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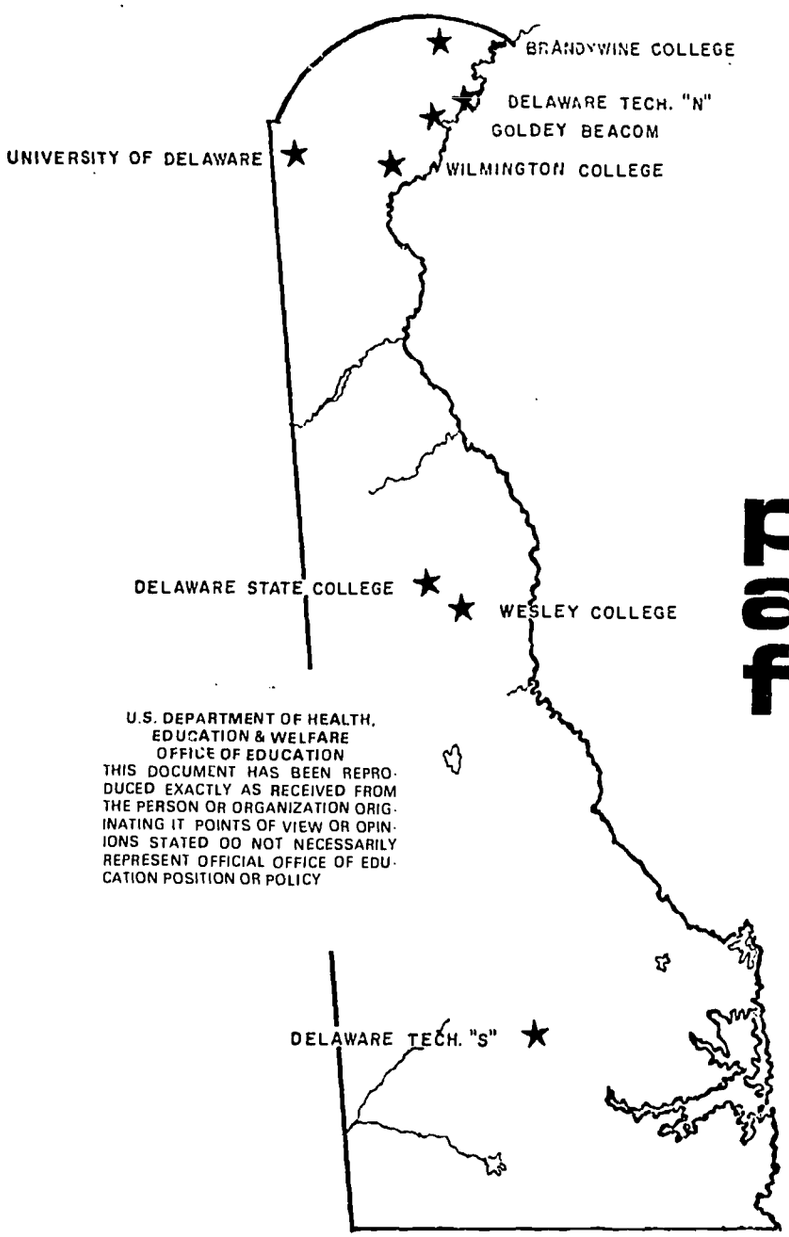
ABSTRACT

This report covers the results of a four-part survey designed to update the survey "Delaware Higher Education in the Seventies-1971 Update" in the three areas of enrollment projection, space inventory and space utilization. Also examined is the current development of the long-range facilities plan for each campus. The report recommends that the enrollments and facilities surveys should be repeated in 1974-75 and that master plans should be correlated on a statewide basis. (Author/CS)

DELAWARE HIGHER EDUCATION SURVEY 1972



present and future

State of Delaware Higher Educational Aid Advisory Commission

UNIVERSITY OF DELAWARE
TECHNICAL SERVICES
NEWARK, DELAWARE 19711

OFFICE OF THE DIRECTOR
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July 25, 1972

Dr. Robert H. Parker, Chairman
Higher Educational Aid Advisory
Commission
200 West Ninth Street
Wilmington, Delaware 19801

Subject: Delaware Higher Education Survey - 1972

Dear Dr. Parker:

The University of Delaware Technical Services Division transmits herewith a report of the subject survey conducted in accordance with an agreement entered into between the Commission and the University of Delaware under a Basic Grant to the Commission.

We are pleased to have served, and would welcome opportunities to aid the Commission in future endeavors.

Sincerely,

John V. Ingham
Survey Director

JVI/cam

Enclosure

D E L A W A R E

H I G H E R E D U C A T I O N

S U R V E Y

P R E S E N T A N D F U T U R E

1 9 7 2

A report prepared by the University of Delaware - Division of Technical Services, in cooperation with the Higher Educational Aid Advisory Commission and the Higher Education Facilities Task Force.

This project was supported in whole by a grant awarded by the Division of Academic Facilities of the United States Office of Education under Title I of the Higher Education Facilities Act, as amended.

July, 1972

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GLOSSARY

"All Students" is total of all students enrolled at an institution; e.g., full time plus part-time.

Classroom, Type 110, a room used by classes which do not require special purpose equipment for student use (does not include conference rooms, auditoriums, or class laboratories).

Class Laboratory, Type 210, a room used by regularly scheduled classes which require special-purpose equipment for student participation, experimentation, observation, or practice (does not in clude gymnasiums, laboratories used for research, etc.).

Evening Student is any student who attends classes after 6 P.M. (not exclusive).

F.T. = Full time student, one who carries at least 75% of a normal student load; e.g., 0.75 x 16 = 12 credit hours is representative.

FTE = Full time equivalent index is total of "full time" students pluse one-third of "part time" students (unless otherwise defined by the institution; e.g. Delaware Tech, and Community College uses one-tenth of "part time" instead of one-third).

Gross Area is sum of all floor areas included within the outside faces of the exterior walls of the building.

H.C. = Headcount - synonomous with all students.

HEAAC = Higher Educational Aid Advisory Commission.

HEW = U.S. Dept. of Health, Education, and Welfare.

"In-State Student" is one defined as resident of Delaware by the institution for purposes of tuition payment. (Note: "In-State" plus "Out-of-State" equals "All students" enrolled).

NASF = Net assignable square feet (e.g., of classroom space as defined in Office of Education Manual 51016 - will generally be approximately two-thirds of "Gross Area" for the type of campus buildings encountered in making this survey.

O.S. = "Out-of-State student" is one not a resident of Delaware tuition payment purposes.

Occupancy Percentage is the percentage of total student stations occupied when the classroom is in use.

P.T. = Part-time student is one who carries less than 75% of a normal student load. May attend either day or evening classes, on or off the campus.

Space Factor is "net assignable square feet" divided by "weekly student contact hours." (NASF/WSCH.) (See also Section V of this report.)

Student Stations are the desks, chairs, or laboratory bench spaces which determine the student occupancy for class or laboratory sessions.

U.D.T.S. = University of Delaware Technical Services Division

W.S.C.H. = Weekly Student Contact Hours equals number of students multiplied by hours per week spent in classes as scheduled. (Synonomous with "student contact hours".)

NOTE: Unless otherwise specified, the definitions and classifications in U.S. Office of Education Manual OE51016 are used in preparing this report, e.g., for Tables V - IX.

I. INTRODUCTION

I. INTRODUCTION

Foreword

Higher Education Facilities Comprehensive Planning Grants are made available by the federal Office of Education to the State Commission established in each state pursuant to Section 105 of the Higher Education Facilities Act of 1963. The designated commission for the State of Delaware is the Higher Educational Aid Advisory Commission. This commission received a Basic Grant for the current fiscal year and contracted with the University of Delaware, Division of Technical Services, to conduct a four-part survey. The objectives of three parts were to update the commission's report, "Delaware Higher Education in the Seventies - 1971 Update" - in the three areas of enrollment projection, space inventory, and space utilization. The fourth part was that of determining the current stage of development of the long-range facilities plan for each campus (Master Plans).

This report covers the results of that four-part survey.

This report would be remiss if it did not recognize valuable, willing and cooperative contribution of the institutional representatives. The members of the Task Force listed in the beginning of this report were unselfish and displayed a helpful devotion to the Survey Team; without this assistance this Survey would not have been possible.

A. PURPOSE AND SCOPE OF SURVEY

The purpose of this survey is four-fold:

1. Enrollment Update

Under the FY 1969 Basic Comprehensive Planning Project enrollment projections to the fall of 1980 were made by each of the seven higher education institutions in Delaware, and were updated under the FY 1970 project. Since enrollment data are essential to the determination of facilities needs, and because of Delaware's continuing high rate of enrollment growth, another updating was considered necessary using the actual enrollments for the fall term of 1971 and projecting to the fall term of 1985. The enrollment data herein are categorized as: 1) in- and out-of-state, 2) men and women, 3) full- and part-time degree credit students, 4) evening students, and 5) a standardized Full-Time Equivalent Index (FTE) is determined.

2. Space Inventory and Utilization

The facilities of the seven institutions were inventoried and data were recorded to include the conditions of buildings, the net assignable space (by major type of room-space category per student), and (by major organizational units per student). The information reported herein is compatible with that obtained and submitted in the HEGIS VI report.

Space utilization data were refined and updated. These data are presented in Table VIII with essential details supporting the determination of "Percent Utilization" and "Space Factors" listed in the same table. It is to be emphasized that the utilization of facilities varies in context and definition at each of the individual institutions because of their varied characteristics and educational objectives. Thus the higher education facilities in Delaware cannot be considered as a homogeneous average for comparative purposes.

3. Projection of Space Needs Update

In view of current activity in Delaware higher education, an update on projected academic space was needed. This has been done, using space factors developed in last year's report and refined during this study. It is to be noted especially that, due to

special individual characteristics of the institutions, no attempt was made to project ancillary needs, such as chapels, athletic facilities, libraries, etc. For the purpose of this section of the report academic space needs are defined as classrooms and laboratories.

4. Status of Master Plans

A feature, not covered in previous reports, included in this survey, is the status of campus master plans. A brief description of the plans that exist or are in the process of development is contained herein.

The data accumulated in this survey have been viewed in the light of committing them to computerization. An automatic data-processing program was not attempted because the inflow of reliable data peaked near the end of the contract period. A realistic approach to establish an automatic data processing system suggests a separate project.

B. THE INSTITUTIONS OF HIGHER EDUCATION IN DELAWARE

The Delaware institutions of higher education are located as shown on the cover map. Five campuses are in New Castle County, two in Kent County, and one in Sussex County.

The state-funded institutions are:

Delaware State College	Dover, Kent County
Delaware Tecnhical and Community College	
North Campus	Wilmington, New Castle Co.
South Campus	Georgetown, Sussex County
University of Delaware	Newark, New Castle County

The privately-operated institutions are:

Brandywine College	Wilmington, New Castle Co.
Goldey Beacom College	Wilmington, New Castle Co.
Wesley College	Dover, Kent County
Wilmington College	Wilmington, New Castle Co.

A new privately-operated institution, The Delaware Law School, is chartered by the State of Delaware and was opened September 1971.

It is not included in this study except for a brief description of its purpose and status.

A brief description of each institution follows. All of them with the exceptions noted under individual institutions have been accredited by the Middle States Commission on Higher Education.

1. Delaware State College

Delaware State College was founded in 1890 as a Land Grant College. Ten years ago its student enrollment was almost totally non-white. However, by 1971 one-third of the full-time students were white, in line with the national trend at other "black" colleges. The college is also changing from a predominantly resident student enrollment to that of a commuter student enrollment - 42% in 1971. The proportion of students over 25 years of age is 28% versus national average of 17%. Also, the student body is expanding rapidly - 16.8% per year during the past five years.

Delaware State is a fully accredited four-year, multiple-purpose institution with 17 academic departments offering a wide variety of courses leading to the B.A. or B.S. degrees. No graduate degree programs are offered at present.

Admission standards are comparable to those of other fully accredited colleges in the nation. Fees are kept relatively low so as not to disqualify low-income Delawareans. Financial aid is available for deserving students. A total of $800,000 was granted to 1,014 students in 1970. The number of out-of-state students is restricted to 25% (this policy may be excepted by the college if specific academic departments are not filled by in-state students). Evening classes are growing in popularity; currently ten percent of the student body are evening students.

2. Delaware Technical and Community College

Delaware Technical and Community College provides a two-year comprehensive program of education and training above the high school level. This public institution opened its Southern Branch (Georgetown) in 1967 and the Northern Branch (Wilmington) in 1968. Both Northern and Southern Branches now have Middle States Commission accreditation.

The primary aim of the College is to help students develop their potential in semi-professional and occupational areas and, by so doing, help the state community expand its economic base and upgrade its employment opportunities in commerce, industry, and government. Admission to any department of the college is open to all Delaware residents with a high school education or its equivalent, or to anyone 18 years of age or older who is able to benefit from instruction. The College is also committed to a broad span of day and evening programs for those who wish to expand and upgrade their present job skills.

While the college curricula are strongly job-oriented, they are not limited by strict career boundaries. General education programs are offered to help students toward responsible citizenship, and preparatory courses are available for students planning for later transfer to four-year institutions.

It has been said that about 50% of all freshmen nationally now enroll at community colleges. To accommodate this national pattern of rapid growth, Delaware Technical and Community College is making firm plans to expand facilities throughout the State, governed, of course, by developing enrollment requirements and availability of funds.

It is expected that about one-third of the students at the Northern Branch will be women, while women at the Southern Branch will constitute 40% of the student body. Out-of-state enrollment will approximate 5% at the Northern Branch and 10% at the Southern. Evening classes will continue to comprise 40-55% of the total enrollment.

3. University of Delaware

The University of Delaware is the oldest institution of higher education in the State of Delaware, having been founded in 1833 and known as Newark College until 1867, when it became Delaware College, under which name it operated until becoming the University of Delaware in 1921. Academically the University is composed of eight undergraduate colleges, two divisions, and the College of Graduate Studies. The University is located in Newark, Delaware, in the northwest corner of New Castle County. It is a "land grant college" which is administratively private but receives partial financial support from the State.

Its fall 1971 enrollment, including extension students, was approximately 16,800 with the division between sexes about equal. Approximately 4,600 of these students live in dormitories on the campus with some 300 others living in the several fraternities. About 2,100 more students will be living in dormitories currently nearing completion and scheduled for full occupancy by the fall of 1972.

4. Brandywine College

Brandywine College is a private two-year co-educational institution fully accredited by the Middle States Association of Colleges and Secondary Schools. It is chartered by the State of Delaware and opened in September, 1966. Brandywine College offers general education courses in humanities, social and physical sciences, and business. The college offers a two-year Liberal Arts Program. An Associate Degree is conferred upon completion of requirements. More than fifty percent of Brandywine graduates continue their studies leading to the baccalaureate degree at senior colleges.

In addition to modern academic facilities, Brandywine has dormitory and dining installations capable of accommodating a major part of the student body. About three-quarters of the students are from out-of-state. Enrollment, almost evenly divided between men and women, is expected to increase at nearly a constant rate from about 1,400 in 1972 to approximately 2,300 in 1980. Thereafter, size of the student body will be relatively stable with present ratios of out-of-state to total enrollment and men to women maintained.

5. Goldey Beacom College

Goldey Beacom College has been located in the City of Wilmington since 1886, first as a privately-endowed business school, and later as a non-profit privately-financed college. It is accredited as a two-year college, granting an Associate in Arts Degree, by the Accrediting Commission for Business School. Goldey Beacom has also recently been granted a correspondent status by the Middle States Association of Colleges and Secondary Schools.

The College has dormitory facilities for some of its female students. The non-Wilmington male students are housed at the nearby YMCA, where an entire floor has been leased by Goldey Beacom. The role of Goldey Beacom College has recently been defined by a Committee of its Trustees as follows:

"That Goldey Beacom College be an urban, career, education-oriented junior college of business, responsive to public needs and providing for the upgrading of economically and culturally disadvantaged students and for the continuing education of adults."

6. Wesley College

Wesley College, established 1873, is a two-year co-educational college and has no plans for expanding to a four-year program. The College places emphasis upon a Christian environment for education in an ecumenical atmosphere. The academic courses lead to an associate degree. Wesley encourages the student to transfer to a four-year college, or to pursue specialized educational programs such as business administration, medical secretarial, and nursing. Admission is based upon Scholastic Aptitude Tests, secondary school courses and grades, reference letters, and interviews. The college expects to continue with an equal number of male and female students. Historically, approximately 25% of students came from Delaware, but programs will be offered to increase local and state-wide students to 35% of the total student body.

No marked changes in traditional curricula offered are envisioned. Liberal arts, business administration, elementary education, physical education, secretarial and nursing comprise 84% of the curricula majors. Evening classes will continue approximately at present level of 8% of student enrollment.

7. Wilmington College

Wilmington College is in a "Recognized Candidate Status" for accreditation as an institution of higher education in Delaware. It was founded in 1965 as a non-profit, co-educational four-year institution of higher learning, and was so chartered by the State of Delaware in December, 1967. The State Board of Education has since authorized Wilmington College to confer the Baccalaureate Degree in Business and Liberal Arts. Accreditation by the Middle States Association of Secondary Schools and Colleges is expected shortly after graduation of its first four-year class on June 3, 1972.

The College has its own dormitory facilities and in principle has quietly emphasized its out-reach toward securing out-of-state students. It currently is also driving to increase the present proportion of female students, feeling that a 50/50 mix is most conducive to the type of student life it is seeking to promote.

8. The Delaware Law School

The Delaware Law School, a new institution, has not been included in this study except for the following summary.

The Delaware Law School is chartered by the State of Delaware. It opened in September, 1971. During the 1971-72 academic year the law school occupied rented quarters in Wilmington, first in the YWCA and then in the Odd Fellows Building on King Street. For Fall, 1972, the law school has purchased a building in the Wilmington area in order to commence multiple divisions of day and evening classes. This building, the former Peninsula Methodist Church, parsonage and parking lot, will contain a total of about 23,000 square feet.

The Delaware Law School will seek provisional approval by the American Bar Association.

