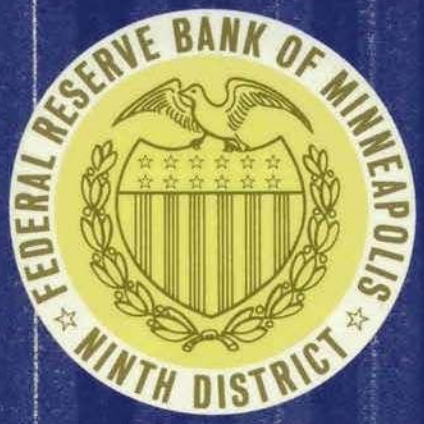
9TH DISTRICT ECONOMIC INFORMATION SERIES



HIGHER EDUCATION IN THE NINTH DISTRICT

INSTITUTIONS, ENROLLMENT, CAPITAL EXPENDITURES

Additional copies of
Higher Education in the Ninth District
may be obtained from the
Director of Public Information
Federal Reserve Bank of Minneapolis
Minneapolis, Minnesota 55440

9TH DISTRICT ECONOMIC INFORMATION SERIES

HIGHER EDUCATION IN THE NINTH DISTRICT

INSTITUTIONS, ENROLLMENT, CAPITAL EXPENDITURES

LIZBIE GEE-SUN LIN
FEDERAL RESERVE BANK OF MINNEAPOLIS

NINTH DISTRICT ECONOMIC INFORMATION SERIES
FEDERAL RESERVE BANK OF MINNEAPOLIS
JUNE, 1968

FOREWORD

The Ninth District Economic Information Series is published by the Federal Reserve Bank of Minneapolis to illuminate economic and geographic areas of the Ninth District economy we believe to be of particular interest. Although each study is published in considerable depth, each is reflective of a broader comprehensive research effort on the subject, conducted either within the research department of this bank or in conjunction with one of the educational institutions of the region.

"Higher Education in the Ninth District" examines the level of capital spending to house expanding numbers of Ninth District college and university students. We hope the information will be useful to District academicians, builders and bankers, and of interest to the public in general.

Hugh D. Galusha, Jr.
President

9TH DISTRICT ECONOMIC INFORMATION SERIES

CONTENTS

Introduction 4

Background
— Ninth District Higher Education 6
Institutions, Number and Type 7
Student Enrollment 8
Educational and General Expenditures by Colleges and Universities 8
Cost of Educating Students 9

Capital Investment for District Higher Education 10
Sources of Plant Funds 10
Uses of Plant Funds 12
Expenditures for Additions to Plant 12
Capital Outlays and Indebtedness of State Governments for Higher Education 14
Federal Financing of Educational Facilities . . 15
Title I Grants 17
Title II Grants 18
Title III Financing 19
Title VI-A Grants 19

Projected Enrollment and Capital Expenditures — Ninth District 20
Enrollment, 1968-1980 20
Estimated Capital Expenditures, 1965-1970 . . . 20
Adequacy of Plant Facilities — Past and Future 25

Summary 28

Bibliography 29

FIGURES

1. Institutions of Higher Education in the Ninth District — Location and Type 6
2. Opening (Fall) Enrollment of Resident and Extension Degree-Credit Students by State — Ninth District 8
3. Plant Fund Receipts by Source, Ninth District Institutions 11
4. Total Expenditure for Additions to Physical Plant by State and Annual Percentage Increase, Ninth District 13
5. State Government Capital Outlay for Ninth District Higher Education, 1951-66 and Projections 15
6. State Long-Term Debt Outstanding to Finance Ninth District Higher Education, Fiscal Year End 1951-66 16
7. Actual and Projected Degree-Credit Students — Ninth District 21
8. Estimated Capital Expenditures, Ninth District, 1965-70 by Source of Funds 22
9. Estimated Capital Expenditure Distribution for Ninth District Construction Projects 1965-70 by Type of Facility, 4 States 23
10. Estimated Total Cost of Ninth District Construction by Year of Completion — 4 States 23

TABLES

1. Educational and General Expenditures for Higher Education — Ninth District 8
2. Number and Cost of New Construction and Rehabilitation Projects Completed, Ninth District Campuses — 1956-64 14
3. Federal Grants and Loans in the Ninth District Under the Higher Education Facilities Act of 1963 and the Higher Education Act of 1965 17
4. Projected Total Degree-Credit Students — Ninth District 21
5. Estimated Expenditures for Planned Buildings and Campus Improvement Projects 1965-70 — Ninth District 23
6. Estimated Capital Expenditures of Ninth District Public Institutions 1965-70 by Source of Funds 24
7. Estimated Capital Expenditures of Ninth District Private Institutions 1965-70 by Source of Funds 25
8. Adequacy of Ninth District Academic Facilities in 1965 Related to Student Enrollment 26
9. Estimated Capital Expenditures Needed for Adequate Academic Facilities by 1970 — Ninth District 26

INTRODUCTION

Each year institutions of higher education spend billions of dollars throughout the United States. In recent years, many institutions, especially public schools, rapidly expanded campus facilities in the wake of greatly increased technical research and development efforts, the boom in college student numbers and federal assistance for construction. This report studies capital expenditures of colleges and universities in the Ninth Federal Reserve District, with past, present and future views of fund sources, uses, and financing methods. Finally, impact on the District economy will be reviewed.

This impact will be tremendous — estimated capital expenditures for 1965-70 stand at $653 million in the District. Plant expansion made possible by this money will accommodate a projected enrollment increase from 255,343 in fall, 1967 to 313,500 in 1970 and 397,600 in 1975. Presently there are 124 institutions of higher learning in the District; 69 are public, and 55 are privately controlled.

Where will the money come from? The major sources will be state and federal — state appropriations of $242 million, federal loans of $150 million, and federal grants of $67 million. Other primary sources are expected to be $50 million in private gifts and grants, and $66 million in non-federal loans.

A total of $452 million of the above amounts will be

9TH DISTRICT ECONOMIC INFORMATION SERIES

HIGHER EDUCATION IN THE NINTH DISTRICT

received by the four states which lie wholly within the Ninth District. For 1965-70, college planners foresee 452 projects; half the money will be spent on instructional facilities, one-quarter on residential, and the remainder for auxiliary, general, and research facilities, plus campus improvement.

These projected figures are in line with the trend of increased educational expenditures in the past few years. In the period 1956-64, 420 new construction and rehabilitation projects costing $235 million were completed on District campuses. Capital expenditures for plant additions alone was $68 million in 1963-64, about four times the amount spent in 1953-54.

Part of this increase has come about through greatly expanded federal loans and grants for higher educational facilities, made possible by the enactment of the 1963 Higher Education Facilities Act and the Higher Education Act of 1965. District colleges and universities received $16 million in 1964-65 from this source; $24 million in 1965-66, and $30 million in 1966-67, or 4.0 percent of total federal assistance to higher educational institutions.

The two acts also marked the beginning of federal aid to private institutions. Private institutions in the District received $7 million in federal grants and loans in 1965-66, and $8 million in 1966-67.

State governments have also greatly increased appropriations. Total capital outlay in higher education of the four District states amounted to $55 million in fiscal 1966 — four and one-half times the amount expended earlier. Accordingly, the states' long-term debt for higher education increased each year — $132 million in fiscal 1966, compared to $63 million in 1960 and $21 million in 1956. Montana, North Dakota, and South Dakota had the highest proportional increase in educational expenditures in the Ninth Federal Reserve District in the period 1953-64. Montana's rate was 25 percent biennially, while Minnesota's was 21 percent. None of the District states equalled the national growth rate of 27 percent biennially.

Introductory to this analysis is a brief description of higher educational institutions in the District, and the student numbers they serve. The District contained 3.7 percent of the total student population of the United States in fall, 1967. At the same time, District population totaled 3.3 percent of the United States population.

Most of the statistical data used in this study were collected from publications or preliminary survey results compiled by the Office of Education, United States Department of Health, Education, and Welfare. The analysis is based on the most recent statistics available. While some of the figures are not current, they do provide an indication of Ninth District experience.

BACKGROUND — NINTH DISTRICT HIGHER EDUCATION

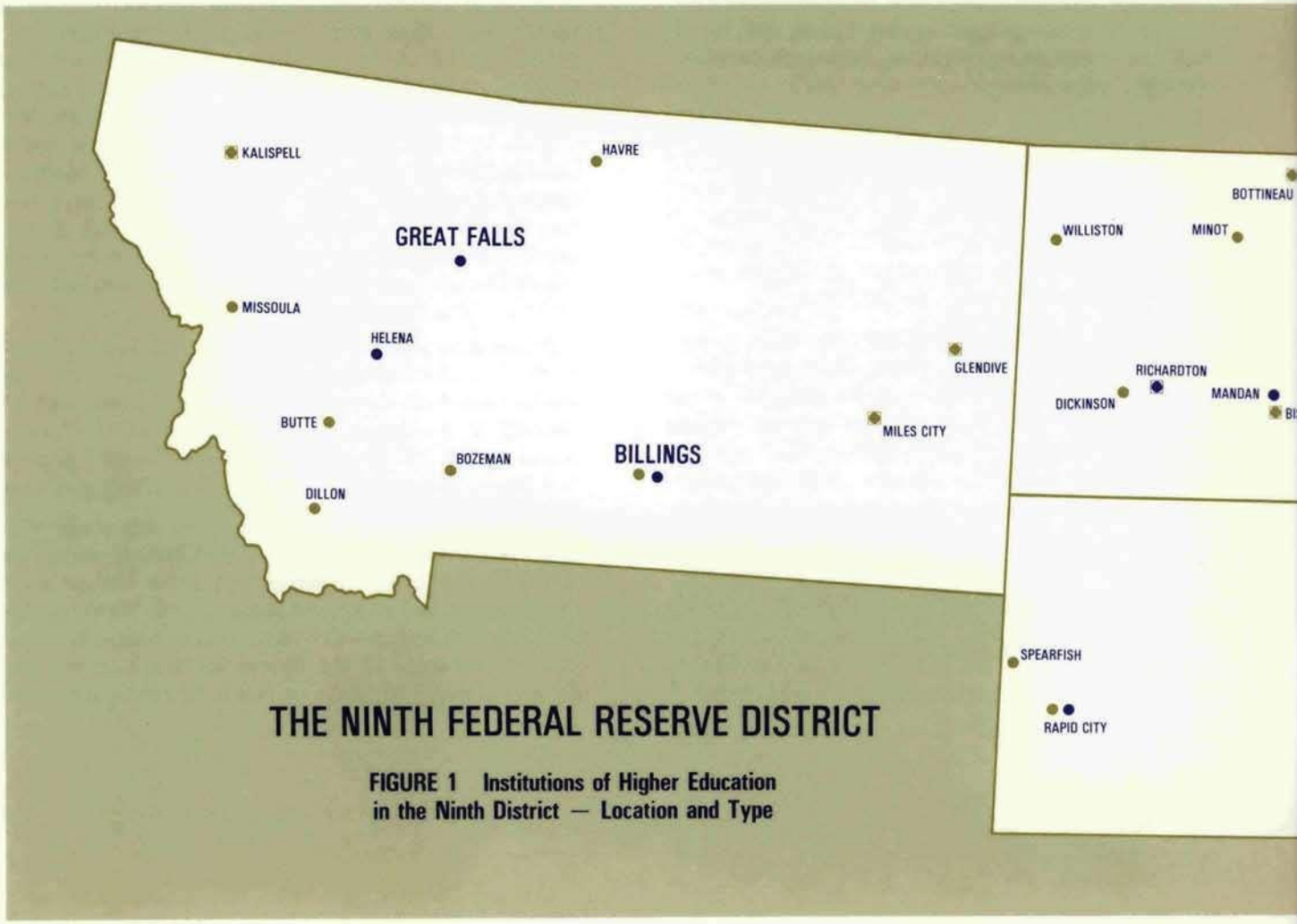


FIGURE 1 Institutions of Higher Education in the Ninth District — Location and Type

Institutions – Number and Type

Institutions of higher education, within the meaning of this analysis, include several types of schools that offer post-high school educational programs. These institutions can be classified according to their educational programs or according to the type of organizations controlling them. Classification by educational program distinguishes two-year institutions – junior colleges, teachers colleges and post-high school technical institutes which offer two but less than four years of instruction – from institutions of higher education which offer programs of four years or more – colleges and universities, teachers colleges, Bible colleges and theological seminaries and professional schools.

