40 YEARS

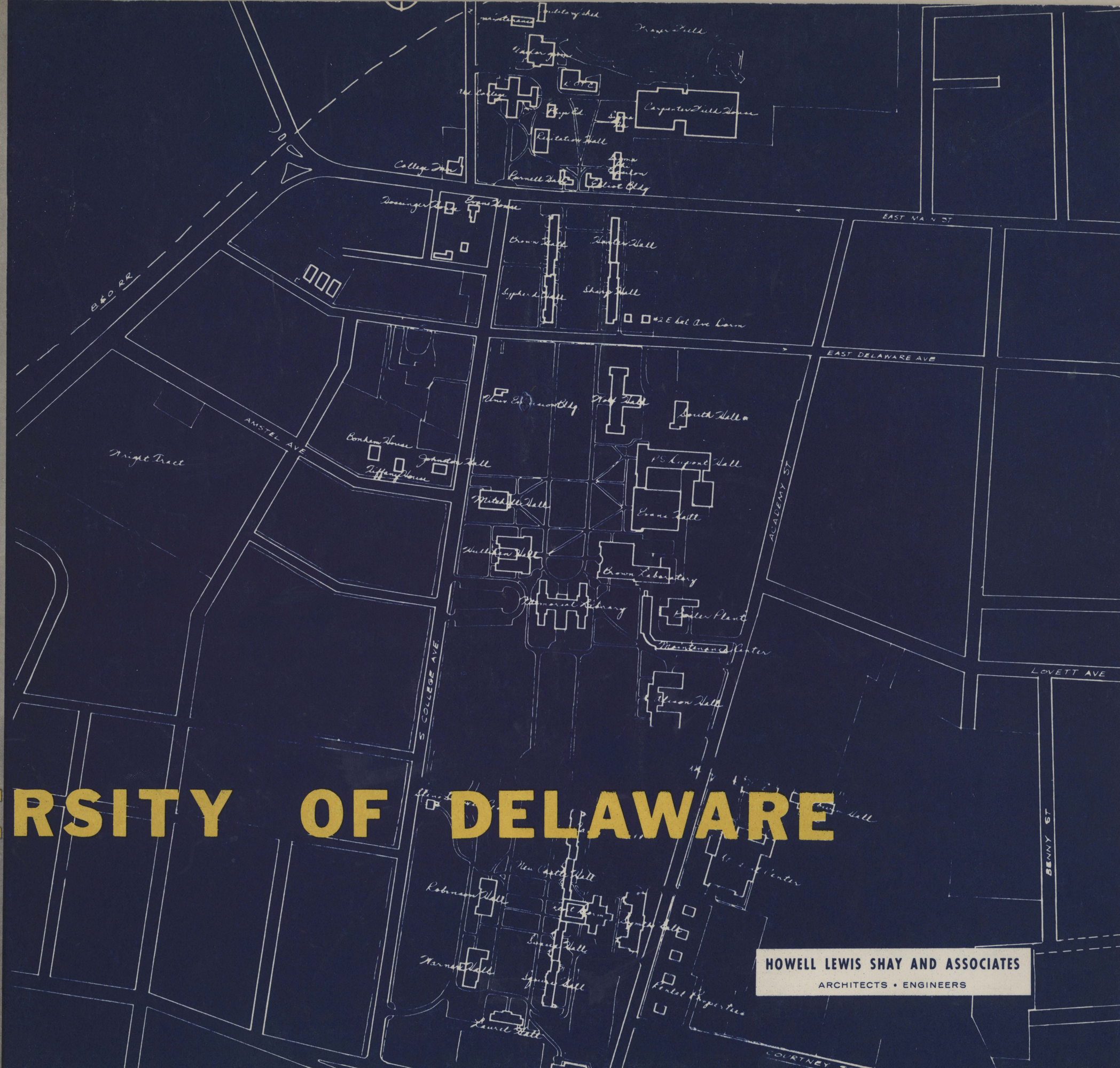
1959

1972

1985

1999

UNIVERSITY OF DELAWARE



HOWELL LEWIS SHAY AND ASSOCIATES

ARCHITECTS • ENGINEERS

Received
7/20/59

PREFACE

This report is a condensed presentation of vital considerations revealed in a study of planning for the future physical growth of the University of Delaware. It has been prepared by Howell Lewis Shay and Associates under the close guidance and cooperation of Dr. John Perkins, President, and Dr. Bruce Partridge, Business Administrator.

The purpose of the basic study is to interpret the factual data developed in the "Long-Range Planning Study" and to develop such additional data necessary as to establish a positive, efficient, detailed and practical basis upon which to proceed with future campus development and building construction.

This report embodies written text and tabulations sufficient to validate the basic conclusions reached and to explain the development of the study. It does not contain the profusion of detailed supporting data developed during the course of the study. All such data, and complete minutes of all key conferences are on file for reference.

FOREWORD

In order to give intelligent professional advice and guidance to the University in the development of its expansion program over the next 15 years, it was first necessary for our organization to become intimately familiar with the history, traditions, and past philosophy of the University as well as present aims and policies. Members of our staff have spent many hours of consultation with University personnel at all levels of authority in order to become completely inculcated with the spirit of the University of Delaware. We have completely familiarized ourselves with the facts contained in the "Long-Range Planning Study."

Our next step could have been to reduce all of our findings and conclusions into a bound typewritten compendium, but past experience with semantics has shown us that words and groups of words impart varied interpretations and sometimes different meanings to those reading the written words. Accordingly, it is our practice to reduce our findings into color-graphic shorthand form as presented in the diagrams which follow in this report. These diagrams reduce thought to a visual expression and greatly narrow the possibility of misinterpretation of the basic thoughts being presented. Many preliminary studies of these diagrams have been reviewed from time to time with University personnel to ensure that the final form clearly and truthfully represent the thinking of the University. With comprehension of this basic thinking we can intelligently approach physical campus planning.

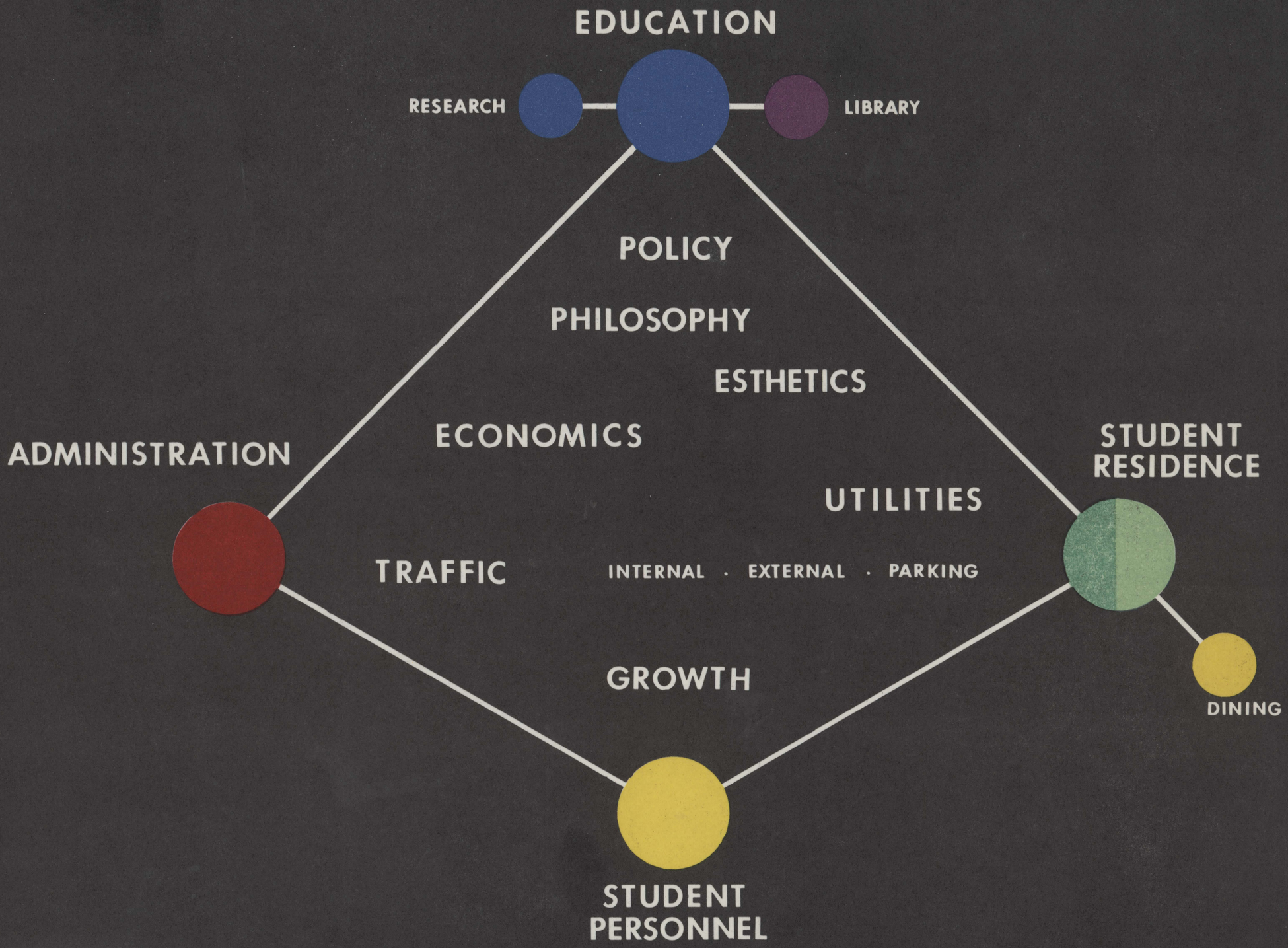
Adjacent to each diagram is a brief written statement interpreting and briefly explaining it. Where documentation of facts leading to a conclusion is called for, such documentation is included in tabular form.