II. SUMMARY

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This report covers the ~~xx~~ results of a four-part ~~a~~urvey designed to update the survey "Delaware Hig~~h~~er Education in the Seventies - 1971 Update" in ~~kkx~~e the three areas of enrollment projection, space inventory, ~~xx~~ and space utilization. Also examined ~~was~~ the current ~~st~~ c stage of development of the long-range facilities plan for each campus. The report recommends that the enrollments and facilities surveys should be repeated in 1974-75 and that master plans should be correlated nn a state-wide basis (author/cs).

higher education; enrollment projection; planning (facilities); master plans; state colleges; Statistical Data; Facility Utilization Research; Statewide Planning

~~Identifier: Delaware~~

II. SUMMARY

A. ENROLLMENTS

Enrollment data, current and projected, are found in detail in Section IV.

Current enrollments total 23,610 full- and part-time credit students in the seven Delaware institutions of higher learning. Of these 4,081 or 17.5% are registered in the four private institutions.

This student body is predicted by the institutions to grow by 154% to 60,096 by 1985 despite a declining birthrate and a U.S. Bureau of Census prediction of a 2.02% maximum annual population growth in Delaware. The proportion of students in the private institutions will decline from 17.5% to 12.3% representing 7,386 students. There are 6,052, or 25.4%, part-time students; of these, 816, or 13.5%, are in private institutions.

Full Time Equivalent students, FTE, (full-time plus 1/3 part-time students, except Del. Tech, where FTE - full time plus 1/10 part time) in the State number 17,505. Of these, 33% or 5,710 are from out of State. The proportion of out-of-state students is expected to decline slightly to 29% in 1985, or 10,933 of a total of 26,745. The students in the private institutions are predominately from out of state, averaging 69.5% in 1969 and anticipated to be 64.3% in 1985. Undergraduate FTE students are nearly equally divided between men and women. Women students comprise 45%, or 7,973, of the total in 1971 and will remain in that proportion until 1985 when the women FTE students will be 16,733, or 44%.

Evening students, on a head count basis, will increase from 9,468 in 1971 to 24,630 in 1985; or 40% to 41% of the total number of students current and predicted.

The chart, E-2, on page 18, illustrates graphically the head count enrollments current and projected of all institutions. Also, detail data may be found in the various tables and graphs in this section. However, the status and growth trends may be briefly stated as follows:

Delaware State College expects to increase by 97% from 1,921 in 1971 to 3,770 in 1985, and will include a strong trend toward a greater proportion of white students from the current 33%. Out-of-state students will be limited by policy to 25% of the student body

unless the number of in-state students is inadequate to utilize the available facilities.

Delaware Technical and Community College by reason of its wide range offerings of courses designed to supplement education of people in all walks of life expects to increase enrollments from current 4,745 for both campuses, to 26,290 by 1985, an increase of 454%.

University of Delaware is the only institution in the State conferring master and doctorate degrees. 19% (2,454) of the 12,863 degree credit students in 1971 were studying for advanced degrees. The University projects an enrollment increase of 76% to 22,650 by 1985.

Brandywine College plans to stabilize its student body at 2,654 by 1980, allowing an increase of 1,196 or 82% from the current total enrollment of 1,458. Out-of-state students will be nearly 70% by 1985, down from a current 79%.

Goldey Beacom College projects a growth from 938 in 1971 to 1,755 in 1985, an increase of 87%.

Wesley College plans as a two-year college to stabilize its student enrollments at 1,327 by 1980, an increase of 27% from the current 1,042. Curricula programs are being designed to attract more in-state students to increase the percentage of such from 25 to 35.

Wilmington College, an "emerging" institution is projecting an increase in student body from 643 to 1,650 by 1985, an increase of 166% with emphasis on out-of-state students (54.5% to 64.8%). The effect on student enrollment of cooperative programs with a college in New Jersey and another in Florida is not predictable at this time.

B. FACILITIES INVENTORY AND UTILIZATION

Data in detail are found in Section V. The inventory of facilities showed the buildings of all of the institutions to be in good condition as a result of well-planned maintenance programs and also because many buildings are new as a consequence of the expanding enrollments. Only 2.4% of the 4,916,695 total gross square feet was classified by the institutions as requiring "rehabilitation". The Net Assignable Square Feet (NASF) total was 3,164,047 square feet, or 65% of the gross area.

The NASF per FTE student shows a wide spread, as might be expected, among the different institutions--depending upon such factors as a broad curriculum requiring large amounts of special laboratory space, or the absence of a gymnasium or other ancillary facilities at certain institutions which results in a low NASF per student. The total NASF per FTE student varies from a minimum of 26.3 up to a maximum of 147.4 square feet.

The classification of space at the various schools based upon the "organizational unit" NASF per FTE student again also varies widely among the schools for the same reasons as cited above. Dormitory space is included in the data for five institutions, and the NASF per FTE student varies from 48.0 up to 239.8 square feet total.

"Space Factors" (net assignable square feet per weekly student contact hour, i.e., NASF/WSCH) were again calculated for Type 110 classrooms and Type 210 teaching laboratories. The purpose was to indicate room utilization versus a "good average" yardstick of 1.0 space Factor for classrooms and 2.5 for laboratories in the usual liberal arts colleges. For Type 110 classrooms the Space Factors varied from a low 0.55 to a high 1.39 square foot per weekly student contact hour. For laboratories the range was from 1.04 to 5.31 versus the yardstick of 2.5.

The "Percent Occupancy" (i.e., the percentage of student stations occupied during the periods when the room or laboratory is in use) was also calculated. The % Occupancy varied from 44% up to 72% for classrooms, and from 46% up to 89% for laboratories.

C. PROJECTION OF ACADEMIC FACILITY NEEDS

Section VI presents an updated forecast of the Type 110 classroom and Type 210 laboratory space needs to accomodate the FTE student enrollments projected by each of the institutions for the years 1975, 1980, and 1985. The ancillary needed facilities such as offices, library, gymnasium, dormitories, etc. are not included in the estimates but are left up to the individual institutions to estimate when necessary, for their special situations.

The projected enrollments were translated into space needs based upon existing weekly student contact hours (WSCH) per FTE student, multiplied by 1.0 square foot per WSCH for classrooms and 2.5 net assignable square foot for laboratories, and then multiplied by the ratio for gross area per NASF.

From the total space needs for classrooms and laboratories for the projected enrollments was subtracted the already existing space at each school to arrive at the "additional space needs" in gross square feet for 1975, 1980, and 1985. Finally these square feet of space were translated into dollars by the following method: Upon advice of the Delaware Department of Public Instruction an estimated cost of $45 per square foot was assumed for 1972, and this was then escalated by 10% compounded increase per year. This calculates to $60 for 1975, $96 for 1980, and to $156 per square foot by 1985.

Using the above method of estimating, the accumulative totals by 1985 for all public institutions would be $66 million, plus another $7 million for all private institutions. Note that this $73 million total is for classrooms and laboratories space only, and does not include offices, libraries, dormitories, etc.

If the future construction cost escalation does not continue at the recent factor of 10% per year, the accumulative totals will obviously be less; for example, at 5% escalation per year the cost per square foot in 1985 would become $85 instead of $156, and the accumulative totals would be decreased profoundly. Thus the $73 million estimate should be viewed as representing a "high-spot" figure based on the previously noted projected student enrollments as estimated by the individual instituions, the 10% escalation of construction costs, and the exclusion of costs of ancillary space such as offices, student service facilities, special use facilities and the like.

D. MASTER PLANS

An element that has not heretofore been considered in previous studies is delineated in Section VII, Master Plans. The highlights or overviews of planning by each institution are briefly presented as follows:

Delaware State College has recently had a Master Plan developed by a consulting firm. This plan is under review by the faculty and the Board of Trustees before being adopted for implementation. It is expected, however, that the following will be provided:

a. A new Humanities Building now in construction at an estimated cost of $3.8 million.
b. Renovation of Delaware Hall for administrative and auxiliary services.
c. A new library.

Other facilities are under consideration. The construction program is being devised to support projected expansion of curricula and services such as creation of an Urban Affairs Department, nursing education, degree program for night courses, summer semester and graduate programs leading to Masters' degrees in Economics, Business Administration and Education

Delaware Technical and Community College has a comprehensive Master Plan for extensive growth.

a. The Northern Branch has a new 124,000 square foot complete facility under construction in downtown Wilmington.
b. A suburban campus is in the planning stage and is to be located at the junction of Routes 7 and I-95. Construction of 150,000 square feet of space at a cost of $8 million is contemplated.
c. Additional space of 200,000 square feet each in the plan for both the Central Wilmington and Suburban Campuses by 1985.
d. A 75,000 square foot expansion at the Southern Branch in Georgetown is planned for 1975.
e. The development of a community college in Kent County (north of Dover) is under study.

University of Delaware has a "University of Delaware Development Plan" developed by consultants. The comprehensive plan relates to an optimum student enrollment of 18,300 students by 1976 after which it is postulated that additional students will be enrolled in another campus of the University. Construction of additional facilities in three phases at the Newark Campus has been planned for 1,222,000 square feet. Approximately 50% of these will be for instructional purposes, 18% for instructional support, 5% for administrative support and 27% for activity support. The total cost of these facilities considering escalation and an additional 720 units of housing could be as high as $120 million for completion in 1979.

Beyond these plans for development at Newark, the Master Plan foresees a need for an additional campus and some guidelines for selection of a site.

Brandywine College has a comprehensive master plan to include:

a. A new complex for library, classroom and office facilities now nearing completion
b. Physical education, recreation and health classroom facilities by 1973 for $1 million
c. Science, student union and chapel buildings by 1976 for an expenditure of $1.8 million
d. Additional classrooms at a cost of $1 million plus by 1978

Land acquisition is planned as needed for the foregoing facilities.

Goldey Beacom College has a master plan for expansion developed by consultants. It is currently under study by the Board of Trustees and details have not been released.

Wesley College has determined a limited growth which will be culminated by a new College Center to be completed in April of 1973. Beyond this only minor additions are contemplated.

Wilmington College is engaged in meeting its immediate obligations as an emerging institution. Present plans include cooperative arrangements with Salem Technical College of Salem, New Jersey and Marymount College of Boca Raton, Florida. After these affiliations are completed preparation of long range master plan will be undertaken.

E. RECOMMENDATIONS

Two recommendations within the scope of the project are made. One recommends that this survey, similar in scope, be repeated as of the Fall of 1974 in order to reflect any possible changes in the criteria influential to the critical data.

The second recommendation calls for a correlation of Master Plans on a State-integrated basis by a State agency in order that duplication of effort and capital expenditures may be avoided.

III. SURVEY PROCEDURE

III. SURVEY PROCEDURE

This survey has been carried out by a University of Delaware Technical Services' (UDTS) team in conjunction with the Delaware Higher Education Facilities Task Force. Individual UDTS staff members were assigned to work with representatives of the respective institutions as follows:

University of Delaware	F. C. Mitchell
Delaware Technical & Community College Brandywine College	John Campbell
Delaware State College Wesley College	Chester K. Rosenbaum
Goldey Beacom College Wilmington College	B. A. Weimer
Project Director	John V. Ingham

The information presented herein includes an updating and in some areas an expansion of that presented in the previous two years by the Delaware Higher Education Facilities Task Force. The basic data were provided by representatives of the seven institutions, and were used by the Technical Services Study Group in deriving the various tables presented. Results of the previous studies were referred to extensively in the early phases of this work, and served as a base for projections. Enrollment figures for the 1971 Fall Term suggested some modifications of past projections. Building programs at various institutions are now under way to provide space needs previously forecast.

The comprehensive facilities planning activities performed by the Technical Services Survey Group include:

1. Enrollment Update - The information available has been critically analyzed, including ratios of in-state and out-of-state students, men and women students, full and part-time students, evening students, and the standardized Full Time Equivalent (FTE) Index.

2. Space Inventory and Utilization Update - The space factors have been derived, and space allocations for the various categories have been re-examined.

3. Projection of Space Needs Update - The academic space needs as of the Fall terms of 1975, 1980, and 1985 have been calculated by the Survey Group, based on space factors and basic data, and funding requirements for future construction have been projected, to include anticipated cost escalation factors.

4. Determination of Current Stage of Developments of and/or Availability of Long Range or Master Plans for Each Campus - Status of Master Plans was compiled for each institution.

In the course of updating this report, certain improvements in definition of terms and in classification of facilities utilization were developed.

IV. ENROLLMENTS

IV. ENROLLMENTS

Enrollments are summarized in Table I, page 18 following. Further detail may be found in Tables II, page 19, III, page 20, and IV, page 21, and illustrated graphically in Figures E-1, page 22, and E-2, page 23. Figures E-3 through E-10 are relative to individual institutions and accompany commentary on each institution.

It is well to define certain terms in these tables and figures to aid in their interpretation:

FT = Full-time student, one who carries at least 75% of a normal student load.

PT = Part-time student is one who carries less than 75% of a normal student load, and may attend either day or evening classes, on or off the campus.

HC = Headcount, or total of all students.

FTE = Full time equivalent index is the total of "full time students plus one-third of "part-time" students, except for Delaware Technical and Community College, which uses one-tenth of "part time" instead of one-third

Figure E-1, page 22, indicates that total Full Time Equivalent undergraduate in-state enrollments are projected to increase by 165% in the next 14 years. It can be noted that the corresponding birthrate (1951-1967) has been declining since 1964, and that the U.S. Bureau of Census projects population growth at 1.14% to 2.02% per year.

Figure E-2, page 23, shows enrollment distribution, actual and projected on a head count basis, among Delaware institutions of higher education for 1969-1985.

TABLE I

ENROLLMENT - FULL AND PART-TIME CREDIT STUDENTS

Institution		Enrollments			Projections		
		1969	1970	1971	1975	1980	1985
Delaware State College	Full Time	1,092	1,335	1,624	2,198	2,730	3,250
	Part Time	208	334	297	420	470	520
	% PT of Tot	16	20	15	16	15	14
	TOTAL	1,300	1,669	1,921	2,618	3,200	3,770
Delaware Tech. & Community College (N)	Full Time	604	784	1,015	2,800	4,300	5,400
	Part Time	603	1,357	1,809	5,050	9,190	11,890
	% PT of Tot	50	63	64	64	68	69
	TOTAL	1,207	2,141	2,824	7,850	13,490	17,290
Delaware Tech. & Community College (S)	Full Time	672	687	1,038	1,400	2,000	3,000
	Part Time	672	910	883	4,000	5,000	6,000
	% PT of Tot	50	57	46	74	71	67
	TOTAL	1,344	1,597	1,921	5,400	7,000	9,000
University of Delaware *	Full Time	8,549	9,490	10,616	13,423	16,405	18,900
	Part Time	2,225	2,307	2,247	2,748	3,301	3,750
	% PT of Tot	20.7	19.6	17.5	17.0	16.8	16.6
	TOTAL	10,774	11,797	12,863	16,171	19,706	22,650
Sub-Total PUBLIC **	Full Time	10,917	12,296	14,293	19,821	25,435	30,550
	Part Time	3,708	4,908	5,236	12,218	17,961	22,160
	% PT of Tot	25.3	28.6	26.8	38.2	41.4	42.0
	TOTAL	14,625	17,204	19,529	32,039	43,396	52,710
Brandywine College	Full Time	1,252	1,349	1,231	1,679	2,149	2,149
	Part Time	295	174	227	394	505	505
	% PT of Tot	19	11	16	19	19	19
	TOTAL	1,547	1,523	1,458	2,073	2,654	2,654
Goldey Beacom College	Full Time	1,050	875	776	1,000	1,200	1,440
	Part Time	6	175	162	219	263	315
	% PT of Tot	0.6	16.6	17.3	18	18	17.9
	TOTAL	1,056	1,050	938	1,219	1,463	1,755
Wesley College	Full Time	657	858	791	900	1,052	1,052
	Part Time	244	311	251	260	275	275
	% PT of Tot	27	27	24	22	21	21
	TOTAL	901	1,169	1,042	1,160	1,327	1,327
Wilmington College	Full Time	310	430	467	710	1,050	1,200
	Part Time	40	70	176	255	390	450
	% PT of Tot	11.4	14.0	27.4	27.2	27.1	27.2
	TOTAL	350	500	643	965	1,440	1,650
Sub-Total PRIVATE	Full Time	3,269	3,512	3,265	4,289	5,451	5,841
	Part Time	585	730	816	1,128	1,433	1,545
	% PT of Tot	15.2	17.2	20.0	20.8	20.8	20.9
	TOTAL	3,854	4,242	4,081	5,417	6,884	7,386
GRAND TOTAL	Full Time	14,186	15,808	17,558	24,110	30,886	36,391
	Part Time	4,293	5,638	6,052	13,346	19,394	23,705
	% PT of Tot	23.2	26.3	25.4	35.6	38.7	39.4
	TOTAL	18,479	21,446	23,610	37,456	50,280	60,096

