

**UNIVERSITY OF MINNESOTA
HEALTH SCIENCES PLANNING REPORT**

INTRODUCTION

This report summarizes progress toward architectural definition of a University of Minnesota long-term development program for the Health Sciences. It was prepared by a team of architects under the leadership of The Architects Collaborative Inc. of Cambridge, Massachusetts, in consultation with a University of Minnesota Health Sciences Design Coordinating Committee.

The University began the planning process that led to this report almost four years ago. In September, 1964, the Board of Regents asked the Hill Family Foundation to support a study of health manpower needs in the Upper Midwest. In the same year, President O. Meredith Wilson appointed a University Long-Range Planning Committee for the Health Sciences.

In the Spring of 1966, a report from the Hill study included the recommendations that the University should expand its entering Medical class to 200 students as rapidly as possible with a commensurate increase in the number of Dental students, increase the number of transfer students from the two-year medical schools in North and South Dakota, and strengthen the teaching of skills and attitudes relevant to the responsibility of personal and family physicians.

In July, 1966, the Regents, acting upon the Hill recommendations and preliminary reports of the University Planning Committee, proposed a \$54 million physical facilities development program for the College of Medical Sciences and the School of Dentistry. This proposal included facilities essential to the maintenance of quality programs in the Health Sciences. In addition, it would make possible introduction of new programs and increases in enrollment recommended by the Hill Family Foundation study — entering classes in Medicine would be increased from 160 to 200, in Dentistry from 110 to 150, and there would be proportionate enrollment increases in related health professional programs. The Regents asked for and received from the 1967 Legislature \$650,000 to purchase land required for expanded facilities and \$500,000 to finance preliminary physical planning.

More than 100 faculty members have participated directly in the planning effort. Most of their time has been devoted to programmatic study which includes expression of goals and objectives and definition of instructional, research and service activities that are appropriate to the University's efforts to meet the needs of the state and nation.

The architect-planning consultants were given a number of general criteria which established the basic planning framework:

1. Because of the great investment from public and private sources in existing facilities, the plan must conserve and enhance the desirable characteristics of the present Health Sciences Center.
2. The plan must be adequate in scale to serve all contemplated programs of the Health Sciences Center — programs that include substantial enrollment increases in all areas.
3. The plan must facilitate and, in fact, encourage interaction among persons in all Health Sciences programs. (In recognition of this, the plan now includes location of the College of Pharmacy in close proximity to the College of Medical Sciences and School of Dentistry.)
4. The plan must provide maximum flexibility for adaptation to anticipated but unspecified changes in programs in the wake of social and scientific progress.
5. The plan must be compatible with other aspects of University development and enhance the involvement of the Health Sciences with the rest of the University.
6. The plan must provide opportunity for development beyond any programs now contemplated.

The plan developed within this framework and described in this progress report is one that will enable the University to continue its service to the state and to maintain its outstanding international reputation in the Health Sciences. In the ensuing months, as the architects and University committees refine and complete development of the plan, some minor modifications will be necessary and appropriate. This work will continue without delay to insure that construction may proceed on schedule. The urgent need for additional health professionals has been well documented. The facilities essential to fulfilling that need have now been defined. But, the value of the planning effort will be proven only when the facilities exist and the people of the state and nation receive the benefits from new and expanded programs.

Elmer W. Learn

Elmer W. Learn, *Chairman*
Health Sciences Design Coordinating Committee

**A PROGRESS REPORT
BY THE UNIVERSITY OF MINNESOTA HEALTH SCIENCES ARCHITECTS**

**THE ARCHITECTS COLLABORATIVE INC., MASTER PLANNERS
THE CERNY ASSOCIATES INC.
HAMMEL, GREEN & ABRAHAMSON INC.
SETTER, LEACH & LINDSTROM INC.**

**CAMBRIDGE, MASSACHUSETTS
MINNEAPOLIS, MINNESOTA
ST. PAUL, MINNESOTA
MINNEAPOLIS, MINNESOTA**

DEVELOPED UNDER THE AUSPICES OF THE HEALTH SCIENCES DESIGN COORDINATING COMMITTEE

**Dr. Elmer W. Learn
Mr. Vernon L. Ausen
Mr. Winston A. Close
Dr. Robert B. Howard
Mr. Roy V. Lund
Mr. Hugh G. S. Peacock
Dr. Erwin M. Schaffer
Dr. Lawrence C. Weaver
Mr. John H. Westerman**

*Chairman, Director of Planning
Director of Space Allocation and Room Scheduling
Advisory Architect
Dean, College of Medical Sciences
Assistant Vice President, Director of Plant Services
University Planner
Dean, School of Dentistry
Dean, School of Pharmacy
Director of University of Minnesota Hospitals*

PART I. FRAMEWORK FOR GROWTH

GOALS AND OBJECTIVES

For more than three years the faculties of the University of Minnesota Health Sciences have carefully considered objectives and programs for the future. The plan for physical development results from this collective effort. The Health Sciences Center must be expanded and developed physically in order to meet the academic, patient-care and other service objectives. The primary goal of Master Planning for the Center is to provide an orderly and flexible framework for growth for the next twenty years and beyond through new construction and development for the existing complex.