THE UNIVERSITY

THE UNIVERSITY

This diagram depicts the main areas and types of activity which are carried on at the University: EDUCATION with its associated research and library functions; STUDENT RESIDENCE with its associated dining activity; STUDENT PERSONNEL; ADMINISTRATION.

Each activity is represented by a colored disc. The lines drawn between the discs indicate basic relationships and interrelationship of each activity to ADMINISTRATION. Within the diamond thus formed, are named the broad considerations with which each and all of the activities must be concerned. At this point, a color identification is established for each of the major activities. These same color designations carry on consistently through every phase of the study. Wherever blue appears in this report, whether it be on a diagram or a campus plan drawing, the reference is to EDUCATION. Red always signifies ADMINISTRATION, yellow, STUDENT PERSONNEL and green, STUDENT RESIDENCE. This visual association, carried from original expression of "ideas" in diagrams, through all the thinking and finally into schematic drawings of buildings and campus, affords to those unfamiliar with blue prints and drawings, an easy thought transition from "idea" to "blue print."



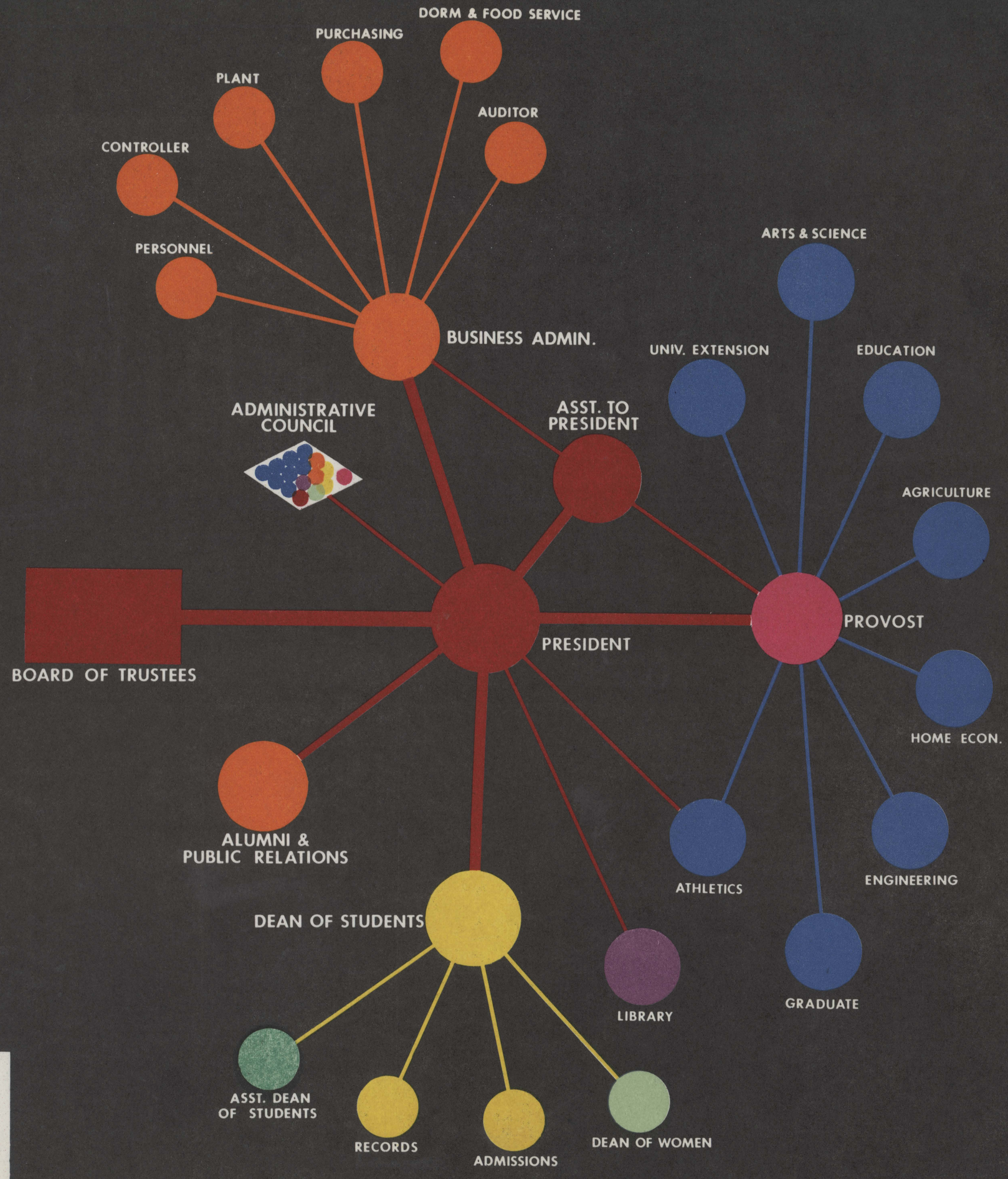
THE UNIVERSITY

ADMINISTRATION

ADMINISTRATION

This diagram reflects areas of activity and responsibility within ADMINISTRATION which is predominantly in the red color family. It portrays the relationship of the Board of Trustees to the University, through the president as the chief executive officer. It portrays the relationship inward to his three chief administrative officers, his administrative assistant, and the major positions of responsibility under each of these administrative officers. The blue discs represent the deans of your various schools.

On this diagram, and hereafter, light and dark green represent women's residence and men's residence, respectively.



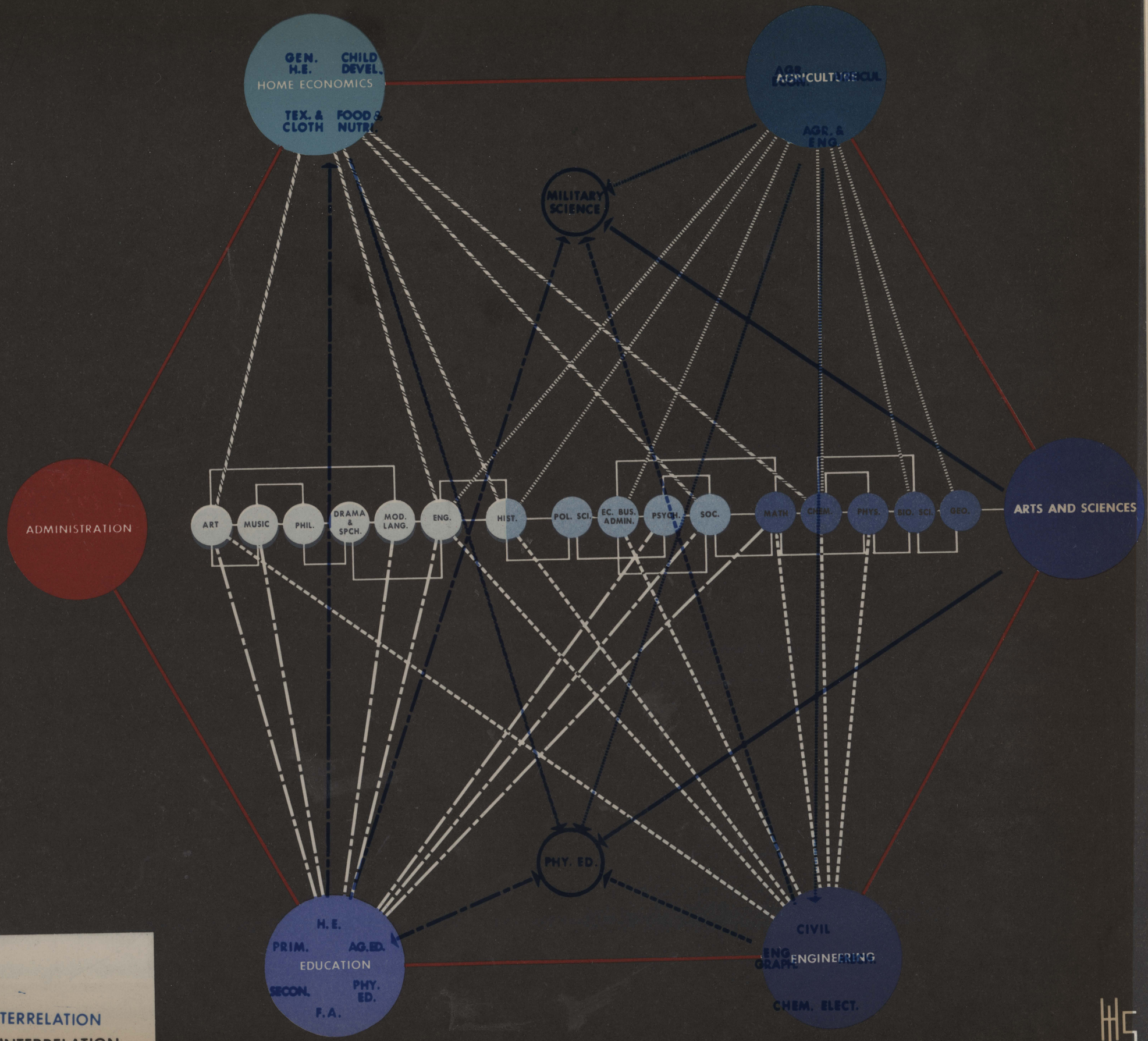
ADMINISTRATION

EDUCATION

EDUCATION

The large blue discs represent the present five colleges with the red line illustrating their relationship to administration. The University is predominantly an arts and science university and it follows that the major relationship of the five schools to each other is dominated by and to the School of Arts and Science. The smaller discs here are all of the major departments within the School of Arts and Science. They range from departments of the humanities in the lighter blue on the left side through the scale to the darker blue of mathematics, physics, and geology. The hatched lines from the various schools to these departments of Arts and Science indicate the inter- and intra-relationship of and student travel between the five schools to these departments. The diagram overlay indicates the major departments of each of the other four schools and associated travel of students from the five schools to these departments.