Classification by type of control results in two divisions – public and private. Public institutions of higher education are controlled either by state government, as for example a state college, or by local government, such as a community junior college. Private institutions of higher education are controlled by or affiliated in varying degrees with religious groups or are operated as private corporations. These classifications are the same as those used by the U. S. Office of Education.

In the Ninth Federal Reserve District, which is made up of Minnesota, Montana, North Dakota and South Dakota, as well as Upper Michigan and Northwestern Wisconsin, the number of institutions of higher education totaled 95 in 1947. This grew to 103 in 1963, 110 in 1965 and further increased to 124 in 1967-68. The increase of 14 institutions after 1965 occurred primarily in Minnesota. During the past two years, junior colleges mushroomed by nine – seven publicly controlled and two privately controlled. In addition, one public and one private four-year college opened, resulting in a total of 62 higher educational institutions in Minnesota. Two new private colleges were begun in South Dakota and one new public junior college has been started in Montana since 1965.

Figure 1 shows the geographic distribution of higher educational institutions in the Ninth Federal Reserve

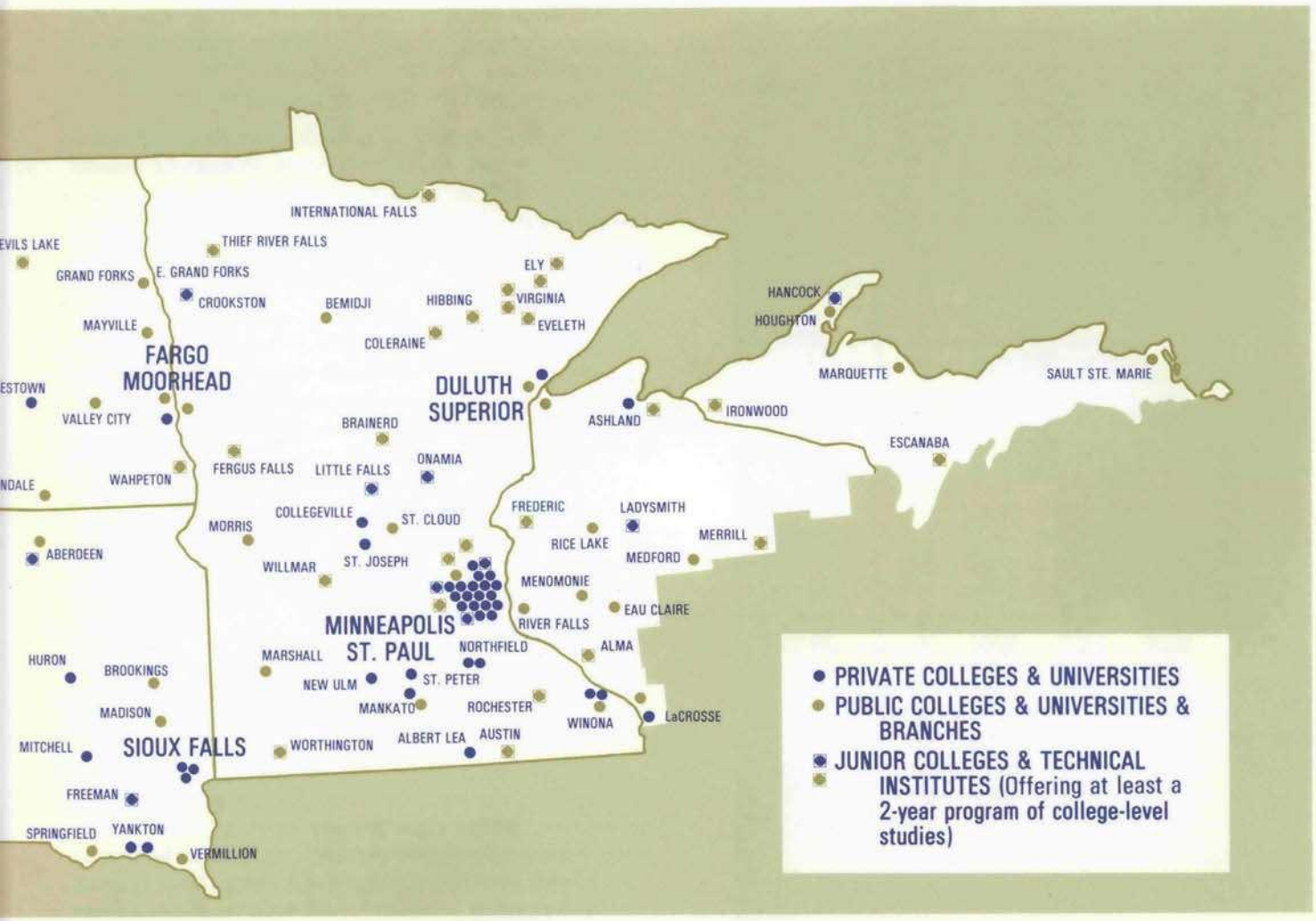
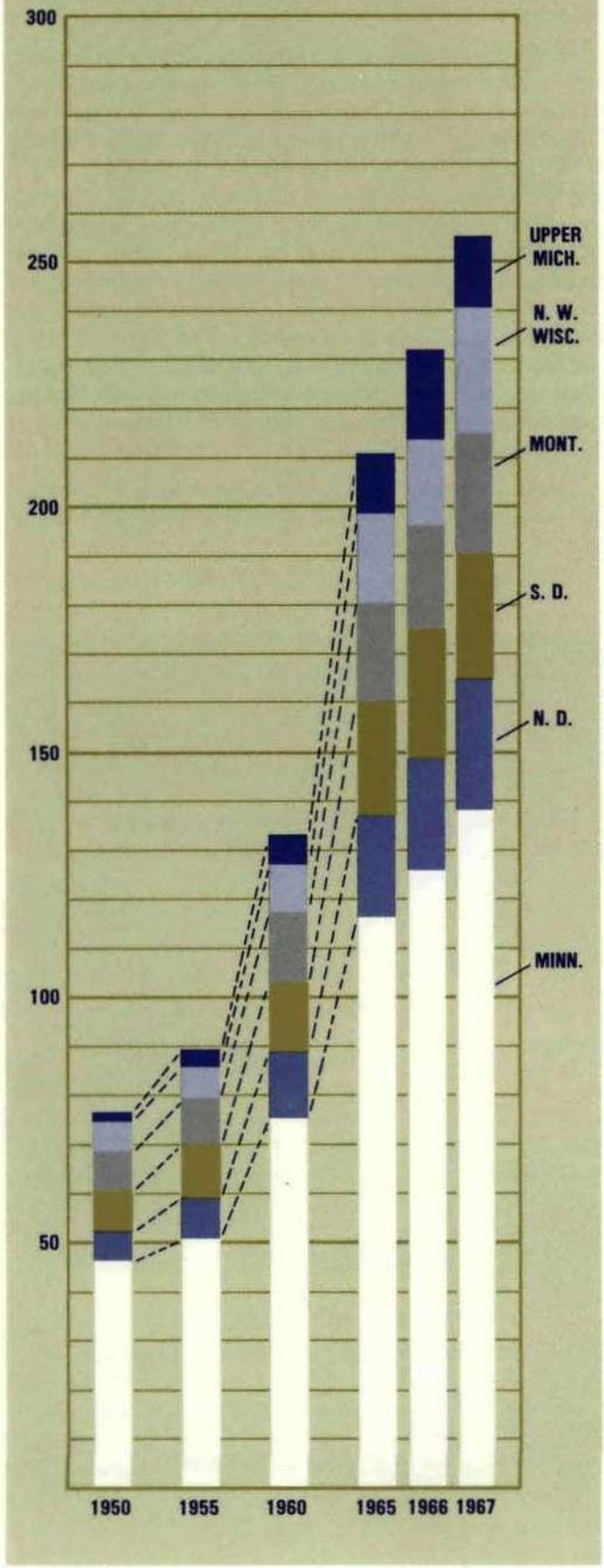


FIGURE 2 Opening (Fall) Enrollment of Resident and Extension Degree-Credit Students by State – Ninth District (1000 Students)



District. The heaviest concentration of institutions is in the more densely populated southeastern corner of Minnesota, especially the Twin Cities metropolitan area.

Of the 124 District institutions in 1967-68, 69 are public and 55 are privately controlled. Eighty-two of the total are four-year colleges and universities and the 42 remaining are junior colleges.

Student Enrollment

According to the Office of Education, enrollment of degree credit students in the Ninth Federal Reserve District for the fall of 1967 was 255,343. This more than doubled the student population of 10 years previous and comprises 3.7 percent of the student population in the U.S. Figure 2 shows the district student enrollment since 1950. Enrollment in the years 1947 to 1950 was relatively high due to the influx of World War II veterans returning to campuses under the GI Bill of Rights. In 1951-53, the Korean War caused a dip in the trend when many eligible college students were in military service. After the Korean War a surge in enrollment took place. Enrollment has grown steadily since then, ranging from an annual increase of 3 percent in 1957 to about 8 percent in each of the years 1961, 1962 and 1963. The peak increase of 14 percent occurred in 1965 after an 11 percent increase in 1964 when students born during the post-war "baby boom" began attending classes. However, in 1966 and 1967, the rate of increase dropped to 10 percent annually.

Of the 1967 total of 255,343 students in the District, slightly over half were enrolled in Minnesota institutions of higher education (Figure 2). Six percent attended Upper Michigan institutions, 10 percent each were enrolled in North Dakota and Northwestern Wisconsin, and 11 and 9 percent enrolled in South Dakota and Montana respectively.

Figure 2 also shows the past 17-year growth in higher education enrollment in each of the District states. Rates of increase in student population in the Ninth District have been greatest in those partial states – Northwestern Wisconsin and Upper Michigan. College enrollment in the Wisconsin and Michigan institutions of higher education more than doubled between 1960 and 1967 and continues to increase rapidly. The total percentage increase in student enrollment for the same period was slightly over 85 percent for the four westerly states in the District.

Educational and General Expenditures by Colleges and Universities

Each year colleges and universities devote most of their monies to educational and general purposes. This category includes expenses for administrative operations, instructional and research programs, extension and public services, libraries, operation and maintenance of physical plant, etc. In the United States, these

TABLE 1 Educational and General Expenditures for Higher Education — Ninth District ($1,000)

	1953-54	1955-56	1957-58	1959-60	1961-62	1963-64
Minn.	51,591	57,792	74,224	90,111	109,002	135,802
N. D.	7,894	8,984	11,729	14,591	18,275	22,302
S. D.	8,481	9,853	13,592	17,096	18,720	22,421
Mont.	7,338	9,333	13,193	15,855	16,722	21,669
Mich.	107,687	140,074	169,426	200,576	234,658	290,761
Wisc.	48,729	56,431	71,642	89,184	113,321	148,624
U. S.	2,252,210	2,732,548	3,545,402	4,443,188	5,692,945	7,466,390
			as per cent of personal income			
Minn.	1.02	1.07	1.21	1.35	1.47	1.63
N. D.	1.02	1.02	1.25	1.49	1.84	1.73
S. D.	.96	1.16	1.24	1.68	1.47	1.66
Mont.	.67	.80	1.04	1.20	1.24	1.36
Mich.	.74	.90	1.00	1.15	1.30	1.40
Wisc.	.78	.86	.96	1.07	1.28	1.54
U. S.	.80	.90	1.02	1.16	1.37	1.61

Source: Biennial Survey of Education, 1955-56, 1957-58
Financial Statistics of Institutions of Higher Education, 1959-60
Unpublished data for 1961-62, 63-64, Office of Education

expenditures more than tripled in the 10-year period from 1953-1963.

Nationally, the average rate of increase in total educational expenditures during this period was about 27 percent biennially to support a respective increase in student numbers of 15 percent. None of the states in the Ninth Federal Reserve District had rates of expenditures this high, while the increase in student numbers — 19 percent — was greater than the national average. Growth in expenditures ranged from 21-25 percent in the six states and portions thereof.