* University of Delaware enrollments (this Table only) include graduate students

** All totals (this Table only) include University of Delaware graduate students

TABLE II

ENROLLMENT IN-STATE AND OUT-OF-STATE UNDERGRADUATE FTE STUDENTS

Institution		Enrollments 1969	1970	1971	Projections 1975	1980	1985
Delaware State College	In-State	762	1,025	1,234	1,753	2,165	2,568
	Out-State	399	421	489	585	722	855
	% OS of Tot.	34	29	28	25	25	25
	TOTAL	1,161	1,446	1,723	2,338	2,887	3,423
Delaware Tech. & Community College (N)	In-State	637	863	1,156	3,140	4,963	6,259
	Out-State	27	57	40	165	256	330
	% OS of Tot.	4	6	3	5	5	5
	TOTAL	664	920	1,196	3,305	5,219	6,589
Delaware Tech & Community College (S)	In-State	700	704	1,036	1,620	2,250	3,240
	Out-State	39	74	90	180	250	360
	% OS of Tot.	5	9	8	10	10	10
	TOTAL	739	778	1,126	1,800	2,500	3,600
University of Delaware	In-State	5,366	6,226	7,319	9,130	10,837	12,400
	Out-State	2,492	2,544	2,603	3,544	4,640	5,310
	% OS of Tot.	30.4	29.0	26.2	27.9	30.0	30.0
	TOTAL	7,858	8,770	9,922	12,674	15,477	17,710
Sub-Total PUBLIC	In-State	7,465	8,818	10,745	15,643	20,215	24,467
	Out-State	2,957	3,096	3,222	4,474	5,868	6,855
	% OS of Tot.	28.4	26.0	23.1	22.2	22.5	21.9
	TOTAL	10,422	11,914	13,967	20,117	26,083	31,322
Brandywine College	In-State	395	328	276	362	565	735
	Out-State	955	1,079	1,031	1,448	1,752	1,582
	% OS of Tot.	71	77	79	80	67	69
	TOTAL	1,350	1,407	1,307	1,810	2,317	2,317
Goldey Beacom College	In-State	350	306	311	419	554	664
	Out-State	702	627	519	654	734	881
	% OS of Tot.	66.6	67.3	62.5	61.7	57.0	57.0
	TOTAL	1,052	933	830	1,073	1,288	1,545
Wesley College	In-State	201	229	224	296	404	404
	Out-State	537	733	651	691	740	740
	% OS of Tot.	73	76	74	70	65	65
	TOTAL	738	962	875	987	1,144	1,144
Wilmington College	In-State	78	147	239	320	415	475
	Out-State	245	306	287	475	765	875
	% OS of Tot.	75.5	67.5	54.5	59.7	64.8	64.8
	TOTAL	323	453	526	795	1,180	1,350
Sub-Total PRIVATE	In-State	1,024	1,010	1,050	1,397	1,938	2,278
	Out-State	2,439	2,745	2,488	3,268	3,991	4,078
	% OS of Tot.	70.3	73.0	69.5	70.0	67.3	64.3
	TOTAL	3,465	3,755	3,538	4,665	5,929	6,356
GRAND TOTAL	In-State	8,489	9,828	11,795	17,040	22,153	26,745
	Out-State	5,396	5,841	5,710	7,742	9,859	10,933
	% OS of Tot.	39	37	33	31	32	29
	TOTAL	13,885	15,669	17,505	24,782	32,012	37,678

TABLE III

ENROLLMENT - MEN AND WOMEN - UNDERGRADUATE FTE STUDENTS

Institution		Enrollments			Projections		
		1969	1970	1971	1975	1980	1985
Delaware State College	Men	807	818	967	1,285	1,587	1,890
	Women	354	628	756	1,053	1,300	1,533
	% W of Tot.	39	43	44	45	45	45
	TOTAL	1,161	1,446	1,723	2,338	2,887	3,423
Delaware Tech & Community College (N)	Men	499	691	770	2,197	3,473	4,393
	Women	165	229	426	1,108	1,746	2,196
	% W of Tot.	25	25	36	34	33	33
	TOTAL	664	920	1,196	3,305	5,219	6,589
Delaware Tech & Community College (S)	Men	433	447	658	1,080	1,500	2,160
	Women	306	331	468	720	1,000	1,440
	% W of Tot.	41	43	42	40	40	40
	TOTAL	739	778	1,126	1,800	2,500	3,600
University of Delaware	Men	4,233	4,725	5,340	6,819	8,327	9,525
	Women	3,625	4,045	4,582	5,855	7,150	8,185
	% W of Tot.	46.1	46.1	46.2	46.2	46.1	46.1
	TOTAL	7,858	8,770	9,922	12,674	15,477	17,710
Sub-Total PUBLIC	Men	5,972	6,681	7,735	11,381	14,887	17,968
	Women	4,450	5,233	6,232	8,736	11,196	13,354
	% W of Tot.	43	44	45	44	43	43
	TOTAL	10,422	11,914	13,967	20,117	26,083	31,322
Brandywine College	Men		678	646	905	1,158	1,158
	Women		729	661	905	1,159	1,159
	% W of Tot.		52	51	50	50	50
	TOTAL	1,350	1,407	1,307	1,810	2,317	2,317
Goldey Beacom College	Men	431	395	306	400	475	572
	Women	621	538	524	673	813	973
	% W of Tot.	68.6	57.8	63.1	62.6	63.0	63
	TOTAL	1,052	933	830	1,073	1,288	1,545
Wesley College	Men	374	476	437	494	572	572
	Women	364	486	438	493	572	572
	% W of Tot.	49	51	50	50	50	50
	TOTAL	738	962	875	987	1,144	1,144
Wilmington College	Men		353	408	425	600	675
	Women		100	118	370	580	675
	% W of Tot.		22.1	22.4	46.6	49.2	50
	TOTAL	323	453	526	795	1,180	1,350
Sub-Total PRIVATE	Men		1,902	1,797	2,224	2,805	2,977
	Women		1,853	1,741	2,441	3,124	3,379
	% W of Tot.		49.4	49.5	52.5	52.7	53.2
	TOTAL	3,463	3,755	3,538	4,665	5,929	6,356
GRAND TOTAL	Men		8,583	9,532	13,605	17,692	20,945
	Women		7,086	7,973	11,177	14,320	16,733
	% W of Tot.		45	45	45	45	44
	TOTAL	13,885	15,669	17,505	24,782	32,012	37,678

TABLE IV

ENROLLMENT - EVENING STUDENTS - HEAD COUNT BASIS

Institution	Enrollments			Projections		
	1969	1970	1971	1975	1980	1985
Delaware State College	165	210	182	270	320	370
Delaware Technical and Community College (N)	NA	NA	1,639	3,535	6,435	8,325
Delaware Technical and Community College (S)	NA	NA	883	2,800	3,500	4,200
University of Delaware	NA	NA	5,825	7,320	8,930	10,250
Brandywine College	370	358	433	475	525	575
Goldey Beacom College	201	139	162	150	150	150
Wesley College	209	249	224	240	250	260
Wilmington College	NA	NA	120	240	400	500
GRAND TOTAL	NA	NA	9,468	15,030	20,510	24,630

FIGURE E-1

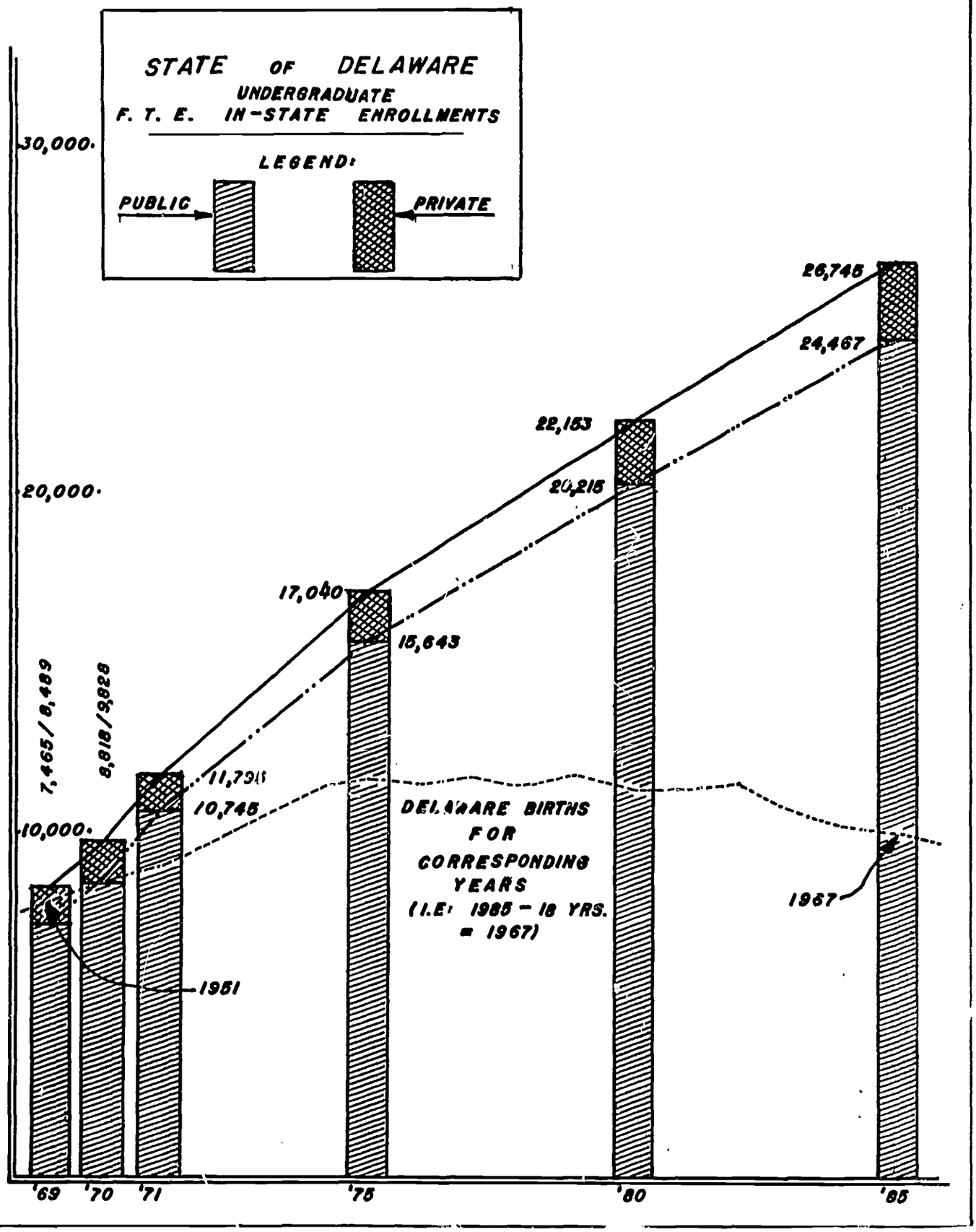
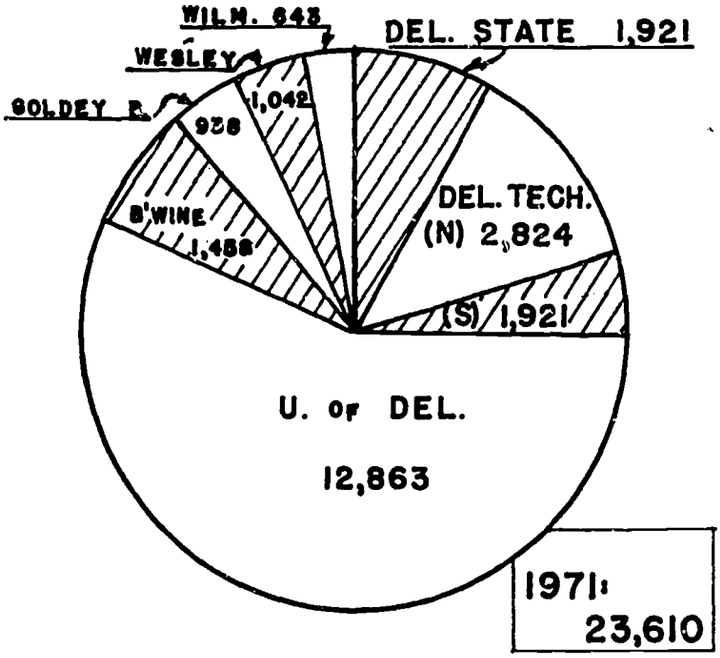
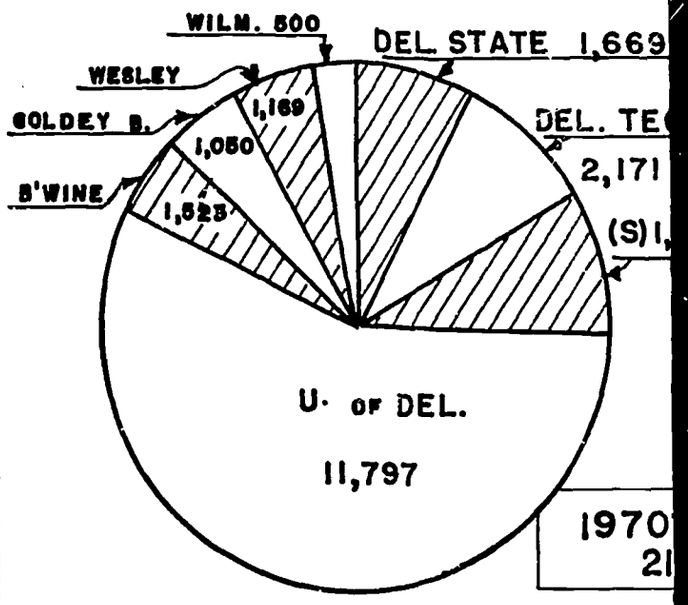
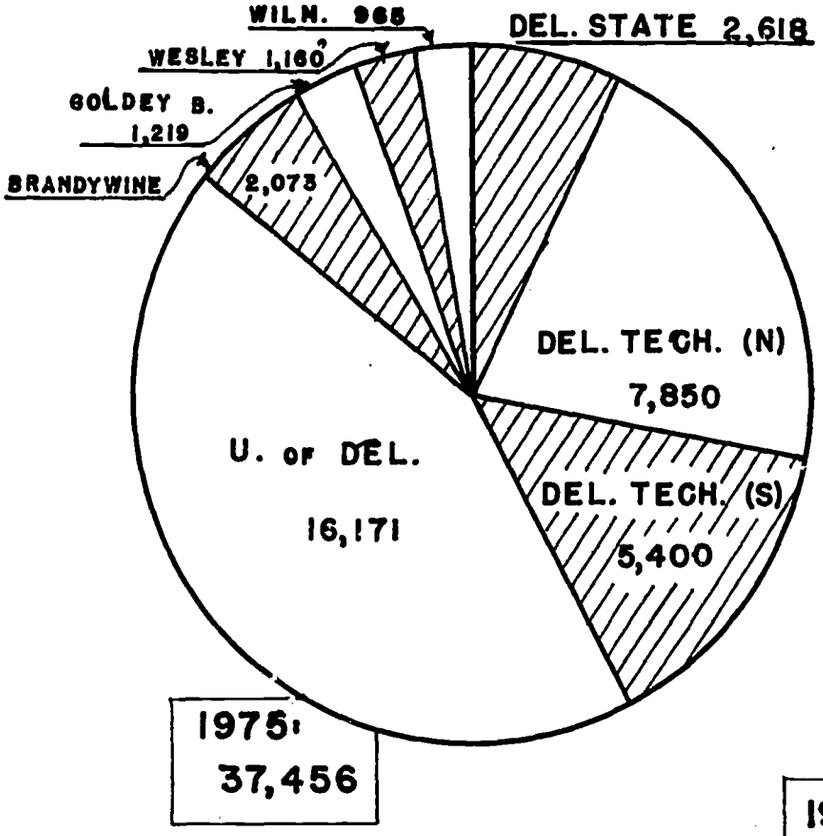
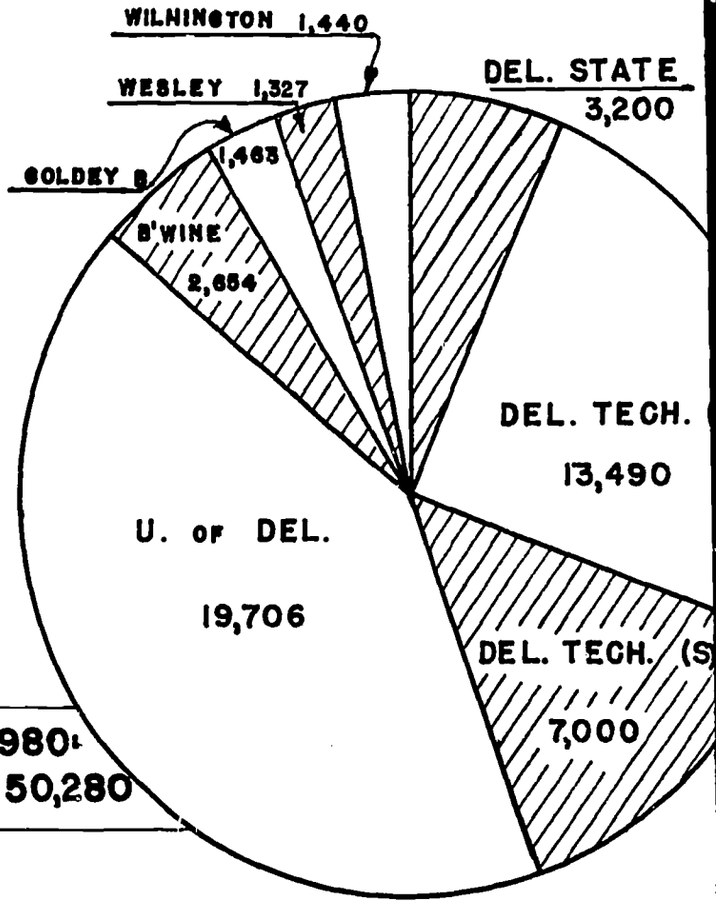

STATE OF DELAWARE
UNDERGRADUATE
F. T. E. IN-STATE ENROLLMENTS
LEGEND:
PUBLIC
PRIVATE
30,000.
20,000.
10,000.
26,745
24,467
22,153
20,215
17,040
15,643
11,791
10,745
7,465/8,489
8,818/9,828
1951
1967
DELAWARE BIRTHS FOR CORRESPONDING YEARS (I.E: 1985 - 18 YRS. = 1967)
'69
'70
'71
'75
'80
'85