The lines of interdependence between schools and departments take on meaningful significance when we relate them to trips necessitated by University curriculum, physical location of the departments in buildings about the campus, and the number of students having to undertake this travel.

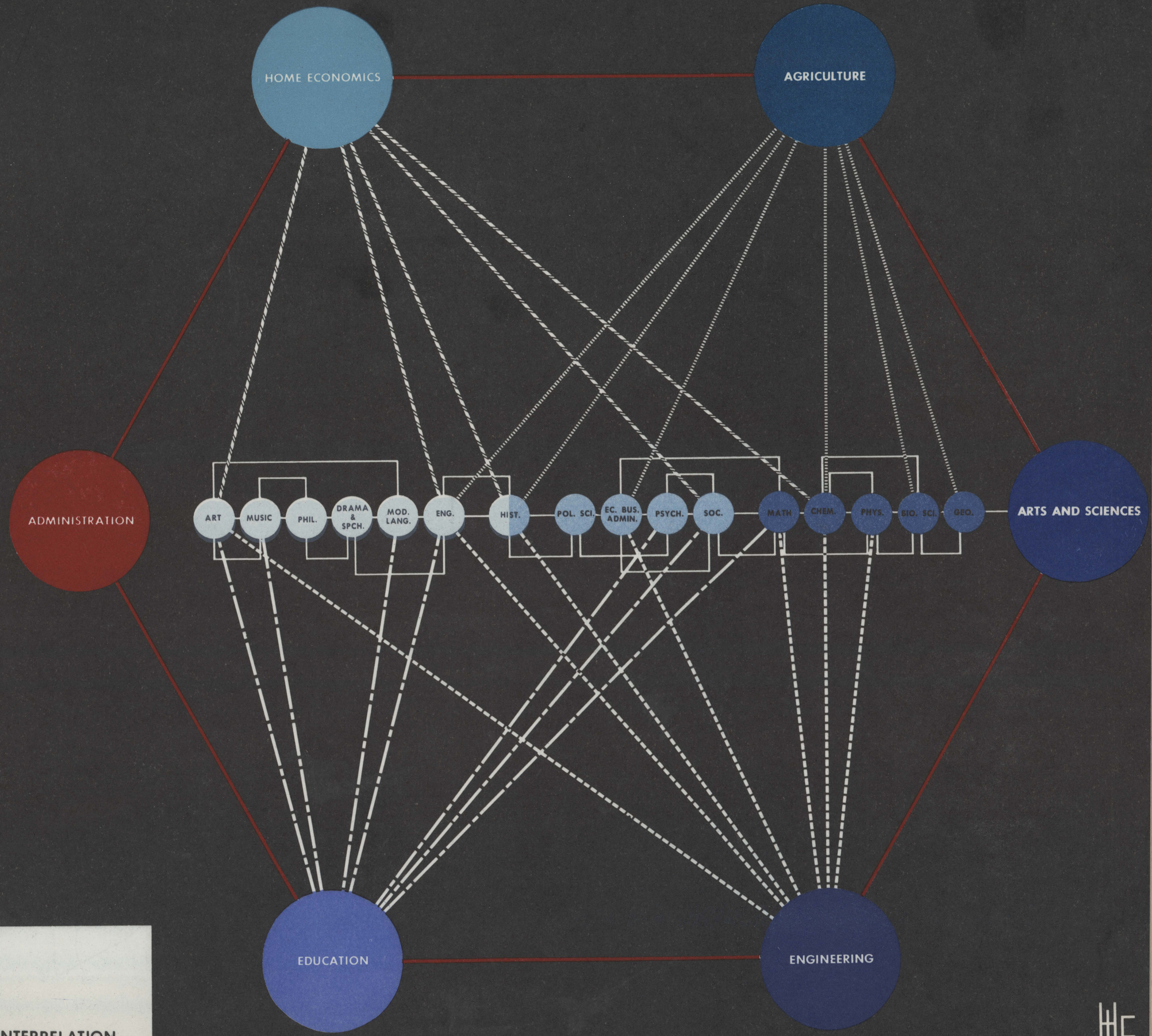


SIGILLVM VNIVERSITATIS DELAVARIENSIS
GRAMM PHILOL RHETOR ETHICA
METAPH LOGICA MATHEM PHYSICA
SCIENTIA SOL MENTIS
1833

EDUCATION MINOR INTERRELATION

EDUCATION MAJOR INTERRELATION

HLS



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METAPH LOGICA MATHEM PHYSICA
SCIENTIA SOL MENTIS EST
1833

EDUCATION MAJOR INTERRELATION

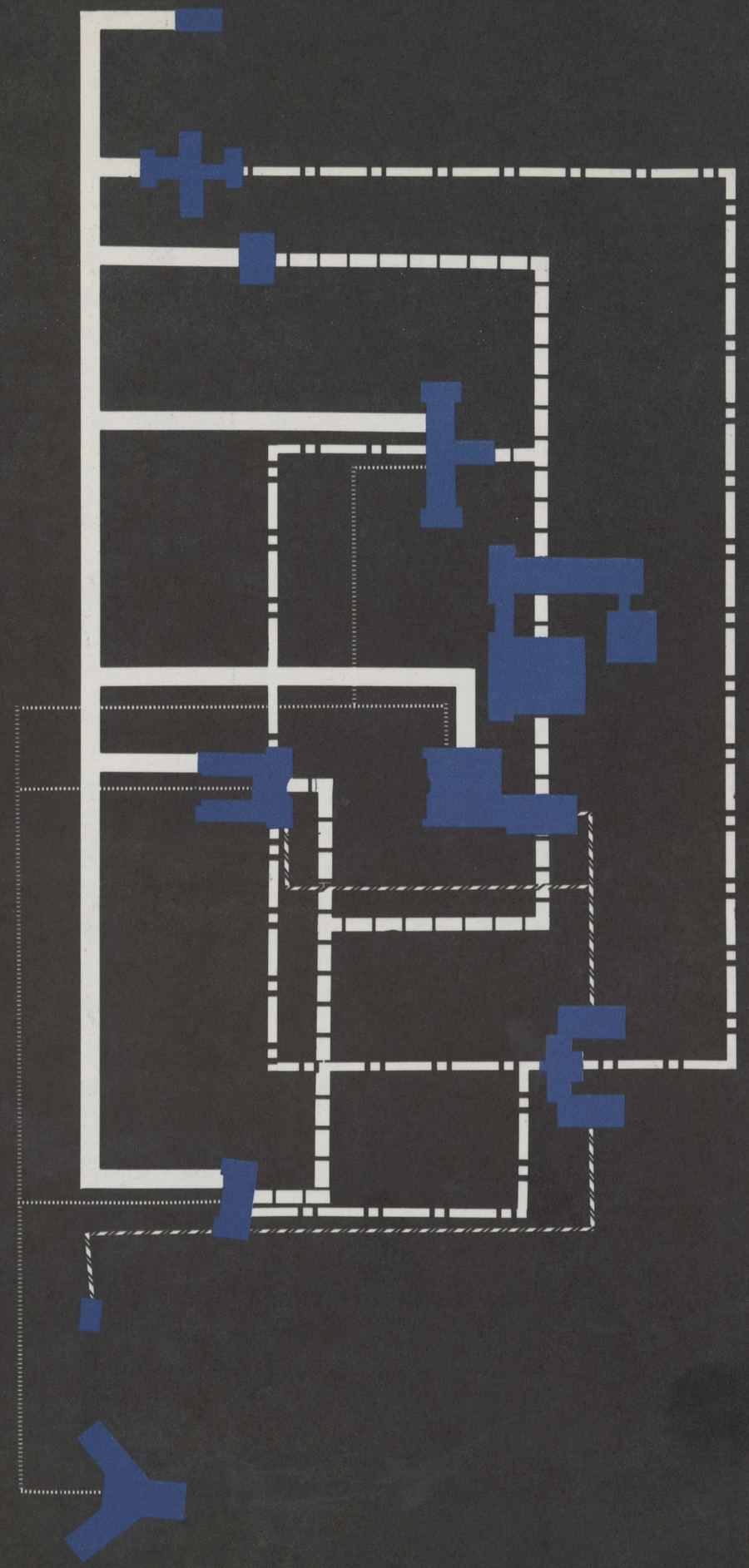
HLS

SCHOOL CIRCULATION

SCHOOL CIRCULATION

Distance and time consumed by student travel is becoming an increasingly serious consideration to universities across the nation. This diagram presents a schematic plan of the University locating only those buildings housing the departments of the five schools. In orientation, north is at the top of the diagram; the building at the bottom is Agricultural Hall. Again, all are blue to represent EDUCATION.

The connecting lines developed in the previous study diagram are here applied to campus layout. In this diagram, however, they have been weighted in proportion to the total considerations of distance, frequency, and number of students involved. The result clearly accents the preponderance of travel associated with the departments of Arts and Science in the heavy white line. Next in importance are lines to the departments in Engineering shown by the dashed white line. Travel associated with the Schools of Agriculture, Education, and Home Economics are of comparatively minor importance. These factors have important bearing upon proper location of new buildings and upon the placement of departments within buildings as the campus develops.



