280 | 285 | 169,312 |
| Faculty apartments | 1 | 965 | 15 | 2,611 | 16 | 3,576 | 1 | 1,599 | 3 | 824 | 4 | 2,423 |
| Faculty and staff houses | 1 | 10 | 12 | 405 | 13 | 415 | 1 | 33 | 34 | 2,400 | 35 | 2,433 |
| Fraternity and sorority houses | | | 1 | 22 | 1 | 22 | | | 9 | 1,232 | 9 | 1,232 |
| Hotel-type accommodations | 1 | 315 | | | 1 | 315 | 1 | 1,458 | 2 | 2,226 | 3 | 3,684 |
| Married student apartments | | | 6 | 1,816 | | | | | 5 | 3,605 | 16 | 15,767 |
| Men's residence hall | 15 | 6,343 | 77 | 52,179 | 92 | 58,522 | 50 | 40,517 | 68 | 34,378 | 118 | 83,895 |
| Women's residence hall | 25 | 22,421 | 70 | 30,418 | 95 | 52,839 | 62 | 42,487 | 40 | 10,311 | 102 | 58,798 |
| Other residential | | | 3 | 141 | 3 | 141 | 3 | 737 | 5 | 313 | 8 | 1,050 |

¹ U. S. Service Academies have not been included.Table 11.—Number and cost of buildings completed by higher education institutions, by type of control and by function of buildings, grouped by geographic regions: continental United States,¹ 1951-55—Continued

B. SOUTH AND WEST

[Cost figures are in thousands of dollars]

| Buildings classified by function | SOUTH | | | | | | WEST | | | | | |
|--|--------|-----------|---------|-----------|--------|-----------|--------|-----------|---------|----------|--------|-----------|
| | Public | | Private | | Total | | Public | | Private | | Total | |
| | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Continental United States ¹ | 762 | \$352,697 | 489 | \$149,212 | 1,251 | \$501,909 | 416 | \$257,094 | 148 | \$59,674 | 564 | \$316,768 |
| INSTRUCTIONAL | 332 | 201,743 | 147 | 52,562 | 479 | 254,305 | 198 | 158,124 | 47 | 19,068 | 245 | 178,092 |
| Educational laboratory | 13 | 4,581 | 4 | 1,130 | 17 | 5,711 | 5 | 3,030 | 1 | 319 | 6 | 3,349 |
| Fieldhouse | 8 | 1,710 | 3 | 703 | 11 | 2,413 | 2 | 1,223 | 1 | 1,250 | 3 | 2,473 |
| Gymnasium | 32 | 17,215 | 15 | 5,461 | 47 | 22,676 | 14 | 9,020 | 4 | 952 | 18 | 9,972 |
| Home management laboratory house | 7 | 242 | 2 | 38 | 9 | 280 | 2 | 120 | | | 2 | 120 |
| Instructional (Academic) | 137 | 80,020 | 63 | 19,534 | 190 | 99,554 | 101 | 79,936 | 15 | 5,368 | 116 | 85,334 |
| Library | 25 | 19,016 | 32 | 11,581 | 57 | 30,597 | 19 | 8,408 | 13 | 5,325 | 32 | 13,733 |
| Museum | 1 | 97 | 3 | 582 | 4 | 679 | 1 | 900 | 1 | 260 | 2 | 1,160 |
| Instructional laboratories | 86 | 35,822 | 21 | 12,672 | 107 | 48,494 | 33 | 12,951 | 8 | 3,233 | 41 | 16,184 |
| Swimming pool | 7 | 1,002 | 5 | 251 | 12 | 1,253 | 3 | 443 | | | 3 | 443 |
| Teaching hospital | 6 | 40,968 | | | 6 | 40,968 | 5 | 35,630 | 1 | 2,466 | 6 | 38,096 |
| Other instructional | 10 | 1,070 | 9 | 610 | 19 | 1,680 | 13 | 6,463 | 3 | 785 | 16 | 7,228 |
| RESEARCH | 49 | 9,458 | 12 | 4,773 | 61 | 14,231 | 42 | 20,223 | 8 | 2,523 | 50 | 22,746 |
| Agriculture | 35 | 3,991 | 2 | 197 | 37 | 4,188 | 21 | 4,207 | | | 21 | 4,207 |
| Astronomy | | | | | | | 3 | 2,465 | | | 3 | 2,465 |
| Biology | 2 | 214 | 3 | 197 | 5 | 411 | 3 | 1,244 | | | 3 | 1,244 |
| Chemistry | 1 | 1,322 | 1 | 160 | 2 | 1,482 | 1 | 1,025 | 1 | 425 | 2 | 1,450 |
| Mathematics and statistics | 1 | 92 | | | 1 | 92 | | | 1 | 114 | 1 | 114 |
| Physics | 1 | 256 | | | 1 | 256 | 2 | 273 | 2 | 457 | 4 | 730 |
| Other physical sciences | 1 | 184 | 1 | 391 | 2 | 575 | 2 | 801 | | | 2 | 801 |
| Social sciences | | | | | | | 1 | 188 | | | 1 | 188 |
| Dentistry | 1 | 907 | | | 1 | 907 | | | 1 | 7 | 1 | 7 |
| Engineering | 2 | 350 | | | 2 | 350 | 3 | 117 | 1 | 323 | 4 | 440 |
| Medicine | 5 | 2,142 | 5 | 3,828 | 10 | 5,070 | 6 | 9,903 | 2 | 1,197 | 8 | 11,100 |
| GENERAL | 118 | 30,046 | 79 | 28,726 | 197 | 58,772 | 74 | 25,097 | 28 | 10,011 | 102 | 35,108 |
| Administration building | 9 | 3,112 | 10 | 3,749 | 19 | 6,861 | 10 | 4,947 | 5 | 540 | 15 | 5,487 |
| Armory | 2 | 238 | 2 | 77 | 4 | 315 | | | | | | |
| Auditorium | 6 | 2,432 | 2 | 1,803 | 8 | 4,235 | 3 | 1,148 | 1 | 148 | 4 | 1,296 |
| Chapel | 1 | 627 | 15 | 5,900 | 16 | 6,527 | 1 | 42 | 3 | 1,440 | 4 | 1,451 |
| Faculty club and facilities | | | | | | | | | 1 | 185 | 1 | 185 |
| Hospital (nonteaching) | 1 | 41 | 1 | 35 | 2 | 76 | | | | | | |
| Office building | 4 | 452 | | | 4 | 452 | 2 | 63 | | | 2 | 63 |
| Stadium | 12 | 3,666 | | | 12 | 3,666 | 4 | 2,336 | 3 | 283 | 7 | 2,619 |
| Power and heating plant | 16 | 9,773 | 7 | 1,447 | 23 | 11,220 | 11 | 4,227 | 1 | 33 | 12 | 4,360 |
| Multipurpose | 10 | 2,749 | 29 | 15,062 | 39 | 17,811 | 10 | 9,346 | 9 | 7,053 | 19 | 16,399 |
| Other general | 57 | 7,856 | 13 | 653 | 70 | 8,509 | 33 | 2,988 | 5 | 320 | 38 | 3,308 |
| AUXILIARY | 69 | 24,926 | 43 | 10,515 | 112 | 35,441 | 38 | 18,905 | 20 | 4,133 | 58 | 23,038 |
| College union or student center | 33 | 17,253 | 21 | 8,761 | 54 | 26,014 | 13 | 12,930 | 12 | 2,996 | 25 | 15,976 |
| Infirmary (student health) | 14 | 3,810 | 6 | 307 | 20 | 4,117 | 5 | 1,575 | 4 | 781 | 9 | 2,356 |
| Food facilities | 15 | 2,028 | 8 | 1,301 | 23 | 4,229 | 6 | 1,928 | 3 | 291 | 9 | 2,219 |
| Other auxiliary enterprises | 7 | 935 | 8 | 146 | 15 | 1,081 | 14 | 2,422 | 1 | 65 | 15 | 2,487 |
| RESIDENTIAL | 194 | 85,624 | 208 | 52,636 | 402 | 138,260 | 64 | 34,745 | 45 | 23,039 | 109 | 57,784 |
| Faculty apartments | 10 | 2,213 | 12 | 1,121 | 22 | 3,334 | 1 | 365 | | | 1 | 365 |
| Faculty and staff houses | 15 | 656 | 42 | 2,364 | 57 | 3,020 | 3 | 56 | 3 | 73 | 6 | 129 |
| Fraternity and sorority houses | 18 | 4,032 | | | 18 | 4,032 | 4 | 333 | 1 | 60 | 5 | 393 |
| Hotel-type accommodations | 3 | 630 | 1 | 400 | 4 | 1,030 | 2 | 672 | | | 2 | 672 |
| Married student apartments | 4 | 719 | 19 | 3,177 | 23 | 3,896 | 4 | 274 | 2 | 303 | 6 | 577 |
| Men's residence hall | 73 | 48,236 | 65 | 24,092 | 138 | 72,328 | 26 | 19,744 | 16 | 9,828 | 42 | 29,572 |
| Women's residence hall | 69 | 28,009 | 61 | 21,091 | 119 | 49,700 | 21 | 12,574 | 20 | 12,625 | 41 | 25,199 |
| Other residential | 7 | 439 | 8 | 391 | 15 | 830 | 3 | 727 | 3 | 150 | 6 | 877 |

Expenditures for physical education facilities (fieldhouse, gymnasium, and swimming pool) totaled \$86,373,000 and for library buildings \$102,614,000. The Northeast was the only region that spent more for physical education facilities than for libraries, and only in the North Central region was there a noticeable difference between expenditures for the two categories—physical education facilities, \$20,691,000; library buildings, \$34,690,000.

About one-seventh of the \$798,863,000 spent for instructional facilities in the continental United States during this period was for the construction of teaching hospitals. Public institutions spent \$99,351,000 (about 87 percent of the teaching hospital total) for 17 such structures, and private institutions spent \$15,144,000 for 8 teaching hospitals. Substantial expenditures for this type of facility were made in the South and West.

It is believed that physical plant development in the construction of teaching hospitals was made possible and stimulated by the Hospital Survey and Construction Act of 1946, as amended (Hill-Burton Program). This program, administered by the Public Health Service, provides Federal grants-in-aid on a matching basis for the construction of public and voluntary nonprofit hospitals, public health centers, and related facilities. Colleges and universities with teaching hospitals have also received assistance from this source.

Research Facilities

Disbursements for research buildings constructed during this 5-year span amounted to slightly less than 6 percent of total capital outlay for the period. Although the public group constructed more research buildings than the private group, 134 compared to 57, total expenditure by the public group was only 5.4 percent greater. It is interesting to note that 80 of the 134 research buildings for public institutions were in the field of agriculture. In the research area, funds were used predominantly to provide facilities for medical research. By geographic regions, the proportions spent for medical research facilities were: Northeast, 42 percent; North Central, 58 percent; South, 42 percent; and West, 49 percent. Private institutions spent approximately 24 percent more than did the public for this type of building.

Although the public colleges and universities in the Northeast reported no facilities constructed for medical research during this period, private institutions in that region, with expenditures of \$15,690,000, were responsible for more than one-third of the national total of \$46,714,000.

In the Northeast, the private group spent 43 percent more for the construction of buildings for research in biology, chemistry, mathematics and statistics, physics and other physical sciences than was spent for this purpose by all other institutions, both public and private, in the four geographic regions combined (tables 10, 11A, and 11B). While the total expenditures for such buildings in the Northeast exceeded the amount spent by the region for medical research facilities, the other three regions spent from two to three times as much for buildings for medical research as for research buildings in the biological and physical sciences.

Although the private institutions in the Northeast dominated research expenditures on a national basis, in the area of agricultural research, the public group was responsible for 98 percent of the expenditures. In the South, expenditures for this type of facility amounted to about 30 percent of the region's research total.

As shown in table 12, less was spent in each region on research facilities for engineering than for other major fields. Only in the North Central region did expenditures for engineering research buildings represent a sizable proportion (13 percent) of the regional capital outlay for research.

Table 12.—Regional percentage distribution of expenditures for research buildings constructed by higher education institutions, by function of buildings: continental United States,¹ 1951-55

| Buildings classified by use | Total | North-east | North Central | South | West |
|--|-------|------------|---------------|-------|-------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Continental United States ¹ | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Agriculture..... | 15.7 | 9.1 | 15.1 | 29.4 | 18.5 |
| Astronomy..... | 2.0 | .3 | | | 10.8 |
| Biological and physical sciences..... | 27.1 | 44.2 | 12.4 | 19.8 | 19.1 |
| Social sciences..... | .6 | | 1.7 | | .8 |
| Dentistry..... | 1.3 | 1.0 | | 6.4 | .1 |
| Engineering..... | 5.4 | 3.5 | 13.3 | 2.5 | 1.9 |
| Medicine..... | 47.3 | 41.9 | 57.5 | 41.9 | 48.8 |

¹ U. S. Service Academies have not been included.

General Facilities

Regional capital expenditures in the general buildings classification were primarily for multipurpose buildings and for power and heating plant facilities. Forty-eight percent of the funds for general facilities were expended for the construction of multipurpose buildings. Private institutions constructed two and one-half times as many of these units as the public group and spent about one-third more. This indicates that the responding private colleges and universities, whose average enrollment was 45 percent of the average enrollment of the responding public institutions, were most likely to construct a building to serve two or more basic functions. For this kind of facility, the Northeast spent slightly more than the combined total for other regions.

The total cost of the 77 power and heating plants constructed during this period, as given in table 10, amounted to \$40,293,000, representing an average expenditure of \$523,000 per plant. The regional unit cost varied from \$355,000 in the West to \$632,000 in the Northeast. An analysis of expenditures for this kind of facility by type of institutional control shows that public institutions in the South, with expenditures of \$9,773,000, exceeded all other public and private regional groups in gross expenditures for power and heating plants, but the private institutions in the Northeast led in the highest average cost per plant—\$848,000.

Other general buildings representing significant expenditures varied from region to region and, in some instances, by type of control. In the private group, expenditures were prominent for religious facilities in the Northeast and South, for auditoriums in the North Central, and for administration buildings in the South; in the public group, expenditures for administration buildings represented a significant proportion of total expenditures for general buildings in the West.

Residential Facilities

Among the several vital problems facing the colleges and universities of the Nation is that of providing adequate residential facilities for present and future enrollments. Even community colleges and urban universities find that their students

are commuting greater distances than formerly and that well-planned and well-managed residential facilities make an essential contribution to the educational program.

About 90 percent of the \$483,002,000 spent for housing facilities in the continental United States during this period was for the construction of residence halls for single men and for single women. The average cost of the 390 buildings for men was \$626,454, while that for the 347 buildings for women was \$537,827. Public institutions constructed fewer residence halls for men and for women, but the average expenditure per building was approximately 50 percent more (public \$718,816, private \$481,827). In providing residential facilities for faculty, public institutions spent more for apartments (public \$5,142,000, private \$4,556,000); the private institutions spent more for separate dwellings (private \$5,242,000, public, \$755,000).

Expenditures for residential buildings constructed during this 5-year span are shown on a percentage basis by geographic regions and by use in table 13. Colleges and universities spent about one-half of the allotted residential funds for facilities for single men. Although on a percentage basis the Northeast and West spent more of their total residential funds on housing for single women than the North Central or South, each was surpassed by the North Central in dollar expenditures for this use (tables 11A and 11B). The North Central region, with a proportionately greater number of large public institutions offering substantial graduate programs, also spent two and one-half times as much as all other regions combined for residential facilities for married students.