FIGURE E-2





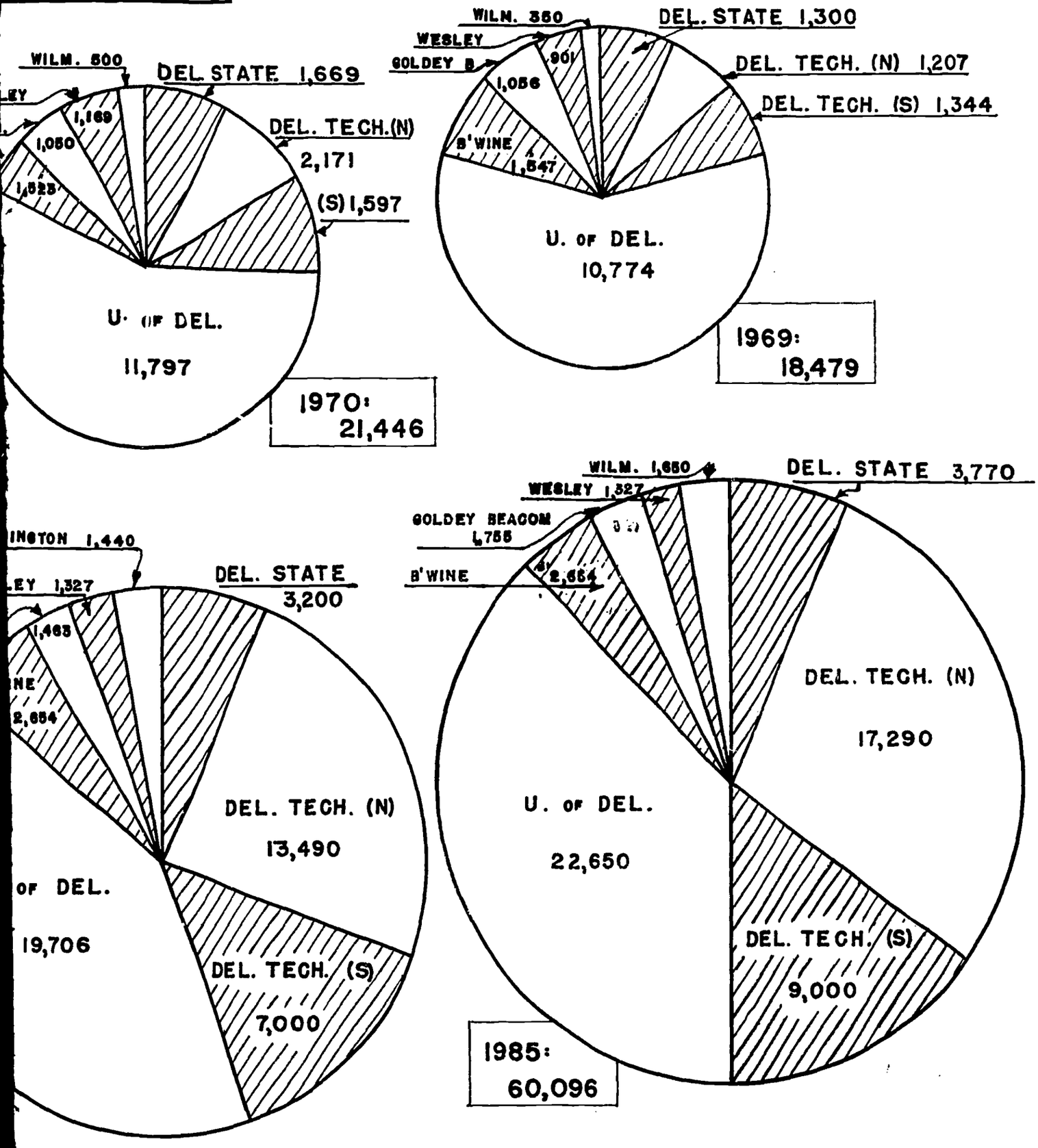




SCALE:
1 SQ. IN. = APPROX. 3,000 STUDENTS

HEAD – COUNT ENROLLMENT —— AMONG DELAWARE INSTITUTIONS OF

FIGURE E-2



T ENROLLMENT —— ACTUAL & PROJECTED DISTRIBUTION

INSTITUTIONS OF HIGHER EDUCATION: 1969—1985

INDIVIDUAL INSTITUTIONS

The enrollments, actual and projected, for the eight campuses covered in this survey are presented in Tables I through IV and illustrated in Figures E-3 through E-10.

Delaware State College expects the trend to continue to a higher percentage of white students (now 33%) and commuters (now 42%). The predicted growth in student enrollment is shown in Tables I through IV, pages 18-21.

The enrollments predicted for '75 and '80 are the same as in the "1971 Update Report," but the '85 prediction is new. These predicted enrollments are considered by the college to be "probable minimums." The uncompounded increases compare as follows:

	'71-'75	'75-'80	'80-'85
Head Count increase per year	143	106	104
Percent increase per year	9%	4%	3.6%

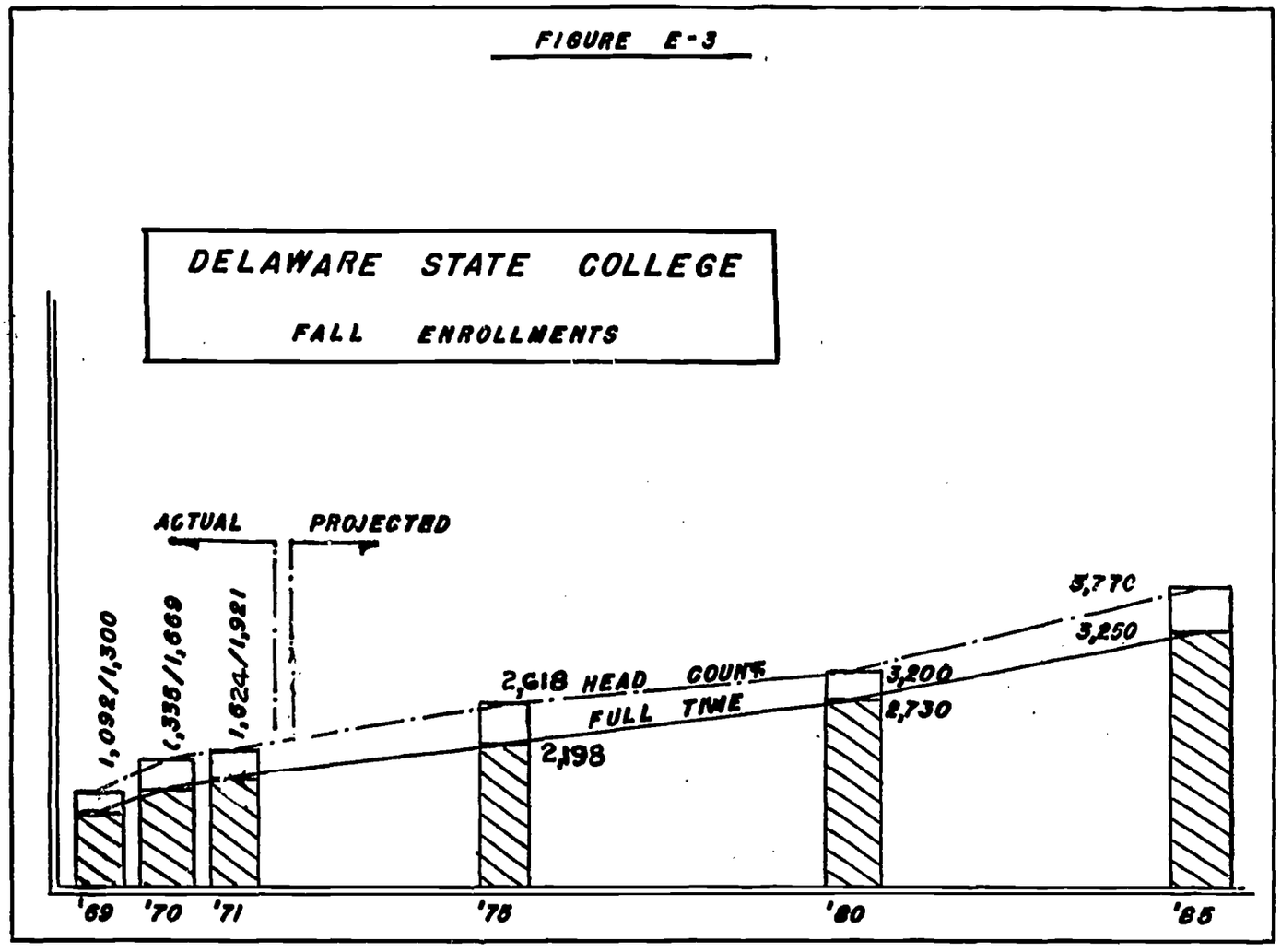
In contrast the actual average percent increase per year during the last ten years has been 14.6%, and during the last five years 16.8%. Factors having an influence on enrollment growth may be (a) depth of the reservoir of potential enrollees, and (b) the effect of expansion plans of other Delaware colleges.

The 1969 enrollment shown in Table I, page 18, above differs from the 1970 report because it now includes 165 evening students which originally had not been counted as "Part-Time".

In Table II, page 19, the projected enrollment of out-of-state students is shown as being held at 25%. Because of the excellent facilities and faculty, additional out-of-state students can undoubtedly be attracted if the college has room in certain programs and in dormitories.

Table III, page 20, is based upon the assumption that the projected enrollments of women students will continue at the present proportion (45%).

FIGURE E-3


DELAWARE STATE COLLEGE
FALL ENROLLMENTS
ACTUAL
PROJECTED
1,092/1,300
1,336/1,669
1,624/1,921
2,618 HEAD COUNT
FULL TIME
2,198
3,200
2,730
5,770
3,250
'69
'70
'71
'75
'80
'85

In Table IV, page 21, the proportion of "Evening Students" is predicted to remain at a level of 10%, while the head count increases to 370 because more courses are being offered to serve the surrounding community. .

Delaware Technical Community College provides an open-door, two-year comprehensive program of education and training above the high school level. It is committed to a broad range of day and evening programs for those who wish to expand and upgrade their present job skills. Course offerings are provided for students contemplating subsequent transfer to four-year colleges and universities. Attractive to adults from all age groups, the courses taught by the College serve a segment of the population that has been largely neglected in previous years.

As a result of the foregoing program, enrollment at both the Northern and Southern Branches will continue present substantial growth patterns. The master plan includes a suburban campus in New Castle County, expansion in Sussex County (Georgetown), and a new Kent County Campus. Predicted enrollment data include these added facilities.

Women will comprise 33%-40% of the student body. Out-of-state enrollment will approximate 5% in the northern part of the state, and 10% in the southern. Evening classes will continue to comprise a substantial part of total enrollment.

The figures presented for part-time student enrollment reflect the total number of registrations for part-time attendance during the school year; they are not limited to the opening fall part-time enrollment during the year cited.

University of Delaware

The University of Delaware is the only institution of higher education in the State of Delaware which confers master and doctorate degrees. As has already been noted, it is also, from the standpoint of enrollment, the largest educational institution in Delaware. Of its 12,863 degree-credit students in the fall term of 1971, 2454 students (about 19%) were studying for advanced degrees.

Another 3921 students were enrolled as extension students; these students were nominally non-degree-credit students, though many of them were taking courses for which credit toward a degree might be approved at a later date. Some of these students were taking graduate-level courses.

FIGURE E - 4

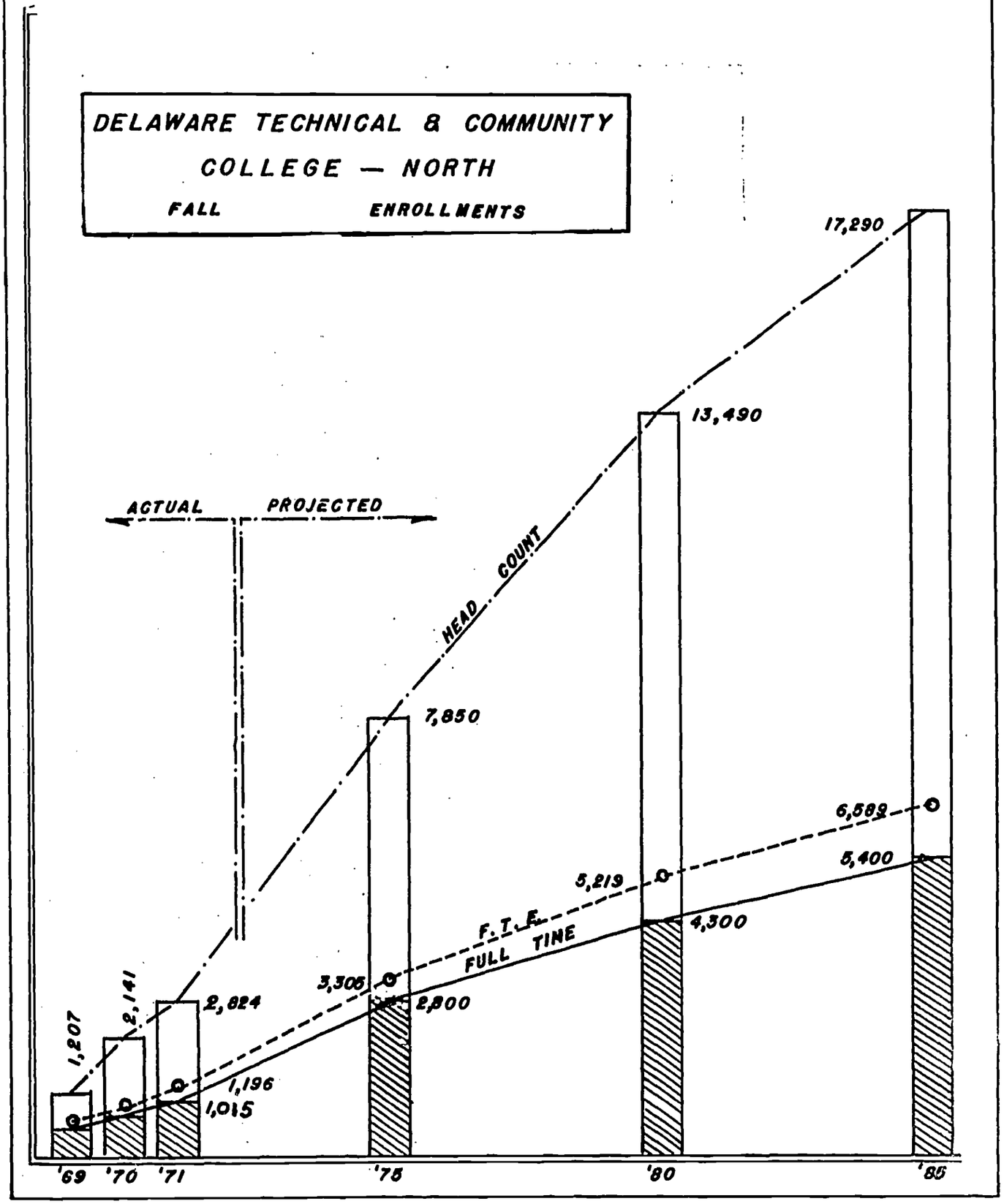
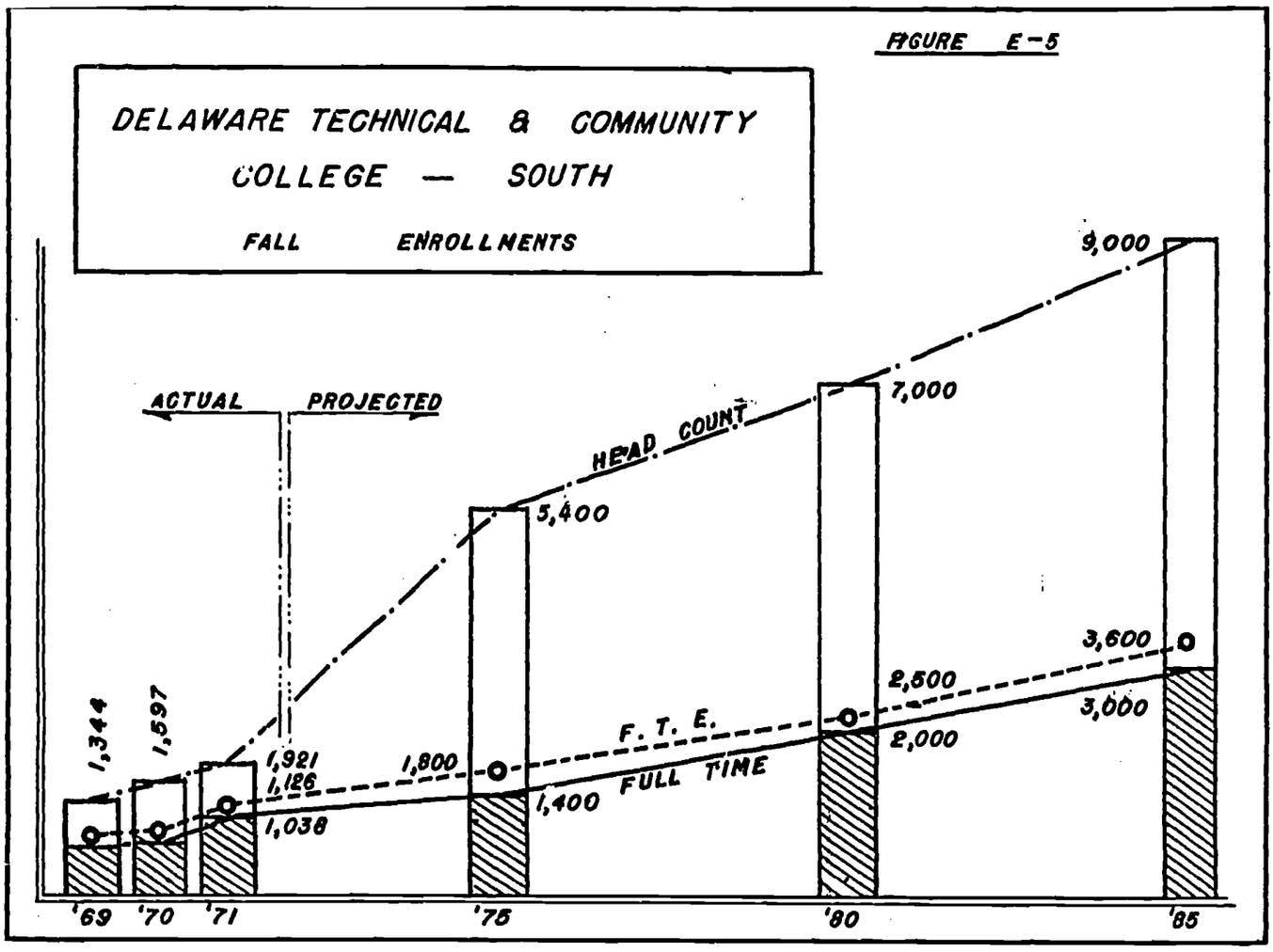

DELAWARE TECHNICAL & COMMUNITY
COLLEGE — NORTH
FALL ENROLLMENTS
ACTUAL
PROJECTED
HEAD COUNT
F.T.E.
FULL TIME
1,207
2,141
2,824
7,850
13,490
17,290
1,196
1,015
3,305
2,800
5,219
4,300
6,589
5,400
'69
'70
'71
'75
'80
'85

FIGURE E-5


DELAWARE TECHNICAL & COMMUNITY COLLEGE — SOUTH
FALL ENROLLMENTS
ACTUAL
PROJECTED
HEAD COUNT
F. T. E.
FULL TIME
1,344
1,597
1,921
1,126
1,038
1,800
5,400
1,400
7,000
2,500
2,000
9,000
3,600
3,000
'69
'70
'71
'75
'80
'85

The total enrollment at the University for the fall term of 1971 was thus 16,784 students. Of these students, it is estimated that approximately 5825 (about 35%) were taking courses with one or more classes in the evening (classes scheduled to begin at 6:00 p.m. or later).