In studies of educational expenditures compared to personal income, some District states reflect higher than national averages. Statistics in the lower part of Table I show ratio of personal income (after taxes) to expenditures for higher education from fiscal years 1953-54 to 1963-64. Three of four full District states exceeded the national average of 1.61 percent. In general, the rising trend of this index indicates that an increasing financial commitment is being made to higher education relative to personal income than in the past.

Cost of Educating Students

A popular index of educational expenditures is the cost of education per student. This varies according to the type and level of education provided. But in general, the estimated educational and general expenditures per degree-credit student in the U.S. were from $1,423 in 1960-61 to $1,609 in 1965-66, according to the U.S. Office of Education. The projected cost per student was $1,738 for 1967-68. Educational and general expenditures comprise only a portion of the cost of educating a student, it should be noted.

Cost figures were calculated by dividing total educational and general expenditures by the corresponding total opening enrollment figure of resident and extension degree-credit students. Applying this method of calculation to colleges and universities in the Ninth Federal Reserve District results in a figure of over $1,000 per student in 1953-54, to more than $1,300 ten years later. In 1963-64, it ranged from $1,300 in South Dakota to $1,580 in Wisconsin. Costs in other states were $1,430 in Minnesota, $1,380 in North Dakota, $1,350 in Montana, and finally, to $1,500 in Michigan — this, compared to a national average that year of $1,646 per student.

Estimates of total costs of educating a student are reflected in "current expenditures" of institutions. Here costs for auxiliary enterprises such as cafeterias, residences and their maintenance, plus student aid expenditures, are added to educational and general expenditures to result in costs of about $2,000 per student for lower division or junior colleges and about $3,000 per student for schools offering graduate and professional programs.

CAPITAL INVESTMENT FOR DISTRICT HIGHER EDUCATION

Capital expenditures, in the form of investment in physical plant, is another important category of expenditure for higher educational institutions. Monies designated for this purpose are usually known as plant funds or capital outlay. Plant funds are used for the purchase of land, construction or acquisition of buildings, improvements other than new construction, acquisition of equipment, major repairs, replacement and renewals and finally for the retirement of plant-fund indebtedness.

Sources of Plant Funds

There are several ways to raise funds for plant expansion and for the retirement of indebtedness: (1) income from governmental agencies and private groups or individuals, (2) transfers from non-plant funds such as current funds, and (3) loans from both public and private organizations.

(1) From public and private sources

During the period 1951-64, income from both public and private sectors of the economy averaged more than half of the total new plant funds. District income from this source nearly tripled during the period, rising from $13.1 million in 1951-52 to $38.9 million in 1963-64 for the states in the Ninth Federal Reserve District (Figure 3). State government was the main source of plant fund income during this period, contributing two-thirds of the total. State appropriations in the District amounted to over $20 million for each fiscal year since 1960.

Private institutions of higher education received most of their income for capital expenditures from private gifts and grants. These sources accounted for 95 percent of their plant fund resources. For the District as a whole, private gifts and grants were the second largest source of plant fund income. They totaled $7.4 million in 1963-64 as compared with $1.3 million 10 years earlier. Grants from the federal government were not significant during the 1953-64 period, but have assumed greater importance with the initiation of new federal programs since then. Since the mid-1950's, total federal grants to District institutions increased gradually from less than $0.1 million in 1955-56 to $2.4 million 10 years later.

A small proportion of District plant-fund income ("other" income in Figure 3), approximately 7 percent, is from student fees, earnings of plant-fund investments and proceeds from sale of plant-fund assets, etc.

(2) Transfers from non-plant funds

Because of increased demand on plant facilities at college campuses, large sums of non-plant funds were transferred and spent each year for additions to plant and equipment. Transfer of other institutional funds to plant funds in 1957-58 was $350,000 and has increased to $2.8 million in 1963-64. This represents .7 percent of total plant funds in 1957-58 and 3.2 percent in 1963-64.

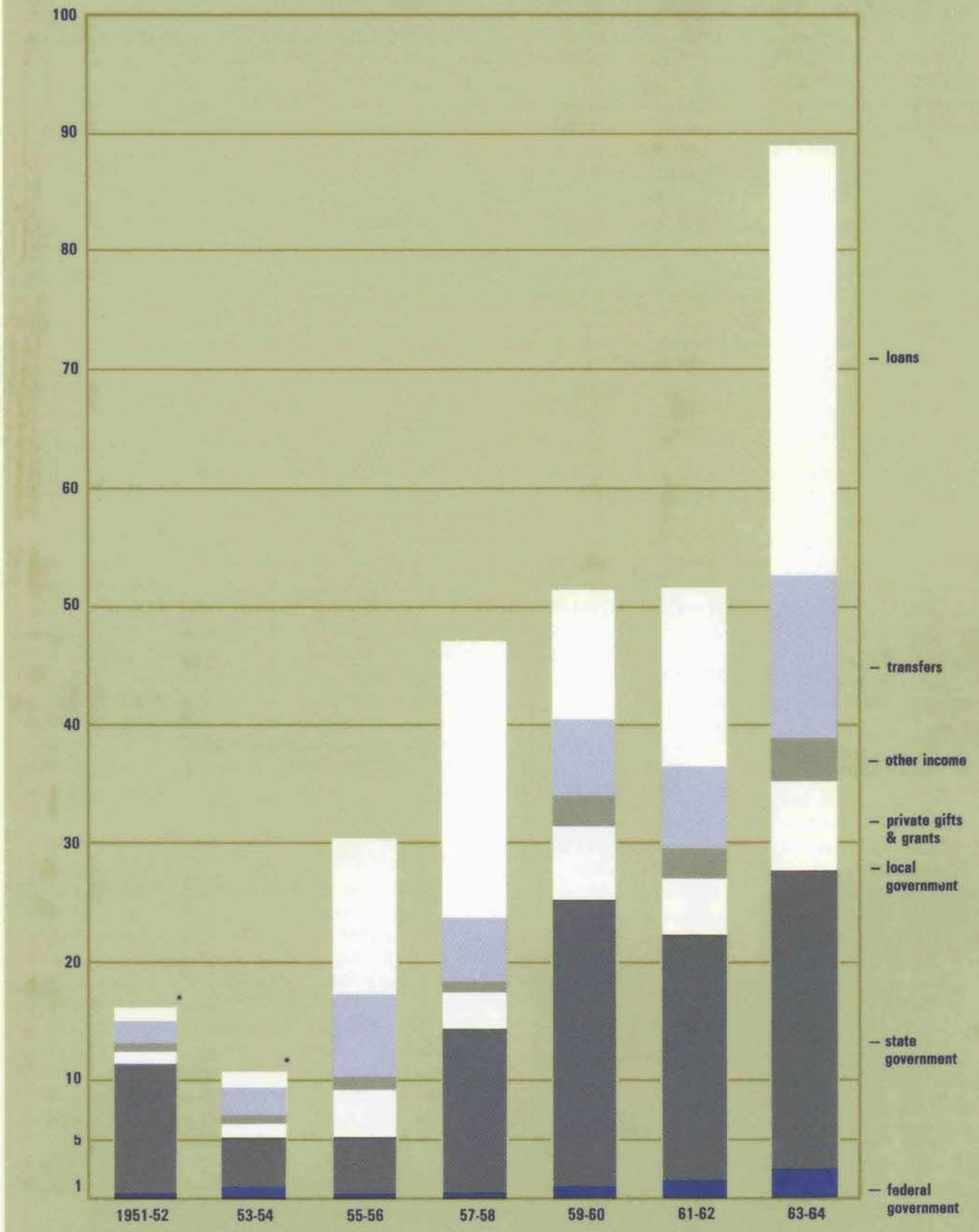
(3) Loans from public and private sources

Total borrowing for plant-fund purposes rose quickly and at a faster pace than the other two sources of receipts (Figure 3). Borrowing amounted to $36.2 million in 1963-64, about 40 percent of total receipts. This contrasts with $1.0 million (6 percent) of total receipts from borrowing in 1951-52. Heavy borrowing first appeared in 1955-56 and 1957-58 when loans accounted for almost half of the total new funds available in these two fiscal years.

Money was borrowed from the federal government, and also obtained through bond issues, mortgages, notes and bank loans. In addition, minor amounts of plant funds were borrowed from institutional monies such as endowment funds. In 1963-64 loans from non-institutional funds totaled $34.5 million, of which the federal government, essentially the Federal Housing and Home Finance Agency, provided about $10.2 million. The rest of the loans were financed through bond issues, mortgages and other non-institutional sources; thus, a variety of funding sources can be found on the same campus. This is especially noticeable for public institutions, while private institutions obtained their funds from fewer principle sources.

However, in 1966 and 1967, both public and private institutions in the District borrowed more heavily than

FIGURE 3 Plant Fund Receipts by Source, Ninth District Institutions ($ millions)



*4-full states only

in earlier years. Reported bond sales by colleges and universities alone amounted to $1.2 billion each year, more than triple the amount borrowed from non-institutional sources in 1963-64. Public institutions issued $983 million in bonds in 1966, carrying an average net interest rate of 3.93 percent and $1,092 million in 1967 with a 3.96 percent rate. The amount sold by private institutions was $239 million with an average net interest rate of 3.50 percent in 1966 and $161 million with 3.14 percent in 1967. Most of the reported bond sales were for residential-dining construction and were purchased by the U.S. Department of Housing and Urban Development.

Public higher educational institutions in the United States are funded chiefly from state appropriations and general bonds issued by state governments for construction of classroom, laboratory, library and other instructional related buildings, reports the U. S. Office of Education. State and federal appropriations are the main sources for research facilities. Residential, dining, and other auxiliary buildings were financed largely by the Federal Housing and Home Finance Agency (HHFA), or by revenue bonds in 1963-64.

At private institutions of higher education, most of the general institutional and research facilities were financed by private gifts and grants. However, in construction of research facilities, the proportion of money available for these facilities from federal sources increased tremendously in the fiscal years 1962-63 and 1963-64. The proportion rose from 8 percent in 1961-62 to 34 percent in 1962-63, and was 27 percent in 1963-64. Housing and other auxiliary buildings at private institutions were largely financed by HHFA, private grants, and loans from commercial sources.

Uses of Plant Funds

Plant funds obtained from the various sources described above were used to improve and to construct buildings and equipment at institutions of higher education. Complete historical data on capital expenditure by colleges and universities in the District are difficult to obtain, and detailed analysis was possible for available data only. This may not give a complete picture of past capital outlay, but it provides some insight into the distribution of capital outlay monies by type of expenditure.

Money expended for capital investment can be roughly divided into three categories: (1) Disbursement for additions to plant, (2) Repayment of capital indebtedness, (3) Other payments including interest on plant indebtedness, transfers, and loans to non-plant funds.

Repayment of capital indebtedness and other payments formed a relatively small share of total capital expenditures, 15 percent, and were financed entirely from plant funds. The majority of the capital outlay, nearly 85 percent, was expended for additions to physical plant.

Expenditures for Additions to Plant

Total expenditures for additions to plant increased heavily during the past 20-year period paralleling increased student enrollment in the District (Figure 4). According to the 1957-64 data, plant funds supported over 80 percent of the total cost of plant additions or expansions. In 1963-64 a total of $68.3 million was spent for plant construction and related costs, of which $57.2 million was paid from plant funds. The total cost in 1957-58 was $38.6 million. Expenditures in the states of the District roughly parallel enrollment patterns.

(a) Plant fund expenditure by type of asset

Expenditures for plant additions are used for the following purposes:

1. Acquisition of land
2. Construction or improvement of buildings (including fixed equipment)
3. Improvements other than buildings (utility lines, landscaping, etc.)
4. Purchase of equipment including laboratory and office equipment and machinery, trucks, farm implements, furnishings, library books, non-laboratory livestock, etc.