This report presents a program for the initial expansion of the Health Sciences Center to be completed by 1973-74, and a potential development of the Center through 1986. The first phase expansion establishes a flexible framework for future growth.

EXTERNAL CONSIDERATIONS

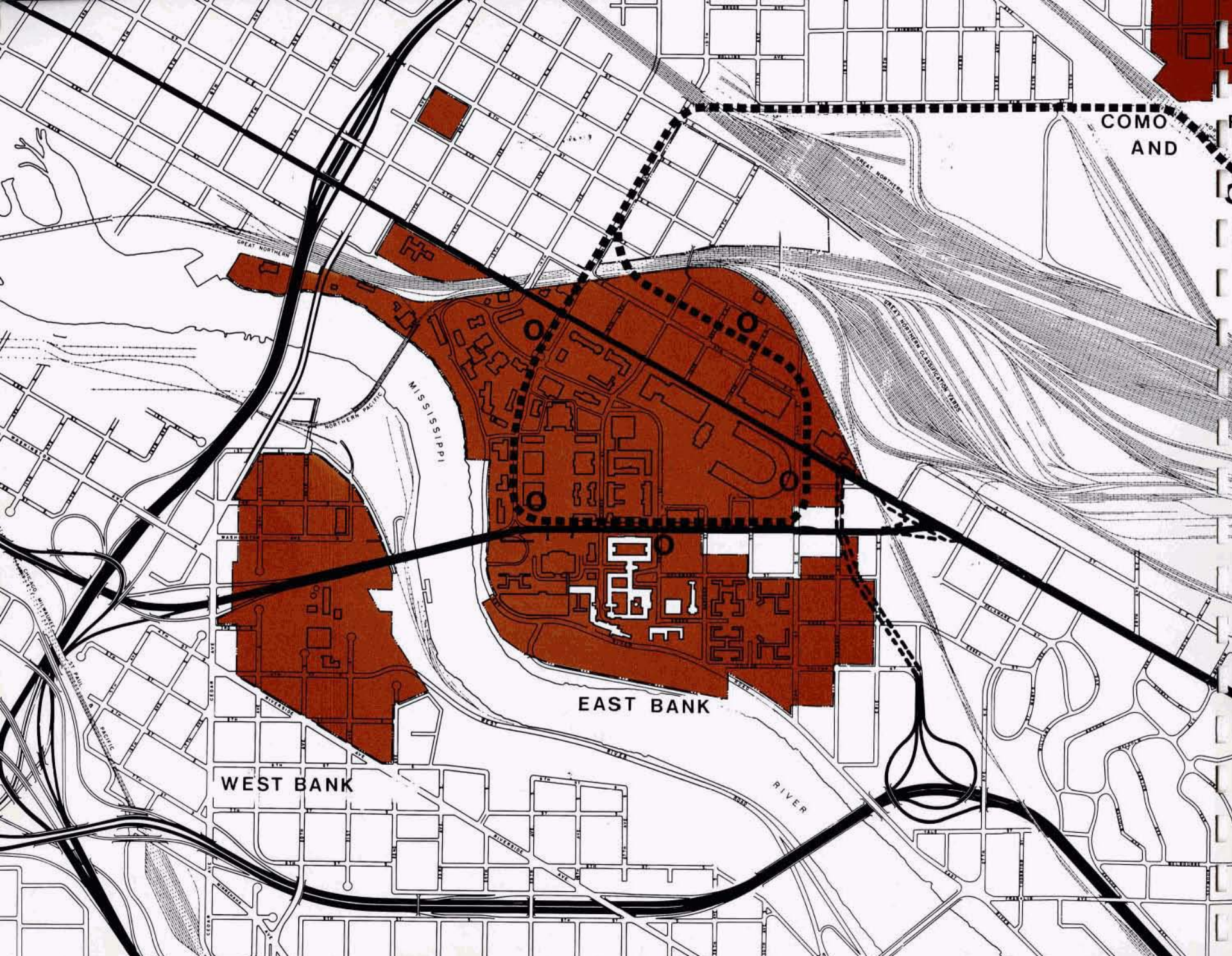
The Health Sciences Center is responsive to the health needs of the state. This program is designed to meet the state needs of increased health manpower, provide for closer cooperative arrangements among members of the health science team, and provide the patient easy access to the comprehensive specialty-referral health care system.