Colleges and universities in each of five States (New York, Pennsylvania, Illinois, Michigan, and Ohio) spent in excess of \$30 million for total residential construction from 1951 through 1955 (table 14). Only one State, Nevada, reported no capital expenditures for this function. Respondents in Utah reported no residential construction for single men, and those in Rhode Island and Wyoming, none for single women. Substantial expenditures for married student housing were made in Michigan, Illinois, and Indiana. All States in the Southern region, except Delaware and West Virginia, found it desirable to construct some housing accommodations for faculty.

Table 13.—Expenditures for residential buildings constructed by higher education institutions, by use of buildings and by geographic regions: continental United States,¹ 1951-55

[Cost figures are in thousands of dollars]

| Geographic regions | Total cost | Percent expended for housing for— | | | | |
|--|------------|-----------------------------------|------------------|------------|--------------|-------|
| | | Faculty | Married students | Single men | Single women | Other |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Continental United States ¹ | \$483,002 | 3.2 | 4.6 | 50.6 | 38.6 | 3.0 |
| Northeast | 117,646 | 3.4 | 1.5 | 49.8 | 44.0 | .4 |
| North Central | 169,312 | 2.9 | 9.3 | 49.6 | 34.7 | 3.5 |
| South | 138,260 | 4.6 | 2.8 | 52.3 | 36.0 | 4.3 |
| West | 57,784 | .8 | 1.0 | 51.2 | 43.6 | 3.4 |

¹ U. S. Service Academies have not been included.

Residential construction completed by colleges and universities during 1951-55 is presented by type of institution in table 15. Universities and liberal arts colleges accounted for about four-fifths of all single student housing erected during this period—48 percent for universities, 32 percent for liberal arts colleges. With the exception of liberal arts colleges in the West, both types of institutions spent more for the housing of single men than for single women. In contrast, teachers colleges in the Northeast and North Central regions spent substantially more for facilities for single women than for single men. Table 15 shows that this was especially true of teachers colleges in the Northeast where expenditures for residential facilities for single women were more than three and one-half times the sum spent for accommodations for single men.

More than one-half (54 percent) of the funds spent for married student housing during this 5-year span were expended by universities, with about 90 percent of the university total being in the North Central region. In this geographic area, two institutional types—universities and independent technical institutes—accounted for 63 percent of the continental United States expenditures for married student accommodations.

Comparable to single student housing, about four-fifths of the capital funds spent for faculty residential facilities were expended by universities and liberal arts colleges. The South led all other regions in expenditures for faculty residential facilities, and more than one-half of the regional

total for faculty housing was spent by liberal arts colleges (table 15).

Expenditures for residential buildings constructed from 1951 through 1955 are shown by functional use and by enrollment categories in table 16. About 82 percent of the \$483,002,000 spent for housing facilities in the continental United States during this period was expended by colleges and universities with enrollments from 500 to 10,000 full-time students as of spring 1956. Enrollment group 2,000-4,999 spent a substantial part of the national total for each residential type of building.

Although significant fluctuations appeared within each region for this 5-year period by enrollment categories, generalizations may be made for the aggregate. A percentage analysis reveals that as enrollments increased, a larger proportion of residential capital funds was spent for housing accommodations for single men and a smaller proportion for single women. The percentage range by enrollment categories for single men was from 35 percent for institutions enrolling less than 500 to slightly more than 55 percent for institutions enrolling 5,000 and more students; and for single women, the range was from 48 percent for institutions enrolling less than 500 to 25 percent for institutions enrolling 10,000 and more students.

| Enrollment | Percent of housing for single men | Percent of housing for single women |
|-----------------|-----------------------------------|-------------------------------------|
| Below 500 | 35.0 | 48.2 |
| 500-4,999 | 50.0 | 40.4 |
| 5,000-9,999 | 56.0 | 36.8 |
| 10,000 and more | 55.2 | 25.3 |

Table 14.—Number and cost of residential buildings completed by higher education institutions, by function of buildings, grouped by geographic regions and States: continental United States,¹ 1951-55

[Cost figures are in thousands of dollars]

| Region and State | Total cost, residential | Residential | | | | | Number of residential buildings |
|--|-------------------------|-------------|------------------|------------|--------------|----------|---------------------------------|
| | | Faculty | Married students | Single men | Single women | Other | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Continental United States ¹ | \$483,002 | \$15,695 | \$22,696 | \$244,317 | \$186,626 | \$14,278 | 1,023 |
| NORTHEAST | 117,646 | 3,991 | 1,816 | 58,522 | 62,839 | 478 | 227 |
| Connecticut | 9,831 | 1,185 | 90 | 4,510 | 4,058 | 8 | 17 |
| Maine | 734 | | | 713 | 16 | 5 | 5 |
| Massachusetts | 18,033 | | 285 | 9,103 | 8,517 | 128 | 32 |
| New Hampshire | 2,273 | 855 | | 301 | 1,117 | | 6 |
| New Jersey | 6,036 | | 1,142 | 4,056 | 1,716 | 22 | 13 |
| New York | 46,608 | 418 | | 20,697 | 25,553 | | 74 |
| Pennsylvania | 31,042 | 1,553 | 299 | 17,752 | 11,123 | 315 | 72 |
| Rhode Island | 500 | | | 500 | | | 1 |
| Vermont | 1,629 | | | 890 | 739 | | 7 |
| NORTH CENTRAL | 169,312 | 4,856 | 15,797 | 83,895 | 58,798 | 5,966 | 285 |
| Illinois | 31,520 | 2,472 | 5,778 | 12,231 | 11,039 | | 44 |
| Indiana | 22,102 | | 2,458 | 9,783 | 6,872 | 2,889 | 20 |
| Iowa | 9,279 | | | 4,925 | 4,354 | | 18 |
| Kansas | 11,297 | 10 | 63 | 3,625 | 7,496 | 103 | 35 |
| Michigan | 32,414 | | 6,777 | 19,082 | 6,555 | | 21 |
| Minnesota | 6,050 | 1,178 | | 3,360 | 2,101 | | 13 |
| Missouri | 7,960 | 692 | 721 | 4,169 | 2,277 | 101 | 17 |
| Nebraska | 3,579 | 32 | | 2,862 | 685 | | 6 |
| North Dakota | 1,612 | 27 | | 422 | 1,133 | 30 | 7 |
| Ohio | 34,370 | 445 | | 19,995 | 12,188 | 1,742 | 82 |
| South Dakota | 1,337 | | | 1,026 | 311 | | 4 |
| Wisconsin | 7,183 | | | 2,395 | 3,787 | 1,001 | 18 |
| SOUTH | 138,260 | 6,354 | 3,896 | 72,328 | 49,790 | 5,892 | 402 |
| Alabama | 6,144 | 469 | 268 | 3,054 | 2,298 | 55 | 23 |
| Arkansas | 4,528 | 248 | 396 | 1,908 | 1,174 | 802 | 21 |
| Delaware | 2,290 | | | 745 | 1,545 | | 3 |
| Florida | 10,187 | 112 | | 3,962 | 4,503 | 1,610 | 19 |
| Georgia | 9,226 | 280 | 511 | 4,326 | 3,888 | 221 | 34 |
| Kentucky | 5,122 | 76 | 325 | 3,465 | 546 | 710 | 16 |
| Louisiana | 9,032 | 668 | 914 | 4,833 | 2,617 | | 22 |
| Maryland | 8,509 | 102 | | 4,602 | 2,638 | 967 | 33 |
| Mississippi | 2,196 | 307 | | 640 | 947 | 302 | 13 |
| North Carolina | 14,562 | 715 | 146 | 9,614 | 3,986 | 101 | 33 |
| Oklahoma | 5,156 | 663 | | 4,024 | 489 | | 13 |
| South Carolina | 12,114 | 1,071 | | 9,419 | 1,240 | 384 | 26 |
| Tennessee | 7,419 | 392 | 94 | 3,197 | 3,696 | 40 | 40 |
| Texas | 24,131 | 501 | 457 | 11,314 | 11,327 | 532 | 60 |
| Virginia | 12,109 | 711 | 425 | 4,947 | 5,898 | 128 | 29 |
| West Virginia | 2,046 | | | 1,878 | 1,028 | 40 | 9 |
| District of Columbia | 2,589 | 39 | 360 | 400 | 1,790 | | 8 |
| WEST | 57,784 | 494 | 577 | 29,572 | 25,199 | 1,942 | 109 |
| Arizona | 2,009 | | 21 | 1,171 | 746 | 71 | 11 |
| California | 14,993 | 101 | 303 | 9,250 | 4,607 | 732 | 29 |
| Colorado | 9,074 | 393 | 53 | 4,654 | 3,641 | 333 | 17 |
| Idaho | 1,723 | | | 1,303 | 320 | 100 | 4 |
| Montana | 5,837 | | | 3,566 | 1,656 | 615 | 6 |
| Nevada | | | | | | | |
| New Mexico | 1,784 | | | 1,385 | 358 | 41 | 7 |
| Oregon | 4,548 | | | 2,685 | 1,853 | 10 | 14 |
| Utah | 5,150 | | | | 5,150 | | 1 |
| Washington | 11,402 | | | 4,494 | 6,568 | 40 | 17 |
| Wyoming | 1,264 | | 200 | 1,064 | | | 3 |

¹ U. S. Service Academies have not been included.

Table 15.—Number and cost of residential buildings completed by higher education institutions, by type of institution, grouped by geographic regions: continental United States,¹ 1951–55

[Cost figures are in thousands of dollars]

| Type and region | Faculty | | Married students | | Single men | | Single women | | Other | | Total | |
|--|---------|----------|------------------|----------|------------|-----------|--------------|-----------|--------|----------|--------|-----------|
| | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Continental United States¹ | 160 | \$15,695 | 51 | \$22,498 | 390 | \$244,317 | 347 | \$156,626 | 75 | \$14,278 | 1,023 | \$483,002 |
| University..... | 21 | 4,573 | 13 | 11,884 | 108 | 128,149 | 88 | 78,543 | 29 | 9,473 | 259 | 232,622 |
| Independent technical institute..... | 3 | 590 | 3 | 3,355 | 11 | 9,301 | 1 | 375 | 3 | 248 | 21 | 13,869 |
| Theological school..... | 8 | 688 | 11 | 2,629 | 9 | 2,816 | 8 | 1,086 | 2 | 20 | 38 | 7,239 |
| Other independent professional school..... | | | 1 | 223 | 6 | 2,024 | 2 | 1,243 | 1 | 22 | 9 | 4,412 |
| Liberal arts college..... | 104 | 7,938 | 16 | 2,051 | 191 | 76,657 | 158 | 60,789 | 28 | 3,808 | 600 | 151,356 |
| Teachers college..... | 7 | 917 | 6 | 1,928 | 63 | 21,787 | 63 | 39,371 | 9 | 530 | 135 | 64,426 |
| Junior college..... | 17 | 989 | 1 | 16 | 13 | 2,683 | 27 | 5,219 | 3 | 171 | 61 | 9,078 |
| NORTHEAST..... | 29 | 3,991 | 6 | 1,816 | 92 | 58,522 | 95 | 52,839 | 5 | 478 | 227 | 117,646 |
| University..... | 3 | 1,743 | | | 22 | 27,536 | 21 | 19,947 | 1 | 315 | 47 | 49,541 |
| Independent technical institute..... | 1 | 202 | | | 6 | 5,585 | 1 | 375 | | | 8 | 6,162 |
| Theological school..... | 3 | 46 | 4 | 674 | 5 | 2,052 | 1 | 100 | | | 13 | 2,872 |
| Other independent professional school..... | | | | | 3 | 1,123 | 1 | 600 | 1 | 22 | 5 | 1,745 |
| Liberal arts college..... | 21 | 1,940 | 2 | 1,142 | 45 | 17,805 | 42 | 13,399 | 1 | 8 | 111 | 34,294 |
| Teachers college..... | | | | | 10 | 4,231 | 15 | 15,779 | | | 25 | 20,010 |
| Junior college..... | 1 | 60 | | | 1 | 190 | 14 | 2,639 | 2 | 133 | 18 | 3,022 |
| NORTH CENTRAL..... | 39 | 4,856 | 16 | 15,797 | 118 | 83,805 | 92 | 58,798 | 20 | 5,966 | 285 | 169,312 |
| University..... | 5 | 2,287 | 8 | 10,538 | 33 | 43,776 | 24 | 23,576 | 4 | 3,692 | 74 | 83,869 |
| Independent technical institute..... | | | 3 | 3,355 | 2 | 2,071 | | | 1 | 73 | 6 | 5,499 |
| Theological school..... | | | 1 | 187 | 1 | 108 | 4 | 601 | 1 | 10 | 7 | 906 |
| Other independent professional school..... | | | | | | | | | | | | |
| Liberal arts college..... | 32 | 2,527 | 1 | 63 | 63 | 28,575 | 34 | 16,532 | 13 | 2,161 | 143 | 49,858 |
| Teachers college..... | | 32 | 3 | 1,654 | 17 | 8,787 | 26 | 16,327 | 1 | 30 | 48 | 26,830 |
| Junior college..... | 1 | 10 | | | 2 | 578 | 4 | 1,762 | | | 7 | 2,350 |
| SOUTH..... | 85 | 6,354 | 23 | 3,896 | 138 | 72,328 | 119 | 49,790 | 37 | 5,892 | 402 | 138,280 |
| University..... | 12 | 178 | 3 | 1,146 | 35 | 35,495 | 31 | 21,134 | 22 | 4,780 | 103 | 62,733 |
| Independent technical institute..... | 2 | 358 | | | 1 | 181 | | | 1 | 110 | 4 | 679 |
| Theological school..... | 2 | 669 | 5 | 1,688 | 2 | 521 | 1 | 206 | | | 10 | 3,074 |
| Other independent professional school..... | | | | | 2 | 1,801 | 1 | 643 | | | 3 | 2,444 |
| Liberal arts college..... | 49 | 3,443 | 13 | 846 | 70 | 25,807 | 63 | 21,745 | 10 | 832 | 205 | 52,673 |
| Teachers college..... | 5 | 857 | 1 | 200 | 19 | 6,776 | 17 | 5,437 | 3 | 132 | 45 | 13,402 |
| Junior college..... | 15 | 919 | 1 | 16 | 9 | 1,747 | 6 | 535 | 1 | 38 | 32 | 3,255 |
| WEST..... | 7 | 494 | 6 | 577 | 42 | 29,572 | 41 | 25,199 | 13 | 1,042 | 109 | 57,784 |
| University..... | 1 | 365 | 2 | 200 | 18 | 21,342 | 12 | 13,880 | 2 | 686 | 35 | 36,479 |
| Independent technical institute..... | | | | | 2 | 1,464 | | | 1 | 65 | 3 | 1,529 |
| Theological school..... | 3 | 73 | 1 | 60 | 1 | 135 | 2 | 89 | 1 | 10 | 8 | 387 |
| Other independent professional school..... | | | 1 | 223 | | | | | | | 1 | 223 |
| Liberal arts college..... | 2 | 28 | | | 13 | 4,470 | 18 | 9,042 | 4 | 807 | 37 | 14,347 |
| Teachers college..... | 1 | 28 | 2 | 74 | 7 | 1,093 | 6 | 1,809 | 5 | 374 | 21 | 4,368 |
| Junior college..... | | | | | 1 | 168 | 3 | 283 | | | 4 | 451 |

¹ U. S. Service Academies have not been included.