Of the 10,409 undergraduate, degree-credit students (12,863 total - 2454 graduate), 9679 (93.0%) were full-time students and 730 were part-time students. The full time equivalent number of undergraduate, degree-credit students was therefore 9922, a 13.1% increase from the 1970 fall term enrollment of 8770, which itself was an 11.6% increase from the 1969 fall term enrollment of 7858.

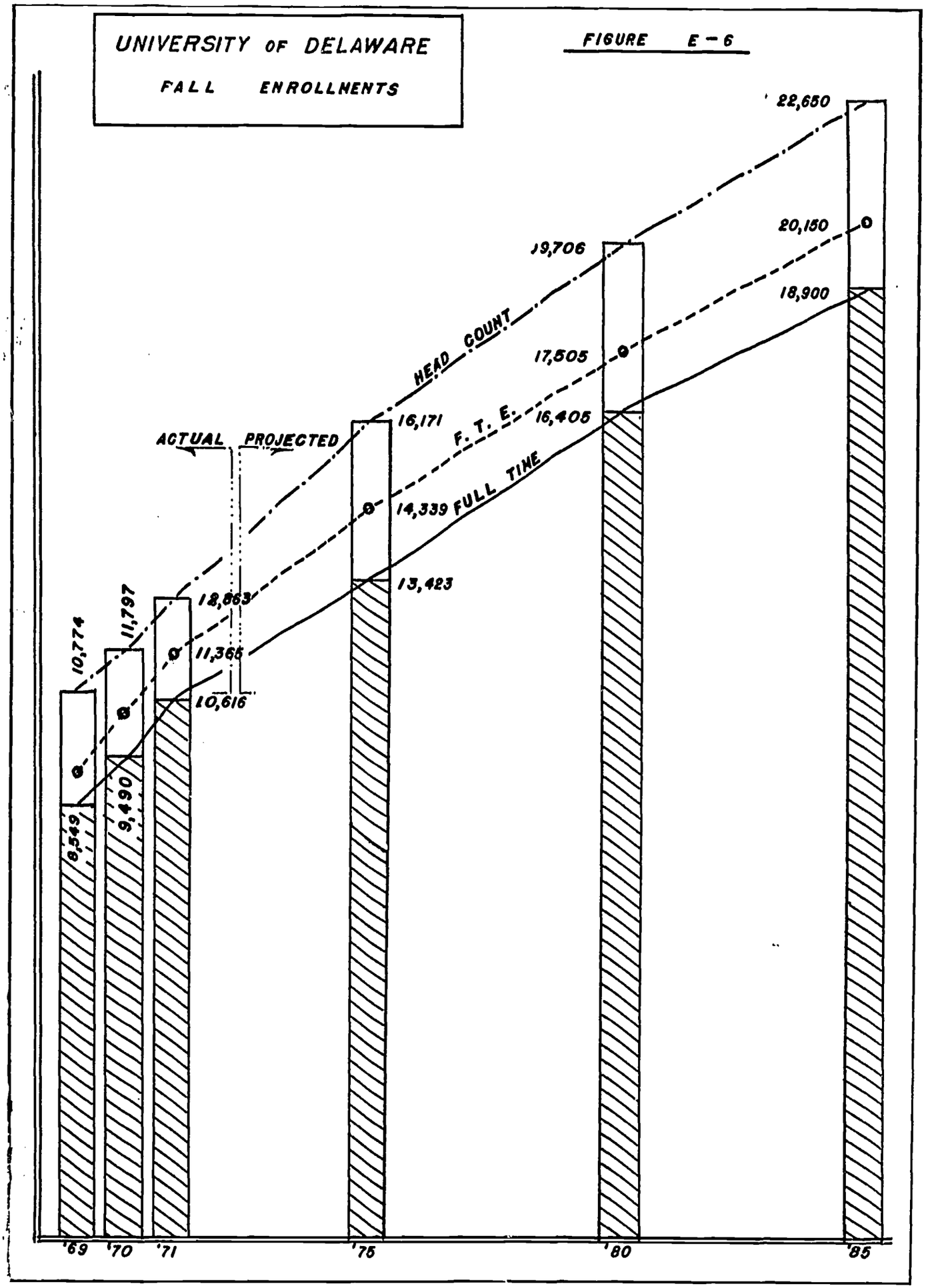
In addition to the number of undergraduate, degree-credit, FTE students in the fall term of 1971 increasing from 1970, the fraction of these students from Delaware also increased, from 71.0% to 73.8%. Thus, the increase in the number of in-state FTE students was 17.5%, from 6226 to 7319 (See Table III).

The fraction of the University's FTE undergraduate enrollment which is male has remained at a relatively constant 54% for the past several years and is projected to remain such through 1985. This is a percentage which should remain relatively insensitive to pressures created by a women's liberation movement or other external factors for the foreseeable future.

The projected increase in total enrollment of degree credit students at the University through 1985 is 76% (to 22,650 from 12,863). This corresponds to an average annual compound rate of growth of 4.2%, which is significantly less that the rate of growth recently experienced. This reflects a decrease in average annual growth rate from 5.9% for the next four years to 2.9% for the period 1980 to 1985. Thus, by 1985, the rate of increase in undergraduate enrollment at the University will only be about 50% greater than the greatest average growth rate (2.0% per year) projected by the U.S. Census Bureau for population of the State of Delaware for this time interval.

The fraction of the degree-credit students who are enrolled on a part-time basis at the University is expected to continue its recent trend, decreasing from its current value of 17.5% to 16.6% by 1985.

The number of evening students is expected to remain proportional to the number of degree-credit students, increasing from the 1971 fall term level of 5825 to 10,250 in 1985 (an increase of 76%).


UNIVERSITY OF DELAWARE
FALL ENROLLMENTS
FIGURE E-6
22,650
20,150
19,706
18,900
HEAD COUNT
17,505
16,171
F. T. E.
16,405
ACTUAL
PROJECTED
14,339 FULL TIME
13,423
12,663
11,797
11,366
10,774
10,616
9,490
8,549
'69
'70
'71
'75
'80
'85

Brandywine College

The Brandywine College student body is expected to increase in size in a steady progression until about 1980, when it is expected to stabilize. Facilities will be added as needed to serve the enrollment. Nearly 70% of the students will be from out-of-state locations; the student body makeup will be evenly split between men and women. (See Figure E-7, page 32.)

Goldey Beacom College

Goldey Beacom College enrollments have decreased marginally during the 1969-1971 period; this is attributed partly to the economic situation, plus delays in securing Federal grants-in-aid. It is expected that funding will be stabilized shortly, with Goldey Beacom, fully accredited since 1969, receiving its full quota of Federal aid. The projections shown are based on Goldey Beacom's historic growth rate, projected from the fall 1971 actual enrollment. (See Figure E-8, page 33.)

Wesley College

The enrollments reported herein in Table I, page 18 for 1969 now include 168 students in evening school plus 41 in Adult Education at Wesley College. These were not reported in the original HEAAC report Table II, page 14. Also, the 1970 enrollment figure now includes 51 in Adult Education classes, not reported in the 1971 Update HEAAC report, Table I.

Wesley College plans to continue as a two-year college and will expand its enrollment to approximately 1000 full-time resident students and stabilize at this level. The part-time students will continue at the present level.

In Table II, page 19, the percentage of out-of-state students has been 75%, but programs will be instituted to attract more in-state students (25% increasing to 35%). The proportion of women is expected to remain at the present 50% level (Table III, page 20). (See Figure E-9, page 34.)

Courses that will serve the local community will be continued to attract students to evening school (Table IV, page 21).

FIGURE E - 7

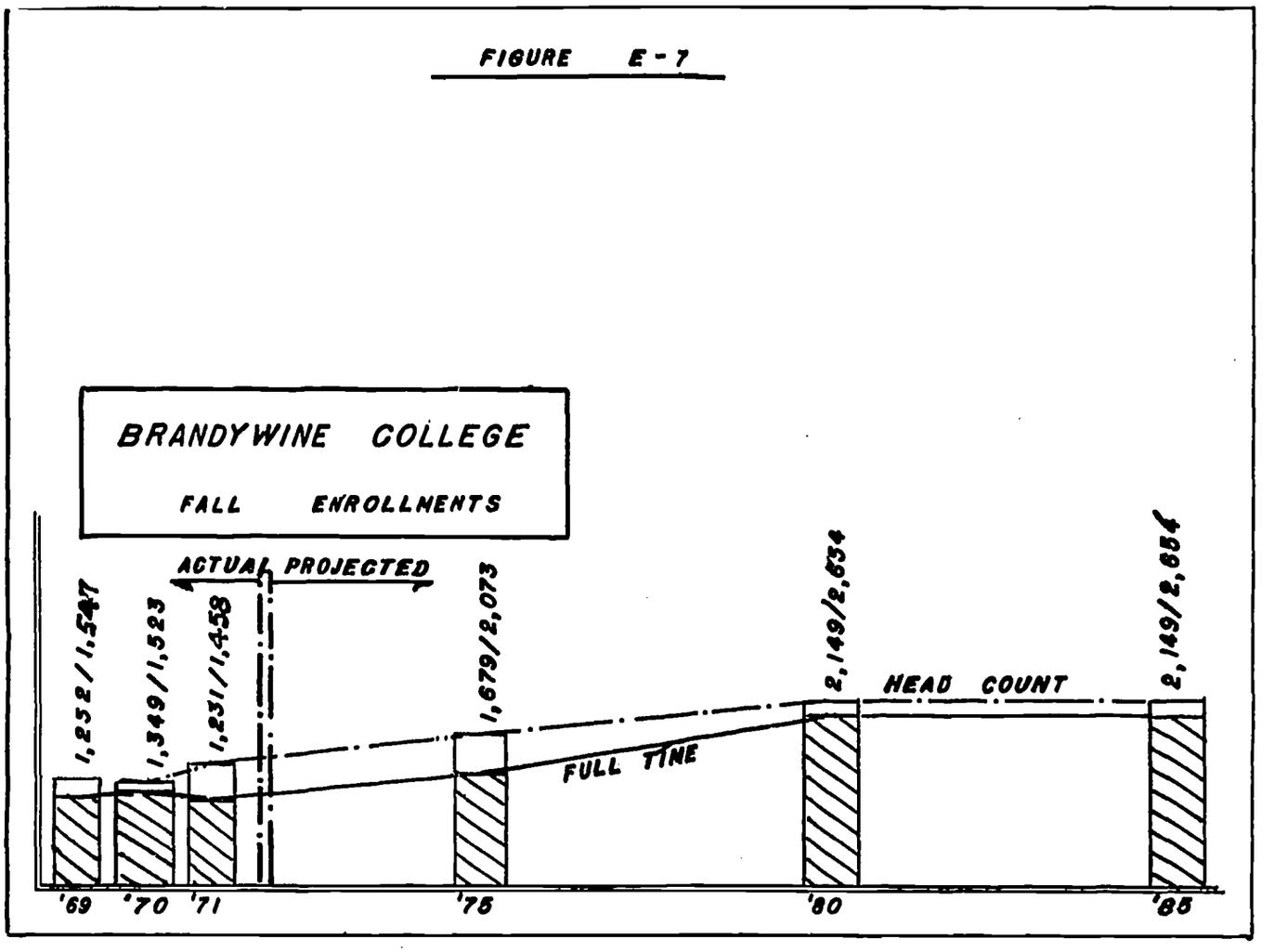

BRANDYWINE COLLEGE
FALL ENROLLMENTS
ACTUAL
PROJECTED
1,252/1,547
1,349/1,523
1,231/1,458
1,679/2,073
2,149/2,654
2,149/2,654
HEAD COUNT
FULL TIME
'69
'70
'71
'75
'80
'85

FIGURE E-8

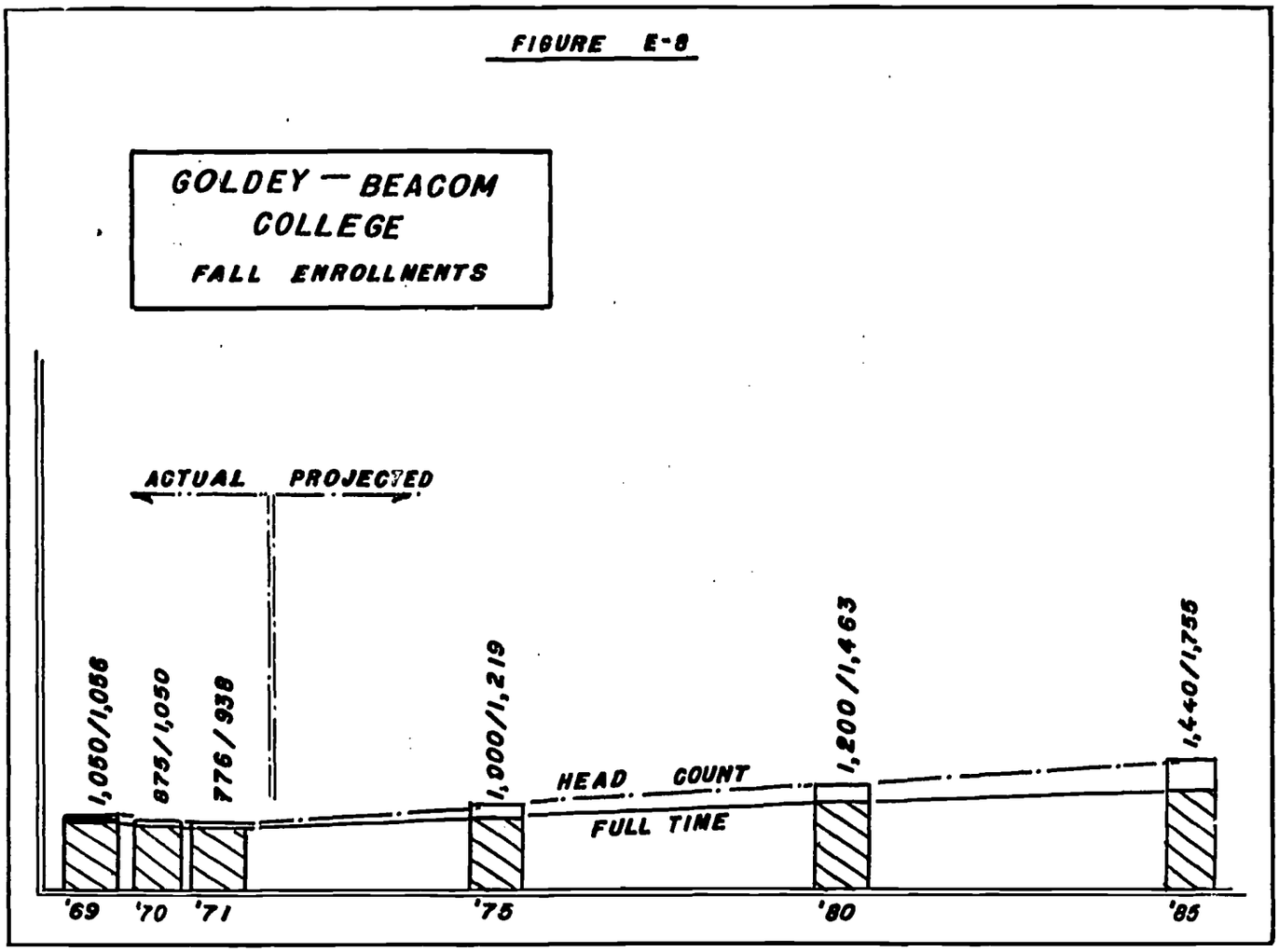
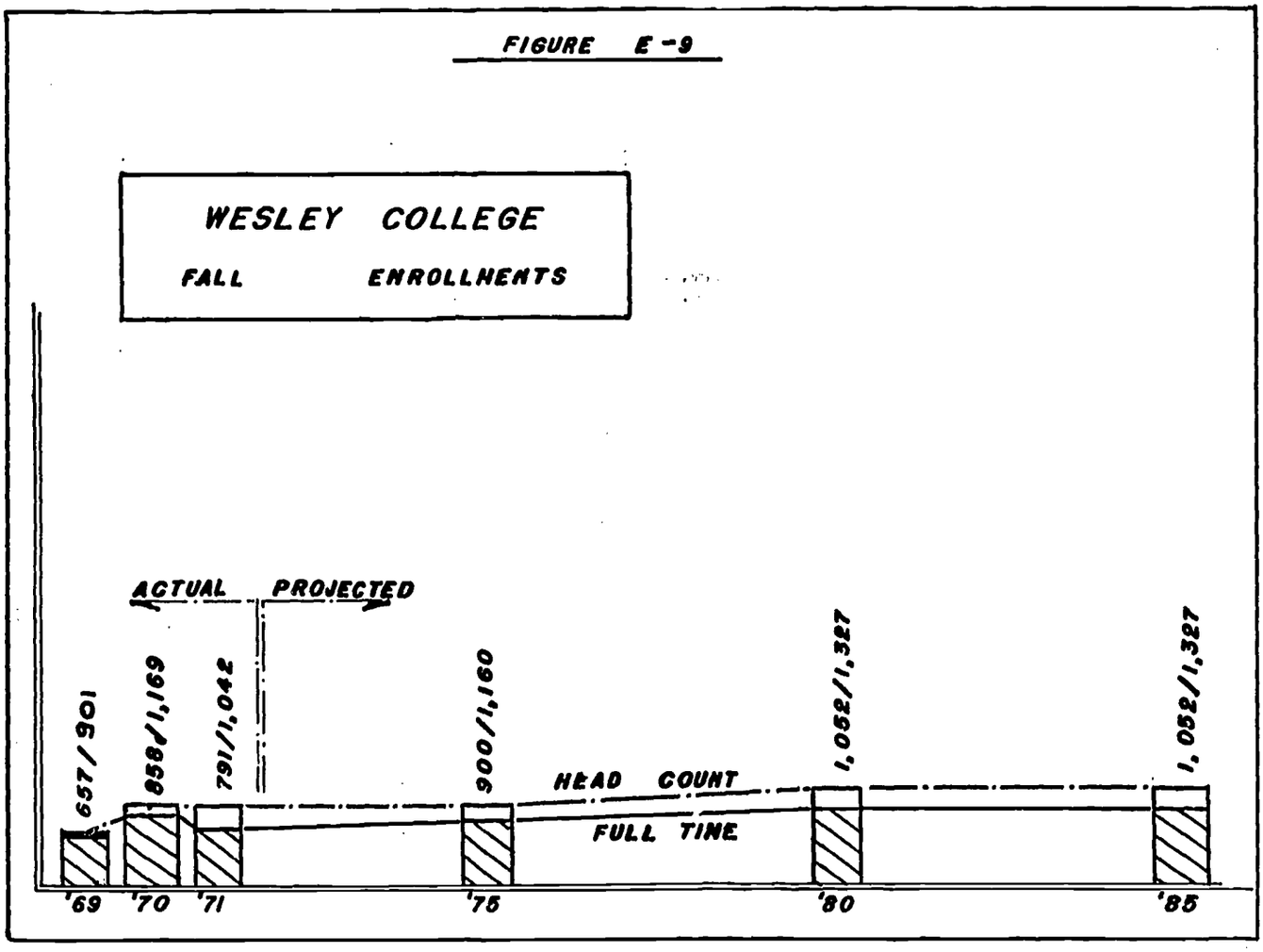