SCHOOL CIRCULATION

ARTERIAL TRAFFIC

ARTERIAL TRAFFIC

Projected growth of the University implies a tremendous increase in the amount of pedestrian activity on the campus. The path of this traffic crosses city owned streets. The obvious traffic hazard involved will become increasingly worse with each year. We recommend that this matter of traffic be discussed and studied with local and state highway departments and the City Planning Commission. We show here the proposed future state and local highway network around Newark. This network will in part help to alleviate the impending degree of traffic hazard. Perhaps cooperative study of this common problem with these departments could lead eventually to the elimination of College Avenue and Academy Street, within the University campus, from the public highway system, restricting them to University vehicular travel only. Such a study in view of all considerations could lead to the re-establishment of two way traffic on Main Street to the benefit of local merchants.



SIGILLVM VNIVERSITATIS DELAWARIENSIS
SCIENTIA
GRAMM PHILOL RHETOR ETHICA
METAPH LOGICA MATHEM PHYSICA
SOL MENTIS
1833

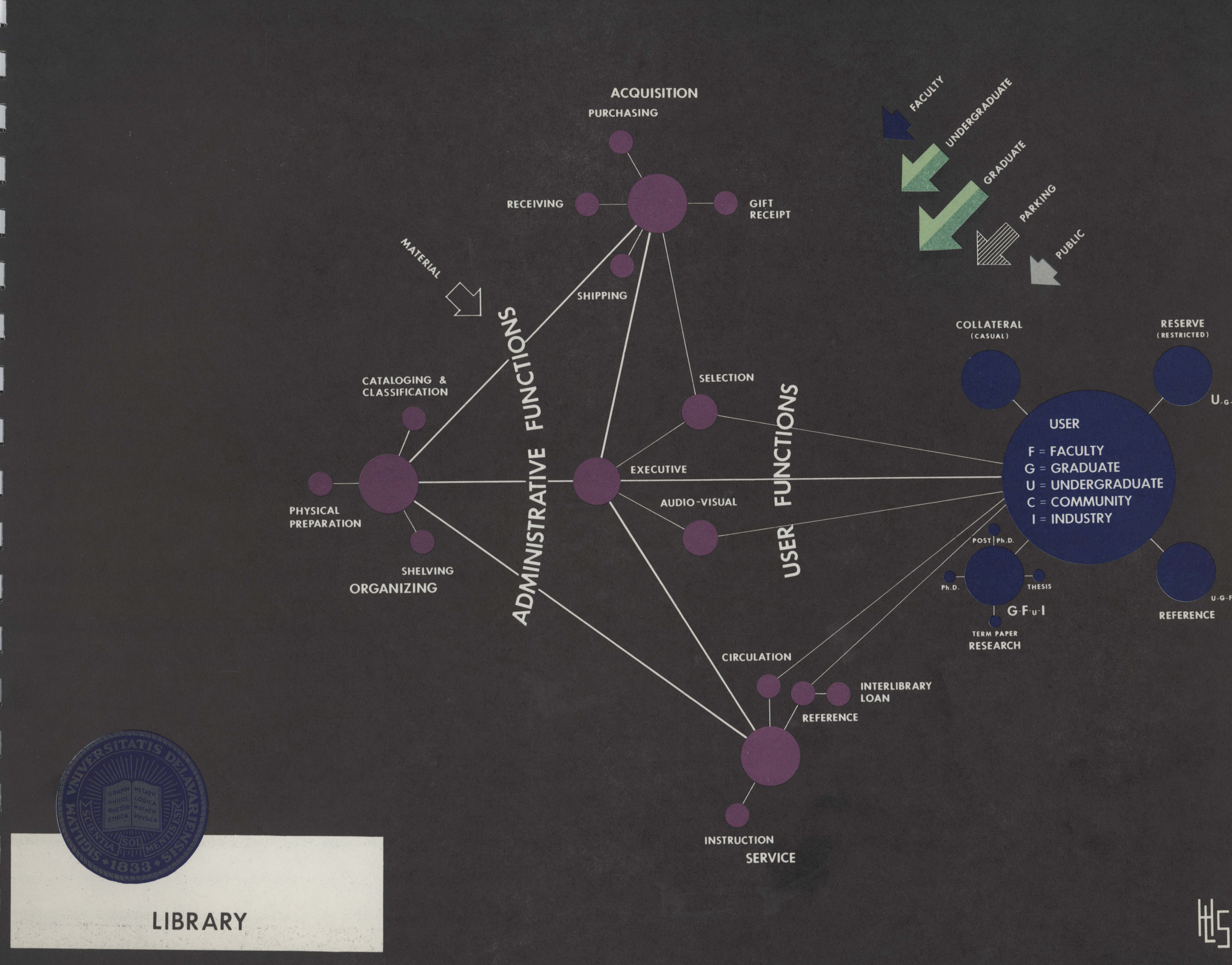
LIBRARY

LIBRARY

This diagram portrays the major internal operations of the Library and its relationship to the various elements of the campus it serves. The User functions on the right are blue since they are predominantly related to and used in conjunction with EDUCATION. The Administration functions to the left, though not basically University Administration, are closely related thereto and are thus expressed in purple, tending toward ADMINISTRATION Red.

A preliminary test sampling of opinion was conducted to ascertain library demand and actual use by resident undergraduate students, non-resident undergraduate students, graduate students, and faculty. The results give significant implications regarding placement, size, and associated service facilities in regard to future library thinking. Basic relationships of the Library to other campus elements is expressed by weighted arrows, with size of arrow indicating relative importance of the element considered.

A more thorough detailed survey of actual Library use must be carried out in order to establish a realistic, firm premise relative to requisite size and location to best serve the purposes of the University. This diagram based on test opinion is only indicative of what such a survey may reveal.


ACQUISITION
PURCHASING
RECEIVING
GIFT
RECEIPT
SHIPPING
MATERIAL
CATALOGING &
CLASSIFICATION
PHYSICAL
PREPARATION
SHELVING
ORGANIZING
ADMINISTRATIVE FUNCTIONS
SELECTION
EXECUTIVE
AUDIO-VISUAL
USER FUNCTIONS
FACULTY
UNDERGRADUATE
GRADUATE
PARKING
PUBLIC
COLLATERAL
(CASUAL)
RESERVE
(RESTRICTED)
U-G-F
USER
F = FACULTY
G = GRADUATE
U = UNDERGRADUATE
C = COMMUNITY
I = INDUSTRY
POST | Ph.D.
Ph.D.
THESIS
G-F-U-I
TERM PAPER
RESEARCH
U-G-F
REFERENCE
CIRCULATION
INTERLIBRARY
LOAN
REFERENCE
INSTRUCTION
SERVICE

LIBRARY

STUDENT RESIDENCE

STUDENT RESIDENCE

This diagram indicates that a centroid of educational buildings surrounded by peripheral student housing will best serve the University's functions.

Great importance is placed upon the living atmosphere created for and generated by the boys and girls living on the campus. First a lengthy study with the Dean of Student Affairs and his assistants investigated all phases of student living which would best fulfill the basic aims of the University.

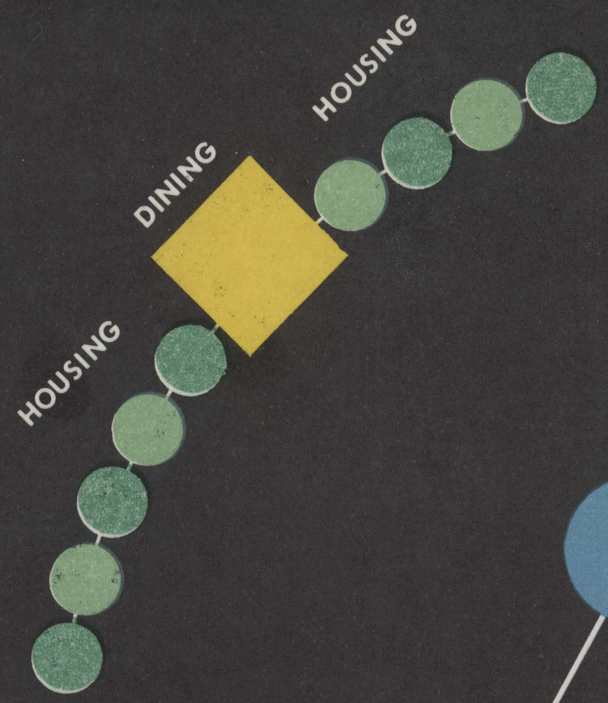
Second and equally important a detailed study of financial analysis and economics was conducted to determine accurately how much of the desirable living conditions could be attained within specified limits of construction costs, operating costs, and supervisory personnel costs.

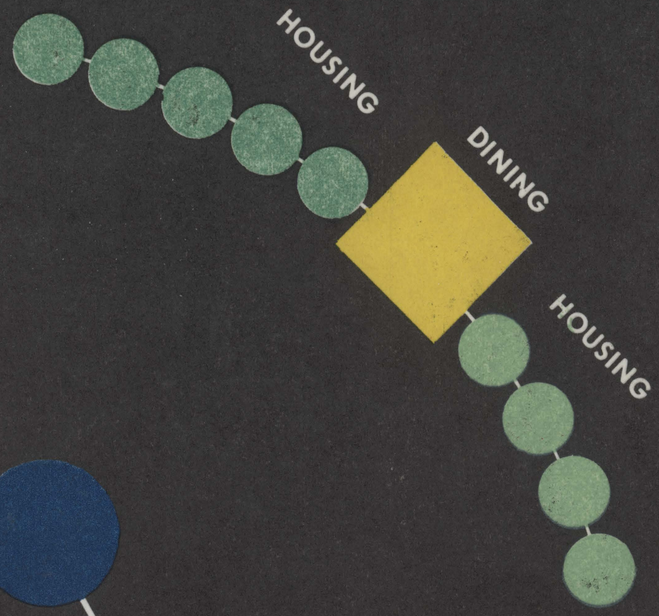
The solution to the equation of the above elements indicates that students should be housed in social-administrative units of 100. Each such unit is represented by one green disc. Five such units, indicating a total of 500 students, should form the maximum size of a building complex.