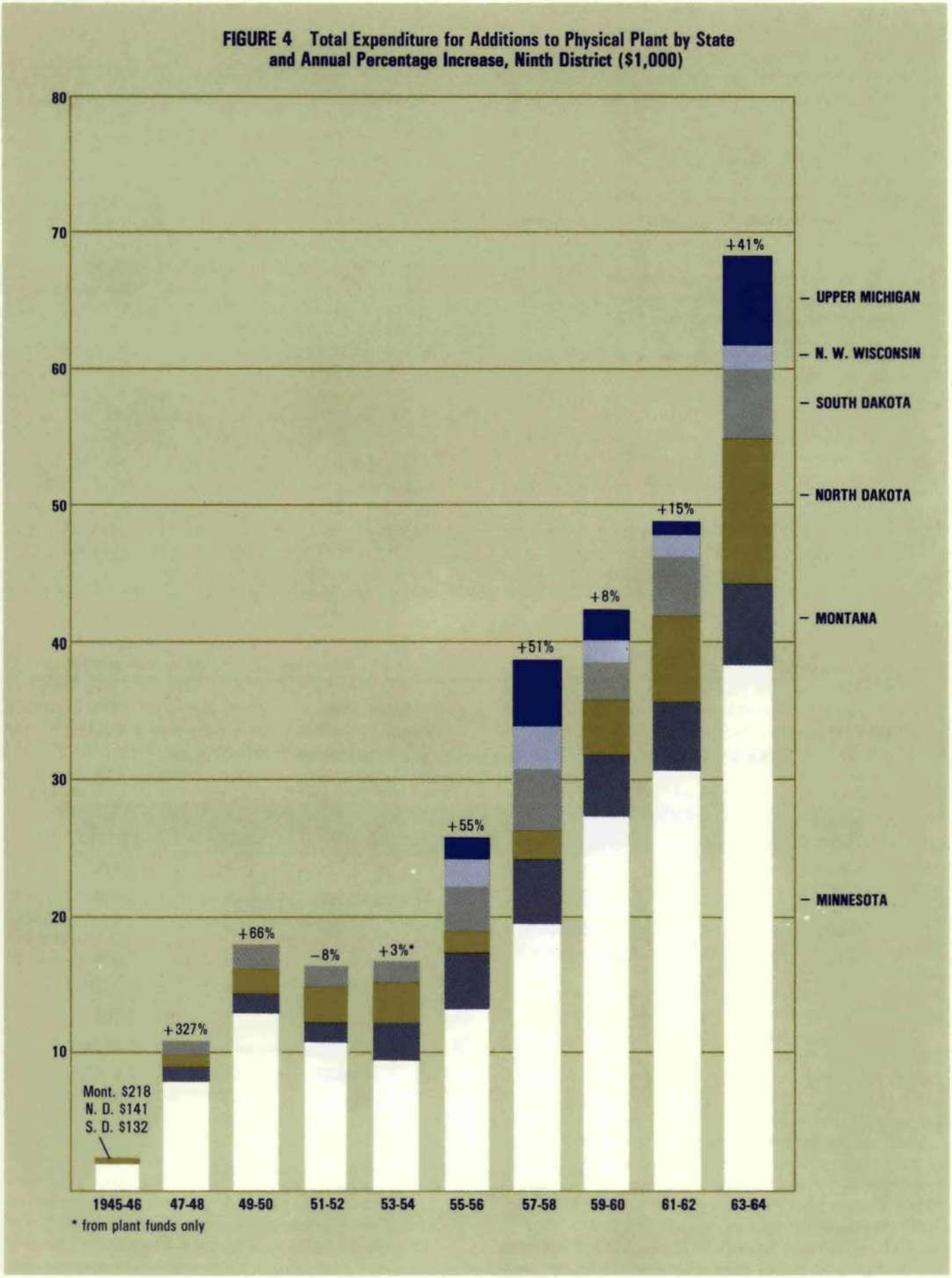
Total plant fund expenditures for asset additions expanded from $33.2 million in 1957-58 to $50 million in 1961-62 to $57.2 million in 1963-64. During this period, the annual cost of land acquisition amounted to $1.5 million, or 3 percent of the total each year. New construction and rehabilitation of buildings took the major share of plant expansion funds, approximately 85 percent of the total. In 1963-64, $51.0 million was spent on buildings, a figure almost double the 1957-58 total of $28.6 million. During the 1957-64 period, plant funds used for non-building improvements and the purchase of equipment averaged about $1.5 million and $3.5 million per year respectively, representing around 3 and 4 percent of plant-fund expenditures.

Expenditures for equipment declined from 26 percent of total plant fund expenditures in 1953-54 to 10 percent in 1959-60 and down to 4 percent in 1963-64. Most of the decline was picked up by an increase in the amount devoted to building expenditures. The reason for the relative decline was the surge of students seeking a college education. As a consequence, new construction took priority over equipment purchases. Then, too, equipment costs became a part of the total cost of the new facilities in many instances. Private schools spent a relatively larger portion of their plant-fund expenditures for educational equipment.

(b) New construction and rehabilitation completed in District

"New Construction and Rehabilitation on Campuses" has been reported by the U. S. Office of Education for the period 1956-64, giving detailed figures as reported

FIGURE 4 Total Expenditure for Additions to Physical Plant by State and Annual Percentage Increase, Ninth District ($1,000)



by schools in each state. Figures for Ninth District states are shown in Table 2.

Expenditures for construction and rehabilitation can also be classified by the primary functions of the buildings. Construction facilities, thus, can be roughly divided into five groups:

1. *Instructional* — classroom, laboratory, gymnasium, library, teaching, hospitals, etc.
2. *Research* — facilities for research in agriculture, biology, physical science, social science, medical science, etc.
3. *General* — administration buildings, auditorium, chapel, maintenance shops, power and heating plant, education office buildings, stadium, etc.
4. *Residential housing* — faculty, staff, married students' apartments, men's and women's residence halls, etc.
5. *Other auxiliary facilities* — college union, food or dining halls, infirmary, etc.

During the period 1956-64, most of the construction activity in the Ninth District was concentrated on residential and instructional buildings with an average of $27 million expended per year. Forty-two percent was devoted to residential, 37 percent to instructional buildings.

Capital Outlays and Indebtedness of State Government for Higher Education

Annual state government statistics related to capital expenditures in higher education are reported in the *Compendium of State Government Finances* by the U. S. Department of Commerce, Bureau of the Census. The total capital outlay for higher education financed by state governments is shown in the trend lines in Figure 5. State institutions in the four states lying wholly in the Ninth District received $55 million in fiscal 1966, four and one-half times the amount expended 10 years earlier. In the publication, *Public Spending for Higher Education, 1970,* Muskin and Meloone projected that the 1970 capital expenditures in this field will be $82.0 million in Minnesota, $15.1 million in North Dakota, $12.0 million in South Dakota and $8.5 million in Montana. The total contributions in the four states, according to their projections, will be $117.6 million, which is more than double the amount spent in fiscal 1965.

Meanwhile, state governments' long-term debt for higher education was also climbing each year (Figure 6, page 16). The four-state debt totaled $132.4 million at the end of fiscal 1966 as compared with $62.7 million in 1960 and $14.4 million in 1955. Over the past 10 years, indebtedness in four states each year has been about twice as large as the annual total capital outlay.

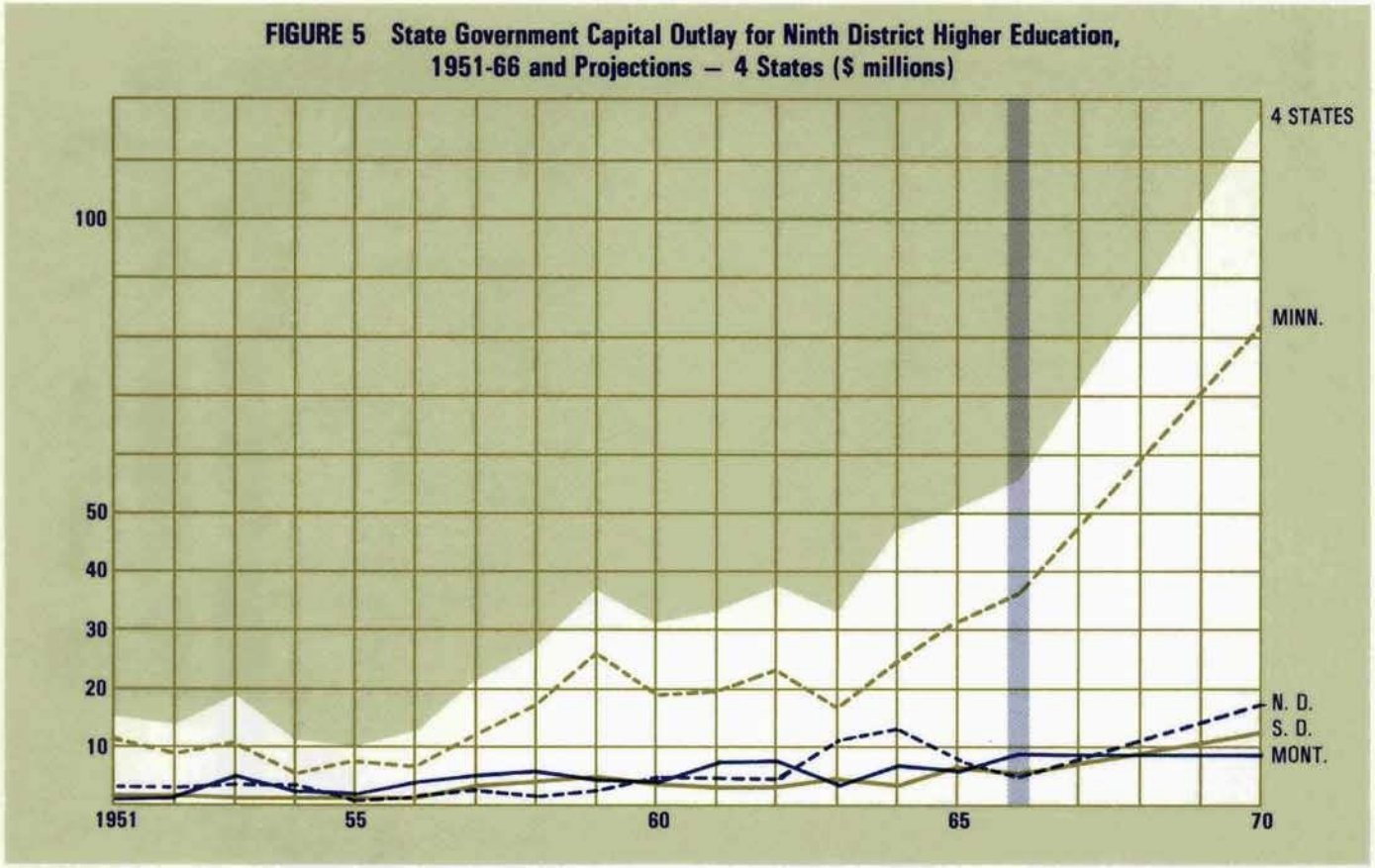
TABLE 2 Number and Cost of New Construction and Rehabilitation Projects Completed, Ninth District Campuses, 1956-64

Fiscal Year	All Institutions		Public		Private	
	Number	Amt (000)	Number	Amt (000)	Number	Amt (000)
1956-57*	27	$ 13,553	24	$ 11,734	3	$ 1,819
1957-58*	36	15,348	29	12,268	7	3,080
1958-59*	57	33,891	53	32,689	4	1,202
1959-60	63	36,217	43	28,258	20	7,959
1960-61	58	31,277	39	23,235	19	8,042
1961-62	66	37,721	44	29,519	22	8,202
1962-63	69	39,219	49	28,257	20	10,962
1963-64	44	27,636	32	20,520	12	7,116
Total	420	$234,862	313	$186,480	107	$ 48,382

* new construction only

Source: New Construction and Rehabilitation on College Campuses, OE-51002, OE-51002-06, OE-51011, Office of Education.

FIGURE 5 State Government Capital Outlay for Ninth District Higher Education, 1951-66 and Projections – 4 States ($ millions)



The proportion of the states' long-term debt incurred for higher education grew from 4 percent in 1951 to 21 percent in 1960, and to 31 percent in 1966, but there were big differences among district states. In Minnesota, the proportion of total state long-term debt devoted to higher education ranged from 1 percent in the period 1952-56 to a high of 16 percent in 1965, receding to 13 percent in 1966. Other district states saw the share range from 1 percent in the early 50's to as high as 100 percent in selected years since 1960. In North Dakota, it rose from less than 10 percent in 1951-56 to 90 percent in 1966. South Dakota's debt for higher education increased from less than 3 percent of total debt in the years 1951-54 to 100 percent for the period 1955-63 and at least 98 percent each succeeding year through 1966. In Montana, the percentage climbed steadily from 12 percent in 1952 to 66 percent in 1966.