GOLDEY — BEACOM COLLEGE
FALL ENROLLMENTS
ACTUAL
PROJECTED
1,050/1,056
875/1,050
776/938
1,000/1,219
1,200/1,463
1,440/1,755
HEAD COUNT
FULL TIME
'69
'70
'71
'75
'80
'85

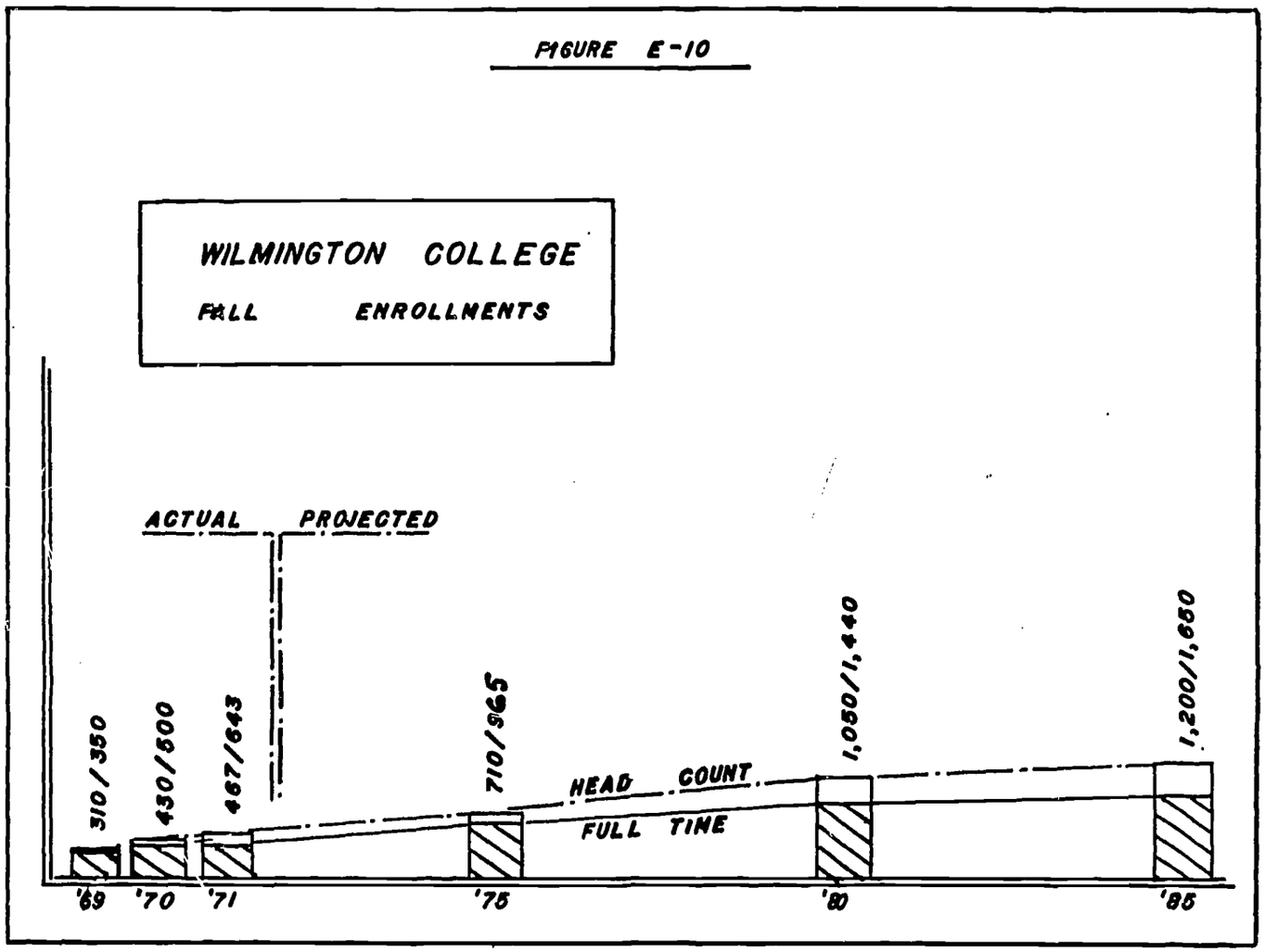
FIGURE E-9


WESLEY COLLEGE
FALL ENROLLMENTS
ACTUAL
PROJECTED
657/901
858/1,169
791/1,042
900/1,160
1,052/1,327
1,052/1,327
HEAD COUNT
FULL TIME
'69
'70
'71
'75
'80
'85

Wilmington College

Wilmington College, being a new institution, is directing its recruiting emphasis toward the out-of-state student. Cooperative programs with other colleges--one in New Jersey and one in Florida--are already under way. The enrollment projections herein do not include students enrolled at the campuses of these outside institutions. (See Figure E-10, page 36.)

FIGURE E-10


WILMINGTON COLLEGE
FALL ENROLLMENTS
ACTUAL
PROJECTED
310/350
430/500
467/643
710/965
1,050/1,440
1,200/1,650
HEAD COUNT
FULL TIME
'69
'70
'71
'75
'80
'85

V. FACILITIES INVENTORY AND UTILIZATION

V. FACILITIES INVENTORY AND UTILIZATION

This section of the report can be compared with the data in the "1971 Update" report Tables 8 - 18, but the tables herein have been regrouped for brevity. The facility inventory made by each institution for its October 1971 HEGIS report has been relied upon as the primary source for calculating the data in the new Tables V - VIII, pages 38, 44, 47, 53, and 55.

General comments on the significance and usefulness of the individual tables are as follows:

A. CONDITION OF BUILDINGS - TABLE V

1. General

This Table reflects the appraisal by each of the institutions as to whether any of their buildings should be "demolished" or "rehabilitated." It should be stressed that this Table represents a tentative appraisal by each institution, and was not investigated by the survey team.

Comments regarding the individual institution's classifications for Table V are as follows:

2. Delaware State College

Delaware State College has classified Loockerman Hall (4000 sq.ft.) and Delaware Hall (26,842 sq.ft.) for rehabilitation at a future date, i.e., after the new Humanities Building is placed in operation in Fall 1973 and after the enrollment increases will require the rehabilitated space for various programs. (See Master Plan and Forecast.) The remainder of the academic buildings and the dormitories are modern and well planned to accommodate the expected increased enrollment.

3. Delaware Technical & Community College - Northern Branch

Delaware Technical - Northern Branch is currently using rented buildings for academic and auxiliary functions. These rented buildings will be abandoned as soon as possible after the new buildings are completed for Del Tech; accordingly, the rented space has been reported as "demolish" in Table V.

TABLE V

CONDITIONS OF BUILDINGS FALL - 1971

Institution	Classification	Satisfactory		Rehabilitate		Demolish		Total	
		Assignable Area	Gross Area	Assignable Area %	Gross Area %	Assignable Area %	Gross Area %	Assignable Area	Gross Area
Delaware State	Academic	162,887	244,158	14,840	26,842	-	-	177,727	251,000
	Dorm & Dine	162,259	278,353	-	-			162,259	278,353
	Auxiliary	80,180	120,379	2,808	4,000			82,988	124,379
	Total	405,326	642,890	17,648	30,842	- -	-	422,974	653,732
	% of State Total							13.4	13.3
Delaware Technical & Comm. (N)	Academic					55,397	73,437	55,397	73,437
	Dorm & Dine	-	-	-	-	- -	-	-	-
	Auxiliary					2,214	3,354	2,214	3,354
	Total	Not Applic.	-	-	-	57,611	76,791	57,611	76,791
	% of State Total							1.8	1.6
Delaware Technical & Comm. (S)	Academic	100,329	139,732	-	-	-	-	100,329	139,732
	Dorm & Dine	Not Applic.	-	-	-	-	-	-	-
	Auxiliary	4,628	6,160	-	-	-	-	4,628	6,160
	Total	104,957	145,892	-	-	-	-	104,957	145,892
	% of State Total							3.3	3.0
University of Delaware	Academic	1,064,357	1,647,240	55,410	85,492	38,435	50,120	1,158,202	1,782,852
	Dorm & Dine	755,996	1,192,163	-	-	-	-	755,996	1,192,163
	Auxiliary	270,073	491,067	-	-	9,750	12,064	279,823	503,131
	Total	2,090,426	3,330,470	55,410	85,492	48,185	62,184	2,194,021	3,478,146
	% of State Total							69.3	71.1
Brandywine	Academic	53,612	66,407	-	-	-	-	53,612	66,407
	Dorm & Dine	66,252	89,440	-	-	-	-	66,252	89,440
	Auxiliary	7,769	8,934	-	-	-	-	7,769	8,934
	Total	127,633	164,781	-	-	-	-	127,633	164,781
	% of State Total							4.0	3.3

TABLE V (continued)
CONDITIONS OF BUILDINGS FALL - 1971

Institution	Classification	Satisfactory		Rehabilitate		Demolish		Total	
		Assignable Area	Gross Area	Assignable Area %	Gross Area %	Assignable Area %	Gross Area %	Assignable Area	Gross Area
Goldey Beacom	Academic	27,280	38,708	-	-	-	-	27,280	38,708
	Dorm & Dine	8,061	10,422	-	-	-	-	8,061	10,422
	Auxiliary	4,516	5,819	-	-	-	-	4,516	5,819
	Total	39,857	54,949	-	-	-	-	39,847	54,949
	% of State							1.3	1.1
Wesley	Academic	70,950	105,582	-	-	-	-	70,950	105,582
	Dorm & Dine	74,805	128,719	-	-	-	-	74,805	128,719
	Auxiliary	37,471	44,555	-	-	-	-	37,471	44,555
	Total	183,226	278,856	-	-	-	-	183,226	278,856
	% of State Total							5.8	5.7
Wilmington	Academic	9,913	13,774	-	-	-	-	9,913	13,774
	Dorm & Dine	18,041	22,662	-	-	-	-	18,041	22,662
	Auxiliary	5,814	7,112	-	-	-	-	5,814	7,112
	Total	33,768	43,548	-	-	-	-	33,768	43,548
	% of State Total							1.1	0.9
GRAND	Academic	1,489,328	2,255,601	70,250	112,334	93,832	123,557	1,653,410	2,491,492
	Dorm & Dine	1,085,414	1,721,759	-	-	-	-	1,085,414	1,721,759
	Auxiliary	410,451	684,026	2,808	4,000	11,964	15,418	425,223	703,444
	Total	2,985,193	4,661,386	73,058	116,334	105,796	138,975	3,164,047	4,916,695
	%	94.4	94.8	2.3	2.4	3.3	2.8	100	100

4. Delaware Technical & Community College - Southern Branch

Delaware Technical - Southern Branch has satisfactory academic and auxiliary building space, as shown, but has no separate dormitories or dining building - the latter thus marked as "not applicable" in Table V, p. 38.

5. University of Delaware

Despite the age of the University of Delaware, its buildings are in remarkably fine condition. This is borne out by the fact that, at this time, only 7.6% of the gross floor area of its academic facilities is scheduled for rehabilitation or demolition, none of its dormitory and dining facilities is scheduled for rehabilitation or demolition; only 2.4% of the gross floor area of its auxiliary facilities is scheduled for demolition. Thus, as is shown in Table VIII, p. 53, only 4.25%-(147,676 square feet-85,492 + 62,184) of its total gross floor area of 3,478,146 square feet is scheduled for either rehabilitation or demolition.

It should be noted that the 1.8% of the gross floor area scheduled for demolition is so scheduled not for reasons of disrepair or other insufficiency but for the purpose of making room for major expansion as programmed by the University's Master Plan.

There are several factors that contribute to the good condition of the University's buildings. These buildings have been soundly constructed and have received good maintenance operation. Because much of the University's large enrollment is the product of growth in the last generation, a considerable fraction of the buildings is still relatively new. The University still has significant land holdings within Newark on which it can build many of the future facilities it will require for continued growth.

6. Brandywine College

Brandywine College reported its present buildings to be satisfactory, and is completing a new building in April, 1972 to relieve its overcrowding.

7. Goldey Beacom

Goldey Beacom has classified its space as "Satisfactory."

8. Wesley College

Wesley College demolished the space as forecast in Table 9 of last year's report to make room for the new College Center building. Most of the academic and dormitory buildings are new and excellent. Several old residences have been converted to offices for administration and for ancillary functions, but are classified as "satisfactory" for their purposes by the college.

9. Wilmington College

Wilmington College classified its present space as being in satisfactory condition.

10. Summary

The Grand Total for the seven institutions is shown at the end of Table V, p. 38. As in last year's report, the condition of the buildings for the whole state shows only a small proportion (2.4%) of the total as requiring "rehabilitation."

B. NASF BY MAJOR TYPE OF ROOM-SPACE CATEGORY - TABLE VI

1. General

Table VI shows the net assignable square feet (NASF) per student enrolled for the various types of room-space categories. The classification of the space and the square feet are taken from Part B of the 1971 HEGIS VI report as prepared by each institution in accord with the definitions in Office of Education Manual #51016. The appropriate NASF were divided by the Headcount or by the FTE student enrollment shown in Tables I (p. 18) and II (p. 19) for Fall 1971. It should be noted that the use made of certain rooms may change from year to year in accord with the changing enrollments in various courses. Also, as the enrollments increase, the NASF per student decreases. Table VI, p. 44, may be compared with Tables 16 and 17 of last year's report.

In general, those institutions with a broad curriculum (such as University of Delaware) will require a higher NASF per student because of the increased space for Laboratories, Special Use Facilities, and General Use Facilities. Specific comments about the situation at the individual institutions are as follows:

2. Delaware State College

Delaware State College has a high NASF per FTE student chiefly because:

a. Some facilities are already installed in anticipation of increased enrollments; also, the special-use facilities and general-use facilities are extensive to accommodate an anticipated larger student body.

b. A broad range of subjects is offered which require laboratories, but many of these are not yet intensively used.

The NASF/FTE student decreased from 176.4 last year to the present 147.4 sq. ft. because of increased enrollment.

3. Delaware Technical and Community College - North

Delaware Technical and Community College - North is in rented buildings and thus is using a minimum of space in all categories. It has no gymnasium, chapel, etc.

4. Delaware Technical and Community College - South

Delaware Technical and Community College - South presents a normal situation for space per student in Table VI, p. 44.

5. University of Delaware

The NASF/FTE values reported for facility utilization for the University of Delaware in this report are markedly less than the values in earlier reports for the following reasons:

a. The enrollment for the University has increased substantially without a corresponding increase in net assignable square feet of floor area.

b. The graduate students (2454) have been included in the head-count and FTE enrollment figures used as denominators in calculating floor area utilization by types of room.

c. The 3921 extension students have also been included in the head-count and FTE enrollments this year.

6. Brandywine College

Brandywine College is low in area per student for most of the types of room-space, and is especially low in the "Special-Use Facilities" because it has no gymnasium. Brandywine is providing a new building to relieve its overcrowded condition and this will naturally increase the total NASF per student.

7. Goldey Beacom

Goldey Beacom has most of its available space devoted to classrooms and laboratories (e.g., typing). It has no gymnasium of its own (although it fields a college basket-ball team which uses the YMCA gymnasium) and thus no "Special-Use Facilities".

8. Wesley College

Wesley College has the second highest NASF/FTE among the seven institutions chiefly because of the ample space classified for study facilities, special-use facilities and general-use facilities. These portions are designed for a larger student body (the 1144 full-time equivalent students projected for the future).

9. Wilmington College

Wilmington College has a minimum of academic facilities. It lacks the normal complementary space for gymnasium, special assembly space, etc. It has no laboratories on campus. A cooperative program has been started with Salem Tech of Salem, New Jersey, which will lead to use of Salem's laboratory facilities by science students from Wilmington College. The effect of the newly-consummated cooperative program with Marymount College of Boca Raton, Florida, cannot be evaluated in terms of NASF at this time.

10. Comment

The data presented in Table VI, page 44, represent a wide range in values of net assignable square feet per student. Several factors which contribute to this range of values among the institutions are:

(a) Degree of campus development,
(b) Use of temporary (rented) facilities, which may have limit space,
(c) New enlarged facilities in anticipation of increasing enrollments, and
(d) Variations in use of gymnasia or other "special-use" and "general-use" facilities.