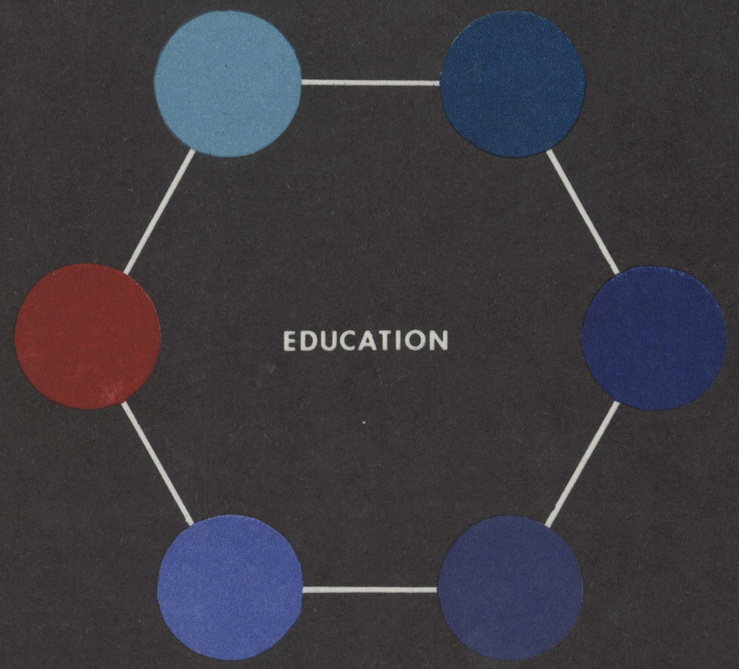
Initial economic analysis reveals the fact that feeding students in groups of approximately 1000 results in greatest efficiency in cost and service. Accordingly two building complexes of 500 each are related to each dining facility.

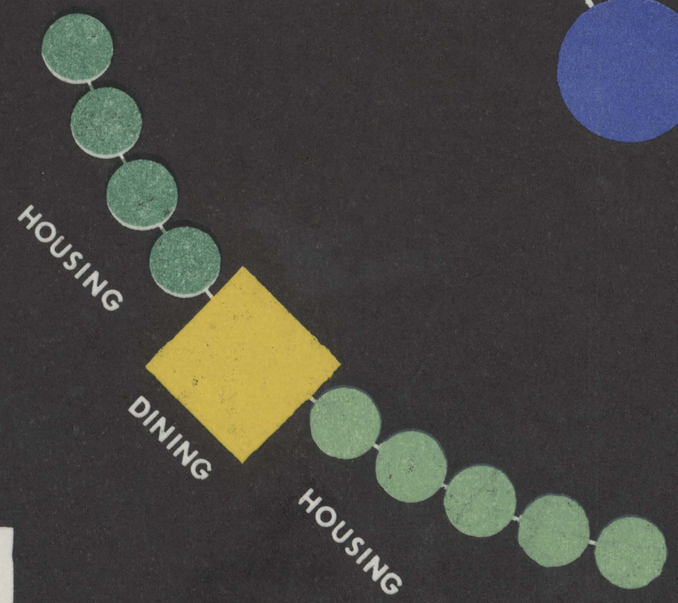
In some instances the building complexes consist of all light green (female) social units; in other cases all dark green (male); in some cases they are intermixed. This indicates a decision to provide flexibility in design of these buildings so that they may be assigned to either male or female residents as need dictates in future years. It also reflects the desirability of having both male and female students in each dining hall.

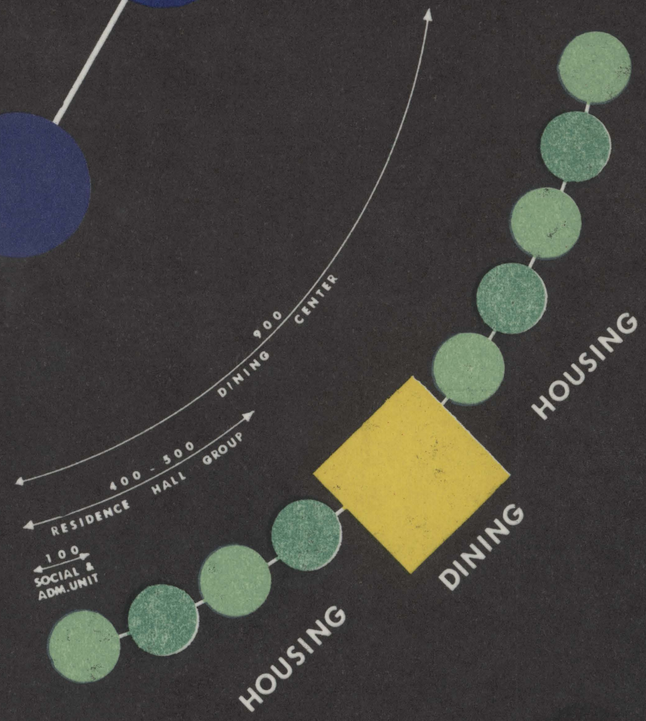
The peripheral arrangement of housing makes it possible to assign students of a given school to residence halls adjacent to the school they are attending. This might be done to create a "unity of interest" within the social units. The arrangement affords equal opportunity to place students of each school at random thus creating a "variety of interest." The diagram indicates the determination to permit and provide flexibility in present planning so that future decisions are not restricted by what is thought best at this particular time.









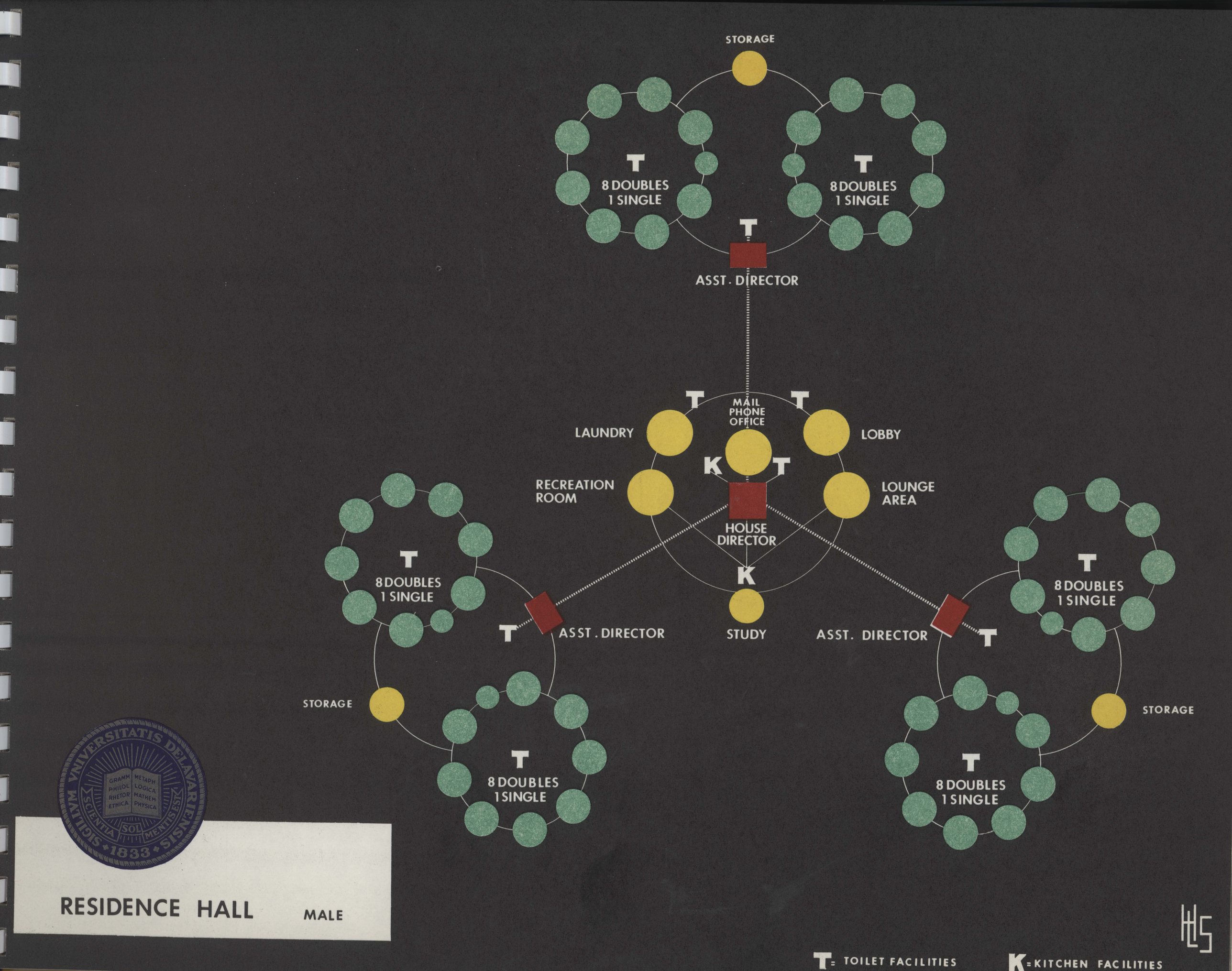


STUDENT RESIDENCES

RESIDENCE HALL - MALE

RESIDENCE HALL FOR MEN

Shown here are the facilities and desired association of these facilities within a Residence Hall building for 100 male students.