Federal Financing for Educational Plant Facilities

The federal government has played an important role in the development of educational facilities for higher education over a period of many years. Its participation can be traced back to the passage of the Morrill Act of 1862, the establishment of agricultural experiment stations in 1881, the sponsorship of housing programs by the Federal Public Housing Administration after World War II, the Surplus Property Program and the Urban Renewal Program under supervision of the Housing and Home Finance Agency.

During the past 10 years, government funds have poured at ever-increasing rates into research and development in science and technology through agencies such as National Science Foundation; Departments of Defense, Agriculture, Commerce, Health, Education and Welfare; Federal Aviation Agency; National Bureau of Standards; Atomic Energy Commission and National Aeronautics and Space Administration.

The U. S. Office of Education has recently become active in federal assistance programs. This activity was made possible through the passage of the Higher Education Facilities Act of 1963 and the Higher Education Act of 1965. The purpose of the Higher Education Facilities Act was to provide grants and loans for construction, rehabilitation or improvement of academic and related facilities such as libraries, classrooms and laboratories for natural or physical sciences. Under the Higher Education Act of 1965, grants were made for facilities such as educational television and special laboratory equipment to improve undergraduate instruction.

Federal grants for plant facilities at colleges and universities increased gradually in the Ninth District since mid-1950's with rapid expansion beginning in 1964-65. It was not until the enactment of the 1963 and 1965 Higher Education Acts that direct federal aid to private schools became available in appreciable amounts, for facility improvement, acquisition of equipment and the improvement of teaching.

FIGURE 6 State Long-Term Debt Outstanding to Finance Ninth District Higher Education, Fiscal Year End 1951-66 — 4 States ($ millions)

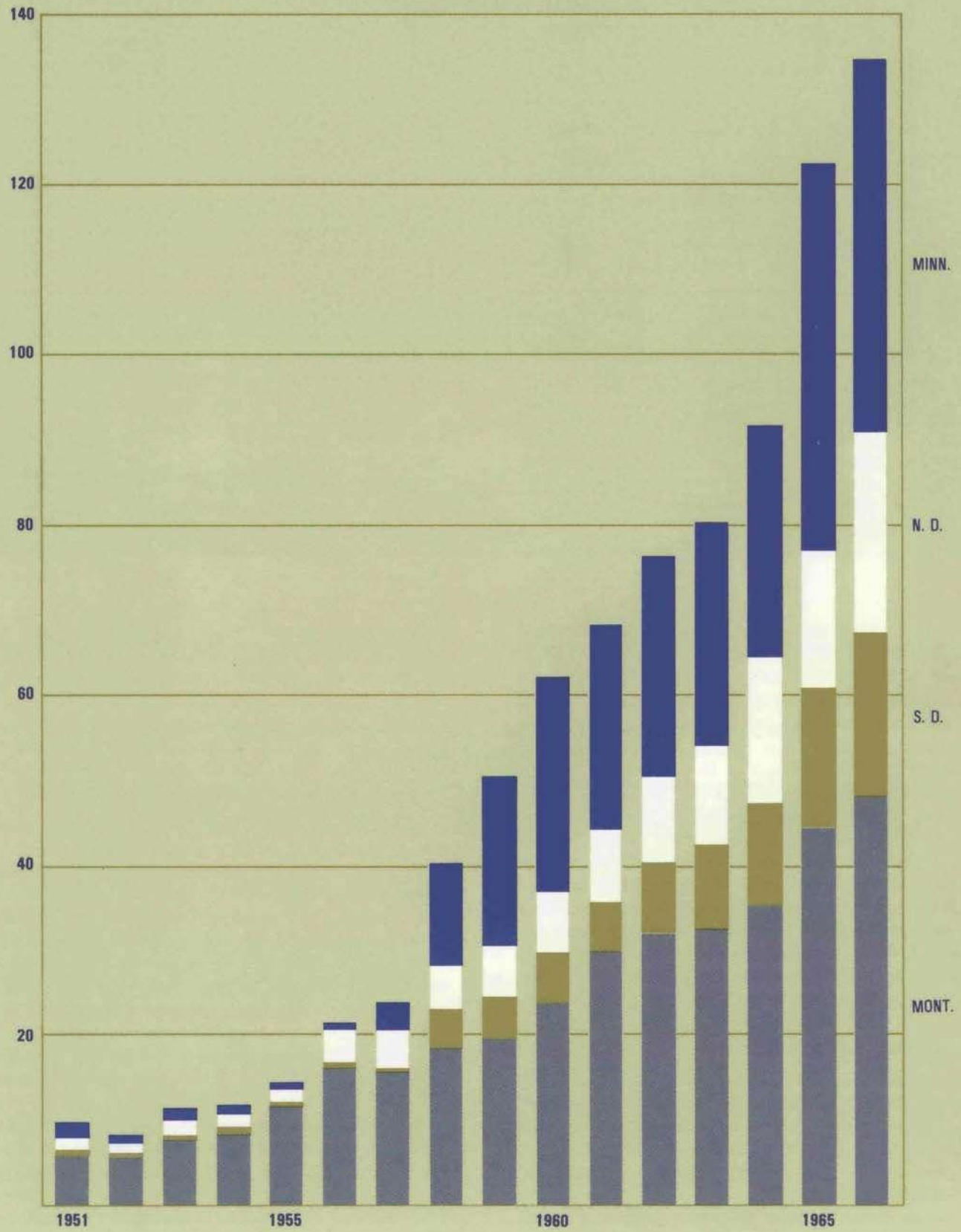


TABLE 3 Federal Grants and Loans in the Ninth District under the Higher Education Facilities Act of 1963 and the Higher Education Act of 1965
($1,000)

Fiscal Year 1965	Higher Education Facilities Act of 1963			Higher Education Act of 1965, Title VI-A		Total Grants	Total Loans and Grants
	Title I Grant	Title II Grant	Title III Loan	Category I Grant for Lab. & Other Spec. Equip. and Mat'l.	Category II Grant for CCTV Equip. and Mat'l.		
Minnesota	5,019	2,067	3,338			7,086	10,424
Montana	290					290	290
No. Dak.	849					849	849
So. Dak.	720					720	720
Upper Mich.	1,577		166			1,577	1,743
NW Wisc.	1,695		400			1,695	2,095
District	10,150	2,067	3,904			12,217	16,121
U. S.	224,363	60,000	106,937			284,363	391,300
1966							
Minnesota	10,010	300		306	34	10,650	10,650
Montana	2,526		480	57	6	2,589	3,069
No. Dak.	1,375		596	65	7	1,447	2,043
So. Dak.	2,246			63	7	2,316	2,316
Upper Mich.	2,696	545	58	12	13	3,266	3,324
NW Wisc.	2,733			160	32	2,925	2,925
District	21,586	845	1,134	663	99	23,193	24,327
U. S.	460,000	60,000	110,000	35,000	2,500	557,500	667,500
1967							
Minnesota	9,885	771	1,534	293	34	10,983	12,517
Montana	1,867	80	959	53	6	2,006	2,965
No. Dak.	1,543	–	–	60	7	1,610	1,610
So. Dak.	1,597	–	–	62	7	1,666	1,666
Upper Mich.	942	–	333	91	–	1,033	1,366
NW Wisc.	3,317	–	6,018	107	21	3,445	9,463
District	19,151	851	8,844	666	75	20,743	29,587
U. S.	450,721	59,950	199,992	12,937	1,470	525,078	725,070

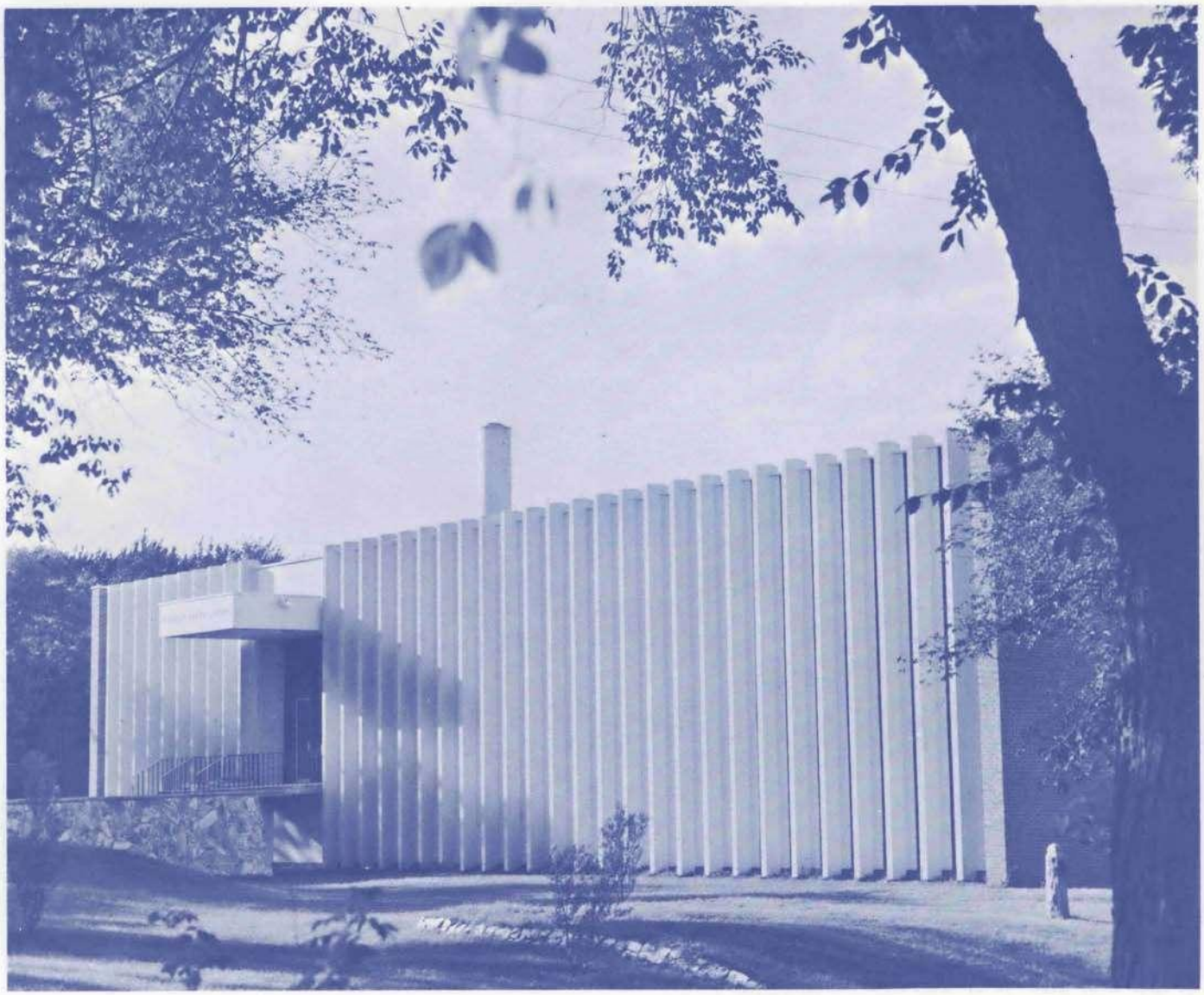
Source: U. S. Department of Health, Education and Welfare, Office of Education

(1) Title I Grants

Funds resulting from passage of the 1963 Higher Education Facilities Act became available in every state in the District at the beginning of fiscal year 1965. Under Title I of this Act, $224 million in federal grants was initially authorized for fiscal 1965 for the entire U. S. These allocations were for construction and improvement of undergraduate academic facilities such as libraries, classrooms and lecture halls. Colleges and universities in the Ninth District received $10 million of that total (Table 3).