TABLE VI

NET ASSIGNABLE SQUARE FEET BY MAJOR TYPE OF ROOM-SPACE CATEGORY
PER STUDENT - HEAD COUNT AND FULL TIME EQUIVALENT

Type of Room		Delaware State College	Delaware Technical & Community College N	Delaware Technical & Community College S	University of Delaware	Brandywine College	Goldey Beacom College	Wesley College	Wilmington College
Head Count Enrollment	(HC)	1921	2824	1921	16,784	1458	938	1042	643
Full Time Equivalent	(FTE)	1723	1196*	1126*	12,672	1307	830	875	526
Classroom	HC	13.4	5.83	9.64	7.80	7.50	18.7	10.0	7.1
	FTE	14.9	13.80	16.38	10.33	8.37	21.2	11.9	8.7
Laboratories	HC	25.7	6.72	17.38	19.86	3.34	7.0	10.6	-
	FTE	28.8	15.84	29.72	26.31	3.72	7.9	12.6	-
Offices	HC	19.1	4.16	5.79	15.82	5.96	2.2	14.7	6.7
	FTE	21.2	9.85	9.91	20.97	6.65	2.5	16.8	8.2
Study Facilities	HC	8.7	1.56	4.20	8.09	3.07	1.2	21.5	1.6
	FTE	9.7	3.69	7.18	10.71	3.43	1.4	25.5	2.0
Special-Use Facilities	HC	26.1	-	6.05	15.58	.18	-	16.3	-
	FTE	29.0	-	10.35	20.64	.20	-	19.3	-
General-Use Facilities	HC	32.9	1.24	7.16	5.37	16.72	3.9	32.3	2.6
	FTE	36.7	2.93	12.13	7.11	18.65	4.4	38.4	3.2
Supporting Facilities	HC	6.3	.89	2.93	5.15	5.33	9.5	7.0	2.25
	FTE	7.1	2.09	5.00	6.83	5.96	10.8	8.4	2.8
Total NASF/Student	HC	132.2	20.40	53.15	77.67	42.10	42.5	112.4	21.4
	FTE	147.4	48.20	90.67	102.90	46.98	48.0	132.9	26.3

*For Del. Tech only, Full Time Equivalent (FTE) = Full Time + (1/10) Part-Time Students

C. NASF BY MAJOR ORGANIZATIONAL UNIT - TABLE VII

1. General

Table VII, p. 47, is designed to show the NASF per student for the seven institutions by "Organizational Units" as classified for Part B of HEGIS Report according to O. E. Manual #51016 using the space inventories determined in October 1971 and the enrollments shown in Tables I and II on pages 18 and 19.

The total NASF per student in Table VII is higher than in Table VI, p. 44, chiefly because "dormitory" facilities are included in Table VII under "auxiliary" for Delaware State, University of Delaware, Brandywine, Wesley, and Wilmington College.

Comments on the individual institutions are as follows:

2. Delaware State College

Delaware State College has the highest NASF per FTE student for the same reasons as discussed under Table VI, p. 44. Also contributing are dormitory facilities which were designed for 950 students, but had only 751 in residence in Fall 1971. The total NASF per FTE student was reduced from 295.28 last year to 239.8 sq. ft. this year because of increased enrollment. This figure will continue to decline as the college continues to increase its enrollment and makes better use of the facilities.

3. Delaware Technical and Community College - North

Del-Tech - North has a minimum of space in rented buildings and has no dormitory or dining facilities; thus the area per student is low.

4. Delaware Technical and Community College - South

Del-Tech - South has no dormitory facilities. The total NASF/student decreased from last year's figures at both the North and South branches because of the increased enrollments being accommodated in the same space as reported last year.

5. University of Delaware

As noted in Section B, above, the values reported for facility utilization at the University of Delaware for the fall

term of 1971 were less than for previous years for the following reasons:

a. Increased over-all University of Delaware enrollments without corresponding increases in floor area.

b. Inclusion of 2454 graduate students in enrollment head-count and FTE.

c. Inclusion of 3921 extension students (non-degree-credit) in enrollments.

6. Brandywine College

Brandywine College has no gymnasium and this contributes to a low total NASF. The college does have dormitory and dining facilities. The decreased enrollment this year slightly incrases the NASF per student. When the new building is placed in operation, the total NASF will further increase.

7. Goldey Beacom

Goldey Beacom's enrollment is down slightly from last year (938 versus 1050 last year) and this has raised the total NASF per student for this year. The institution relies, in the main, upon renting dormitory space and has only a small lounge for lunching. The YMCA gymnasium is utilized in lieu of building one of its own.

8. Wesley College

Wesley College has the second highest NASF per student. In addition, Wesley has extensive dormitory facilities which are used to capacity, plus rented rooms in homes. There were 786 full time resident students in 1971, and 721 in 1970. Because of the decreased total enrollment this year, the NASF is higher than last year, but the planned increased enrollment will decrease the NASF per student.

9. Wilmington College

Wilmington College (as described for Table VI, p. 44) employs a minimum of academic space per student. It has ample dormitory facilities for resident students which increase the area per student. The increased enrollment this year (643 versus 500 last year) has more than offset the increased area in use to

TABLE VII

NET ASSIGNABLE SQUARE FEET BY MAJOR ORGANIZATIONAL UNITS
PER STUDENT - HEAD COUNT AND FULL TIME EQUIVALENT

Organizational Unit		Delaware State College	Delaware Technical & Community College N	Delaware Technical & Community College S	University of Delaware	Brandywine College	Goldey Beacom College	Wesley College	Wilmington College
Head Count Enrollment (HC)		1921	2824	1921	16,784	1458	938	1042	643
Full Time Equivalent (FTE)		1723	1196*	1126*	12,672	1307	830	875	526
Depts. of Instruction & Research	HC	70.0	14.26	29.18	46.89	12.05	25.8	44.2	9.0
	FTE	77.9	33.66	49.80	62.05	13.45	29.2	53.2	11.0
Organized Activity Units	HC	1.3	-	6.04	1.11	-	-	-	-
	FTE	1.4	-	10.31	1.47	-	-	-	-
Organized Research Units	HC	-	-	-	0.82	-	-	-	-
	FTE	-	-	-	1.08	-	-	-	-
Public Service Units	HC	-	-	-	0.89	-	-	-	-
	FTE	-	-	-	1.18	-	-	-	-
Library	HC	6.7	1.59	4.30	7.55	2.20	1.2	18.8	1.62
	FTE	7.5	3.75	7.34	9.99	2.46	1.4	22.4	2.0
General Administration	HC	15.2	3.31	6.42	8.98	9.92	2.2	7.3	8.2
	FTE	17.0	7.81	11.00	11.90	11.07	2.5	8.6	10.0
Auxiliary Services	HC	121.8	1.24	7.74	62.15	63.40	13.4	110.7	33.7
	FTE	136.0	2.95	13.20	82.35	70.90	15.2	131.6	41.2
Non-Institutional Agencies	HC	-	-	-	0.58	-	-	-	-
	FTE	-	-	-	0.77	-	-	-	-
Unassigned Space	HC	-	-	.91	1.97	-	-	-	-
	FTE	-	-	1.56	2.61	-	-	-	-
Total NASF/Student	HC	215.0	20.40	54.59	130.94	87.56	42.5	181.5	52.5
	FTE	239.8	48.17	93.21	173.40	97.88	48.0	215.8	64.2

*For Del Tech only, Full Time Equivalent (FTE) - Full time + (1/10) Part Time Students

give a decreased total NASF per student.

10. Summary

The figures in Table VII, p. 47, show a broad range for NASF per student for somewhat the same reasons as discussed for Table VI, p. 44. The differences are compounded further by the inclusion or absence of dormitory facilities. These differences in character of the institutions and their facilities account for as much as a six-fold difference in total NASF/student.

D. SPACE FACTORS AND ROOM UTILIZATION - TABLE VIII

1. General

Table VIII, p. 53, is an important table showing the calculated Space Factor (net assignable square feet per weekly student contact hour, i.e., NASF/WSCH) for classrooms Type 110 and laboratories Type 210 classification.

The purpose of the calculated Space Factors in Table VIII is to provide a measure for need of additional facilities. As a general yardstick, a Space Factor of 1.0 for Type 110 classrooms and 2.5 for Type 210 teaching laboratires can be considered as a "good average." However, the space factors of 1.0 and 2.5 for classrooms and laboratories respectively may not be suitable standards for specialized institutions such as business and community type colleges.

2. Methods Used For Calculating Space Factors of Table VIII

Because the methods used for calculating an average versus a summation space factor will give different results from the same input data, the exact method used herein for Table VIII for each of the institutions is explained.

a. Data for Individual Courses

The number of students taking a given course and number of hours per week spent by each student in a given room or laboratory were multiplied, resulting in the weekly student contact hours.

b. Data for Rooms Used

The classification of the Type 110 and Type 210 rooms are in accordance with the October 1971 HEGIS Report along with NASF for each room. The number of student stations in each room was counted and totalled for Column 4 of Table VIII, p. 53, along with total NASF in Column 5. The NASF per student station in Column 6 is obtained by dividing Column 5 by Column 4.

The total hours per week that a given room was used for all courses given therein was obtained, and all of the hours per week for all Type 110 and 210 rooms was totalled for Column 7. To obtain data for Column 8, the average hours per week per room for Type 110 and 210 rooms were obtained by dividing Column 7 by Column 3. Column 9, the total WSCH, was obtained by adding all of the WSCH for each of the Type 110 and 210 rooms.

The "Percent Occupancy" in Column 10 is the ratio of students in a class using the room to the number of stations in that given room. For example, 15 students in a 25-station room equals 60% occupancy. (Note that Column 10 "Occupancy" does not measure the total hours per week that a room is used, e.g., say 3 hours versus high usage of, say, 30 hours.) Finally, Space Factor in Column 11 represents total NASF (Column 5) divided by total WSCH (Column 9) based on summation of all Type 110 and 210 rooms. (Note that this usually will be different from an average of the individual space factors for all rooms of Type 110.

Only a portion of the data in Table VIII are "primary", while other figures are "derived" by dividing data in certain columns by data in other columns. (Note that Columns 6, 8, 10, and 11 are derived for each institution as described.)

3. Improved Facility Utilization

Improved utilization of facilities, as measured by the Space Factor, can be realized by any one or a combination of the following methods:

a. Reduction in the area per student station (e.g., increase the number of stations in existing rooms, or plan future facilities less liberally.

b. Increase in the number of stations occupied when the room is in use, i.e., increase the "percent

occupancy" of Column 10. For example, provide better match of class size to room size.

c. Increase in the number of hours scheduled per week (Column 8). For example, aim for a goal of 30-40 hours per week scheduling, and include evening and Saturday classes where possible.

In general, as the enrollment at the institution increases, it will usually be possible to increase the size of individual classes and to schedule the classes into more proper room sizes, and thereby decrease the space factors for that institution.

Comments regarding the data in Table VIII, p. 53, for the individual institutions are as follows:

Delaware State has generous classroom and laboratory space for the present enrollment, as shown in Table VI, p. 44, The areas per student station in Table VIII, p. 53, Column 6, are average for classooms, but a bit high in the labs. The average hours scheduled per week (Column 8) is a bit low for classrooms and quite low for laboratories. The low average hours used per week for laboratories results from the fact that a broad curriculum is offered but the present enrollment does not require many laboratory sessions (e.g., in physics and agriculture). This situation will undoubtedly correct itself when the future total enrollment increases as expected.

In addition to the WSCH shown in Column 9, an additional 19 rooms (other than Type 110 and 210) are used for a total of 266 hours per week for an additional 2792 WSCH in Column 9. If these 2792 WSCH were added to the 17,963 and 7583 shown in Column 9, the grand total of WSCH becomes 29,338. Dividing 29,338 by 1723 FTE students gives an average 17.0 WSCH per FTE student.

Del-Tech - North is housed in leased temporary facilities and consequently the institution felt that a calculation of Space Factors under these conditions would not be meaningful. However, as can be seen from Table VI, p. 44, the classroom space and laboratory space per FTE student is quite low. Consequently, the Space Factor--if it were calculated for Table VIII, p. 53,--would probably also be low under these overcrowded and high hours/week conditions.

Del-Tech - South, as noted in Table VI, has generous space per FTE student computed for its present level of enrollment. Also, in Column 6 of Table VIII the area per student station is high - partly because of the type of laboratory space employed. The "Percent Occupancy" in Column 10 is excellent. The Space Factor in Column 11 is a bit high, but as enrollment increases in the future, Space Factor will come down.

University of Delaware has a very broad curriculum with many laboratory courses which tend to give a high NASF per FTE student in Table VI, p.44, (26.3 sq.ft. for labs). In Table VIII, p. 53 , the calculated Space Factor of 0.69 for classrooms indicates many hours scheduled per week, and good matchup of size of class to size of room. This efficient usage can be achieved with a large student body.

Despite the increase in over-all enrollment for the fall term of 1971, the number of weekly student contact hours devoted to laboratory courses at the University decreased by 5.7% (from 36,119 to 34,071) from the previous year. This change produced the increase in the laboratory space factor from 3.07 NASF/WSCH as reported for 1970 to the value of 3.24 NASF/WSCH for 1971. This value is not considered to be unduly great for an institution offering graduate-level courses. It may be properly expected to decrease in future years as enrollment increases and improved scheduling of laboratory usage is achieved.

Brandywine College, as discussed for Table VI, p.44, has insufficient classroom and laboratory space per FTE student. This overcrowding will be alleviated when a new building is placed in operation. The calculated Space Factors were low because the high hours per week (Column 8) and the high percent of occupancy (Column 10) gave a high WSCH total.

Goldey Beacom in Table VI, p.44, shows a high classroom area per FTE student but a low laboratory area per student. The hours/week/room in Column 8 of Table VIII, p. 53, is good, but the percent of occupancy has dropped from last year's values, probably as a result of the enrollment decrease (933 to 830). The net result is that the Space Factors of 1.38 for Type 110 classroom and 1.77 for laboratories are higher than for earlier years.

Wesley College, despite having a generous amount of supplementary space as shown in Table VI, p. 44, has only average areas per FTE student for classrooms and laboratories. The average

hours per week scheduled per room (Column 8) is good, and the final Space Factors are quite good. These values are achieved because the classrooms, laboratories and curriculum have been designed for the specific type and size of student body that Wesley attracts. As the planned increased enrollment is achieved and fitted into present buildings, the Space Factors will be further improved. In addition to the Type 110 and 210 rooms at Wesley, 9 other rooms, such as the gym, are used for a total of 114 hours per week and 2515 WSCH. Adding these 2515 to the 10,668 and 4968 of Column 9 gives a grand total of 18,151 WSCH of all types. Dividing this by 875 FTE students gives a calculated average 20.8 contact hours per student per week.

Wilmington College, because of its short history and for financial reasons, is operating with meager space per student (see Table VI, p. 44), low area per student station in Type 110 classrooms, the highest average hours per week among the seven institutions (Column 8), and consequently, the lowest Space Factor among the seven institutions (0.55). This value might be considered to be too low by some educators. It results chiefly from the 52.3 hours per week per room.

4. Summary

As might be expected, the differences shown in Table VIII, p. 53, for the Space Factors for classrooms and laboratories do not represent as broad a spread as found in Table VII, p. 47, for the total facilities. Thus, the classrooms Space Factor ranges from a low of 0.55 to a high of 1.39 as compared with a "good average" of 1.0. The laboratory Space Factor range is from 1.04 up to 5.31 versus a "good average" of 2.5. The reasons for this type of spread have already beendiscussed above, as well as the methods by which improvements in Space Factor can be achieved.

The selection of the best methods to achieve improved utilization as measured by the Space Factor concept must be left up to each individual institution to fit into its own plan for a broad or narrow curriculum, the character and size of its student body, the possibility of using its rooms for more hours per week with evening, Saturday (or even Sunday) classes, planning of room size to fit class size, etc. Because of the runaway construction costs for any future buildings coupled with the projected great increase of student body size, it is obvious that improved utilization of existing facilities will become increasingly important to decrease the investment load, due consideration being given to probable corollary increased teaching costs.

TABLE VIII

SPACE FACTORS AND ROOM UTILIZATION

FOR CLASSROOMS TYPE 110 AND CLASS LABORATORIES TYPE 210

Column #1 Institution	#2 Room Type	#3 Total No. of Rooms	#4 Total No. Student Stations	#5 Total NASF Rm. Area	#6 Area/ Student Station	#7 Total Hrs/Wk Sched.	#8 Av. Hrs. Scheduled Per Wk/Rm	#9 Total WSCH (c) Scheduled	#10 Percent Occupancy (d)	#11 Space Factor
Delaware State College	110	31	1,446	23,375	16.1	683	22.1	17,963	50.0	1.3
	210	47	1,023	40,226	39.1	411	8.8	7,583	64.4	5.31
Delaware Tech. & Community College (N)	110	(Northern Branch is housed in leased, temporary facilities; this fluid situation tends to make data unreliable, changeable, not significant; permanent facilities are scheduled for 1973 occupancy.)								
	210									
Delaware Tech. & Community College (S)	110	24	754	18,415	24.4	587	24.46	13,260	72.0	1.39
	210	14	292	13,349	45.7	296	21.14	5,536	89.4	2.42
University of Delaware	110	145	9,318	126,435	13.57	4,740	32.7	182,100	51.2	0.694
	210	104	2,890	110,820	38.4	1,497	14.4	34,071	66.3	3.24
Brandywine College	110	10(a)	496	9,756	19.7	449	44.9	16,181	72.6	.60
	210	5	206	5,400	26.2	183	36.7	5,171	68.4	1.04
Goldey Beacom College	110	19	1,049	17,070	16.27	475	25	12,355	47.1	1.38
	210	6	305	6,233	20.44	150	25	3,525	46.2	1.77
Wesley College	110	16	681	8,514	12.5	449	28.1	10,668	46	.798
	210	13	394	8,620	21.9	206	15.8	4,968	76	1.74
Wilmington College	110	7	300	3,774	12.58	364	52.3	6,846	44.4	0.551
	210	0(b)	0	0						

(a) Excludes room used exclusively by Wilmington Police
(b) Excludes Salem, New Jersey, campus facilities and enrollment
(c) Synonymous with Student Contact Hours
(d) Percent occupancy - only while room is in use

VI. PROJECTIONS OF ACADEMIC FACILITY NEEDS

VI. PROJECTIONS OF ACADEMIC FACILITY NEEDS

The purpose of the new 1972 forecast is to update the projections contained in the HEAAC report issued in June, 1970, regarding (a) FTE enrollment, (b) space factors per FTE student, resulting in (c) the estimated facilities needs and construction cost thereof.

The latest projected enrollments for '75, '80, and '85 are included herein in Tables I thru IV. Because the projected enrollments are the primary basis for the resulting cost projections, it should be stressed that the final dollar projections are subject to the uncertainties discussed in the preceding section on "Enrollments."