RESIDENCE HALL

MALE

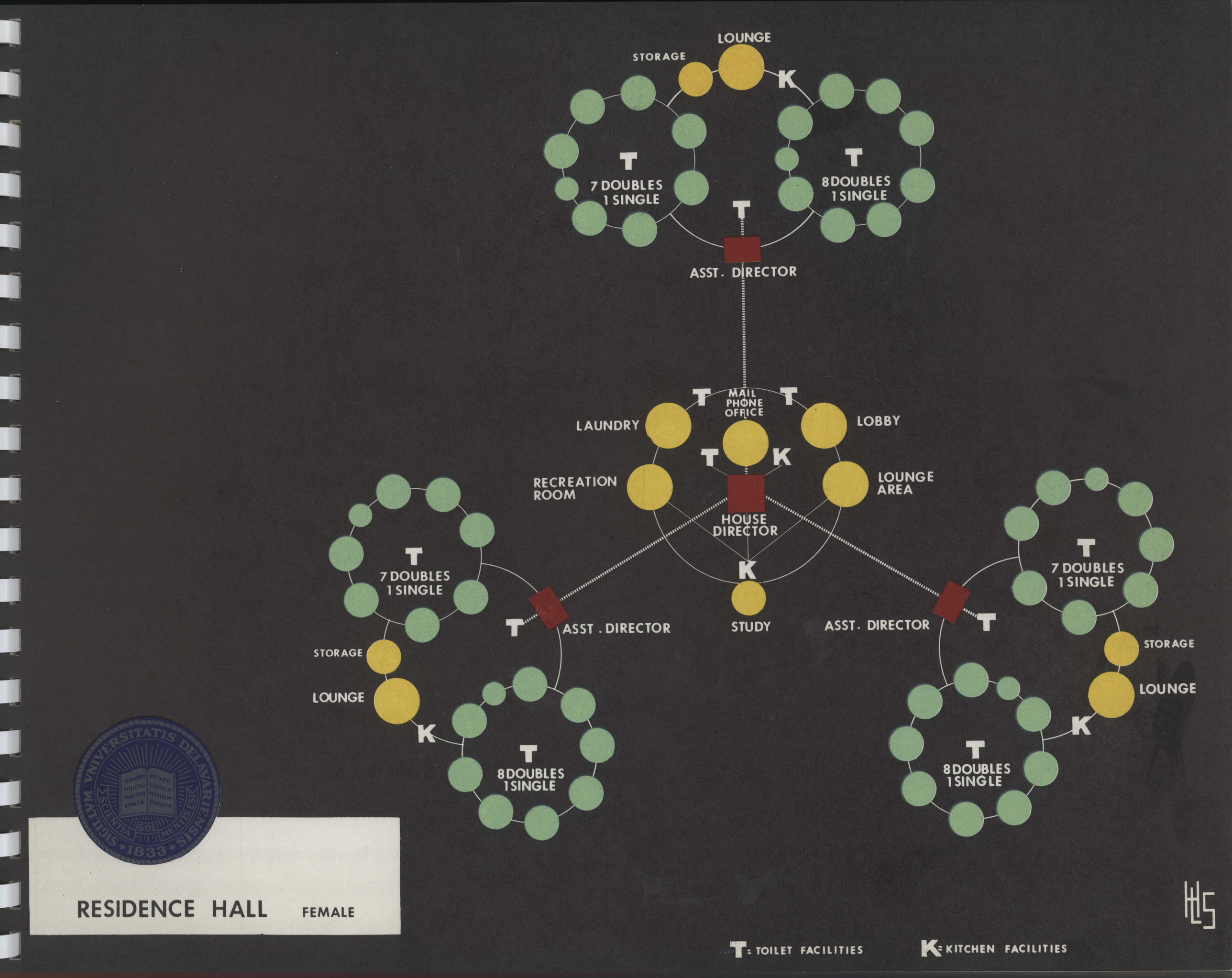
T= TOILET FACILITIES

K=KITCHEN FACILITIES

RESIDENCE HALL - FEMALE

RESIDENCE HALL FOR WOMEN

Shown here are the facilities and desired association of these facilities within a Residence Hall building for 100 female students.



RESIDENCE HALL FEMALE

T = TOILET FACILITIES

K = KITCHEN FACILITIES

DORMITORY ADMINISTRATION COSTS PER BED*

		Full Time Directors	Part Time Assistants	Total
Present		$21.61	$7.67	$29.35
1972	77 Unit	$27.93	$5.82	$33.75
	100 Unit	$24.25	$5.28	$29.53
	154 Unit	$18.41	$7.18	$25.59

* Based on present 1435 beds plus 2000 new beds.

NUMBER OF NEW ADMINISTRATIVE EMPLOYEES FOR THE 2000 NEW BEDS

77 or 154 Bed Unit

77 26 @ 2 = 52 employees
154 13 @ 4 = 52 employees

100 Bed Unit

100 20 @ 2 = 40 employees

77 OR 154 BED UNITS WOULD REQUIRE 12 ADDITIONAL EMPLOYEES TO STAFF THE NEW UNITS.

CONSTRUCTION COST COMPARISON
77 BED UNIT VERSUS 100 BED UNIT

Total square footage of 77 bed unit including all dormitory areas	18,364	sq. ft.
Square feet per bed	238.5	sq. ft.
Total square footage of 100 bed unit including all dormitory areas	22,984	sq. ft.
Square feet per bed	229.84	sq. ft.

Saving per bed by building 100 bed units

77—238.5
100—229.84

8.66 sq. ft. per bed

Square foot saving
2000 beds x 8.66 = 17,320 sq. ft.

Cost saving (at $14.75 per sq. ft.)
17320 x $14.75 = $255.500

Savings over fifteen years by building in administrative unit of 100 beds

Construction saving	$255,500
Increased administrative costs over 15 yrs. 29.54 — 29.35 = .18¢ 2000 beds x .18 x 15 yrs. = $4500	—$4,500
	$251,000

COST COMPARISON OF SCHEDULING RESIDENCE HALL CONSTRUCTION

	Providing Number of Beds yearly To closely Parallel Demand	Providing 400 Beds At a time In the years Indicated	Providing 500 Beds At a time In the years Indicated
*			
1958-59			
59-60			
60-61 (312)	$1,026,601	$1,354,834	$1,676,083
61-62			
62-63 (106)	359,660		
63-64 (100)	370,450	1,437,346	
64-65 (206)	755,497		1,831,507
65-66 (206)	778,161	1,524,883	
66-67 (206)	801,506		
67-68 (106)	416,945		2,001,336
68-69 (100)	429,453	1,666,278	
69-70 (106)	442,337		
70-71 (206)	902,102		2,186,914
71-72 (206)	929,164	1,820,787	
72-73 (206)	957,039		
	$8,168,915	$7,804,128	$7,695,840

*Number of beds provided in first cost column.

Each method provides sufficient beds to keep pace with demand. Other studies of apparent "inefficiency" of the 400 and 500 bed method do not offset the fact that the 500 bed method is least costly, all things being considered.

Construction costs shown are compounded annually to be consistent with the history and present trend of yearly construction cost increases.

CONSTRUCTION COST COMPARISON OF FOUR STORY VS EIGHT STORY RESIDENCE HALLS

Comparison in each case is based on building five structures housing 100 students each in four stories and one eight-story building housing 500 students.

Land Coverage and Foundation Area for four stories is approximately double that of eight stories. However, necessity of pile foundations for eight story construction cancels savings in Foundation cost otherwise possible. (Foundation costs therefore are a standoff.) Land cost as such is considered elsewhere in the report.

	EIGHT STORY	FOUR STORY
FOUNDATION COST	$ 167,000	$ 167,000
CONSTRUCTION COST of all other items common to both	$1,480,000	$1,509,000
ELEVATOR COST 2 elevators & structure @$47,750	$ 91,500	not needed
	$1,738,000	$1,676,000

Total Square Feet 114,920 equal $15.12/sq. ft. $14.75/sq. ft. Calculated Savings in building four-story halls instead of eight-story halls is in excess of $62,500 per 500 bed group. In different words, eight-story buildings will cost the University $125 per student more than four-story buildings.

All calculations are based upon a detailed quantity takeoff analysis and unit cost pricing of a typical proposed Residence Hall Cost are as of today.

DETAILED CRITERIA OF RECOMMENDED RESIDENCE HALL BUILDINGS

CONTAIN 100 BEDS, FOUR-STORY CONSTRUCTION

TOTAL SQUARE FEET	22,984
TOTAL CUBIC FEET	206,856
TOTAL CONSTRUCTION COST	$339,014
COST PER SQUARE FOOT	$ 14.75
COST PER CUBIC FOOT	$ 1.64
COST PER STUDENT (WOMEN)	$ 3,390
COST PER STUDENT (MEN)	$ 3,198

Similar criteria is on file for 77 and 154 bed units. It is not included here because in most areas costs are higher and allocations of area and cubbage per student less efficient in comparison.

Above costs are construction costs only.

PHYSICAL PLANNING

With the broad framework of reference expressed in these diagrams we can now intelligently approach the consideration of physical planning of the campus. Our practice is to do this in three-dimensional models of the type shown on the next few pages in photographic form. We do so in the belief that a three-dimensional study is more easily comprehended than a two-dimensional flat drawing. The original model is in colors consistent with the diagrams. The photographs however are purposely in black and white because our main concern at this point is campus scale and character.