Initially, following earlier patterns, most of these 1965 grants (93 percent of the District total) were appropriated to public institutions. But the trend changed somewhat the next year. In fiscal year 1966, when federal aid under Title I doubled, district private schools received nine times the amount they had received the year previous ($739,000 in 1965, $6,651,000 in 1966). This amount, $6,651,000 was approximately one-third of the total Title I funds granted within the District in that year. The remaining two-thirds went to public schools, making a total granted in the Ninth District of $22 million. Congress authorized $460 million nationally that year. In fiscal 1967, District institutions received $19 million, of which 72 percent went to public schools.

In the meantime, Congress designated 22 percent of Title I money for improvement of educational facilities in public community colleges and technical institutes. These grants could be used to finance up to 40 percent of the cost of construction and improvement projects. Under this provision, five junior colleges in the Ninth District received a total of $1.6 million for construction of academic facilities and improvement of campuses. For fiscal year 1966, about $100 million was



Title I Grant of $169,682 helped build this modern library for Sioux Falls College, a private institution in Sioux Falls, South Dakota. Their grant was part of $739,000 granted District private schools in 1965; the sum was increased to $6,651,000 the following year, 1966.

authorized nationally, with $2 million going to eight junior colleges in the District. In fiscal 1967, $2.7 million was granted to the District under this provision.

In fiscal year 1965, $5.7 million, or about half of the District Title I grants, was spent for libraries; about $2.7 million for undergraduate teaching facilities in natural or physical science, mathematics and engineering; and about $1.8 million for classrooms, lecture halls, and other academic facilities. Of the $21.6 million granted in 1966, $3.6 million was granted for libraries, $7 million for science buildings and laboratories, $5.3 million for undergraduate facilities, and about $4.1 million for general purposes. Under the Higher Education Act of 1965, amendments were made to expand coverage on Title I grants that existed under the Higher Education Facilities Act of 1963. Schools may obtain grants in additional fields to those defined in the 1963 act. Thus, $1.5 million was granted to District institutions of higher education to improve teaching facilities in arts and humanities. In 1967, about 68 percent of national Title I grants were used for building instructional facilities, especially in arts, humanities and general instruction.

(2) Title II Grants

Title II authorized federal grants to public and private non-profit universities, colleges and cooperative graduate centers for construction and improvement of graduate academic facilities. The grants provide a matching fund to cover one-third the cost of construction or improvement, with the remainder financed by the institution. In fiscal 1965, $2 million was granted to private schools in the District for library facilities. In the following year, two public universities in the District received $845,000 of the Title II appropriation for construction of library and science buildings. In fiscal 1967, two public institutions received $851,000 in Title II grants.

(3) Title III Financing

Title III provided long-term and low-interest rate construction or improvement loans for both graduate and undergraduate academic facilities (3 percent interest annually under the new amendment of the Higher Education Act of 1965). A Title III loan may finance up to 75 percent of the construction or improvement costs. In fiscal year 1965, three private institutions in the District obtained $3.9 million in loans. About two-thirds of these funds were spent on science buildings, the rest being spent for library facilities. In fiscal year 1966, $1.1 million in loans was made available to three private colleges for library, natural science and administrative facilities. In fiscal 1967, four private and two public institutions received $6.1 million for construction of instructional facilities and three public institutions obtained $2.8 million for library construction.

Michigan Tech Library was also built with the aid of a Title I grant of $693,822. The technological institute, located in Upper Michigan, is among Ninth District public schools which received $10 million in 1965, the first fiscal year that appropriations became available under the Higher Educational Facilities Act passed in 1963.

(4) Title VI-A Grants

Recently, the federal government assumed some responsibility for improving undergraduate teaching programs by providing aid for promotion of new teaching methods, for modern equipment, and for up-to-date educational materials. Title VI-A was designed to provide financial assistance for such improvements. A $35 million grant was authorized in fiscal year 1966, $50 million in fiscal 1967 and $60 million for fiscal 1968. About $663,000 and $666,000 were given to institutions in the District in fiscal 1966 and 1967 respectively.

A special grant under Category II of Title VI-A was arranged to improve educational television facilities. A total of $2.5 million was authorized in fiscal 1966 and $10 million in each of the following two fiscal years. Schools in the District received $99,000 in 1966 and $75,000 in 1967 for purchases of closed circuit television equipment and materials. Most of this went to institutions receiving the Category I grant. Title VI-A grants must be matched by institutions receiving the funds.

PROJECTED ENROLLMENT AND CAPITAL EXPENDITURES – NINTH DISTRICT

Enrollment, 1968-1980

Having analyzed past and current patterns of expenditures and enrollment in institutions of higher education, the question naturally arises, what are future patterns likely to be. In regard to enrollment, it is likely that future campuses will be flooded with students as increasing numbers, born in the high birth rate years following World War II, reach the age of 18 years or older. In addition, social emphasis and growing demands for higher education by the general public have encouraged and will encourage more young people to seek college education and advanced degrees. Thus, if the current situation continues, college and university student enrollment is expected to increase rapidly between now and the 1970's. This trend will prevail generally throughout the Ninth District until the early 1980's, at which time it will tend to level off or decrease depending on trend of population increase.

In an effort to estimate how many students there will be in the District through 1980, projections are made under various assumptions. For this analysis, projections are based on the assumption that enrollment is dependent on time and the related population age group 18-21. Regression analysis results in enrollment projections for each state and for the district indicated in Table 4 and Figure 7.

The projected degree-credit students in 1968 will be about 150,000 in Minnesota, 30,000 students each in North Dakota, South Dakota and Northwestern Wisconsin, 25,000 in Montana and 16,000 in Upper Michigan. A total of 280,000 is projected for the District in 1968 and 314,000 in 1970. An increase of 84,000 and 48,000 is estimated for the five-year period 1970-75 and 1975-80 respectively.

The U. S. Office of Education estimates of 1970 enrollment are slightly below the Ninth District totals indicated above. As of December, 1966, in their preliminary survey results of *College and University Enrollment and Physical Facilities Survey, 1965-70,* seventy-eight District institutions responded. The return represented 86 percent of total students enrolled in 1965. A 100 percent extrapolation gives the projected 1970 enrollment in the District as follows: Minnesota, 136,200; North Dakota, 24,200; South Dakota, 32,800; Montana, 28,000; Upper Michigan, 17,700; Northwest Wisconsin, 38,300; total in District, 277,138. Estimates for Minnesota and North Dakota are lower than current actual enrollment in the two states.

The Office of Education refined their projections into undergraduate and graduate students and full-time and part-time students. Of the projected total of 277,138 students, 234,605 will be enrolled in public institutions of higher education and 42,533 will be in privately controlled institutions by 1970. Undergraduate students will number 250,000, of which 207,000, or approximately 85 percent, will be in publicly controlled institutions. The number of graduate students is projected at 29,000; about 95 percent of this group, or 27,000 students, will be in public schools. Only in Minnesota will there be graduate students in private colleges and universities. They will number about 1,400 in the near future. In the meantime, there will be about 260,000 enrolled full time students in the District, of which 85 percent are expected to be in public institutions. Part-time students will account for only 6 percent of the total, and most of them will be in public schools. It should be recalled that U. S. Office of Education estimates are low for Minnesota and North Dakota.

Estimated Capital Expenditures, 1965-70

A survey of physical plant facilities, 1965-70, conducted by the U.S. Office of Education, revealed that most institutions planned to build more facilities in the future. Figure 8 (page 22) shows the estimates of

TABLE 4 Projected Total Degree-Credit Students – Ninth District (1,000)

	1967 (actual)	1968	1970	1975	1980
Minn.	138.2	151.2	164.4	206.5	239.2
No. Dak.	26.5	28.8	32.4	37.4	39.2
So. Dak.	27.5	30.0	32.7	39.5	45.8
Mont.	23.2	24.9	29.0	37.8	38.2
Upper Mich.	14.5	16.1	20.9	35.6	39.9
NW Wisc.	25.4	29.4	34.1	40.8	43.3
Total	255.3	280.4	313.5	397.6	445.6

construction costs for 1965-70 by source, reported by 78 institutions in the District. These educators predicted that a total of $653 million would be spent for building construction and campus improvement in the five-year period, or about $125 million per year. The major sources of these funds are expected to be: state government appropriations, $242 million; federal grants, $67 million; private gifts and grants, $50 million; loans from federal government, $150 million; borrowing from non-federal agencies, $66 million. Over three-quarters of the federal grants are expected to be appropriated under Title I of the Higher Education Facilities Act of 1963 for construction and improvement of undergraduate facilities. The remaining federal funds expected are $7 million from Title II grants for construction and improvement of graduate facilities,

FIGURE 7 Actual and Projected Degree-credit Students – Ninth District (1,000)

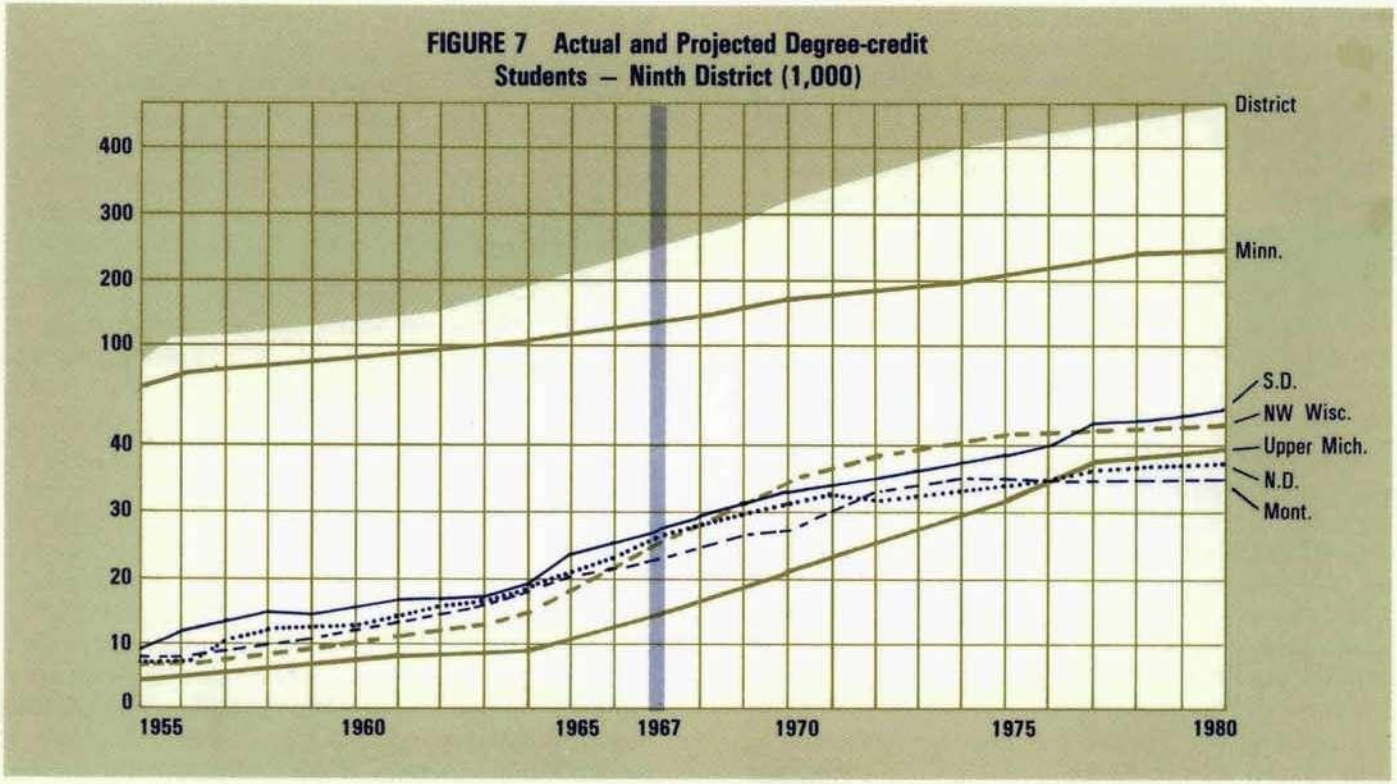
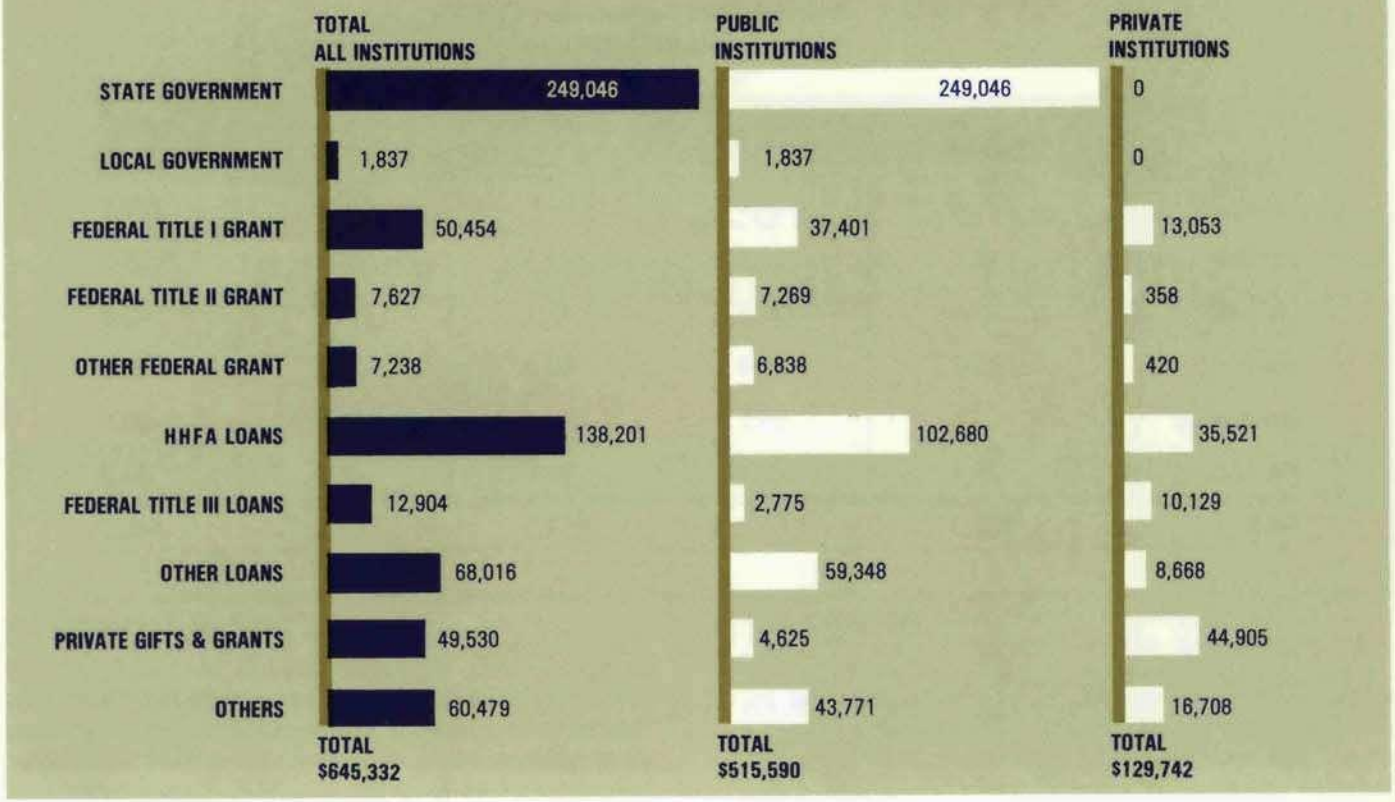