It appears, also, that the smaller the enrollment of an institution, the more it proportionately spent for faculty housing and the less it spent for miscellaneous types. Since more than 70 percent of all married student housing constructed during this period was in the North Central region, this geographic area dominated in married student housing expenditures for the Nation as a whole. Table 16 shows that in this region sizable expenditures were made for married student housing in two enrollment categories (2,000–4,999 and 10,000–19,999).

Auxiliary Facilities

In examining 1951–55 expenditures for auxiliary buildings, it is important to remember that many of these facilities were constructed to provide for student services for which some institutions had assumed little responsibility prior to World War II. Relative to the interpretation of data for food facilities, it is important to keep in mind that such services may have been incorporated in buildings whose primary function was residential and that actual expenditure for food facilities may have been more than the amount indicated.

Table 17 shows that expenditures for auxiliary facilities constructed from 1951 through 1955 by the reporting institutions for the continental United States totaled \$124,006,000. Of this sum, 14 percent was spent for food facilities, 75 percent for student centers, 7 percent for health facilities, and 4 percent for miscellaneous student service buildings.

Capital expenditures for food service buildings constructed during this period in the continental United States totaled \$17,725,000, with 50 percent of the amount being spent by institutions located in the Northeast. For this kind of facility, Massachusetts and New York each spent more than the entire North Central or West regions.

Analysis of the expenditures for student centers on a regional and State basis shows a general uniformity, with a majority of the States having reported some construction. However, expenditures for this purpose were comparatively large in Indiana, Texas, Michigan, and Ohio, each State having spent more than \$6 million.

Although the South exceeded all other regions in dollar disbursements for health facilities, con-

struction activity in this functional area was limited on a national basis to a few States. Colleges and universities in California, Texas, and North Carolina spent 52 percent of the total.

The consolidated capital expenditures of universities and liberal arts colleges for auxiliary facilities constructed during 1951–55, as shown in table 18, amounted to four-fifths or more of the total spent in each auxiliary category. By type of institutions, the proportion of the total percent of expenditure is shown in the following summary:

| Type of building | Percent of Expenditure in— | | |
|----------------------------------|----------------------------|-----------------------|----------|
| | Universities | Liberal arts colleges | Combined |
| Food facilities..... | 45 | 35 | 80 |
| Student centers..... | 59 | 28 | 87 |
| Health facilities..... | 50 | 36 | 86 |
| Other auxiliary enterprises..... | 74 | 12 | 86 |

Capital expenditures in the various auxiliary service areas, by type of institution, are shown in table 18. With the exception of theological schools, all types spent more for student centers than for other auxiliary purposes.

Table 19 shows the number and cost of auxiliary buildings completed by higher education institutions during 1951–55, according to the eight enrollment categories used for this survey. By inspection, one will note the concentration of expenditures in three enrollment categories: 1,000–1,999, 2,000–4,999, and 5,000–9,999. The institutions represented in these enrollment areas spent slightly more than two-thirds of the total auxiliary capital funds.

Colleges and universities enrolling 500–4,999 full-time students spent approximately two-thirds of the total funds used to build food service facilities. A comparable proportion of expenditures for student centers occurred in institutions enrolling 1,000–9,999 full-time students.

An analysis of the data in table 19 indicates a direct relationship between the number of full-time students enrolled in an institution of higher learning and the amount which the institution spent in constructing a student center. For the period 1951 through 1955, capital expenditures for student centers ranged from an average \$25,500 in colleges and universities with spring 1956 full-time enrollment below 200 to an average of slightly more than \$2.8 million in institutions enrolling 20,000 and more students.

Table 16.—Number and cost of residential buildings completed by higher education institutions, grouped by geographic regions and by spring 1956 full-time enrollments: continental United States,¹ 1951-55

[Cost figures are in thousands of dollars]

| Region and enrollment ¹ | Faculty | | Married students | | Single men | | Single women | | Other | | Total | |
|--|------------|-----------------|------------------|-----------------|------------|------------------|--------------|------------------|-----------|-----------------|--------------|------------------|
| | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Continental United States¹ | 160 | \$15,695 | 51 | \$22,086 | 390 | \$244,317 | 347 | \$186,626 | 75 | \$14,278 | 1,023 | \$483,002 |
| Below 200..... | 19 | 1,037 | 9 | 1,413 | 16 | 2,379 | 26 | 3,770 | 4 | 127 | 74 | 8,726 |
| 200-499..... | 41 | 2,679 | 7 | 580 | 46 | 11,006 | 57 | 14,625 | 10 | 522 | 161 | 29,412 |
| 500-999..... | 59 | 4,113 | 12 | 2,709 | 110 | 44,598 | 76 | 33,358 | 19 | 1,943 | 270 | 80,721 |
| 1,000-1,999..... | 17 | 2,866 | 4 | 491 | 85 | 38,764 | 79 | 37,891 | 8 | 1,830 | 193 | 81,851 |
| 2,000-4,999..... | 10 | 3,492 | 11 | 8,510 | 71 | 63,990 | 57 | 47,770 | 14 | 2,573 | 163 | 126,335 |
| 5,000-9,999..... | 13 | 1,475 | 2 | 802 | 51 | 65,061 | 45 | 36,134 | 17 | 4,844 | 128 | 98,316 |
| 10,000-19,999..... | 1 | 33 | 5 | 6,481 | 10 | 23,019 | 5 | 10,834 | 3 | 2,430 | 23 | 42,764 |
| 20,000 and more..... | 1 | 33 | 1 | 1,100 | 1 | 5,500 | 2 | 2,244 | | | 5 | 8,877 |
| NORTHEAST..... | 29 | 3,991 | 6 | 1,816 | 92 | 58,522 | 95 | 52,839 | 5 | 478 | 227 | 117,646 |
| Below 200..... | 5 | 157 | 3 | 625 | 7 | 1,088 | 10 | 2,175 | 1 | 5 | 26 | 4,050 |
| 200-499..... | 11 | 671 | 1 | 49 | 6 | 2,483 | 20 | 5,291 | 1 | 128 | 39 | 8,622 |
| 500-999..... | 7 | 1,141 | 2 | 1,142 | 28 | 12,208 | 23 | 15,835 | 2 | 30 | 62 | 30,356 |
| 1,000-1,999..... | 1 | 202 | | | 24 | 9,858 | 20 | 11,237 | | | 45 | 21,297 |
| 2,000-4,999..... | 3 | 845 | | | 14 | 13,534 | 10 | 9,489 | | | 27 | 23,868 |
| 5,000-9,999..... | 2 | 975 | | | 11 | 15,356 | 12 | 8,812 | | | 25 | 25,143 |
| 10,000-19,999..... | | | | | 2 | 3,965 | | | 1 | 315 | 3 | 4,310 |
| 20,000 and more..... | | | | | | | | | | | | |
| NORTH CENTRAL..... | 39 | 4,856 | 16 | 15,797 | 118 | 83,895 | 92 | 58,798 | 20 | 5,966 | 285 | 169,312 |
| Below 200..... | 8 | 823 | 1 | 187 | 1 | 229 | 7 | 503 | 1 | 10 | 10 | 929 |
| 200-499..... | 11 | 671 | 1 | 63 | 14 | 3,726 | 15 | 4,371 | 2 | 73 | 40 | 9,056 |
| 500-999..... | 26 | 1,746 | | | 37 | 15,840 | 14 | 5,745 | 7 | 862 | 84 | 24,109 |
| 1,000-1,999..... | 1 | 202 | | | 22 | 11,232 | 19 | 8,861 | 6 | 1,329 | 47 | 21,422 |
| 2,000-4,999..... | 3 | 2,245 | 7 | 7,432 | 19 | 14,692 | 18 | 17,702 | | | 47 | 42,071 |
| 5,000-9,999..... | 1 | 9 | 1 | 534 | 19 | 18,674 | 14 | 9,954 | 2 | 1,577 | 37 | 30,748 |
| 10,000-19,999..... | | | 5 | 6,481 | 5 | 13,996 | 3 | 9,418 | 2 | 2,115 | 15 | 32,010 |
| 20,000 and more..... | 1 | 33 | 1 | 1,100 | 1 | 5,500 | 2 | 2,244 | | | 6 | 8,877 |
| SOUTH..... | 85 | 6,354 | 23 | 3,896 | 138 | 72,328 | 119 | 49,790 | 37 | 5,892 | 402 | 138,260 |
| Below 200..... | 14 | 880 | 4 | 521 | 4 | 657 | 5 | 625 | 1 | 47 | 28 | 2,730 |
| 200-499..... | 19 | 1,112 | 5 | 468 | 25 | 4,582 | 17 | 3,452 | 4 | 170 | 70 | 9,784 |
| 500-999..... | 23 | 1,170 | 7 | 1,270 | 34 | 12,816 | 28 | 8,634 | 7 | 344 | 99 | 24,234 |
| 1,000-1,999..... | 16 | 2,664 | 4 | 491 | 31 | 13,700 | 29 | 11,186 | 2 | 510 | 82 | 28,551 |
| 2,000-4,999..... | 4 | 402 | 2 | 878 | 28 | 24,736 | 23 | 14,127 | 9 | 1,625 | 66 | 41,768 |
| 5,000-9,999..... | 9 | 126 | 1 | 268 | 14 | 13,609 | 15 | 10,350 | 14 | 3,196 | 53 | 27,549 |
| 10,000-19,999..... | | | | | 2 | 2,228 | 2 | 1,416 | | | 4 | 3,044 |
| 20,000 and more..... | | | | | | | | | | | | |
| WEST..... | 7 | 494 | 6 | 577 | 42 | 29,572 | 41 | 25,199 | 13 | 1,942 | 109 | 57,784 |
| Below 200..... | 3 | 73 | 1 | 80 | 4 | 405 | 4 | 467 | 1 | 65 | 10 | 1,017 |
| 200-499..... | 1 | 56 | 3 | 297 | 11 | 3,728 | 11 | 3,144 | 3 | 707 | 31 | 7,932 |
| 500-999..... | | | | | 8 | 3,974 | 11 | 6,607 | | | 19 | 10,581 |
| 1,000-1,999..... | | | | | 10 | 11,028 | 6 | 0,452 | 5 | 948 | 23 | 18,628 |
| 2,000-4,999..... | 1 | 365 | 2 | 200 | 7 | 7,422 | 4 | 7,018 | 1 | 71 | 13 | 14,876 |
| 5,000-9,999..... | | | | | 1 | 2,800 | | | | | 1 | 2,800 |
| 10,000-19,999..... | | | | | | | | | | | | |
| 20,000 and more..... | | | | | | | | | | | | |

¹ U. S. Service Academies have not been included.Table 17.—Number and cost of auxiliary buildings completed by higher education institutions, by function of buildings, grouped by geographic regions and States: continental United States,¹ 1951-55

[Cost figures are in thousands of dollars]

| Region and State | Total cost, residential and auxiliary | Total cost, auxiliary | Auxiliary | | | | Number of auxiliary buildings |
|--|---------------------------------------|-----------------------|-----------------|-----------------|-------------------|----------------|-------------------------------|
| | | | Food facilities | Student centers | Health facilities | Other | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Continental United States¹ | \$697,008 | \$124,096 | \$17,725 | \$92,278 | \$8,912 | \$5,091 | 274 |
| NORTHEAST..... | 144,799 | 27,153 | 8,837 | 15,839 | 2,254 | 223 | 48 |
| Connecticut..... | 11,721 | 1,890 | | 1,218 | 672 | | 4 |
| Maine..... | 1,895 | 1,161 | 245 | 850 | 66 | | 3 |
| Massachusetts..... | 25,527 | 7,494 | 3,756 | 3,403 | 335 | | 8 |
| New Hampshire..... | 2,343 | 70 | | 70 | 70 | | 1 |
| New Jersey..... | 9,410 | 2,480 | 1,260 | 1,220 | | | 6 |
| New York..... | 53,359 | 6,691 | 3,158 | 2,843 | 467 | 223 | 15 |
| Pennsylvania..... | 37,790 | 6,748 | 365 | 5,739 | 644 | | 9 |
| Rhode Island..... | 1,066 | 566 | | 566 | | | 1 |
| Vermont..... | 1,682 | 53 | 53 | | | | 1 |
| NORTH CENTRAL..... | 207,686 | 38,374 | 2,440 | 34,449 | 185 | 1,300 | 56 |
| Illinois..... | 33,545 | 2,025 | 1,267 | 743 | | 15 | 6 |
| Indiana..... | 31,649 | 9,547 | | 8,947 | | 600 | 10 |
| Iowa..... | 11,644 | 2,365 | 573 | 1,692 | 100 | | 7 |
| Kansas..... | 15,862 | 4,565 | | 4,565 | | | 6 |
| Michigan..... | 39,405 | 6,991 | 440 | 6,475 | | 76 | 7 |
| Minnesota..... | 8,202 | 1,543 | | 1,071 | 85 | 387 | 4 |
| Missouri..... | 10,980 | 3,020 | | 2,798 | | 222 | 5 |
| Nebraska..... | 3,579 | | | | | | |
| North Dakota..... | 2,253 | 641 | | 641 | | | 1 |
| Ohio..... | 40,824 | 6,454 | 160 | 6,294 | | | 8 |
| South Dakota..... | 1,337 | | | | | | |
| Wisconsin..... | 8,406 | 1,223 | | 1,223 | | | 2 |
| SOUTH..... | 173,701 | 35,441 | 4,220 | 26,014 | 4,117 | 1,081 | 112 |
| Alabama..... | 8,766 | 2,622 | 425 | 2,194 | | 3 | 9 |
| Arkansas..... | 5,578 | 1,050 | | 927 | 73 | 50 | 5 |
| Delaware..... | 2,290 | | | | | | |
| Florida..... | 10,987 | 800 | 188 | 390 | | 222 | 3 |
| Georgia..... | 9,595 | 369 | 296 | 58 | 15 | | 3 |
| Kentucky..... | 6,614 | 1,492 | 70 | 1,422 | | | 4 |
| Louisiana..... | 9,931 | 899 | 755 | 104 | 40 | | 5 |
| Maryland..... | 9,537 | 1,028 | 218 | 714 | 96 | | 3 |
| Mississippi..... | 2,907 | 711 | 263 | 441 | | 7 | 6 |
| North Carolina..... | 18,620 | 4,058 | | 2,907 | 1,075 | 76 | 12 |
| Oklahoma..... | 8,147 | 2,991 | 36 | 2,879 | 36 | 40 | 8 |
| South Carolina..... | 14,160 | 2,046 | | 1,414 | 124 | 508 | 6 |
| Tennessee..... | 11,131 | 3,712 | 630 | 3,001 | 64 | 17 | 14 |
| Texas..... | 34,497 | 10,366 | 880 | 7,695 | 1,791 | | 21 |
| Virginia..... | 15,232 | 3,123 | 468 | 1,842 | 709 | 104 | 10 |
| West Virginia..... | 3,076 | 130 | | 130 | | | 1 |
| District of Columbia..... | 2,633 | 44 | | | 30 | 14 | 2 |
| WEST..... | 80,822 | 23,038 | 2,219 | 15,976 | 2,356 | 2,487 | 58 |
| Arizona..... | 4,911 | 2,902 | 28 | 2,572 | 167 | 135 | 6 |
| California..... | 22,260 | 7,267 | 1,681 | 2,144 | 1,798 | 1,644 | 27 |
| Colorado..... | 12,982 | 3,908 | 180 | 3,728 | | | 4 |
| Idaho..... | 1,723 | | | | | | |
| Montana..... | 5,027 | 90 | | 90 | | | 1 |
| Nevada..... | | | | | | 254 | 3 |
| New Mexico..... | 2,038 | 254 | | | | | 2 |
| Oregon..... | 5,084 | 536 | | 420 | 116 | | 2 |
| Utah..... | 7,107 | 1,957 | | 1,682 | 275 | | 4 |
| Washington..... | 17,526 | 6,124 | 330 | 5,340 | | 454 | 11 |
| Wyoming..... | 1,264 | | | | | | |

¹ U. S. Service Academies have not been included.