In the upper left hand corner of each model photograph is a pie chart illustrating portion of land usage of the scheme presented. Use is expressed in terms of percentage for comparative purposes; "Building" is amount of acreage actually covered by structures; "Parking" the acreage covered by black top or cinders for parking; "Ground" acreage of lawn, trees, and pathways. "Total Acres" is the total size of the campus as depicted in each scheme.

The tabulation below shows the relative density of resident student population at present and as it will be in each scheme. The figures show number of students per "residential" acre, not students per total campus acre.

	Present	Scheme A	Scheme B	Scheme C
1959	87			
1972		83	83	83
1999		192	137	137

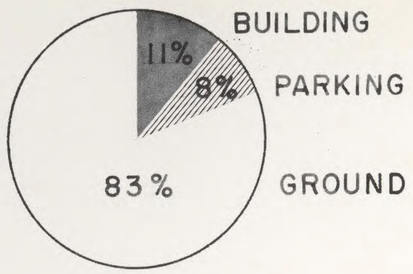
CAMPUS - PRESENT & FUTURE

PRESENT CAMPUS

This model photograph shows the campus as it is today. If we include additional land which the Long-Range Planning Study indicates must be acquired, and if we place on the model four-story Residence Halls and the academic buildings contemplated in the next 15 years, all buildings can be placed in a manner conforming to the earlier studies of philosophy and economics. Following this plan, however, uses all of the land available in the year 1972. Thus expansion would have to cease in 1972, or additional land would then be required immediately.

Establishing a pattern today which will use up all University land by 1972 is perhaps ill-advised. A precedent was established in 1916 when those planning the university chose to look ahead forty years. It is incumbent upon us to investigate the implications of a look forty years into the future.

If growth continues during the next 40 years at the same rate as is projected for the first 15 years, the number of academic buildings and required Residence Halls will be three times the number required in the first 15-year period. There will be a demand for parking of 4,000 automobiles above and beyond the 2,000 required by 1972. Accordingly, if we are to face a 40-year outlook we must use the present available land in quite a different manner than first suggested. If buildings are to be only 4 stories in height, it will be necessary to greatly intensify land usage and crowd buildings and residence halls together. Another alternative is to build eight-story residence halls. An entirely different plan layout would be required for eight-story than for four-story structures. One possible plan is shown in the next photograph.



100 ACRES

1959

SCHEME "A" - 1999

SCHEME A 1999

In this scheme, it may be seen that in order to allow for a 40-year outlook confined within present campus acreage, residence halls of eight-story construction are required. It should be noticed that here and elsewhere in the photographs the shape of the new buildings does not necessarily reflect a final recommendation of form and arrangement. As presented, they are intended only to accurately represent amount of space, land coverage, and general scale atmosphere.

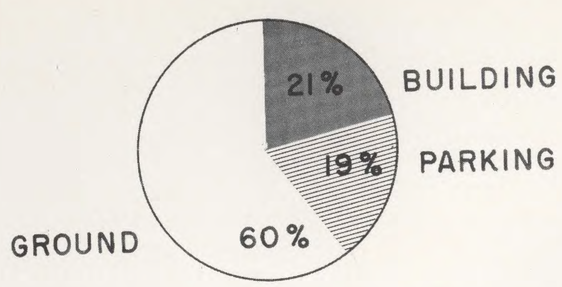
The campus as shown here in the year 1999 accommodates the implied 40-year requirements of student housing and additional academic buildings. Because of confinement to land presently available it is necessary to build five, five-story open air garages to house parking.

Based on today's construction costs these garage buildings involve an expenditure exceeding $10,000,000 as developed below:

Area per car	350 sq. ft.
Construction Cost per sq. ft.	$5/sq. ft. absolute minimal facility
Cost/car space	$1750

6000 Autos by 1999 x $1750 = $10,500,000
2000 " " 1972 x $1750 = $ 3,500,000

The next photograph illustrates Scheme A in the year 1972.



113 ACRES

1999
SCHEME A

PROJECTED

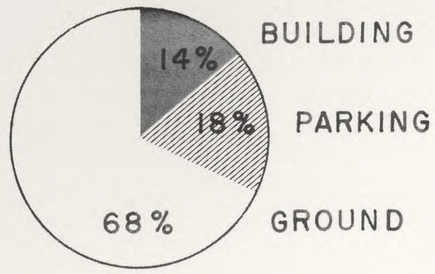
R4 - RESIDENCE HALL 4 STY
R8 - RESIDENCE HALL 8 STY
D - DINING FACILITY
G - PARKING GARAGE
A - ACADEMIC BLDG

SCHEME "A" - 1972

SCHEME A 1972

Since building design and layout for 1972 must allow for final 1999 development, it is entirely different than it would be if we did not look 40 years ahead. Scale, general character, land coverage and intensity differ from the present campus. In the plans for both 1972 and 1999, buildings are located in conformity with the previous diagram studies. This fact plus consideration of the expensive garage construction suggest the conclusion that, if we are to seriously take into account the 40-year outlook, we should examine the possibilities of additional land acquisition to offset the necessity of garages, eight-story Residence Halls, and congestion of the campus.

The results of analyzing this possibility are shown in the following photographs.



113 ACRES

1972
SCHEME A

PROJECTED

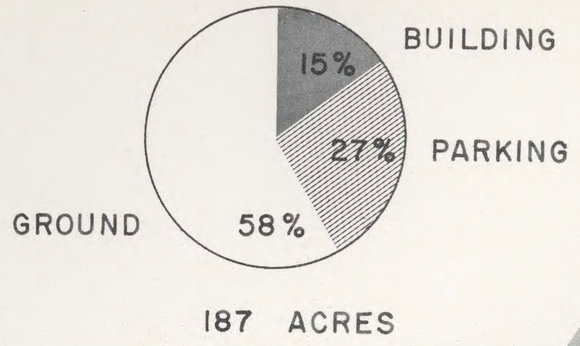
R4 - RESIDENCE HALL 4 STY
R8 - RESIDENCE HALL 8 STY
D - DINING FACILITY
G - PARKING GARAGE
A - ACADEMIC BLDG

SCHEME "B" - 1999

SCHEME B 1999

This scheme permits locating four-story Residence Halls to accommodate 1999 enrollment in a manner consistent with present campus scale, density and atmosphere. It permits future academic buildings to be placed in an expanded centroid toward the east and toward the west. It permits all ground-level parking. The Scheme necessitates, however, the acquisition of extensive land over the next 40 years.

Physical examination and financial analysis of land to the east, north, and west indicates that assembling land to the west is most desirable and the least costly. From the monetary standpoint each city block was appraised property by property, at present market value. The average acquisition purchase cost to the west was found to be $53,187 per acre; to the east $59,932 per acre. This indicates a total conservative cost estimate to the west, $3,900,000, and to the east, $4,300,000.



187 ACRES

1999
SCHEME B

PROJECTED

R4 - RESIDENCE HALL 4 STY
R8 - RESIDENCE HALL 8 STY
D - DINING FACILITY
G - PARKING GARAGE
A - ACADEMIC BLDG

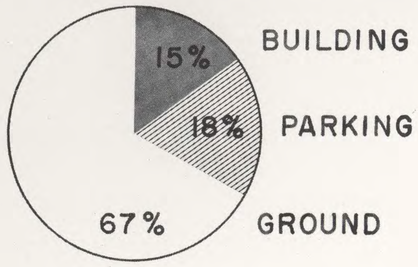
SCHEME "B" - 1972

SCHEME B 1972

This photograph shows the campus as it would look in 1972 if Scheme B is followed. Very little newly-acquired land is necessary for use by the year 1972. Present campus scale, density and atmosphere are preserved. The scheme provides close conformity to expressed philosophy in both 1972 and 1999.

It should be pointed out parenthetically that if no consideration is to be given to the 40 year outlook the development of Scheme A would take on this same appearance rather than as shown previously. Previously the 1972 form of Scheme A was a preliminary step toward 1999.

Scheme B involves considerably less total cost than Scheme A. The acquiring of 72 additional acres of property raises disturbing implications. Is there a compromise which will squarely face the possibilities suggested in the 40 year outlook, but at the same time reduce necessary quantity of land acquisition?



113 ACRES

1972
SCHEME B

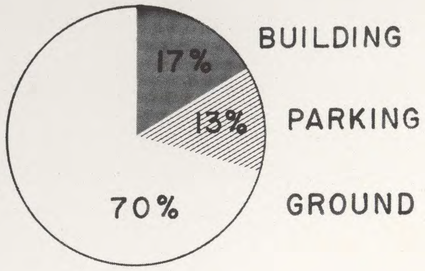
PROJECTED

R4 - RESIDENCE HALL 4 STY
R8 - RESIDENCE HALL 8 STY
D - DINING FACILITY
G - PARKING GARAGE
A - ACADEMIC BLDG

SCHEME "C" - 1999

SCHEME C 1999

Scheme C shows the University in 1999 if 43, rather than 73, additional acres are obtained. The campus is confined to this 43 additional acres by building a few eight-story residence halls and by building multi-story garages to handle 1500 rather than 6000 automobiles.