FIGURE 8 Estimated Capital Expenditures, Ninth District, 1965-70 by Source of Funds ($1,000)



and grants from various other federal agencies such as the Public Health Service, National Science Foundation, National Aeronautics and Space Agency, Atomic Energy Commission, Department of Defense, etc. Loans under Title III for construction or improvement of both undergraduate and graduate facilities are expected to be $15 million. The remaining $135 million in federal money will be provided by the Housing and Home Finance Agency. General obligation bonds, backed by state and local governments are expected to provide $26 million, and non-HHFA revenue bonds are expected to finance $28 million in construction costs. Fifty million dollars in funds are expected from private gifts and grants and, finally, about $77 million from other sources, including student fees pledged for building, transfers from current funds and from other unknown sources, as well as from grants for scientific instruments, furniture and equipment.

According to the 45 public institutions which responded, their total estimated construction costs would amount to half a billion dollars for the 1965-70 period. State government is expected to provide half the funding. The federal government is expected to provide over $154 million, amounting to 30 percent of total capital expenditures by public institutions, as compared with less than 10 percent of the total in 1963-64. Financing through non-federal bonds is expected to amount to approximately $55 million. Funds expected from other sources include $8 million from student fees, $23 million from unknown funds, and $16 million, probably transferred funds, for additional expenditures for furniture, scientific equipment, instruments, etc.

Projected capital outlay for private schools totaled $147 million for the 33 reporting institutions. Their traditional major source of funds, private gifts and grants, is expected to supply $45 million. Despite their continuing heavy reliance on private gifts and grants, more emphasis has shifted to the federal government. It is expected that the federal government will provide $63 million in loans and grants in 1965-70, which is slightly less than half of the total estimated expenditure, as compared with one-third in 1963-64.

Table 5 shows the anticipated capital outlays estimated by the institutions which responded in each state.

Sources of funds vary considerably according to District states (Table 6, page 24). Public schools in Minnesota are expected to be more dependent on their state government appropriations and less dependent on bond issues, especially HHFA revenue bonds. State appropriations in Minnesota are expected to provide about 75 percent of the construction monies, while other District state governments are expected to contribute about 50 percent or less of the respective construction outlays. On the other hand, loans from HHFA are expected to raise 20 percent or more of the money for institutions outside Minnesota as compared with

TABLE 5 Estimated Expenditures for Planned Buildings and Campus Improvement Projects 1965-70 – Ninth District ($1,000)

	Minn.	No. Dak.	So. Dak.	Mont.	Upper Mich.	NW Wisc.	Total
Public	132,779	61,963	55,591	66,374	66,176	123,256	506,139
Private	105,763	—	20,301	8,961	2,694	8,804	146,523
Total	238,542	61,963	75,892	75,335	68,870	132,060	652,662

Source: College and University Physical Facilities Series, OE 51004-19, Office of Education, September, 1967.

only 3 percent for Minnesota institutions. Public schools in Montana will also rely heavily on general obligation bonds (about 30 percent, backed by state government and institutions) and revenue bonds (17 percent issued by non-HHFA organizations).

At private institutions, a small proportion of funding will be from direct federal grants. The bulk will be from private gifts and grants and HHFA college housing loans (Table 7, page 25).

Responding public and private institutions in the full states of the District expect to spend a total of $452 million on 452 construction projects in the 1965-70 period. Figure 9 shows that about half of the money will be spent for instructional facilities and one quarter for residential facilities. Planned projects for research facilities amount to 7 percent of the total estimate. Figure 10 shows that over $100 million worth of buildings will be completed in each of the years 1968-70.

The U. S. Office of Education has estimated a national allotment for fiscal 1968 of $267 million for

FIGURE 9 Estimated Capital Expenditure Distribution for Ninth District Construction Projects 1965-70 by Type of Facility – 4 States
(Estimated Number of Projects in Parenthesis)
$452 MILLION (452 PROJECTS)

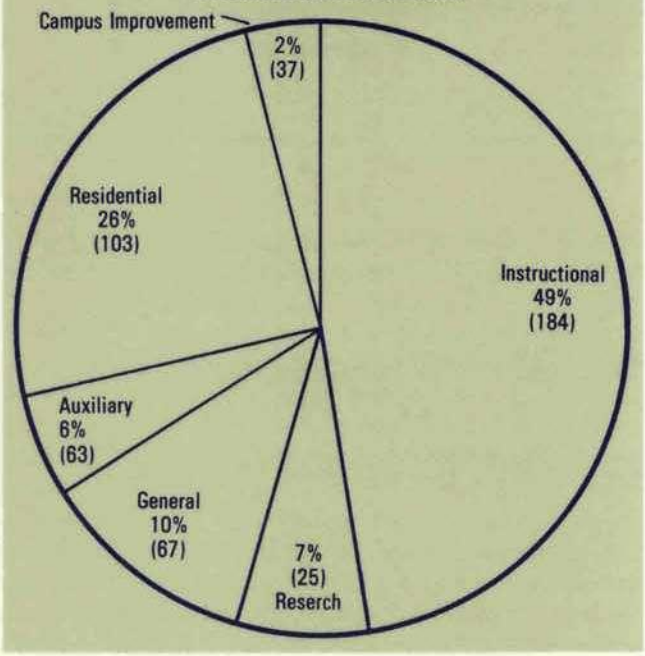


FIGURE 10 Estimated Total Cost of Ninth District Construction by Year of Completion – 4 States ($ Millions)
(Estimated Number of Projects in Parenthesis)

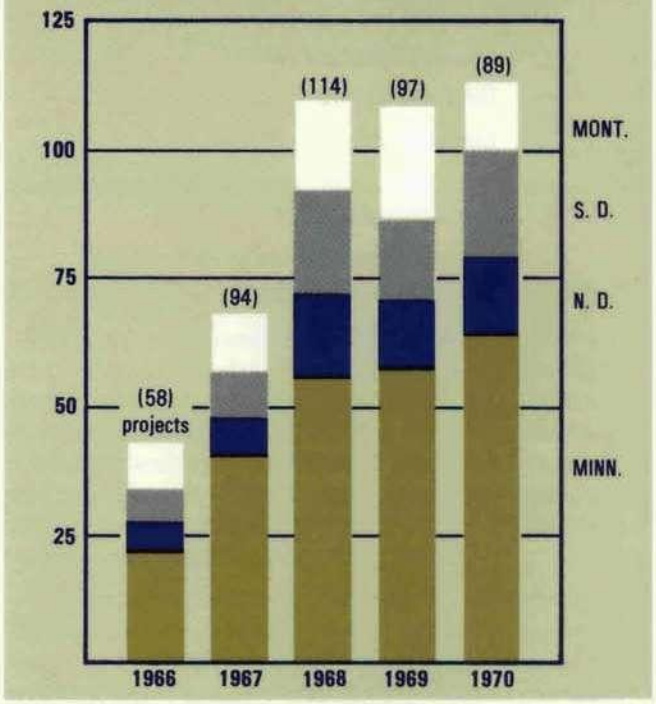


TABLE 6 Estimated Capital Expenditures of Ninth District Public Institutions 1965-70 by Source of Funds, Expressed as Percent (Number of Reporting Institutions in Parenthesis)

SOURCE OF FUNDS	Minn. (11)	No.Dak. (10)	So.Dak. (7)	Mont. (6)	Upper Mich. (3)	NW Wisc. (8)	Total (45)
Governmental Appropriations	74.3	35.1	43.7	10.0	53.1	45.8	48.5
State Government	73.9	34.3	43.6	10.0	53.1	45.8	48.3
Local Government	.4	.8	.1	–	–	–	.2
Federal Government Grants	8.3	9.5	8.0	9.2	7.9	14.6	10.0
Title I HEFA-63	4.0	6.7	5.0	7.3	6.7	12.6	7.3
Title II HEFA-63	2.5	1.1	1.5	.5	–	1.5	1.4
Public Health Service	–	.7	1.5	.4	.8	.5	.5
National Science Foundation	–	–	–	1.0	–	–	.1
Other – NASA, AEC, DOD, etc.	1.8	1.0	–	–	.4	–	.7
Direct Tax Levy	–	.7	–	1.0	–	–	.2
State Governments	–	–	–	.6	–	–	.1
Local Governments	–	.7	–	.4	–	–	.1
General Obligation Bonds	4.1	1.5	4.2	31.0	–	–	5.5
State Government	2.4	–	.6	16.3	–	–	2.7
Local Government	1.7	1.5	–	–	–	–	.6
Institutional	–	–	–	14.1	–	–	1.7
Title III HEFA-63	–	–	3.6	.6	–	–	.5
Revenue Bonds	7.5	40.8	40.4	39.0	21.3	26.7	25.8
College Housing Loan Program HHFA	2.9	34.6	27.0	20.4	21.3	26.7	19.9
Other than from HHFA	4.6	6.2	13.4	18.6	–	–	5.9
Other	4.9	9.9	1.1	5.0	12.9	7.8	6.7
Pledged Student Fees	–	–	–	3.1	–	5.3	1.6
Gifts and Grants	.2	4.7	.6	1.8	–	–	.9
Current Funds	–	.5	–	–	–	–	.1
Investment of or borrowed from institutional funds	–	–	–	–	.4	–	.1
Borrowed from private or commercial non-institutional funds	–	1.6	–	–	.4	1.3	.6
Source Unknown	4.7	2.9	.5	–	12.0	1.2	3.5
Other	–	.2	–	.1	.1	–	.1
All Sources	99.1	97.5	97.4	95.2	95.2	94.9	96.7
Additional Expenditures	.9	2.5	2.6	4.8	4.8	5.1	3.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 7 Estimated Capital Expenditures of Ninth District Private Institutions 1965-70 by Source of Funds, Expressed as Percent (Number of Reporting Institutions in Parenthesis)