The choice of space factor will also influence the cost projections because if a higher-than-necessary square feet per FTE student is assumed, the resulting cost estimate will be proportionately high. During the present survey it became evident that the future total space needs per FTE student will vary widely. For example, one institution might have adequate classroom facilities but lack library facilities. A second institution might lack both library and gymnasium, while a third institution might lack only adequate classroom space for its projected enrollment. Because of this possible relatively large difference in the types of space needed, the present cost forecast was limited in this survey to the Type 110 classroom and Type 210 teaching laboratory space needs for handling the projected enrollments. The individual institutions may wish to forecast additional space and dollars for other needed facilities, e.g., offices, library, gumnasium, dormitories, etc. (See Tables VI, p.44, and VII, p. 47, herein for ratios of these types of space.)

Even to estimate the space needed for Type 110 classrooms and Type 210 teaching laboratories required an arbitrary choice of "Space Factors" as defined in Table VIII, p. 53. For example, while 1.0 square feet per weekly student contact hour may be considered a good national "yardstick" for Type 110 classrooms, it is questionable whether this figure should be used for estimating future needs for an institution which currently is operating at a more efficient 0.70 space factor; conversely, a factor of 1.0 may not be sufficient for another institution which is operating at a 1.4 space factor because of far different curricula and a

TABLE IX
ACADEMIC SPACE AND EXPENDITURE FORECASTS

Institution	Year	FTE	Additional Space Needs - Square Feet				Dollar Needs**	
			Net Assignable			Gross	Period	Accumulative
			110	210	Total			
Delaware State	1975	2,338	0	0	-	-	0	0
	1980	2,887	(See Master	(See Master	-	-	(See Master	0
	1985	3,423	Plan)	Plan)			Plan)	0
Del. Tech. North	1975	2,800*	12,700	11,000	23,700	31,600	1,895,000	1,895,000
	1980	4,300	15,500	15,400	30,900	41,200	3,960,000	5,855,000
	1985	5,400	11,500	11,300	22,800	30,400	4,740,000	10,595,000
Del. Tech. South	1975	1,400*	-	1,000	1,000	1,300	78,000	78,000
	1980	2,000	2,400	6,200	8,600	11,400	1,092,000	1,170,000
	1985	3,000	10,400	10,700	21,100	28,100	4,380,000	5,550,000
University of Delaware	1975	14,339	149,000	76,200	225,200	349,000	20,940,000	20,940,000
	1980	17,505	50,800	33,300	84,100	130,400	12,516,000	33,456,000
	1985	20,150	42,300	27,300	69,600	107,900	16,830,000	50,286,000
Brandywine College	1975	1,810	8,330	12,700	21,030	28,000	1,680,000	1,680,000
	1980	2,317	6,380	5,000	11,380	15,200	1,460,000	3,140,000
	1985	2,317	-	-	-	-	-	3,140,000
Goldey Beacom College	1975	1,073	nil	5,167	5,167	7,330	440,000	440,000
	1980	1,288	2,230	2,300	4,530	6,430	616,000	1,056,000
	1985	1,545	3,700	2,700	6,400	9,090	1,418,000	2,474,000

*For capital expenditure forecasts, Delaware Technical and Community College uses Full Time Student population alone rather than FTE.

**Dollars per Square Foot: 1975 - $60.00; 1980 - $96.00; 1985 - $156.00.

TABLE IX - Continued

Institution	Year	FTE	Additional Space Needs - Square Feet				Dollar Needs	
			Net Assignable			Gross	Period	Accumulative
			110	210	Total			
Wesley College	1975	987	0	0	-	-	0	0
	1980	1,144	(See Master	(See Master			(See Master	0
	1985	1,144	Plan)	Plan)			Plan)	0
Wilmington College	1975	785	304	-	304	425	25,500	25,500
	1980	1,180	5,147	-	5,147	7,150	686,000	711,500
	1985	1,350	2,213	-	2,213	3,075	480,000	1,191,500

SUMMARY - STATEWIDE

All Public	1975		161,700	88,200	249,900	381,900	22,923,000	22,923,000
	1980		66,300	54,900	121,200	183,000	17,568,000	40,491,000
	1985		64,200	49,300	113,500	166,400	25,950,000	66,441,000
All Private	1975		8,634	17,867	26,501	35,755	2,145,500	2,145,500
	1980		13,757	7,300	21,057	28,780	2,762,000	4,907,500
	1985		5,913	2,700	8,613	12,165	1,898,000	6,805,500
TOTAL - ALL Institutions	1975		170,334	106,067	276,401	417,655	25,008,500	25,068,500
	1980		80,057	6,220	142,257	211,780	20,330,000	45,398,500
	1985		70,113	52,000	122,113	178,565	27,848,000	73,246,500

different average number of student contact hours per week per FTE student. Because of these wide variations among the different schools in space factors and total space needs, the assumptions explained in the footnotes to Table IX, p. 55, and also in Section VII, "Master Plans" must be borne in mind when the data are examined.

The third element, that of the projected construction cost, involves the questions of what to assume as the present unit cost, and what percent escalation of construction costs to allow for the future estimates, (e.g., recent actual 10-12% versus, say, 4-6% governmental cost control goal). Mr. Robert L. Durkee, of the Delaware Department of Public Instruction, advised that for primary and secondary schools a 1972 cost of $45 per square foot for the finished (but unfurnished) building is assumed along with the 10% per year escalation factor for the future. For the estimates in Table IX, p. 55 , these same factors were arbitrarily assumed. The present $45/sq. ft. escalates to $60 for 1975, $96 for 1980, and $156 by 1985 at the 10% per year compounded rate.

In summary, considering all of the assumptions and uncertainties, the total dollars shown in Table IX are approximate costs for "classrooms and laboratories" needed through 1985 and excludes cost of supplementary types of space such as offices, libraries, etc.

Notes regarding Table IX

a. If no significant change in curricula is anticipated for the future, the present WSCH per FTE student was calculated from the 1971 actual data for each institution, and then used for its future projected enrollments.

b. Regardless of the present space factors at each institution, a "standard" space factor of 1.0 for Type 110 classrooms and 2.5 for Type 210 laboratories was arbitrarily adopted for calculating the NASF for each institution.

c. The present ratio of gross area to net assignable space area for the academic facilities at each institution was used to determine the new gross area for the projected enrollment at the given institution.

d. At Delaware Technical and Community College's suggestion, their projected space needs were calculated based only on "full

time students" rather than the "FTE index" (of full time plus 1/3 of part time) as was done for the other institutions.

e. The estimated escalated cost shown for the end of each five-year period ($96 per square foot for 1980) was used for all of the gross area to be added during the five year period, e.g., 41,200 sq. ft. at Del. Tech - North for 1975-80 was estimated to cost $3,960,000 approximately. This high-spot estimate will be too high if escalation does not continue at 10% compounded per year and if the construction is carried out early in any five-year period.

f. The accumulative total of $73,246,500 for all institutions up to 1985 represents only the calculated needs for Type 110 classroom and Type 210 laboratory space based upon the assumed enrollment forecasts. The ancillary space facilities (offices, study facilities, special use facilities, etc.) are not included in this $73 million total.

VII. MASTER PLANS

VII. MASTER PLANS

This survey has included the determination of the current stage of development of long-range or master plans for each campus. A number of the institutions have quite detailed analyses of anticipated specific building needs; these are usually arranged chronologically to 1985 in the order of expected priority. However, some of the institutions are of such recent origin or are undergoing such rapid student body growth and curricular expansion that projections at present are tentative at best. Master plan status for each institution is outlined below:

Delaware State

A Master Plan study has been completed by AIDES, Inc., and is still being reviewed by the Faculty and the Board of Trustees; no firm statement can be included in this present report regarding actual implementation of this study.

As to curriculum and services the following long-range changes and additions have been recommended by President Mishoe or are contained in the proposed Master Plan submitted by AIDES, Inc. These are currently under study by the Board of Trustees and the Faculty.

a. Establish a degree-offering Urban Affairs Department
b. Work with Kent General Hospital to establish a Bachelors program in Nursing Education
c. Establish a full degree program of night courses
d. Establish a full 12 week summer semester program
e. Institute graduate programs leading to Master Degrees in Economics and Business Administration, and in Education

The above-proposed additions to the programs offered by Delaware State College would add to the annual operating budget, but might require only minor additions to physical facilities.

The anticipated facilities needs are as follows:

a. A new Humanities Building, already under construction, comprising 62,000 square feet (net assignable area) will be in operation by March, 1973. This facility will cost $3.8 MM.

No additional classroom or laboratory space is forecast at this time as the existent facilities, plus the additional building currently under construction, will be adequate for the academic space needs of the 1985 projected enrollment provided that the goal 1.0 and 2.5 Space Factors are attained.

b. It is planned to renovate Delaware Hall and to convert it for administrative and auxiliary services.

c. A new library is being planned by the Board of Trustees to more than double the present capacity. The existing library could be remodeled and utilized for administrative use.

d. Whether to add dormitory and dining facilities beyond the present 950 dormitory capacity will depend upon future demand. In-state boarding students now represent 36 percent of available capacity.

Construction time table is tentatively indicated:

a. New library needed now and architects being consulted; initial work planned for late 1972 and completion by the end of 1973.

b. Renovate and convert parts of Delaware Hall; start Fall 1973.

c. Infirmary: Start Fall 1974.

d. Renovate and convert existing library to offices: start Fall 1976 assuming new library completed and occupied.

e. New dormitory and dining facilities: indefinite; depends upon increased enrollment of boarding students.

Cost projections for the above non-academic facilities (at current cost rates) as submitted by Delaware State authorities, are:

a.	New library building	$2,500,000
b.	Renovate Delaware Hall	150,000
c.	Infirmary	362,500
d.	Renovate and convert library to offices	100,000
e.	New dormitory and dining	indefinite

(Note: These cost estimates do not include year-by-year escalation in construction costs.)

Delaware Technical and Community College

Delaware Technical and Community College has a well-developed Master Plan for future growth which will be implemented as needs arise. The college is of comparatively recent origin - the Southern Branch (Georgetown), which opened in 1967, was joinged in 1968 by the Northern Branch (Wilmington). Growth at each campus has been rapid. The purpose of the college is to help students develop their potential in semi-professional and occupational areas. Since community colleges throughout the nation are gaining rapidly increased acceptance by both full-time and part-time students, future growth of Del Tech is expected to be substantial.

The opening of additional campuses is planned for future regional needs, in addition to expansion of existing facilities as needed to meet increases in enrollment. The planned facilities to implement these growth projections are detailed below:

a. A facility is now under construction in downtown Wilmington (Fourth and Shipley Streets) with expected occupancy in 1973; gross building area of 124,000 sq. ft. (current budget cost $5.1MM). This should accommodate 1250 full-time day students.

b. A suburban campus located at the intersection of I-95, New Churchman's Road and Delaware Route 7 is planned with construction of a 150,000 sq. ft. unit to be available about 1975-76. Current budget cost is $8 MM for all construction required. (This cost estimate does not include an escalation allowance.)

c. Depending on the rate of enrollment growth and financial timing, additions of 200,000 sq. ft. at the Central Wilmington Campus and 200,000 sq. ft. at the Suburban Campus are projected by 1985. The rented space used in Northeast Wilmington will be vacated during this period.

d. At the Southern Branch (Georgetown) plans call for a 75,000 sq. ft. addition by 1975, including classrooms, Human Resources Center, Health, Industrial Occupations and Heavy Industry buildings.

e. A Master Plan for the development of a community college in Kent County, to be located north of Dover, is presently underway; the underlying feasibility study indicates that a facility for about 800 full-time day students will be needed.

Completion of the Master Plan for the Kent County Campus will complete the overall State community college Master Plan. These county plans will be implemented as needs arise, and within State financial capability.

University of Delaware

A considerable amount of work has been devoted in recent years to developing plans for the future of the University of Delaware. Consultant firms have been employed to assist in this planning. In May of 1971 two of these consultants delivered a document entitled "University of Delaware Development Plan." In December, an abridged version of this document, having the same title, was published.

"The consultants were instructed to study the University and develop a detailed master plan for its future development." The aforementioned documents are the product of an extensive effort involving the analysis of projected enrollments, available land, space factors, and current facility siting. As such, they provide a definite basis for further study and planning. They provide preliminary information on the following elements which are essential to a detailed master plan.

a. Projected enrollments
b. Current facilities
c. Future academic facilities
d. Future supporting facilities
e. Cost of new facilities

The "Development Plan" basically covers the period between the present and the year 1980. It focuses on a projected FTE enrollment of 18,300 students as being the desired maximum for the Newark campus. This total FTE enrollment of 18,300 students (composed of approximately 15,000 undergraduate and 3,300 graduate students) is projected as occurring by about the year 1976. Beyond that point in time, when the so-called "optimum" FTE enrollment occurs, it is postulated that additional students will be enrolled at some other campus of the University of Delaware.

For the Newark campus the current facilities have been inventoried and preliminary requirements for increased enrollment have been developed, including both academic and supporting facilities. These requirements have been defined by type of use and identified by location on the campus.

Construction of the additional facilities, having a total gross area of 1,222,000 square feet, has been planned in three phases. The classifications of facilities, the floor areas for each category, and projected dates for completion of construction are as follows:

University of Delaware Planned Facilities

	PHASE			
	I	II	III	
Facility	Completion Year			
Classification	1975	1977	1979	Totals
Instructional	118,390*	231,162*	263,445*	612,997*
Instructional Support	115,000	-	102,490	217,490
Administrative Support	29,750	-	30,100	59,850
Activity Support	-	200,550	131,600	332,150
Totals	263,140	431,712	527,635	1,222,487

*Areas in gross square feet

In terms of 1971 construction cost rates, the total cost for the required additional facilities for the Newark campus has been put at $73.6 MM. However, if one assumes that construction cost rates will continue to increase at approximately 10 percent per year through 1979 (which appears to be a reasonable assumption, any evidence to the contrary being completely lacking) it is more likely that the total construction phases plus 720 units of housing will cost approximately $120 MM.

Beyond the preliminary plans for development of the Newark campus for the optimum student enrollment, the Master Plan only recognizes a need for an additional campus and in very broad terms presents several general considerations which must be weighed in the selection of a site for such a campus.

Brandywine College

A Master Plan for Brandywine College has been worked out in considerable detail, with due consideration to the expected enrollment increases as indicated in Table I, p. 18 , of this survey. Although emphasis will continue on encouraging Delaware residents to matriculate, out-of-state students will continue to comprise nearly 75 percent of the student body; enrollment will be approximately evenly divided between men and women.

A summary of the Master Plan follows:

a. A new complex containing library, classroom and office facilities was completed this year, adding approximately 20,000 square feet to gross area, and alleviating a previous space inadequacy.

b. A gradual enrollment increase to 1980 (stabilized thereafter) will require physical education and recreation facilities and health classrooms in late 1973 (25,000 sq. ft., $1 MM current budget cost).

c. A science building of approximately 20,000 sq. ft., is scheduled for late 1975; estimated (current costs) at about $0.8 MM.

d. A student union structure, of 20,000 sq. ft., is predicted for 1976 at a (current) cost estimate of $0.8 MM.

e. A chapel is projected for 1976 ($200,000).

f. Classrooms to be added in 1978 will provide 24,000 sq. ft., and cost in excess of $1 MM.

Land acquisition is planned as needed for the foregoing.

With this program, Brandywine College will continue to have outstanding facilities for an effective educational program.

Goldey Beacom College

Goldey Beacom College is utilizing its existent facilities to good effect and at high efficiency; there is no in-built rigidity as to room usage, etc. However, it is realized that expansion of

these facilities will soon be necessary in order to fulfill the avowed Goldey Beacom role, in view of the expected increase in enrollment. Unfortunately for this report, the College's Trustees have not yet released an overall Master Plan which has been submitted by consultants for this purpose. When this plan is released - hopefully in the near future - it could be made an addendum to this report.

Wesley College

The Board of Trustees in 1972 reiterated the purposes and plans for Wesley College: to continue as a two-year college of the present size and character, with emphasis upon developing the student as a whole person in the Christian tradition.

Although Wesley dates back to 1873, the majority of the present buildings are new; nine major units have been dedicated between 1959 and 1970. A 65,000 sq. ft. new College Center, to be completed in April of 1973, will round out the campus, and provide facilities for approximately 1,000 resident students. There are no present plans to expand the student body or the facilities beyond this size.

New programs will be inaugurated to fill new needs of the student body, and also to make the resources of Wesley College more available for adult study and community and church programs. Such innovations are not expected to require any extensive additions in physical facilities.

Wilmington College

Wilmington College is an emerging institution (it is graduating its charter class this year); as such, anything as long-range as a Master Plan must be given lower priority than the starting-up efforts. The administration at the College is looking first toward expansion via the cooperative college route, as is evidenced by the recent agreements with Salem Technical College of Salem, New Jersey, and with Marymount College of Boca Raton, Florida. Once the details and modus operandi of these affiliations are worked out, a truly informative and challenging Master Plan can be prepared and put into execution.

VIII. RECOMMENDATIONS

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From the conduct of this survey and consideration of the results obtained, two basic recommendations have been developed.

1. The Survey Of Enrollments And Facilities Should Be Repeated In 1974-75.

It is believed that this report, which reflects an accurate assessment of present enrollments and facilities, will stand as a reasonable guide and source of information for at least two years. Demography considerations indicate that changes in factors that would affect enrollments will not be significant for two to three years. It is strongly recommended that another survey, similar to, but not necessarily confined to the scope of this survey, be made as of the Fall of 1974 to reflect any changes in roles of the institutions, rate of population growth, and other criteria such as technology, economics, and industrial and international relations.

2. Master Plans Should Be Correlated On A State-Wide Basis.

This survey had as one objective the determination of the status or stage of development of master plans at each institution. Review of the section on Master Plans indicates that each institution is pursuing continuation or expansion according to its own initiative and motivations. It appears reasonable that some overlapping of curricula and facilities may occur, resulting in duplication of effort and excessive expenditures for facilities, faculty, and administration.

Therefore, it is recommended that, with due regard for initiative and healthy competition, a state agency be designated to assume responsibility for coordination of the growth plans for the institutions of higher education in Delaware.