The total health care structure in the United States is undergoing substantial change today. The effects on physical planning of some of these changes are generally predictable. The effects of other changes are not yet known. The Health Sciences should grow in a flexible manner that will permit easy response to innovative programs of patient care and education.

The use of the automobile as the primary means of transportation for public, students and staff makes the freeway system and its connection to the Center a vital factor. Traffic will become increasingly heavy from the southeast when the Dartmouth Street interchange and extension are in full use. The eventual tunnelling of Washington Avenue will also affect the entry to the campus and to the Health Sciences Center.

The University has prepared a comprehensive University circulation system which includes:

1. By-pass for through traffic —
 - a. By-passing University Avenue to the north along the railroad and "Northern Route."
 - b. Tunnelling Washington Avenue for a minimum distance from Harvard Street westward to the bridge.
 - c. Connecting the Dartmouth interchange extension into the University by-pass route.
 - d. The possible increase of traffic-carrying capacity of Snelling Avenue and Route 280.
2. Campus ring roads for the three principal campus areas —
 - a. Extending River Road northward across the railroad tracks to connect with the one-way pair.
 - b. Improving the connection between River Road East and the Dartmouth extension.
 - c. Extending River Road West to the north with a connection to Cedar-Tenth Avenue.
 - d. Building a ring road around the St. Paul area using Larpenteur, Cleveland, Como and streets in the vicinity of the Fairgrounds.
3. Limitation of vehicular travel on the campus area by —
 - a. Placing major parking facilities in proximity to the ring roads so that most cars will not need to enter the campus.
 - b. Restricting and controlling vehicular movement on campus streets except for University service, emergency and transit vehicles.
 - c. Constructing information and parking control booths at specified access points to the campus.
4. Accomplishing the maximum feasible separation of pedestrian, transit and service vehicles on campus through —
 - a. Construction and designation of exclusive rights-of-way.
 - b. Building bicycle parking facilities.
 - c. Signing and posting routes and parking locations.
 - d. Prohibiting all parking on campus except by permit.
5. Decreasing the number of motor vehicles oriented to the campus through —
 - a. Assistance in developing a metropolitan transit system and encouraging a University commuter bus program.
 - b. Encouraging car pooling of commuter faculty, staff and students.
 - c. Centralizing internal distribution of supplies and materials and service activities.
6. Intra-campus Transit
Investigation of high speed intra-campus transit system to connect West Bank, East Bank and St. Paul.