SOURCE OF FUNDS	Minn. (21)	* No.Dak. (0)	So.Dak. (7)	Mont. (2)	Upper Mich. (1)	NW Wisc. (2)	Total (33)
Federal Government Grants	10.0	–	12.5	5.1	16.5	17.9	10.7
Title I HEFA-63	9.6	–	10.5	5.1	16.5	17.9	10.1
Title II HEFA-63	.4	–	–	–	–	–	.3
Public Health Service	–	–	2.0	–	–	–	.3
General Obligation Bonds	5.9	–	3.1	10.2	65.2	16.5	7.8
Title III HEFA-63	5.9	–	3.1	10.2	65.2	16.5	7.8
Revenue Bonds	31.4	–	31.4	–	–	29.7	27.9
College Housing Loan Program (HHFA)	31.4	–	27.7	–	–	29.7	27.4
Other than from HHFA	–	–	3.7	–	–	–	.5
Other	47.3	–	48.7	84.7	14.2	33.0	49.0
Pledged Student Fees	.5	–	2.6	–	–	–	.7
Gifts and Grants	38.2	–	26.4	39.1	14.2	19.0	34.6
Current Funds	1.3	–	.2	–	–	.4	1.0
Investment of or borrowed from institutional funds	.9	–	–	–	–	–	.6
Borrowed from private or commercial non-institutional funds	3.1	–	13.3	4.9	–	13.6	5.5
Source Unknown	3.3	–	4.2	40.7	–	–	6.3
Other	–	–	2.0	–	–	–	.3
All Sources	94.6	–	95.7	100.0	95.9	97.1	95.4
Additional Expenditures	5.4	–	4.3	–	4.1	2.9	4.6
Total	100.0	–	100.0	100.0	100.0	100.0	100.0

* Not reported.

Title I grants under the Higher Education Facilities Act of 1963. The District's share (four states) will be $9.1 million, including $2.4 million for public community colleges and technical institutes. Institutions in Minnesota are allotted about $5.7 million. The rest of the states will receive about $1 million each. Special grants to the District for improving teaching facilities total $462,000 for Category I grants and $53,000 for Category II grants under Title VI-A of Higher Education Act of 1965. In addition, other grant allotments under the 1963 act will be $1.8 million, resulting in a total of $11.4 million in federal grants for the four full states in the District. This comprises about 3.5 percent of the total $324.7 million 1968 allotment for the U.S.

Adequacy of Plant Facilities – Past and Future

Will these estimated capital expenditures be sufficient to accommodate the increase in future enrollment? It is difficult to answer since the utilization criteria for school facilities differ from one institution to another and also vary from one type of facility to another. The possibility of deviation from enrollment projections upon which these expenditure estimates are based is still another intervening factor.

The results of a survey, *College and University Enrollment and Facilities, 1961-65,* conducted by the Office of Education, can provide a general idea of what school authorities thought about their utilization of

TABLE 8 Adequacy of Ninth District Academic Facilities in 1965 Related to Student Enrollment

	1960 Enrollment[1]	1960 Enrollment Reported in Survey[2]	Percent of Enrollment Reported	Planned Spending 1961-65 Reported ($1000)	Planned Spending 1961-65 Adjusted to 100% of Enrollment ($1000)	Student Accommodation Planned by 1965 (Survey)	Student Accommodation Planned by 1965 (Adjusted to 100% of Enrollment)	Additional Students to be Accommodated 1965 (Survey)
	(1)	(2)	(3) (2) ÷ (1)	(4)	(5) (4) ÷ (3)	(6)	(7) (6) ÷ (3)	(8) (6) − (2)
Minn.	75,763	61,761	81.5%	$138,771	$170,271	85,386	104,768	23,625
No. Dak.	13,383	13,383	100.0	24,716	24,716	18,916	18,916	5,533
So. Dak.	14,498	12,179	84.0	24,820	29,548	16,925	20,125	4,746
Mont.	13,080	12,968	99.1	16,041	16,187	17,324	17,481	4,356
Upper Mich.	6,133	—	—	—	—	—	—	—
NW Wisc.	10,015	—	—	—	—	—	—	—
4-States or District	132,872	100,291	—	204,348	240,722	138,551	161,291	38,260

[1] All degree-credit students, Fall 1960, Office of Education
[2] College and University Facilities Survey 1961-65 (OE-51006)
[3] Full-time and part-time students (OE-54003-65)
[4] Assuming full utilization of capacity.
[5] Column total of states subtracted individually.

TABLE 9 Estimated Capital Expenditures Needed for Adequate Academic Facilities by 1970 — Ninth District Academic Area Cost (150 sq. ft. per Student)

	Projected 1970 Enrollment[1]	Increase in Enrollment[2] 1966-70	Additional Students to be Accommodated by 1970 (Including 1965 Excess)[3]	Average Annual Dollar/ Cost per Square Foot[4]	Cost per Student	Total Monies Needed by 1970 ($1000)	Estimated Expenditures Planned for Academic Facilities 1965-70 ($1000)[5]	Cost of Planned Facilities Exceeding Total Needed ($1000)
	(1)	(2)	(3)	(4)	(5) (4) x 150	(6) (3) x (5)	(7)	(8) (7) − (6)
Minn.	164,434	47,030	59,665	$23.25	$3,488	$208,111	$170,828	−$37,283
No. Dak.	32,379	9,620	13,463	18.16	2,724	36,673	32,312	− 4,361
So. Dak.	32,673	9,420	12,548	19.72	2,958	37,117	45,048	+ 7,931
Mont.	29,017	8,709	11,536	16.85	2,528	29,163	38,986	+ 9,823
Upper Mich.	20,857	9,304	9,304	26.77	4,016	37,365	33,746	− 3,619
NW Wisc.	34,121	15,154	15,154	22.37	3,356	50,857	64,709	+ 13,852
Dist.	313,481	99,237	121,670	21.68	3,252	399,286	385,629	− 13,657

[1] Column 3 in Table 4.
[2] Column 1 above minus column 10 in Table 8.
[3] Column 2 above plus column 12 in Table 8.
[4] A 5-year average price adjusted for an annual increase of 3.25 percent (according to the Office of Education).
[5] Project cost reported in the College and University Physical Facilities Series (OE-51004-19). Except for Upper Michigan and NW Wisconsin, the numbers are based on a district average annual percentage distribution of expenditures for new construction and rehabilitation projects completed during 1956-64; 37% for instructional, 6% each for research and general facilities.

Additional Students to be Accommodated 1965 (Adjusted to 100% of Enrollment)	1965 Enrollment[3]	Increase in Enrollment From 1960 to 1965	Excess of Student Numbers over Planned Accommodations 1965
(9) (7) – (1)	(10)	(11) (10) – (1)	(12) (11) – (9)
29,006	117,404	41,641	12,635
5,533	22,759	9,376	3,843
5,627	23,253	8,755	3,128
4,401	20,308	7,228	2,827
–	11,553	5,420	0[4]
–	18,967	8,948	0[4]
44,567[5]	214,244	81,372	22,433[5]

school facilities in relation to their student enrollment. A 96 percent utilization of 1960-61 existing facilities was reported by public institutions in the Great Lakes and Plains region, as compared with the national average of 94 percent. Private schools in the same area reported 89 percent utilization as compared with 91 percent for all regions. Forty-four institutions from the four full states in the Distrct reported capacity available for an additional 10,000 students. At least five institutions reported overcrowding for undergraduate students, and one Minnesota public institution reported enrollment of graduate students beyond normal capacity. As for residential facilities, public institutions in the Great Lakes and Plains region housed 34 percent of their full-time students in 1960-61 and were overcrowded to the extent of 5 percent above normal capacity. Private institutions in the same area housed 47 percent of their full-time students and estimated their facilities were used to 99.5 percent of capacity. Fourteen institutions in the four full District states reported overcrowding and 14 other institutions reported additional space available.

In 1960, sixty-five of the institutions, representing 86 percent of the four-state enrollment, planned to spend about $200 million on 350 new construction and rehabilitation projects in 1961-65 (Column 4, Table 8). By 1965-66 these instructional facilities could be expected to accommodate an additional 38,000 students (Column 8), and the residential facilities were expected to house about 16,000 more students. If this figure is expanded to a 100 percent response, the planned capital expenditure would be $241 million (Column 5), and the instructional facilities would accommodate 45,000 additional students (Column 9). Yet the actual increase in enrollment during this period was 67,000 students for the four states, which was 22,000 more than expected (Column 12). Even if the construction projects were completed as planned for 1965, there still would be a shortage of accommodation for 22,000 students, which would worsen the overcrowding existing in some institutions.

Adding this 22,000 students to the projected increase of enrollment of about 100,000 during 1966-70 makes a total of 122,000 more students for the District to be accommodated by 1970 (Column 3, Table 9). An academic area of 150 square feet per student is considered adequate by the U. S. Office of Education. To achieve it for these 122,000 students, an additional $400 million (Column 6) would be needed by 1970 for construction of instructional, general and research facilities. According to the 1965-70 facilities survey, a total of about $386 million in capital expenditures (Column 7) was anticipated for academic facilities, which is about $14 million short of the total investment needed for academic facilities by 1970. As mentioned previously, District schools responding to the survey planned to spend a total of $653 million for all campus construction and improvements by 1970. The difference between that amount and the $386 million they planned for academic facilities results in $267 million for residential and auxiliary construction and improvements (including construction for administration, general and student services). Such expenditures would relieve some existing pressures in these areas. It must be recognized, of course, that planned expenditures by these institutions may not materialize. Schools must first obtain funding from their various sources before construction can be accomplished.

In Minnesota, estimated construction needed is $208 million to accommodate an additional 60,000 students by 1970. But planned expenditures are only $171 million, $37 million less than appears needed. In North Dakota and Upper Michigan, the anticipated construction expenditures are about $4 million less than needed in each state. Nevertheless, planned construction expenditures, if they will be realized, should help school authorities provide adequate facilities for future student population.

SUMMARY

The Ninth Federal Reserve District has experienced and undoubtedly will continue to experience increases in its college student population. The current population of 255,000 will likely increase to about 300,000 in 1970 and probably approach 400,000 by 1975. Pressures of increasing student numbers already have created or contributed to many problems on campuses—crowded classrooms, inadequate library facilities, outdated teaching methods, poor scientific research and laboratory equipment, and inferior housing facilities. Expansion of physical plant has been an obvious necessity. But for many years a great number of institutions were unable to meet the tremendous needs facing them. Recently, the federal government, under authorization of the Higher Education Facilities Act, provided an avenue for many institutions to build and remodel needed facilities. According to the Office of Education, the projected federal loans and grants under the Higher Education Facilities Act will be about $900 million per year till 1974. This funding can quickly change, however, if federal cutbacks occur. For the past three fiscal years, the District share of these loans and grants was about 4 percent each year.

If Ninth District college and university planners obtain and spend the amount of money they indicated in U. S. Office of Education surveys, there will be about $650 million pouring into construction projects on Ninth District campuses in the period 1965-1970. With more emphasis on education in our society, plus a larger college-age population, the District is expected to experience increasing construction activities on campuses in the succeeding 10 years. Implications are obvious for the Ninth District construction industry.

9TH DISTRICT ECONOMIC INFORMATION SERIES

HIGHER EDUCATION IN THE NINTH DISTRICT