Table 18.—Number and cost of auxiliary buildings completed by higher education institutions, by type of institution, grouped by geographic regions: continental United States,¹ 1951-55

[Cost figures are in thousands of dollars]

| Type and region | Food facilities | | Student centers | | Health facilities | | Other | | Total | |
|--|-----------------|-----------------|-----------------|-----------------|-------------------|----------------|-----------|----------------|------------|------------------|
| | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Continental United States¹ | 54 | \$17,725 | 140 | \$92,278 | 42 | \$8,912 | 38 | \$5,091 | 274 | \$124,008 |
| University | 13 | 8,014 | 41 | 54,240 | 8 | 4,429 | 15 | 3,776 | 77 | 70,468 |
| Independent technical institute | 1 | 302 | 4 | 2,186 | 1 | 92 | 1 | 217 | 7 | 2,797 |
| Theological school | 1 | 346 | 1 | 298 | | | 2 | 55 | 4 | 609 |
| Other independent professional school | | | 2 | 259 | | | | | 2 | 259 |
| Liberal arts college | 26 | 6,216 | 64 | 25,725 | 24 | 3,230 | 11 | 605 | 125 | 35,776 |
| Teachers college | 9 | 2,642 | 18 | 7,213 | 5 | 570 | 3 | 212 | 35 | 10,637 |
| Junior college | 4 | 205 | 10 | 2,348 | 4 | 591 | 6 | 226 | 24 | 3,370 |
| NORTHEAST | 17 | 8,837 | 19 | 15,839 | 11 | 2,254 | 1 | 223 | 48 | 27,153 |
| University | 5 | 5,263 | 7 | 7,643 | 2 | 893 | 1 | 223 | 15 | 14,022 |
| Independent technical institute | | | 1 | 375 | 1 | 92 | | | 2 | 467 |
| Theological school | | | | | | | | | | |
| Other independent professional school | | | | | | | | | | |
| Liberal arts college | 8 | 2,011 | 9 | 7,521 | 6 | 1,076 | | | 23 | 10,608 |
| Teachers college | 3 | 1,510 | 1 | 25 | 1 | 123 | | | 5 | 1,658 |
| Junior college | 1 | 53 | 1 | 275 | 1 | 70 | | | 3 | 398 |
| NORTH CENTRAL | 5 | 2,440 | 42 | 34,449 | 2 | 185 | 7 | 1,300 | 56 | 38,374 |
| University | 3 | 1,085 | 13 | 23,028 | | | 4 | 1,106 | 20 | 25,819 |
| Independent technical institute | | | 3 | 1,811 | | | | | 3 | 1,811 |
| Theological school | | | | | | | 1 | 15 | 1 | 15 |
| Other independent professional school | | | 1 | 29 | | | | | 1 | 29 |
| Liberal arts college | 2 | 755 | 19 | 6,995 | 2 | 185 | 1 | 125 | 24 | 8,060 |
| Teachers college | | | 5 | 2,579 | | | 1 | 54 | 6 | 2,633 |
| Junior college | | | 1 | 7 | | | | | 1 | 7 |
| SOUTH | 23 | 4,229 | 54 | 26,014 | 20 | 4,117 | 15 | 1,081 | 112 | 35,441 |
| University | 4 | 862 | 14 | 12,698 | 3 | 2,126 | 3 | 612 | 24 | 16,318 |
| Independent technical institute | | | | | | | 1 | 217 | 1 | 217 |
| Theological school | 1 | 346 | | | | | 1 | 40 | 2 | 386 |
| Other independent professional school | | | 1 | 230 | | | | | 1 | 230 |
| Liberal arts college | 11 | 2,148 | 26 | 8,961 | 13 | 1,681 | 5 | 84 | 55 | 12,874 |
| Teachers college | 4 | 701 | 8 | 2,659 | 3 | 280 | 1 | 50 | 16 | 3,699 |
| Junior college | 3 | 152 | 5 | 1,466 | 1 | 30 | 4 | 69 | 13 | 1,717 |
| WEST | 9 | 2,219 | 25 | 15,976 | 9 | 2,356 | 15 | 2,487 | 58 | 23,038 |
| University | 1 | 184 | 7 | 10,880 | 3 | 1,410 | 7 | 1,835 | 18 | 14,309 |
| Independent technical institute | 1 | 302 | | | | | | | 1 | 302 |
| Theological school | | | 1 | 298 | | | | | 1 | 298 |
| Other independent professional school | | | | | | | | | | |
| Liberal arts college | 5 | 1,302 | 10 | 2,248 | 3 | 288 | 5 | 396 | 23 | 4,234 |
| Teachers college | 2 | 431 | 4 | 1,950 | 1 | 167 | 1 | 99 | 8 | 2,647 |
| Junior college | | | 3 | 600 | 2 | 491 | 2 | 157 | 7 | 1,248 |

¹ U. S. Service Academies have not been included.Table 19.—Number and cost of auxiliary buildings completed by higher education institutions, grouped by geographic regions and by spring 1956 full-time enrollments: continental United States,¹ 1951-55

[Cost figures are in thousands of dollars]

| Region and enrollment | Food facilities | | Student centers | | Health facilities | | Other | | Total | |
|--|-----------------|-----------------|-----------------|-----------------|-------------------|----------------|-----------|----------------|------------|------------------|
| | Number | Cost | Number | Cost | Number | Cost | Number | Cost | Number | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Continental United States¹ | 54 | \$17,725 | 140 | \$92,278 | 42 | \$8,912 | 38 | \$5,091 | 274 | \$124,008 |
| Below 200 | 3 | 390 | 4 | 102 | 3 | 201 | 3 | 226 | 13 | 919 |
| 200-499 | 7 | 567 | 22 | 4,809 | 4 | 141 | 6 | 139 | 30 | 5,656 |
| 500-999 | 16 | 4,105 | 22 | 7,056 | 9 | 1,073 | 6 | 192 | 53 | 12,426 |
| 1,000-1,999 | 11 | 2,941 | 42 | 20,287 | 12 | 2,242 | 9 | 1,290 | 74 | 26,740 |
| 2,000-4,999 | 9 | 4,916 | 22 | 19,446 | 8 | 2,417 | 4 | 734 | 43 | 27,513 |
| 5,000-9,999 | 7 | 2,441 | 22 | 23,687 | 5 | 1,400 | 7 | 1,402 | 41 | 28,939 |
| 10,000-19,999 | 1 | 2,365 | 5 | 13,744 | 1 | 1,429 | 2 | 721 | 9 | 18,259 |
| 20,000 and more | | | 1 | 3,187 | | | 1 | 387 | 2 | 3,554 |
| NORTHEAST | 17 | 8,837 | 19 | 15,839 | 11 | 2,254 | 1 | 223 | 48 | 27,153 |
| Below 200 | 2 | 86 | 1 | 45 | 1 | 21 | | | 2 | 66 |
| 200-499 | 8 | 3,015 | 2 | 1,353 | 5 | 703 | | | 15 | 5,071 |
| 500-999 | 2 | 473 | 8 | 5,693 | 2 | 545 | | | 12 | 6,811 |
| 1,000-1,999 | 2 | 2,031 | 4 | 3,266 | 2 | 592 | | | 8 | 5,889 |
| 2,000-4,999 | 2 | 867 | 1 | 1,119 | 1 | 393 | 1 | 223 | 5 | 2,602 |
| 5,000-9,999 | 1 | 2,365 | 2 | 4,188 | | | | | 3 | 6,553 |
| 10,000-19,999 | | | | | | | | | | |
| 20,000 and more | | | | | | | | | | |
| NORTH CENTRAL | 5 | 2,440 | 42 | 34,449 | 2 | 185 | 7 | 1,300 | 56 | 38,374 |
| Below 200 | | | 1 | 7 | | | | | 1 | 7 |
| 200-499 | | | 5 | 580 | | | 1 | 15 | 6 | 575 |
| 500-999 | | | 7 | 1,961 | | | 1 | 100 | 8 | 2,061 |
| 1,000-1,999 | 2 | 755 | 13 | 6,689 | 1 | 85 | 1 | 125 | 17 | 7,554 |
| 2,000-4,999 | 3 | 1,685 | 4 | 2,845 | | | 1 | 54 | 8 | 4,584 |
| 5,000-9,999 | | | 9 | 11,078 | | | 3 | 719 | 12 | 11,797 |
| 10,000-19,999 | | | 2 | 8,142 | | | | | 2 | 8,142 |
| 20,000 and more | | | 1 | 3,187 | | | 1 | 387 | 2 | 3,554 |
| SOUTH | 23 | 4,229 | 54 | 26,014 | 20 | 4,117 | 15 | 1,081 | 112 | 35,441 |
| Below 200 | 1 | 60 | | | 1 | 140 | 2 | 12 | 4 | 212 |
| 200-499 | 5 | 481 | 12 | 2,528 | 4 | 141 | 5 | 124 | 26 | 3,274 |
| 500-999 | 5 | 761 | 9 | 2,920 | 3 | 270 | 3 | 113 | 20 | 4,064 |
| 1,000-1,999 | 6 | 1,402 | 14 | 5,960 | 6 | 656 | 2 | 220 | 28 | 8,298 |
| 2,000-4,999 | 3 | 771 | 10 | 7,524 | 4 | 1,222 | 2 | 390 | 19 | 9,907 |
| 5,000-9,999 | 3 | 694 | 9 | 7,082 | 1 | 259 | 1 | 222 | 14 | 8,257 |
| 10,000-19,999 | | | | | 1 | 1,429 | | | 1 | 1,429 |
| 20,000 and more | | | | | | | | | | |
| WEST | 9 | 2,219 | 25 | 15,976 | 9 | 2,356 | 15 | 2,487 | 58 | 23,038 |
| Below 200 | 2 | 330 | 2 | 50 | 1 | 40 | 1 | 214 | 6 | 634 |
| 200-499 | | | 4 | 1,446 | | | | | 4 | 1,446 |
| 500-999 | 3 | 329 | 7 | 822 | | | 3 | 79 | 10 | 1,230 |
| 1,000-1,999 | 1 | 251 | 7 | 2,025 | | | 6 | 945 | 17 | 4,177 |
| 2,000-2,999 | 1 | 429 | 4 | 5,811 | 2 | 603 | 1 | 290 | 8 | 7,133 |
| 4,000-4,999 | 2 | 880 | 3 | 4,408 | 3 | 757 | 2 | 238 | 10 | 6,283 |
| 10,000-19,999 | | | 1 | 1,414 | | | 2 | 721 | 3 | 2,135 |
| 20,000 and more | | | | | | | | | | |

¹ U. S. Service Academies have not been included.

Expenditures in the U. S. Service Academies

The U. S. Service Academies spent \$13,171,000 for the construction of physical plant facilities during the 1951-55 period. Approximately two-thirds of this total was expended for instructional facilities at one institution, U. S. Naval Postgraduate School, Monterey, Calif. Expenditures by function of buildings follow:

[Cost figures are in thousands of dollars]

| | Number | Cost |
|--------------------------------------|--------|----------|
| Total U. S. SERVICE ACADEMIES..... | 8 | \$13,171 |
| Instructional..... | 2 | 8,980 |
| Instructional (academic)..... | 1 | 8,700 |
| Library..... | 1 | 280 |
| Research..... | --- | --- |
| General..... | 3 | 1,643 |
| Auxiliary: food facilities..... | 2 | 977 |
| Residential: faculty apartments..... | 1 | 1,571 |

Expenditures in the Outlying Parts of the United States

The number and cost of buildings completed by higher education institutions in the outlying parts of the United States are given in table 20. More than 90 percent of the \$6,643,000 expended for buildings by institutions of higher learning in the outlying parts of the United States during 1951-55 was spent by the public universities in Hawaii and Puerto Rico. In the category of instructional facilities for the public institutions, 68 percent of the \$4,335,000 was expended for classrooms and instructional laboratories, 23 percent for libraries, and 9 percent for physical education facilities. All research buildings erected were for the physical sciences. Residential and auxiliary capital expenditures by the public universities were made to provide faculty housing and health facilities in Puerto Rico and dormitory facilities for single women in Hawaii.

For the private group in the outlying parts of the United States, table 8B shows that all buildings constructed were erected by liberal arts colleges. An analysis of the data reveals that the \$552,000 expenditure was made in continuing the establishment of a new college in Puerto Rico. Facilities added to the campus during this reporting period were a multipurpose building, housing for faculty and for single women, and a classroom building.

During this period, approximately 60 percent of the total residential expenditure reported by institutions in the outlying parts of the United States was for faculty housing. The balance was for women's residence halls.

Table 20.—Number and cost of buildings completed by higher education institutions, by type of control and by function of building: outlying parts of the United States, 1951-55

[Cost figures are in thousands of dollars]

| Buildings classified by function | Total | | Public | | Private | |
|--|--------|---------|--------|---------|---------|-------|
| | Number | Cost | Number | Cost | Number | Cost |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Total outlying parts of the United States..... | 20 | \$6,643 | 13 | \$6,091 | 7 | \$552 |
| INSTRUCTIONAL..... | 7 | 4,527 | 6 | 4,335 | 1 | 192 |
| Gymnasium..... | 1 | 378 | 1 | 378 | --- | --- |
| Instructional (academic)..... | 4 | 1,887 | 3 | 1,695 | 1 | 192 |
| Library..... | 1 | 1,014 | 1 | 1,014 | --- | --- |
| Instructional laboratories..... | 1 | 1,248 | 1 | 1,248 | --- | --- |
| RESEARCH..... | 2 | 422 | 2 | 422 | --- | --- |
| Biological..... | 1 | 28 | 1 | 28 | --- | --- |
| Other physical sciences..... | 1 | 394 | 1 | 394 | --- | --- |
| GENERAL..... | 3 | 276 | 1 | 100 | 2 | 176 |
| Faculty club and facilities..... | 1 | 100 | 1 | 100 | --- | --- |
| Multipurpose..... | 1 | 107 | --- | --- | 1 | 107 |
| Other general..... | 1 | 9 | --- | --- | 1 | 9 |
| AUXILIARY..... | 1 | 128 | 1 | 128 | --- | --- |
| Infirmary (student health)..... | 1 | 128 | 1 | 128 | --- | --- |
| RESIDENTIAL..... | 7 | 1,290 | 3 | 1,106 | 4 | 184 |
| Faculty apartments..... | 4 | 723 | 2 | 655 | 2 | 68 |
| Faculty and staff houses..... | 1 | 45 | --- | --- | 1 | 45 |
| Women's residence hall..... | 2 | 522 | 1 | 451 | 1 | 71 |

CHAPTER 3

Sources of Funds for Buildings Completed, 1951-55

HIGHER EDUCATION has many bases of financial support for the construction of physical plant facilities. Probably no other social institution receives funds from such a variety of sources. Nearly everybody interested in higher education is concerned with how colleges and universities finance plant development. This chapter presents a status report of the situation as it existed during 1951-55. Typical questions that might be asked about financing plant facilities constructed during this 5-year span are:

What was the primary source of construction funds for the public institutions? For the private ones? What was the role of the States? Of the Federal Government? Did the private institutions use revenue bond financing more than the public institutions? What was the relation of the size of an institution to the sources of capital funds? The data reported by the colleges provide answers to these and other related questions and should serve as a guide for planning future financing.