157 ACRES

1999
SCHEME C

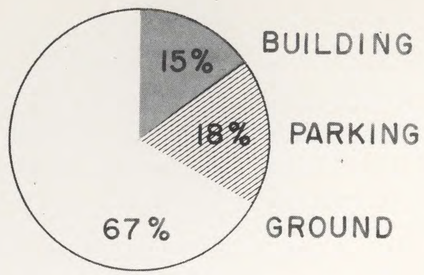
PROJECTED

R4 - RESIDENCE HALL 4 STY
R8 - RESIDENCE HALL 8 STY
D - DINING FACILITY
G - PARKING GARAGE
A - ACADEMIC BLDG

SCHEME "C" - 1972

SCHEME C 1972

Scheme C would appear in 1972 as shown in this picture. Again in 1972 very little new land is necessary for use. At this stage of development Scheme C is identical with Scheme B of the same year.



113 ACRES

1972
SCHEME C

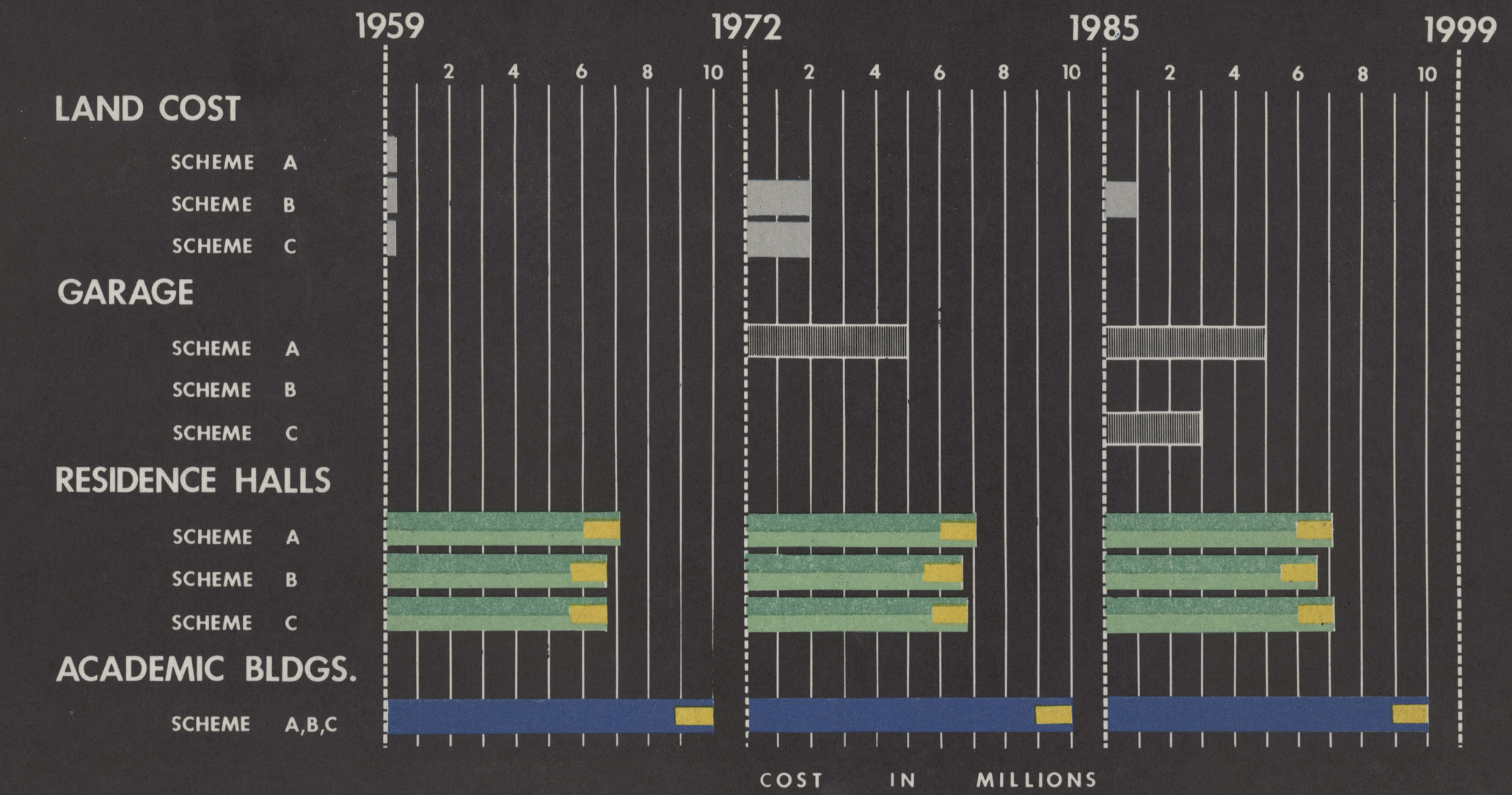
PROJECTED

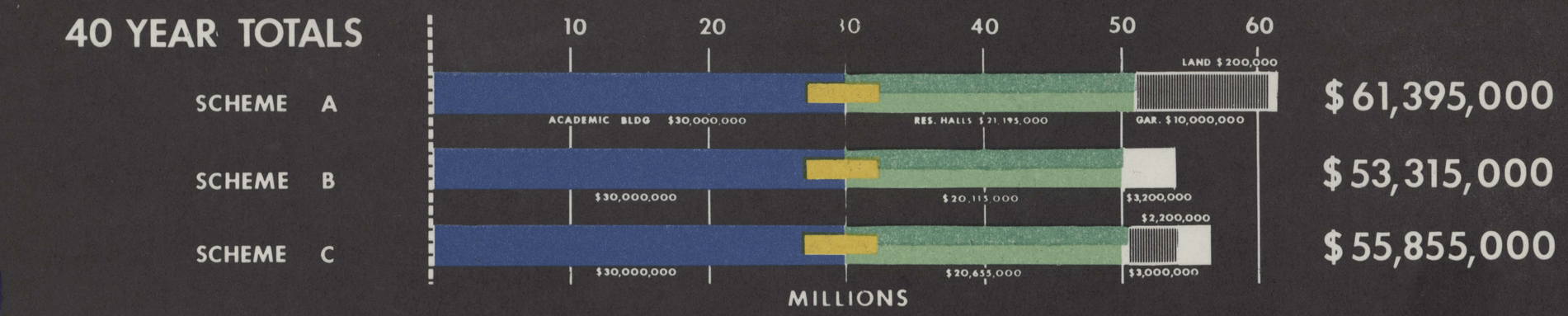
R4 - RESIDENCE HALL 4 STY
R8 - RESIDENCE HALL 8 STY
D - DINING FACILITY
G - PARKING GARAGE
A - ACADEMIC BLDG

COST CONSIDERATIONS

COST CONSIDERATIONS

This diagram compares costs of the three schemes. It portrays land costs, academic building costs, residence hall construction costs and garage building construction costs. All are expressed in terms of today's building index.





SIGILLVM VNIVERSITATIS DELAWARIENSIS
GRAMM METAPH PHILOL LOGICA RHETOR MATHEM ETHICA PHYSICA
SCIENTIA SOL MENTIS EST
1833

COST CONSIDERATIONS

BASIC CONSIDERATIONS

BASIC CONSIDERATIONS

Summarized here are principal considerations to be evaluated in appraising the three schemes.

RECOMMENDATION

We recommend that planning for physical expansion proceed initially in general conformance with suggested Scheme C. We further recommend that the first two Residence Hall complexes be built to accommodate 500 students each and that they be of four-story construction. The reasons for our recommendations are that such a division:

1. **Accommodates resident student growth until 1968.**
2. **Defers until 1968 necessity of final decision regarding eight-story buildings, allowing a nine year interval to check actual growth against projected growth.**
3. **Permits time for thorough analysis of land acquisition possibilities and problems.**
4. **Makes it possible to proceed with the remaining Residence Halls in eight-story construction if by 1968 major land acquisition is found to be impractical or impossible.**
5. **Permits at the outset preservation of present campus scale, density and land coverage ratios.**
6. **Initiates the building expansion program in a direction consistent with least overall costs.**
7. **Squarely faces the impending possibilities of the next 40 years, sets at this time a positive overall direction of planning, and permits reasonable latitude over an eight-year period to alter course as and if developments indicate it is desirable.**

SCHEME A	SCHEME B	SCHEME C
MINIMUM LAND PURCHASE	MAXIMUM LAND PURCHASE (ASSEMBLED OVER 40 YEAR PERIOD FIRST PORTION NOT NEEDED UNTIL AFTER 1972)	INTERMEDIATE LAND PURCHASE (ASSEMBLED OVER 40 YEAR PERIOD FIRST PORTION NOT NEEDED UNTIL AFTER 1972)
OVERALL MOST COSTLY	LESS COSTLY THAN A	LESS COSTLY THAN A
DOUBLES HOUSING DENSITY PER ACRE	MAINTAINS PRESENT HOUSING DENSITY SIMILAR TO THAT OF NORTH CAMPUS	MODEST INCREASE IN HOUSING DENSITY OVER THAT OF NORTH CAMPUS
DOUBLES LAND COVERAGE PROPORTION	MAINTAINS APPROX. LAND COVERAGE PROPORTION	MODEST INCREASE IN LAND COVERAGE PROPORTION
NECESSITATES MULTI-STORY GARAGES TO HOUSE 4000 CARS (FIRST ONE BY 1975)	NO GARAGES	NECESSITATES MULTI-STORY GARAGES TO HOUSE 1500 CARS 1ST ONE BY 1985
ALL NEW RESIDENCE HALLS MUST BE 8 STORY	NEW RESIDENCE HALLS CAN BE FOUR STORY	1ST NEW RESIDENCE HALLS 4 STORY. BALANCE IN 4 OR 8 STORY.
		FLEXIBILITY FOR FUTURE

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GRAMM PHILOL RHETOR ETHICA
METAPH LOGICA MATHEM PHYSICA
SCIENTIA SOL MENTIS
1833