Percentage Distribution of Sources of Funds

Appropriations and taxes from governmental sources provided more than one-half of all construction funds for buildings completed by the public institutions during 1951-55 (53.80 and 1.60 percent, as shown in table 21A). The remaining 44.60 percent was obtained from bond issues (31.53 percent), current funds (5.25 percent), miscellaneous borrowings (4.01 percent), gifts and grants (3.67 percent), and other sources (0.14 percent).

In contrast, gifts and grants provided more than one-half of the construction funds for buildings completed by the private colleges and universities during this period (56.05 percent, as shown in table 21B). The remaining 43.95 percent was obtained from miscellaneous borrowings (16.61 percent), bond issues (11.88 percent), current funds (10.33 percent), governmental appropriations (4.57 percent), and other sources (0.56 percent.)

Most of the State appropriations to private institutions were made to assist with the construction of buildings to be used in the field of medicine. Although a substantial proportion of the Federal appropriations to private institutions was made for this same purpose, about 40 percent of the \$22,256,000 Federal expenditure was allocated to two institutions, Howard University and Gallaudet College in the District of Columbia. These two educational enterprises are operated as semipublic institutions under the direct control of private corporations.¹

During this 5-year period, about 70 percent of the capital expenditures of the public institutions for the construction of instructional, research,

¹ Clayton D. Hutchins, Albert R. Munse, and Edna D. Booher. *Federal Funds for Education, 1951-55 and 1955-58*. U. S. Department of Health, Education, and Welfare (Office of Education Bulletin 1956, No. 5). Washington, U. S. Government Printing Office, 1956. p. 44.

and general buildings were secured from appropriations and about the same proportion for the construction of residential facilities from the issue of bonds (table 21A). Sources contributing the most to the erection of public auxiliary buildings were bond issues, 42 percent; current and other institutional funds, 23 percent; and State appropriations, 20 percent.

Private colleges and universities secured from gifts and grants about 65 percent of their funds for instructional, research, and general buildings and about 68 percent of their funds for auxiliary buildings. Although gifts and grants also contributed more than any other source to the construction of residential facilities (about 39 per-

cent), funds received from bond issues were substantial (slightly more than 33 percent).

Since World War II it has become a more common practice for colleges and universities to finance the construction of residential buildings on a self-liquidating basis through the use of revenue bonds. As it is extremely difficult to make a project completely self-liquidating, many institutions have supplemented the project income by using gifts and revenues from debt-free facilities. During the period 1951 through 1955, public institutions received about 66 percent and private institutions about 33 percent of the capital funds used for residential construction from the issuance of revenue bonds.

Sources of Funds in Relation to Size of Enrollments

Analyses of the sources of funds by enrollment categories were made to ascertain the relationship between the number of full-time students enrolled at institutions and the sources from which funds were obtained for the construction of physical plant facilities during 1951 through 1955. Since the analyses indicated that enrollments were not a significant factor in determining the sources of funds, except in a limited number of special cases, the tabulations have not been published in this report.

The data disclosed that legislative bodies appropriated proportionately more funds for the construction of auxiliary and residential buildings to public institutions enrolling less than 5,000 students than to institutions enrolling 5,000 or more students. Also, it was clear that the smaller the enrollment of a public institution, the larger the proportion of funds received from general obligation bonds for the construction of residential facilities.

General obligation bonds provided 10.7 percent of all funds used by the public institutions for the construction of buildings during the 1951-55 period, but only 0.8 percent of the capital outlay funds of the private group. Although the data indicated that size of enrollment was not a factor in determining the use of this type of financing by the public institutions, in the private group, the smaller the enrollment, the larger the proportion of capital funds received from general obligation bonds.

During this 5-year span, public and private institutions used funds from revenue bonds primarily for the financing of residential facilities. In general, the larger the enrollment, the greater the proportion of revenue bond funds used for the financing of residential facilities. However, the range in the public group was more marked than in the private group—public institutions with enrollments below 1,000, 45 percent, and those with 10,000 and more, 85 percent; private institutions with enrollments below 1,000, 96 percent, and those with 5,000 and more, 100 percent.

Gifts and grants provided slightly more than 56 percent of the construction funds used by the private institutions during 1951-55 (table 21B). The analyses in the private group indicated that the smaller the enrollment, the greater the proportion of gifts and grants for the financing of residential facilities; and the larger the enrollment, the greater the proportion for the financing of instructional, research, and general buildings.

In all enrollment categories in the private institutions, gifts and grants were the primary source of funds for the construction of auxiliary buildings during this 5-year period. Although this was also true for instructional and general buildings, these facilities do not lend themselves as readily to revenue bond financing. However, since many auxiliary facilities do house income-producing enterprises and could be largely self-liquidating, it is surprising that approximately

two-thirds of the funds for auxiliary buildings came from gifts and grants. It is important to note that no facility in this classification qualified for loan funds under the College Housing Pro-

gram until late in 1955 and that revenue bond financing of these facilities by the private institution was therefore more difficult than it is at the present time.

Borrowed Funds, by Geographic Regions

Planning of facilities should not proceed very far without consideration being given to a means for financing the proposed construction. In considering future need for additional physical plant, it may be helpful to know the sources from which funds were borrowed by higher education institutions for buildings constructed during 1951-55.

The amounts obtained from various lending agencies by those institutions that furnished this information in reporting borrowed funds for the period are shown in tables 22A and 22B. It is evident that no well-defined regional pattern existed, except that financial lending institutions other than banks were generally important in the financing undertaken by the public institutions and that the Housing and Home Finance Agency occupied a similar position in the financing of the private group.

Table 23 shows the proportions of borrowed funds that were secured from the various lending agencies, presented by institutional type of control and by function of buildings constructed. Of the total funds borrowed for construction by the reporting public colleges and universities, financial lending institutions other than banks (such as building and loan associations and investment bankers) provided 63 percent for instructional, research, and general buildings, about 49 percent for auxiliary facilities, and slightly more than 33 percent for residential accommodations. Other sources which provided more than 15 percent for specific functional categories in the public group were: Banks, 15.1 percent for auxiliary facilities; the State treasury or other State agency, 18.5 percent for residential facilities; and insurance companies, 16.3 percent for residential facilities. Although financial lending institutions other than banks were important in each geographic region as a source of construction funds for the public institutions, other lending

agencies supplying sizable sums varied from region to region.

Private colleges and universities reporting borrowed funds for 1951-55 showed a more varied pattern, with less concentration on any particular source than did the public group. For instructional, research, and general buildings, private institutions secured 32 percent from insurance companies and 25 percent from banks; for auxiliary facilities, 44 percent from insurance companies; and for residential, 88 percent from the Housing and Home Finance Agency.

Slightly more than 85 percent of the funds borrowed for construction during this period by the reporting private group were used for the erection of residential facilities (table 22B). The following regional percentages of residential funds borrowed by private institutions from the Housing and Home Finance Agency were: North Central, 94 percent; West, 93 percent; South, 89 percent; and Northeast, 81 percent.

Although a separate tabulation is not presented on funds borrowed by year of completion of the building for which the funds were expended, an analysis of the returns shows a pattern somewhat similar to the one indicated on page 2 for annual capital expenditures from all sources. During this 5-year period, funds borrowed for construction by the private institutions increased annually, as did total capital outlay by the group. For the public, there was a downturn of one year's duration, 1953, in both funds borrowed and total capital expenditures, although the group consistently spent and borrowed more for the construction of physical facilities than did the private institutions. One variation in the annual pattern was that total capital expenditures in 1955 were slightly more than double the total capital expenditures of 1951 while 1955 borrowings increased almost three and one-half times those of 1951.

Table 21.—Sources of funds for buildings completed by higher education institutions, with total expenditures by function of buildings,¹ with percentage distribution by sources: aggregate United States, 1951-55

A. PUBLICLY CONTROLLED INSTITUTIONS
[Dollar figures are in thousands]

| Sources | Total public and private | Total public | Instructional, research, and general | Auxiliary | Residential |
|---|--------------------------|--------------|--------------------------------------|-----------|-------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Aggregate United States..... | \$1,782,572 | \$1,094,577 | \$755,374 | \$78,080 | \$261,123 |
| Percentage distribution by sources | | | | | |
| Aggregate United States..... | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| APPROPRIATIONS..... | 34.80 | 53.80 | 68.35 | 23.32 | 20.83 |
| State..... | 30.05 | 48.09 | 60.72 | 19.68 | 20.07 |
| Local..... | 1.67 | 2.72 | 3.81 | .66 | .16 |
| Federal..... | 3.08 | 2.99 | 3.82 | 2.98 | .60 |
| TAXES..... | .98 | 1.60 | 1.88 | 1.86 | .69 |
| State..... | .44 | .72 | .81 | .62 | .48 |
| Local..... | .52 | .84 | 1.07 | 1.22 | .08 |
| State earmarked..... | .02 | .04 | | .02 | .13 |
| Local earmarked..... | | | | | |
| BONDS..... | 23.95 | 31.53 | 17.13 | 42.41 | 69.95 |
| Local obligation..... | 1.06 | 1.72 | 2.37 | 1.15 | .02 |
| State obligation..... | 4.51 | 7.35 | 8.06 | 3.10 | 3.07 |
| Institutional obligation..... | 1.31 | 1.62 | 1.97 | 2.95 | .18 |
| Revenue (by security pledged): | | | | | |
| Operating income..... | 13.56 | 15.39 | .42 | 9.13 | 60.58 |
| Student fees..... | 1.95 | 2.96 | 1.13 | 25.24 | 1.58 |
| Other..... | 1.56 | 2.40 | 2.28 | .84 | 3.62 |
| OTHER SOURCES..... | 40.27 | 13.07 | 12.64 | 32.41 | 8.53 |
| Gifts and grants..... | 23.88 | 3.67 | 4.09 | 9.26 | .78 |
| Current funds..... | 7.21 | 5.25 | 4.73 | 11.71 | 4.79 |
| Borrowing (financial lending institutions)..... | 3.30 | .06 | .05 | | .11 |
| Borrowing from or investment of institutional endowment fund..... | 1.86 | .31 | .45 | | |
| Borrowing from or investment of other institutional funds..... | 3.68 | 3.58 | 3.08 | 11.32 | 2.72 |
| Borrowing (State authority)..... | .04 | .06 | .09 | | |
| Other..... | .30 | .14 | .15 | .12 | .13 |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary, and residential) are itemized in appendix B.

Table 21.—Sources of funds for buildings completed by higher education institutions, with total expenditures by function of buildings,¹ with percentage distribution by sources: aggregate United States, 1951-55—Continued

B. PRIVATELY CONTROLLED INSTITUTIONS
[Dollar figures are in thousands]

| Sources | Total private | Instructional, research, and general | Auxiliary | Residential |
|---|---------------|--------------------------------------|-----------|-------------|
| 1 | 2 | 3 | 4 | 5 |
| Aggregate United States..... | \$897,995 | \$418,224 | \$47,031 | \$224,740 |
| Percentage distribution by sources | | | | |
| Aggregate United States..... | 100.00 | 100.00 | 100.00 | 100.00 |
| APPROPRIATIONS..... | 4.57 | 6.72 | .27 | 1.50 |
| State..... | 1.34 | 2.01 | | .38 |
| Local..... | | | | |
| Federal..... | 3.23 | 4.71 | .27 | 1.12 |
| TAXES..... | | | | |
| State..... | | | | |
| Local..... | | | | |
| State earmarked..... | | | | |
| Local earmarked..... | | | | |
| BONDS..... | 11.88 | .85 | 7.29 | 33.25 |
| Local obligation..... | | | | |
| State obligation..... | | | | |
| Institutional obligation..... | .82 | .79 | 3.47 | .30 |
| Revenue (by security pledged): | | | | |
| Operating income..... | 10.65 | | 2.12 | 32.16 |
| Student fees..... | .34 | .05 | 1.70 | .60 |
| Other..... | .07 | .01 | | .19 |
| OTHER SOURCES..... | 83.55 | 92.43 | 92.44 | 65.25 |
| Gifts and grants..... | 56.05 | 64.29 | 67.96 | 38.29 |
| Current funds..... | 10.33 | 11.48 | 14.43 | 7.34 |
| Borrowing (financial lending institutions)..... | 8.46 | 9.33 | 3.77 | 7.83 |
| Borrowing from or investment of institutional endowment fund..... | 4.32 | 2.76 | 2.07 | 7.69 |
| Borrowing from or investment of other institutional funds..... | 3.83 | 3.82 | 3.62 | 3.91 |
| Borrowing (State authority)..... | | | | |
| Other sources..... | .58 | .75 | .59 | .19 |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary, and residential) are itemized in appendix B.

Table 22.—Sources of funds borrowed by higher education institutions for the construction of buildings, by function of buildings,¹ and by geographic regions: aggregate United States, 1951-55

A. PUBLICLY CONTROLLED INSTITUTIONS

[Dollar figures are in thousands]

| Region and source | Total | | Instructional, research, and general | | Auxiliary | | Residential | |
|--|------------------|-----------|--------------------------------------|----------|------------------|----------|------------------|-----------|
| | Number of bldgs. | Amount | Number of bldgs. | Amount | Number of bldgs. | Amount | Number of bldgs. | Amount |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Aggregate United States | 437 | \$255,705 | 135 | \$75,149 | 51 | \$27,003 | 251 | \$153,493 |
| Financial lending institution other than a bank..... | 181 | 111,510 | 66 | 47,414 | 26 | 13,193 | 89 | 50,903 |
| Bank..... | 54 | 28,075 | 11 | 5,058 | 9 | 4,092 | 34 | 18,925 |
| Housing and Home Finance Agency..... | 37 | 20,767 | 6 | 2,094 | 1 | 350 | 36 | 20,417 |
| State treasury or other State agency..... | 79 | 39,915 | 25 | 9,430 | 4 | 2,094 | 50 | 28,391 |
| Insurance company..... | 35 | 29,129 | 6 | 3,457 | 3 | 600 | 26 | 25,072 |
| Individual(s)..... | 22 | 11,000 | 12 | 1,359 | 2 | 3,414 | 8 | 6,227 |
| Other..... | 12 | 5,343 | 9 | 3,262 | 2 | 1,630 | 1 | 451 |
| Unknown..... | 17 | 9,066 | 6 | 5,169 | 4 | 1,690 | 7 | 3,107 |
| NORTHEAST | 31 | 18,381 | 10 | 5,991 | 3 | 1,234 | 18 | 11,158 |
| Financial lending institution other than a bank..... | 7 | 6,426 | 3 | 1,475 | — | — | 4 | 4,951 |
| Bank..... | 4 | 2,550 | 2 | 2,050 | — | — | 2 | 500 |
| Housing and Home Finance Agency..... | 15 | 6,499 | 2 | 550 | 1 | 244 | 12 | 5,705 |
| State treasury or other State agency..... | — | — | — | — | — | — | — | — |
| Insurance company..... | — | — | — | — | — | — | — | — |
| Individual(s)..... | — | — | — | — | — | — | — | — |
| Other..... | 5 | 2,906 | 3 | 1,916 | 2 | 990 | — | — |
| Unknown..... | — | — | — | — | — | — | — | — |
| NORTH CENTRAL | 105 | 80,983 | 7 | 3,867 | 10 | 7,641 | 88 | 75,475 |
| Financial lending institution other than a bank..... | 33 | 29,379 | 3 | 1,622 | 4 | 2,026 | 26 | 24,831 |
| Bank..... | 21 | 18,181 | 2 | 750 | 3 | 2,115 | 16 | 15,316 |
| Housing and Home Finance Agency..... | 5 | 2,742 | — | — | — | — | 5 | 2,742 |
| State treasury or other State agency..... | 20 | 14,646 | 1 | 1,250 | 1 | 250 | 18 | 13,140 |
| Insurance company..... | 16 | 13,438 | 1 | 245 | — | — | 15 | 13,213 |
| Individual(s)..... | 9 | 8,227 | — | — | 1 | 2,000 | 8 | 6,227 |
| Other..... | 1 | 350 | — | — | 1 | 350 | — | — |
| Unknown..... | — | — | — | — | — | — | — | — |
| SOUTH | 224 | 109,521 | 92 | 55,465 | 28 | 11,175 | 104 | 42,881 |
| Financial lending institution other than a bank..... | 117 | 65,134 | 52 | 42,284 | 17 | 6,818 | 48 | 16,032 |
| Bank..... | 21 | 5,434 | 6 | 1,758 | 4 | 1,617 | 11 | 2,159 |
| Housing and Home Finance Agency..... | 20 | 8,255 | — | — | 1 | 350 | 19 | 7,905 |
| State treasury or other State agency..... | 33 | 15,705 | 18 | 6,786 | 2 | 1,600 | 13 | 7,319 |
| Insurance company..... | 8 | 6,869 | — | — | 2 | 510 | 6 | 6,359 |
| Individual(s)..... | 12 | 1,359 | 12 | 1,359 | — | — | — | — |
| Other..... | 2 | 55 | 1 | 25 | 1 | 30 | — | — |
| Unknown..... | 11 | 6,710 | 3 | 3,253 | 1 | 350 | 7 | 3,107 |
| WEST | 74 | 38,727 | 24 | 8,184 | 10 | 7,013 | 40 | 23,530 |
| Financial lending institution other than a bank..... | 24 | 10,571 | 8 | 2,033 | 5 | 3,449 | 11 | 5,089 |
| Bank..... | 8 | 1,910 | 1 | 500 | 2 | 400 | 5 | 950 |
| Housing and Home Finance Agency..... | 12 | 9,770 | — | — | — | — | 12 | 9,770 |
| State treasury or other State agency..... | 11 | 3,065 | 4 | 844 | — | — | 7 | 2,221 |
| Insurance company..... | 11 | 8,602 | 5 | 3,212 | 1 | 90 | 5 | 6,500 |
| Individual(s)..... | 1 | 1,414 | — | — | 1 | 1,414 | — | — |
| Other..... | 7 | 3,195 | 6 | 1,595 | 1 | 1,600 | — | — |
| Unknown..... | — | — | — | — | — | — | — | — |
| OUTLYING PARTS OF THE UNITED STATES | 3 | 2,093 | 2 | 1,642 | — | — | 1 | 451 |
| Other..... | 3 | 2,093 | 2 | 1,642 | — | — | 1 | 451 |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary, and residential) are itemized in appendix B.Table 22.—Sources of funds borrowed by higher education institutions for the construction of buildings, by function of buildings,¹ and by geographic regions: aggregate United States, 1951-55—Continued

B. PRIVATELY CONTROLLED INSTITUTIONS

[Dollar figures are in thousands]

| Region and source | Total | | Instructional, research, and general | | Auxiliary | | Residential | |
|--|------------------|----------|--------------------------------------|---------|------------------|---------|------------------|----------|
| | Number of bldgs. | Amount | Number of bldgs. | Amount | Number of bldgs. | Amount | Number of bldgs. | Amount |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Aggregate United States | 188 | \$80,340 | 33 | \$9,601 | 12 | \$2,129 | 143 | \$68,639 |
| Financial lending institution other than a bank..... | 15 | 1,885 | 7 | 1,545 | — | — | 8 | 340 |
| Bank..... | 27 | 5,455 | 13 | 2,413 | 1 | 82 | 13 | 2,900 |
| Housing and Home Finance Agency..... | 101 | 61,087 | — | — | 3 | 455 | 98 | 60,632 |
| State treasury or other State agency..... | 1 | 336 | — | — | — | — | 1 | 336 |
| Insurance company..... | 24 | 7,361 | 5 | 3,040 | 4 | 943 | 15 | 3,368 |
| Individual(s)..... | 14 | 1,256 | 6 | 744 | 2 | 56 | 6 | 456 |
| Other..... | 5 | 1,190 | 1 | 59 | 2 | 593 | 2 | 538 |
| Unknown..... | 1 | 1,800 | — | — | — | — | — | — |
| NORTHEAST | 54 | 25,653 | 13 | 4,496 | 2 | 238 | 39 | 20,819 |
| Financial lending institution other than a bank..... | 1 | 50 | — | — | — | — | 1 | 50 |
| Bank..... | 16 | 3,810 | 8 | 1,900 | — | — | 8 | 1,910 |
| Housing and Home Finance Agency..... | 24 | 15,889 | — | — | 1 | 50 | 23 | 16,839 |
| State treasury or other State agency..... | 1 | 336 | — | — | — | — | 1 | 336 |
| Insurance company..... | 9 | 3,798 | 3 | 2,026 | 1 | 188 | 5 | 1,584 |
| Individual(s)..... | 3 | 670 | 2 | 570 | — | — | 1 | 100 |
| Other..... | — | — | — | — | — | — | — | — |
| Unknown..... | — | — | — | — | — | — | — | — |
| NORTH CENTRAL | 55 | 25,563 | 9 | 3,861 | 2 | 665 | 44 | 21,037 |
| Financial lending institution other than a bank..... | 8 | 1,023 | 3 | 825 | — | — | 5 | 198 |
| Bank..... | 2 | 163 | 2 | 163 | — | — | — | — |
| Housing and Home Finance Agency..... | 35 | 19,681 | — | — | — | — | 35 | 19,681 |
| State treasury or other State agency..... | 5 | 2,264 | 2 | 1,014 | 1 | 400 | 2 | 850 |
| Insurance company..... | 1 | 100 | — | — | — | — | 1 | 100 |
| Individual(s)..... | 3 | 532 | 1 | 59 | 1 | 265 | 1 | 208 |
| Other..... | 1 | 1,800 | 1 | 1,800 | — | — | — | — |
| Unknown..... | — | — | — | — | — | — | — | — |
| SOUTH | 51 | 20,041 | 7 | 925 | 3 | 675 | 41 | 18,441 |
| Financial lending institution other than a bank..... | 5 | 632 | 3 | 540 | — | — | 2 | 92 |
| Bank..... | 6 | 1,070 | 3 | 350 | — | — | 3 | 720 |
| Housing and Home Finance Agency..... | 28 | 16,685 | — | — | 1 | 320 | 27 | 16,365 |
| State treasury or other State agency..... | 10 | 1,289 | — | — | 2 | 355 | 8 | 934 |
| Insurance company..... | 1 | 35 | 1 | 35 | — | — | — | — |
| Individual(s)..... | 1 | 330 | — | — | — | — | 1 | 330 |
| Other..... | — | — | — | — | — | — | — | — |
| Unknown..... | — | — | — | — | — | — | — | — |
| WEST | 28 | 9,203 | 4 | 319 | 5 | 551 | 19 | 8,333 |
| Financial lending institution other than a bank..... | 1 | 180 | 1 | 180 | — | — | — | — |
| Bank..... | 3 | 412 | — | — | 1 | 82 | 2 | 330 |
| Housing and Home Finance Agency..... | 14 | 7,832 | — | — | — | — | 13 | 7,747 |
| State treasury or other State agency..... | — | — | — | — | — | — | — | — |
| Insurance company..... | 9 | 451 | 3 | 139 | 2 | 56 | 4 | 256 |
| Individual(s)..... | 1 | 328 | — | — | 1 | 328 | — | — |
| Other..... | — | — | — | — | — | — | — | — |
| Unknown..... | — | — | — | — | — | — | — | — |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary, and residential) are itemized in appendix B.

Table 23.—Percentage distribution of sources of funds borrowed by higher education institutions for the construction of buildings, by type of control and by function of buildings,¹ grouped by geographic regions: aggregate United States, 1951-55

| Sources | Grand Total | Public | | | | Private | | | |
|--|-------------|---------------------------------------|-----------|--------------|--------|---------------------------------------|-----------|--------------|--------|
| | | Instruc-tional, research, and general | Auxiliary | Residen-tial | Total | Instruc-tional, research, and general | Auxiliary | Residen-tial | Total |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Aggregate United States..... | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Financial lending institution other than a bank..... | 33.74 | 63.00 | 48.75 | 33.16 | 43.61 | 10.09 | 3.85 | .50 | 2.35 |
| Bank..... | 9.98 | 6.73 | 15.12 | 12.33 | 10.95 | 25.13 | 21.37 | 4.31 | 6.78 |
| Housing and Home Finance Agency..... | 24.36 | 1.29 | 1.29 | 13.30 | 8.12 | | | 83.35 | 76.02 |
| State treasury or other State agency..... | 11.88 | 12.55 | 7.74 | 18.50 | 15.61 | | | .40 | .42 |
| Insurance company..... | 10.85 | 4.60 | 2.22 | 16.34 | 11.39 | 31.06 | 44.29 | 4.91 | 9.15 |
| Individual(s)..... | 3.65 | 1.81 | 12.62 | 4.06 | 4.30 | 7.75 | 2.03 | .66 | 1.56 |
| Other..... | 1.94 | 4.34 | 6.02 | .29 | 2.09 | .62 | 27.86 | .78 | 1.48 |
| Unknown..... | 3.50 | 6.88 | 6.24 | 2.02 | 3.90 | 18.75 | | | 2.24 |
| NORTHEAST..... | 13.08 | 7.97 | 4.50 | 7.27 | 7.19 | 40.63 | 11.18 | 30.34 | 31.80 |
| Financial lending institution other than a bank..... | 1.93 | 1.96 | | 3.22 | 2.51 | | | .07 | .06 |
| Bank..... | 1.89 | 2.73 | | .33 | 1.00 | 19.79 | | 2.78 | 4.74 |
| Housing and Home Finance Agency..... | 5.03 | | | | | | 2.35 | 24.54 | 21.02 |
| State treasury or other State agency..... | 2.03 | .73 | .90 | 3.72 | 2.54 | | | .49 | .42 |
| Insurance company..... | 1.13 | | | | | 21.10 | 8.83 | 2.31 | 4.73 |
| Individual(s)..... | .20 | | | | | 5.94 | | .15 | .83 |
| Other..... | .87 | 2.55 | 3.08 | | 1.14 | | | | |
| Unknown..... | | | | | | | | | |
| NORTH CENTRAL..... | 33.49 | 5.15 | 23.24 | 49.17 | 34.02 | 40.22 | 31.24 | 30.65 | 31.81 |
| Financial lending institution other than a bank..... | 9.04 | 2.16 | 10.81 | 16.18 | 11.49 | 8.59 | | .29 | 1.27 |
| Bank..... | 5.46 | 1.00 | 7.82 | 9.98 | 7.11 | 1.70 | | | .20 |
| Housing and Home Finance Agency..... | 6.57 | | | 1.78 | 1.07 | | | 28.68 | 24.49 |
| State treasury or other State agency..... | 4.36 | 1.66 | .92 | 8.59 | 5.73 | | | | |
| Insurance company..... | 4.63 | .33 | | 8.61 | 5.26 | 10.56 | 18.79 | 1.24 | 2.82 |
| Individual(s)..... | 2.48 | | 7.39 | 4.06 | 3.22 | | | .14 | .13 |
| Other..... | .16 | | | | | .62 | 12.45 | .30 | .66 |
| Unknown..... | .64 | | 1.30 | | .14 | 18.75 | | | 2.24 |
| SOUTH..... | 38.55 | 73.81 | 41.29 | 27.94 | 42.83 | 9.53 | 31.70 | 26.87 | 24.94 |
| Financial lending institution other than a bank..... | 19.57 | 56.27 | 25.19 | 10.45 | 25.47 | 5.03 | | .13 | .79 |
| Bank..... | 1.94 | 2.34 | 5.61 | 1.41 | 2.13 | 3.64 | | 1.05 | 1.33 |
| Housing and Home Finance Agency..... | 7.42 | | 1.29 | 5.15 | 3.23 | | 15.03 | 23.85 | 20.76 |
| State treasury or other State agency..... | 4.67 | 9.03 | 5.91 | 4.77 | 6.14 | | | | |
| Insurance company..... | 2.43 | | 1.89 | 4.14 | 2.69 | | 16.07 | 1.36 | 1.61 |
| Individual(s)..... | .41 | 1.81 | | | .53 | .36 | | | .04 |
| Other..... | .11 | .03 | .11 | | .02 | | | .48 | .41 |
| Unknown..... | 2.00 | 4.33 | 1.20 | 2.02 | 2.62 | | | | |
| WEST..... | 14.26 | 10.89 | 25.91 | 15.33 | 15.14 | 3.32 | 25.88 | 12.14 | 11.45 |
| Financial lending institution other than a bank..... | 3.20 | 2.71 | 12.74 | 3.31 | 4.13 | 1.87 | | | .22 |
| Bank..... | .69 | .67 | 1.70 | .62 | .75 | | 3.85 | .48 | .51 |
| Housing and Home Finance Agency..... | 5.24 | | | 6.37 | 3.82 | | 3.99 | 11.29 | 9.76 |
| State treasury or other State agency..... | .91 | 1.12 | | 1.45 | 1.20 | | | | |
| Insurance company..... | 2.62 | 4.27 | .33 | 3.58 | 3.44 | | | | |
| Individual(s)..... | .55 | | 5.23 | | .55 | 1.45 | 2.63 | .37 | .58 |
| Other..... | 1.05 | 2.12 | 5.91 | | 1.25 | | 15.41 | | .41 |
| Unknown..... | | | | | | | | | |
| OUTLYING PARTS OF THE UNITED STATES..... | .62 | 2.18 | | .29 | .82 | | | | |
| Other..... | .62 | 2.18 | | .29 | .82 | | | | |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary, and residential) are itemized in appendix B.

CHAPTER 4

Interest Rates, Terms, and Types of Security Pledged for Buildings Completed, 1951-55

IF ECONOMIES ARE TO BE ACHIEVED and physical plant facilities provided when needed, careful financial planning will be required of college and university administrators. Since higher education will need much more money within the next decade than it has ever spent before for the construction of physical plants, borrowed funds undoubtedly will play a more important part in the future financing program. Higher interest rates increase overall cost. Also, a tight money situation which stimulates increases in interest rates may mean that there is more demand for money than there are dollars to go around. As nonprofit institutions, colleges and universities may find themselves crowded out of the money market earlier than others because of

their inability to compete for limited funds at relatively high interest rates. This could mean, too, that regardless of the plans made, construction could conceivably be forced to a fraction of what was originally proposed.

The possible repayment of bond issues can be stymied by high interest rates, short amortization periods, and high construction costs. Since there is a very real danger of "pricing colleges out of the market," it is extremely important to know what is actually taking place in the college and university construction programs with regard to interest rates and amortization periods. To that end, a study of factors as reported for the period 1951-55 holds significance for what it may reveal as possible trends for future planning.

Average Interest Rates and Average Terms

Table 24 shows that in comparison with public institutions, private colleges and universities were at a disadvantage in borrowing funds for the construction of physical plant facilities. During 1951-55, public institutions borrowed for an average interest rate of 2.85 percent, while for substantially the same amortization period (28.0 years compared to 28.3 years), private institutions paid an average interest rate of 3.66 percent, or a rate of interest approximately 28.4 percent higher. It should be recognized that the tax-exempt status of bonds issued by governments and governmental agencies makes them more attractive investments which in part accounts for the lower rate of interest

on public institutional borrowings during the 1951-55 period.

When required to borrow for the construction of instructional, research, and general buildings, public institutions obtained a large proportion of the funds needed through the issue of general obligation bonds which carry the backing of the State (table 21A). Since it is normal for full faith and credit bonds to carry lower interest rates than revenue bonds or other types of borrowing, public institutions have available a more desirable means for the financing of this kind of facility than do the private institutions.

In the 1951-55 period, public institutions reporting interest rates and term of years for funds borrowed for the construction of instructional, research, and general buildings showed an average interest rate of 2.49 percent and an average amortization period of 24.5 years (table 24). Funds borrowed for the construction of these kinds of facilities by reporting private institutions carried an average interest rate of 4.07 percent (about 64 percent higher than the public rate) and an average amortization period of 15.7 years (slightly less than two-thirds as long). Although the average interest rate paid by the public group in borrowing for this type of facility increased from 2.26 percent in 1951 to 2.62 percent in 1955, the average interest rate paid by the private institutions decreased from 4.36 percent to 4.20 percent. However, it is also important to note that the average amortization period for the public group increased 12 percent, from 23.4 to 26.2 years, while the average amortization period for the private group declined 37 percent, from 22.1 to 13.9 years, in this same 5-year span.

Both public and private institutions have found it desirable to use revenue bond loans to finance the construction of auxiliary and residential facilities. Although in most instances public institutions pay a higher interest rate on revenue bonds than on general obligation bonds, debt limitations to which the State may be subject are avoided by the use of revenue bonds. Since the facilities being constructed are potentially self-liquidating, private institutions have found it possible to finance facilities of this type at lower rates of interest than they are required to pay for loans for the construction of instructional, research, and general buildings. These more favorable rates of interest are achieved because lending institutions have specific revenues as security for the loan.

A trend toward comparable interest rates and amortization periods for funds borrowed by public and private institutions for the construction of auxiliary and residential facilities for the 1951-55 period is shown in table 24.

In 1951, the average interest rate for funds borrowed by public institutions for the construction of auxiliary facilities was 3.05 percent and the average amortization period was 27.7 years. In comparison, the average interest rate for the private institutions was 4.15 percent and the average amortization period was 21 years. A definite

trend toward uniformity of interest rates and amortization periods for public and private institutions is indicated by the 1955 averages for borrowings for the construction of auxiliary facilities—public, 2.84 percent and 23.3 years; private, 3.17 percent, 26.9 years.

Average interest rates and average amortization periods on borrowings for residential construction for public and private institutions during this 5-year span showed a more substantial trend toward equality than was indicated by borrowings for auxiliary facilities. In 1951, the average interest rate for funds borrowed by public institutions for the construction of residential facilities was 2.75 percent and the average amortization period was 31.3 years. In contrast, the average interest rate for private institutions was 4.33 percent and the average amortization period was 20.9 years. When one recalls that interest rates are generally higher for longer periods of amortization, the 1955 averages of private institutions relative to residential borrowings are approximately equal to the 1955 averages for the public institutions (public: interest rate—3.10 percent, term—30.6 years; private: interest rate—3.30 percent, term—35.8 years).

Evidence of the extent to which average interest rates and average amortization terms in the auxiliary and residential areas have tended to become equalized for public and private institutions during this 5-year period are illustrated by the following:

Ratio of private to public interest rates and terms

| Year | AUXILIARY | | RESIDENTIAL | |
|----------------------|-----------|------|-------------|------|
| | Interest | Term | Interest | Term |
| 1951..... | 1.36 | .76 | 1.58 | .67 |
| 1955..... | 1.12 | 1.15 | 1.07 | 1.17 |
| Average 1951-55..... | 1.29 | .87 | 1.15 | 1.04 |

The more pronounced trend in residential construction toward uniformity of interest rates and amortization periods for public and private institutions is believed to be attributable to the College Housing Program of the Federal Government. It was not until late 1955 that auxiliary facilities qualified under this program which provides loan funds at a low interest rate for long amortization periods. Since 88 percent of the funds reported as borrowed by private institutions

for the construction of residential facilities during this 5-year period were obtained from the Housing and Home Finance Agency under the provisions

of the College Housing Program, the proportionate influence on average interest rates and average amortization periods was substantial.

Table 24.—Average interest rates, average terms, and number of buildings completed by higher education institutions for which funds were borrowed and a specific term and interest rate reported, by type of control, by year of construction, and by function of buildings:¹ aggregate United States, 1951-55

| Year of construction | Total | | | Instructional, research, and general | | | Auxiliary | | | Residential | | |
|-------------------------------|------------------|---------------------------------|----------------------|--------------------------------------|---------------------------------|----------------------|------------------|---------------------------------|----------------------|------------------|---------------------------------|----------------------|
| | Number of bldgs. | Average interest rate (percent) | Average term (years) | Number of bldgs. | Average interest rate (percent) | Average term (years) | Number of bldgs. | Average interest rate (percent) | Average term (years) | Number of bldgs. | Average interest rate (percent) | Average term (years) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| PUBLIC INSTITUTIONS | | | | | | | | | | | | |
| Aggregate U. S., 1951-55..... | 443 | 2.85 | 28.3 | 149 | 2.49 | 24.5 | 54 | 2.94 | 27.3 | 210 | 3.06 | 30.9 |
| 1951..... | 83 | 2.60 | 27.7 | 32 | 2.26 | 23.4 | 11 | 3.05 | 27.7 | 40 | 2.75 | 31.3 |
| 1952..... | 85 | 2.64 | 25.9 | 41 | 2.42 | 22.0 | 11 | 2.67 | 27.7 | 33 | 2.89 | 30.2 |
| 1953..... | 62 | 2.92 | 27.8 | 24 | 2.57 | 26.7 | 11 | 2.87 | 28.6 | 27 | 3.25 | 28.4 |
| 1954..... | 86 | 3.08 | 30.2 | 24 | 2.71 | 26.3 | 10 | 3.30 | 20.0 | 52 | 3.21 | 32.2 |
| 1955..... | 127 | 2.97 | 29.1 | 28 | 2.62 | 26.2 | 11 | 2.84 | 23.3 | 88 | 3.10 | 30.6 |
| PRIVATE INSTITUTIONS | | | | | | | | | | | | |
| Aggregate U. S., 1951-55..... | 235 | 3.68 | 25.0 | 54 | 4.07 | 15.7 | 16 | 3.80 | 23.8 | 165 | 3.51 | 32.1 |
| 1951..... | 33 | 4.30 | 21.2 | 7 | 4.36 | 22.1 | 6 | 4.15 | 21.0 | 20 | 4.33 | 20.9 |
| 1952..... | 22 | 3.82 | 21.1 | 14 | 3.84 | 18.8 | 0 | ----- | ----- | 8 | 3.63 | 24.3 |
| 1953..... | 30 | 3.86 | 22.4 | 8 | 4.16 | 13.3 | 0 | ----- | ----- | 22 | 3.75 | 25.6 |
| 1954..... | 61 | 3.40 | 32.2 | 6 | 3.78 | 15.0 | 4 | 3.94 | 23.8 | 51 | 3.31 | 34.9 |
| 1955..... | 89 | 3.40 | 31.1 | 19 | 4.20 | 13.9 | 6 | 3.17 | 26.9 | 64 | 3.30 | 35.8 |

¹ Specific types of buildings under each functional classification (instructional, research, general, auxiliary, and residential) are itemized in appendix B.

Types of Security Pledged

Public and private institutions are usually required to pledge specific revenues or assets as security for debt obligations when borrowed funds are used for the construction of potentially self-liquidating facilities. Primary pledges made for funds borrowed to construct residential and auxiliary buildings during 1951-55 have been analyzed on the basis of the data submitted for this study and are presented in table 25.

For this period, public institutions reported 238 bond issues for residential facilities and private institutions reported 162. In each instance, more than 80 percent (public, 88.2; private, 81.5) of the issues were secured by the pledge of "revenues from income-producing properties." For both public and private institutions, no more than 4 percent of the issues were secured by any of the

other types of security listed except "mortgage on property" in the private group, 11.1 percent.

Although revenues from income-producing properties were also the major type of security given by both public and private institutions for funds borrowed for the construction of auxiliary facilities, some other categories were proportionately more important than in the financing of residential facilities. For the public group, the revenues from income-producing properties were the primary security pledged for 49 percent of the issues; student fees, for 31 percent; and full faith and credit of the State, for 10 percent. Private institutions pledged revenues from income-producing properties as the major security for 63 percent of their auxiliary facilities bond issues, and a mortgage on property was given as security for 25 percent of the issues.

Table 25.—Frequency with which various types of revenues, assets, or credit were pledged as primary security by higher education institutions for funds borrowed to construct residential and auxiliary buildings:¹ aggregate United States, 1951–55

| Type of security pledged | Total public and private | | | Public | | | Private | | |
|--|--------------------------|-------------|-----------|--------|-------------|-----------|---------|-------------|-----------|
| | Total | Residential | Auxiliary | Total | Residential | Auxiliary | Total | Residential | Auxiliary |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Total responses..... | 467 | 400 | 67 | 289 | 238 | 51 | 178 | 162 | 16 |
| Revenues from income-producing properties..... | 377 | 342 | 35 | 235 | 210 | 25 | 142 | 132 | 10 |
| Mortgage on property..... | 27 | 20 | 7 | 5 | 2 | 3 | 22 | 18 | 4 |
| State (full faith and credit)..... | 14 | 9 | 5 | 14 | 9 | 5 | 2 | 1 | 1 |
| Student fees..... | 20 | 3 | 17 | 18 | 2 | 16 | 1 | 1 | 1 |
| Endowments..... | 1 | 1 | — | — | — | — | 3 | 2 | — |
| Institutional investments..... | 8 | 7 | 1 | 5 | 5 | — | 3 | 3 | — |
| Credit of institution..... | 9 | 9 | — | 6 | 6 | — | 2 | 2 | — |
| Other..... | 5 | 3 | 2 | 3 | 1 | 2 | 2 | 2 | — |
| No security pledged..... | 6 | 6 | — | 3 | 3 | — | 3 | 3 | — |

¹ Specific types of buildings classified under residential and auxiliary are itemized in appendix B.

Summary

The following statements summarize the data on capital facilities expenditures, exclusive of costs of campus improvements and equipment, between

January 1, 1951, and December 31, 1955, reported by 1,382 colleges and universities of the United States:

Cost of Buildings

1. Higher education institutions in the United States and its territories reported expenditures of \$1,782,572,000 for the construction of 3,272 physical facilities during the years 1951 through 1955. Of this amount, \$812,370,000 was spent for 1,189 instructional buildings, \$485,863,000 for 1,031 residential structures, \$260,125,000 for 582 general facilities, \$125,111,000 for 277 auxiliary units, and \$99,103,000 for 193 buildings devoted to research.

2. Universities spent 54 percent of the total funds expended for all buildings constructed by reporting institutions during the 5-year span—liberal arts colleges, 26 percent; teachers colleges, 10 percent; and all others, 11 percent.

3. The Northeast region accounted for slightly less than one-half of the total capital outlay of the private institutions.

4. The Northeast also exceeded all other geographic regions in total dollars expended for research structures and in the percentage of total construction funds allocated to research facilities.

5. Public institutions spent over \$51 million for research buildings, over \$20 million of which was expended by institutions in the West; private institutions expended a somewhat comparable sum, over \$48 million, for this type of facility. Over \$33 million of that amount was spent by private institutions in the Northeast.

6. Sixty-one percent of the total expenditures of public institutions for research facilities were made by universities located in two geographic regions: West (31 percent) and North Central (30 percent). Approximately the same percent of the total expenditures of private institutions for this type

of facility were made by universities and liberal arts colleges located in the Northeast (60 percent).

7. Forty-five percent of the total construction disbursements were for instructional buildings, 27 percent for residential, 15 percent for general, 7 percent for auxiliary, and 6 percent for research.

8. Sixty percent of the expenditures for auxiliary facilities constructed by private institutions were made by colleges and universities enrolling less than 2,000 full-time students, while 54 percent of the expenditures for this type of facility constructed by public institutions were made by those enrolling from 2,000 to 9,999 students.

9. Slightly more than two-thirds of the units constructed during the 5-year period were instructional and residential buildings. Together, they accounted for about three-fourths of the total capital expenditures.

10. Seventy percent of the expenditures for instructional buildings in the continental United States were made by public colleges and universities and 30 percent by private.

11. Junior colleges in the West spent more than four-fifths of their capital funds for instructional buildings.

12. In the Northeast, private institutions spent 43 percent more for the construction of research buildings in the biological and physical sciences than was spent for this purpose by all other institutions, both public and private, in the continental United States.

13. In general, less was spent in each region on research facilities for engineering than for other major fields of research.

14. Colleges and universities in the continental United States spent 51 percent of their residential funds for facilities for single men, 39 percent for single women, 5 percent for married students, 3 percent for faculty and staff, and 3 percent for other housing.

15. The North Central region, with a proportionately greater number of large public institutions offering substantial graduate programs spent two and one-half times as much as all other regions for residential facilities for married students.

16. The South led all other geographic regions in expenditures for faculty residential facilities;

more than one-half of their regional total for faculty housing was spent by liberal arts colleges.

17. The South also exceeded all other geographic regions in dollar disbursements for health facilities.

18. According to responses, private institutions whose average enrollment was 45 percent of the average enrollment of public institutions, were more likely to construct a building serving two or more basic functions than were the public institutions.

19. Funds spent for general buildings were primarily for multipurpose buildings and for power and heating plants.

Financing of Buildings

1. Over one-half of all construction funds for public institutions were obtained from governmental appropriations (54 percent); the remainder from bond issues (32 percent), gifts and grants (4 percent), taxes (2 percent), and other sources (9 percent). In contrast, over one-half of all construction funds for private institutions were obtained from gifts and grants (56 percent); the remainder from the issue of bonds (12 percent), current funds (10 percent), appropriations from governmental units (5 percent), and other sources (17 percent).

2. Public institutions received about 66 percent of their capital funds for residential construction from the issuance of revenue bonds; private institutions, about 33 percent.

3. For all types of construction, financial lending institutions other than banks provided 44 percent of the total funds borrowed by public institutions and the Housing and Home Finance Agency provided 76 percent of the total funds borrowed by private institutions.

4. Slightly more than 85 percent of funds borrowed for construction by private institutions were for residential facilities.

5. Total capital expenditures in 1955 were slightly more than double the total capital expenditures of 1951 while 1955 borrowings increased almost three and one-half times those of 1951.

6. In comparison with public institutions, private institutions of higher education were at a disadvantage in borrowing funds for the construction of physical plant facilities. During 1951-55 public institutions borrowed for an average interest rate of 2.85 percent while for substantially the same amortization period private institutions paid an average interest rate of 3.66 percent—a rate of interest approximately 28 percent higher.

7. Average interest rates and average amortization periods on borrowings for residential construction during this 5-year span showed a more substantial trend toward equality for public and private institutions than was indicated by borrowings for auxiliary facilities. This is believed to be attributable to the College Housing Program of the Federal Government, which provides loan funds at a low interest rate for long amortization periods. It was not until late 1955 that auxiliary facilities qualified under this program.

8. More than 80 percent of the bond issues for the construction of residential facilities reported by both public and private institutions were secured by the pledge of revenues from income-producing properties. In contrast, bond issues for the construction of auxiliary facilities were secured by the pledge of revenues from income-producing properties to a lesser degree—63 percent of the issues of private institutions and 49 percent of the public.

Appendix

A. Transmittal Letter, Questionnaire Form, Definitions and Instructions

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON 25, D. C.

May 25, 1956

To the President:

The assistance of your institution is needed again in providing an essential service to the colleges and universities of the country. The Office of Education has accepted responsibility for compiling information needed in planning and financing buildings and other facilities; however, we cannot do our part of the job until the colleges send us the basic information.

Part I of the survey, which is enclosed, is concerned with planning, financing, and projecting facilities requirements of the institution to 1970. (The extra set is for your work or file copy.) Schedule 1 calls for information on facilities planning related to present plant, program, and enrollment. Schedule 2 seeks information on methods used to finance buildings during the past five years. Schedule 3 calls for information on plans for the future development of capital facilities. It is recognized that, depending upon your staff organization, your coordinator may refer the schedules to different staff members.

Due to budgetary limitations and uncertainties, we are withholding the mailing of Part II of the questionnaire at this time. This part calls for a comprehensive inventory of plant facilities. If you would like to see a copy of this form now for your own inventory purposes, please let us know.

The schedules and inventory material have undergone considerable study and try-out. Stream-lining and simplification have resulted from the advice and criticism of more than 100 college and university administrators, the secretariat of all college associations having headquarters in Washington, and two national advisory committees to the Office of Education on research. All have endorsed the objectives of this survey.

Please use the enclosed card (which requires no postage) to let us know you will participate, and to whom you have assigned coordinating responsibility. Dr. W. Robert Bokelman, Specialist for College Business Management, will be in immediate charge here.

We hope that your staff will find it possible to supply the information requested within the next few weeks.

Sincerely yours,

Lloyd E. Blanch
Lloyd E. Blanch
Assistant Commissioner
for Higher Education

Ernest V. Hollis
Ernest V. Hollis
Project Director

COLLEGE AND UNIVERSITY FACILITIES SURVEY

Form RSH 58

COLLEGE AND UNIVERSITY FACILITIES SURVEY

Budget Bureau No. 51-5603
Approval expires 9-30-57Part I Planned Facilities

SCHEDULE 2 METHODS USED TO FINANCE BUILDINGS COMPLETED AND/OR PUT IN USE BETWEEN JANUARY 1, 1951 AND DECEMBER 31, 1955

(Name and title of person furnishing information)

(Name of building)

(Name of institution)

(NOTE: When the word "code" appears, refer to the instructions for guidance.)

| (1) Primary function (code) | (2) Amount received from appropriations | | | |
|--------------------------------------|---|------------------|--------|---------------------------|
| | State legislature | Local government | Amount | Federal government Agency |
| | \$ | \$ | \$ | |

| (5) Amount received from local and state tax levies on real property | | (7) Amount received from special earmarked (non-property) tax | |
|--|-------|---|-------|
| Local | State | Local | State |
| \$ | \$ | \$ | \$ |

| (10) Amount received from bonds issued as obligations of the | | (12) Institution | |
|--|-------|------------------|--|
| Local government | State | | |
| \$ | \$ | \$ | |

| (13) Amount received from obligations in the form of revenue bonds being amortized by | | (15) Other | |
|---|--------------|------------|------------------|
| Project operating income | Student fees | Amount | Source (specify) |
| \$ | \$ | \$ | |

| (17) Amount of gifts and grants | | (19) Other source of funds | |
|---------------------------------|---------------------------------------|----------------------------|--------|
| | Amount of payments from current funds | Amount | Source |
| \$ | \$ | \$ | |

| (21) Term | | (23) General information on bonds | |
|------------------|--|-----------------------------------|--|
| Rate of interest | | Major security pledged | |
| | | | |

| (24) General information on bonds | |
|-----------------------------------|--------|
| Lending agency(ies) | |
| Amount | Agency |
| \$ | |
| \$ | |
| \$ | |

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, OFFICE OF EDUCATION, WASHINGTON 25, D. C.

Date building completed and/or put in use _____

APPENDIX

Form RSH - 58

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Office of Education
Washington 25, D. C.Budget Bureau No. 51-5603
Approval expires 9-30-57

COLLEGE AND UNIVERSITY FACILITIES SURVEY

Definitions and Instructions, Part I, Planned FacilitiesSCHEDULE 2. METHODS USED TO FINANCE BUILDINGS COMPLETED AND/OR PUT IN USE BETWEEN
JANUARY 1, 1951 AND DECEMBER 31, 1955General Instructions:

1. In this schedule, include only those buildings completed and/or put in use between January 1, 1951 and December 31, 1955. The purpose of this schedule is to determine how construction completed within the past five years has been financed.
2. Each individual building should be reported on a separate Schedule 2 sheet. Identifying information should be placed at the top of the schedule including the name and title of the person furnishing the information, the name of the building, and the name of the institution.
3. The numbers in the left margin of these instructions refer to the item numbers of Schedule 2.

Detailed Instructions:

1. PRIMARY FUNCTION: As far as it is applicable, use one of the categories listed below to indicate a building's primary function. Place in the box the number of the description which most closely identifies the building. If none of these are descriptive, you may write in your own term. If a building serves approximately equally two or more basic functions, such as instructional and administrative, it should be designated as "multi-purpose" (#73).

Instructional facilities

- 10--Educational laboratory (demonstration school)
- 11--Fieldhouse
- 12--Gymnasium
- 13--Home management laboratory house
- 14--Instructional (academic)
- 15--Library
- 16--Museum
- 17--Instructional laboratories
- 18--Swimming pool
- 19--Teaching hospital
- 20--Other instructional

Research facilities

- 30--Agriculture
- 31--Astronomy
- 32--Biological
- 33--Chemistry
- 34--Mathematics and statistics
- 35--Physics
- 36--Other physical sciences
- 37--Social sciences
- 38--Dentistry
- 39--Engineering
- 40--Medicine

Residential facilities

- 50--Faculty apartments
- 51--Faculty and staff houses
- 52--Fraternity and sorority houses
- 53--Hotel-type accommodations
- 54--Married student apartments
- 55--Men's residence hall
- 56--Women's residence hall
- 57--Other residential

General facilities

- 60--Administration building
- 61--Armory
- 62--Auditorium
- 63--Auxiliary enterprises building: bookstore, printing shop, etc.
- 64--Chapel
- 65--College union or student center
- 66--Extension service and experiment station
- 67--Faculty club and facilities
- 68--Food facilities
- 69--Garage (vehicle storage)
- 70--Hospital (non-teaching)
- 71--Infirmary (student health)
- 72--Maintenance (shops, stores, and services)
- 73--Multi-purpose
- 74--Office building
- 75--Stadium
- 76--Theater
- 77--Power and heating plant
- 78--Warehouse
- 79--Other general

-2-

- 2-5 AMOUNT RECEIVED FROM APPROPRIATIONS: Report here grants received, not loans that are to be repaid.
- 2 STATE LEGISLATURE: Report the amount received from State legislative appropriations to finance or assist in financing this building.
- 3 LOCAL GOVERNMENT: Report an appropriation amount received from a local governmental agency, such as a city, county, or district, to finance or to assist in financing this building.
- 4 FEDERAL GOVERNMENT, AMOUNT: Report any grant received from a Federal source to finance or assist in financing this building. Do not include loans that must be repaid.
- 5 FEDERAL GOVERNMENT, AGENCY: Report the agency through which any Federal grant was received to finance or to assist in financing this building.
- 6-7 AMOUNT RECEIVED FROM LOCAL AND STATE TAX LEVIES ON REAL PROPERTY: Report here the amounts received from tax levies that were used in financing this building.
- 6 LOCAL: Report the amount received from a local school district (city, county, or other district unit), or from a municipal tax levy, that was used in financing this building.
- 7 STATE: Report the amount received from a State tax levy that was used in financing this building.
- 8-9 AMOUNT RECEIVED FROM SPECIAL EARMARKED (NON-PROPERTY) TAX: Report here the amounts received from special, earmarked taxes levied by the State, or by a local district (city, county, or other district unit), or by a municipality to assist in financing this building. Such special earmarked assessments might include such taxes as poll, sales, severance, or wage, but should not include levies on real property.
- 8 LOCAL: Report the amount of earmarked funds received from a local school district, or from a municipality, to assist in financing this building.
- 9 STATE: Report the amount of earmarked funds received from the State to assist in financing this building.
- 10-12 AMOUNT RECEIVED FROM BONDS ISSUED AS OBLIGATIONS OF THE: Report here the amount received from bond issues which are to be repaid by the State, by the local governmental unit, or by the institution.
- 10 LOCAL GOVERNMENT: Report the amount received from a bond issue of a local (city, county, or district) governmental unit that financed or assisted in financing this building.
- 11 STATE: Report the amount received from a bond issue of the State that financed or assisted in financing this building.
- 12 INSTITUTION: Report the amount received from a bond issue of your school that financed or assisted in financing this building.
- 13-16 AMOUNT RECEIVED FROM OBLIGATIONS IN THE FORM OF REVENUE BONDS BEING AMORTIZED BY: Report here the amount of the cost of this building which was financed wholly or in part through self-liquidating bonds.
- 13 PROJECT OPERATING INCOME: Report the amount received from revenue bonds which are being repaid from operating income of this building.
- 14 STUDENT FEES: Report the amount received from revenue bonds which are being repaid by a building or other fee assessed upon the student body.
- 15 OTHER AMOUNT: Report the amount received from revenue bonds which are being repaid by means other than project operating income or student fees.
- 16 OTHER SOURCE (SPECIFY): Report the source of income for repaying these bonds.
- 17 AMOUNT OF GIFTS AND GRANTS: Report the amount received from private and other non-governmental donors, and used in financing the cost of this building.
- 18 AMOUNT OF PAYMENTS FROM CURRENT FUNDS: Report the amount paid directly from current educational and general funds or transferred from unexpended budget balances of current educational and general funds, and used in financing or assisting in financing this building.

-3-

- 19 OTHER SOURCE OF FUNDS AMOUNT: Report the amount received from other sources than those designated by specific headings in financing this building.
- 20 SOURCE: Report the source of these funds.
- 21-24 GENERAL INFORMATION ON BONDS: Report here information on the bond issues which provided money for the construction of this building. If more than one bond issue was used to finance this building, report the information requested in a footnote. Indicate the bond issues to which the information applies.
- 21 TERM: Report the maximum number of years which the bonds may be outstanding.
- 22 RATE OF INTEREST: Report the rate of interest which is being paid on these bonds.
- 23 MAJOR SECURITY PLEDGED: Report the major security pledged guaranteeing repayment of these bonds. If more than one type of security is pledged, report the major one. Do not report the primary source of income, such as project operating income or student fees.
- 24 LENDING AGENCY (IES): Report the agency or agencies that purchased these bonds. If more than one agency purchased the bonds, indicate the amount purchased by each.

B. Definition of Terms Used in Classification of Data

The following definitions apply to the classifications used in the analyses of the data presented in the report

Geographic Regions

The classifications used for geographic regions were: *Northeast, North Central, South, West, and outlying parts of the United States.*

Outlying parts of the United States include Alaska, Canal Zone, Guam, Puerto Rico, and the Territory of Hawaii.

Data pertaining to the U. S. Service Academies have been extracted from their geographic regions and treated as an independent classification supplementary to the geographic regional classifications.

Totals for the aggregate United States as used in this report include data from institutions of higher education in the continental and outlying parts of the United States, including the U. S. Service Academies.

Institutional Control

Institutions have been classified by two types of institutional control—publicly controlled and privately controlled institutions. Throughout the report, publicly controlled and privately controlled institutions have been referred to simply as public and private institutions.

Public Institutions.—Those controlled by any one of the following governmental bodies—Federal, territorial, district, State, county, city, municipal, or township.

Private Institutions.—Those controlled by the church or by either individuals or groups which are independent of both government and church.

Types of Institutions

For purposes of this survey, institutions of higher education have been classified into seven curricular-organizational types:

University—an institution which gives considerable stress to graduate instruction, which confers advanced degrees in a variety of liberal arts fields, and which has at least two professional schools that are not exclusively technological.

Liberal Arts College—as differentiated from a university, an institution in which the principal emphasis is placed on a program of general undergraduate education.

Independent Technological Institute—a four-year institution which is not affiliated with a university and which offers a program of training which is predominantly in technical and physical science disciplines.

Theological School—an institution which is not affiliated with a university and which offers a specialized program in religion and theology.

Other Independent Professional School—an institution (other than Teachers College, Technological Institute, or Theological School) which is not affiliated with a university and which offers a program directed to one or more fields of specialization, such as law, medicine, music, and arts.

Teachers College—a separately organized professional school, not affiliated with a university, which offers a program primarily devoted to teacher training.

Junior College—an institution which does not offer the full four-year curriculum, usually limiting its offering to current curriculums that can be completed in two years beyond the high school. Two-year technical institutes are also included in this category.

Enrollment Classifications

The enrollment figures used in classifying data by size of institution were based on full-time enrollments reported for the spring term 1955-56 in Schedule 1 of the College and University Facilities Survey.

Function of Building

Throughout the report, the functional uses of buildings were classified under five headings—instructional, research, general, auxiliary, and residential. In general, the classifications follow the Primary Functions listed in the *Definitions and Instructions* which accompanied the questionnaire forms (appendix A). However, during the analysis of the data, auxiliary type buildings were segregated from the classification of "General facilities" and were placed in a separate functional category, "Auxiliary facilities."

The buildings classified under the five functional headings throughout the report are as follows:

Instructional Facilities

Educational laboratory (demonstration school)
Fieldhouse
Gymnasium
Home management laboratory house
Instructional (academic)
Library
Museum
Instructional laboratories
Swimming pool
Teaching hospital
Other instructional

Research Facilities

Agriculture
Astronomy
Biology
Chemistry
Mathematics and statistics
Physics

Other physical sciences
Social science
Dentistry
Engineering
Medicine

General Facilities

Administration building
Armory
Auditorium
Chapel
Faculty club and facilities
Hospital (nonteaching)
Office building
Stadium
Power and heating plant
Multipurpose (buildings serving more or less equally two or more basic functions).
Other general

Auxiliary Facilities

College union or student center
Infirmary (student health)
Food facilities
Other auxiliary enterprises (such as bookstores, printing shops, and other buildings housing auxiliary enterprises).

Residential Facilities

Faculty apartments
Faculty and staff houses
Fraternity and sorority houses
Hotel-type accommodations
Married student apartments
Men's residence hall
Women's residence hall
Other residential

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U.S. Office of Education.
College and university facilities survey. Pt.1: cost and ...

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