COMO
AND

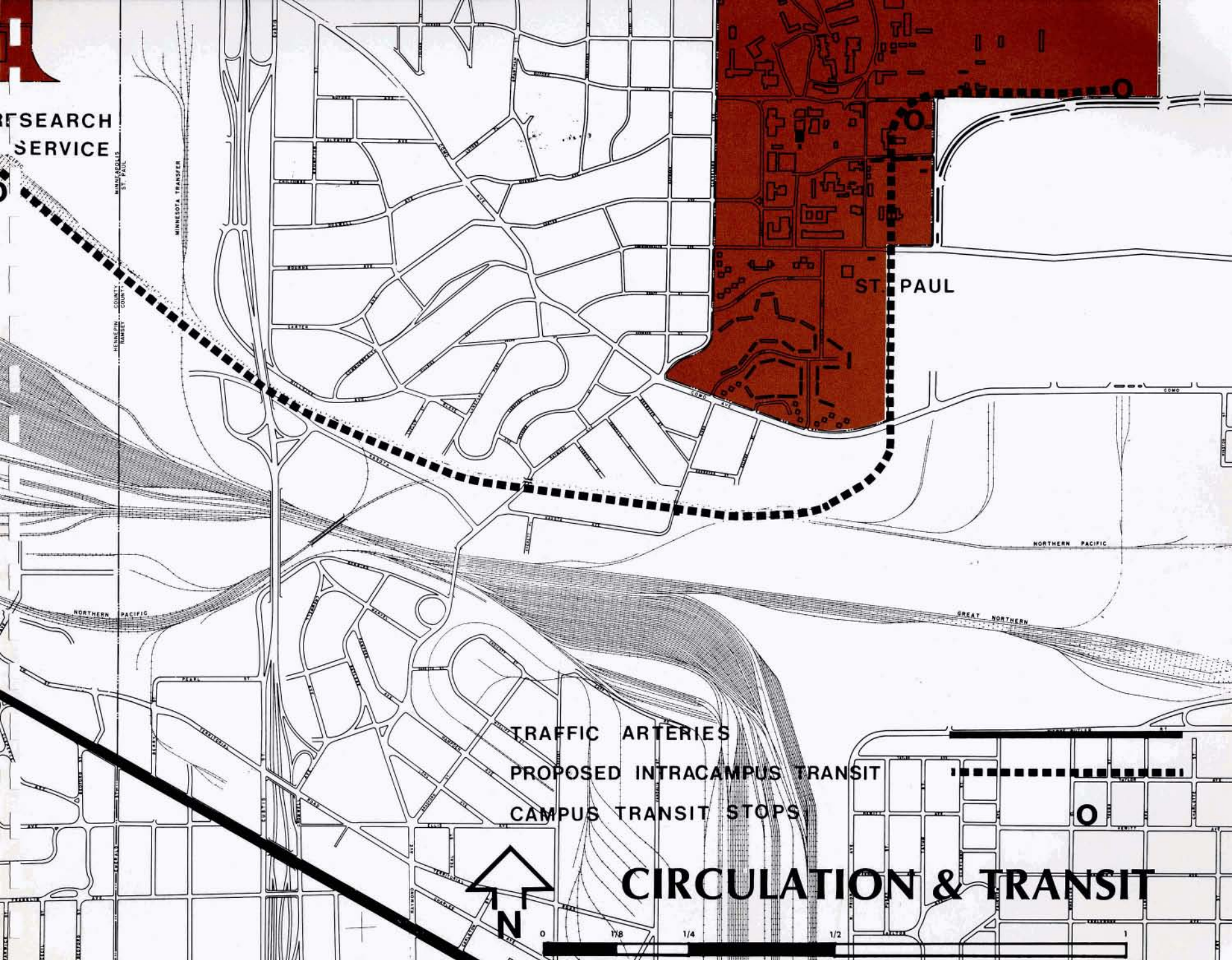
MISSISSIPPI

EAST BANK

WEST BANK

RIVER

RESEARCH
SERVICE



INTERNAL CONSIDERATIONS

The expansion of a health sciences center on the campus of a large and growing university faces the problem of limited availability of land and makes the program for land use a critical part of the development. Yet, the desirability of interaction with other University programs and the major public and private investment in existing facilities makes such expansion the most satisfactory of the alternatives for further development. The magnitude of the Health Sciences program requires high density use of all the available land area. Development at existing densities would be so dispersed that efficient management would be seriously impeded.

The coordination of the Health Sciences Center expansion with other development proposals has been undertaken to provide for the intelligent overall growth of the University. The perimeter parking proposals developed in a study by DeLeuw Cather & Company* indicate development of parking structures in the vicinity of the Dartmouth Street interchange east of Oak Street. The expansion program outlined in this report assumes this perimeter parking concept as a basic planning criterion.

1. Vehicular circulation from the Dartmouth Street interchange will be the most direct entry to the Center from the freeway system.
2. The vehicular circulation must flow both to the parking structure and through it to reach the Center.
3. The bulk of the Health Sciences vehicular traffic would terminate at the parking structure; some auto traffic will proceed further to the Center for pick-up and drop-off patients and visitors.
4. A convenient system of access from the parking structure to the Health Sciences Center will be provided.

The development of the 1973 expansion proposal is based on the following assumptions:

1. Specialty hospitals will remain; i.e., Variety Club Heart, Children's Rehabilitation Center and Masonic Memorial.

2. Number of hospital beds including specialty hospitals is expected to grow to approximately 1000. Further requirements for teaching beds will be provided through affiliation with other hospitals.
3. Washington Avenue will be tunnelled within the next ten years.
4. River Road can be used for access by service vehicles to the Health Sciences area.
5. Access from the new parking facility to the Health Sciences area will be via a mechanical conveyance system and an all-weather enclosed passage.
6. The new parking facility and underground access system to the Center will be funded outside the present Health Sciences capital budget.
7. One level of Mayo Garage will remain as outpatient parking for the 1973 expansion program.

Changes within the existing Health Sciences facilities resulting from new demands and new programs have resulted in circulation, usage and other problems which impede efficient functioning. Inadequate parking and waiting facilities for outpatients and visitors is a major problem, as is the lack of convenient and adequate circulation between the buildings of the Center. The internal circulation system is overtaxed by intense and mixed use; hospital care and service traffic are not separated. There is no central service and distribution system to serve the hospital elements. Many departments are fragmented into remotely separated elements. The expansion program for 1973 presents an opportunity to rectify many of these problems.

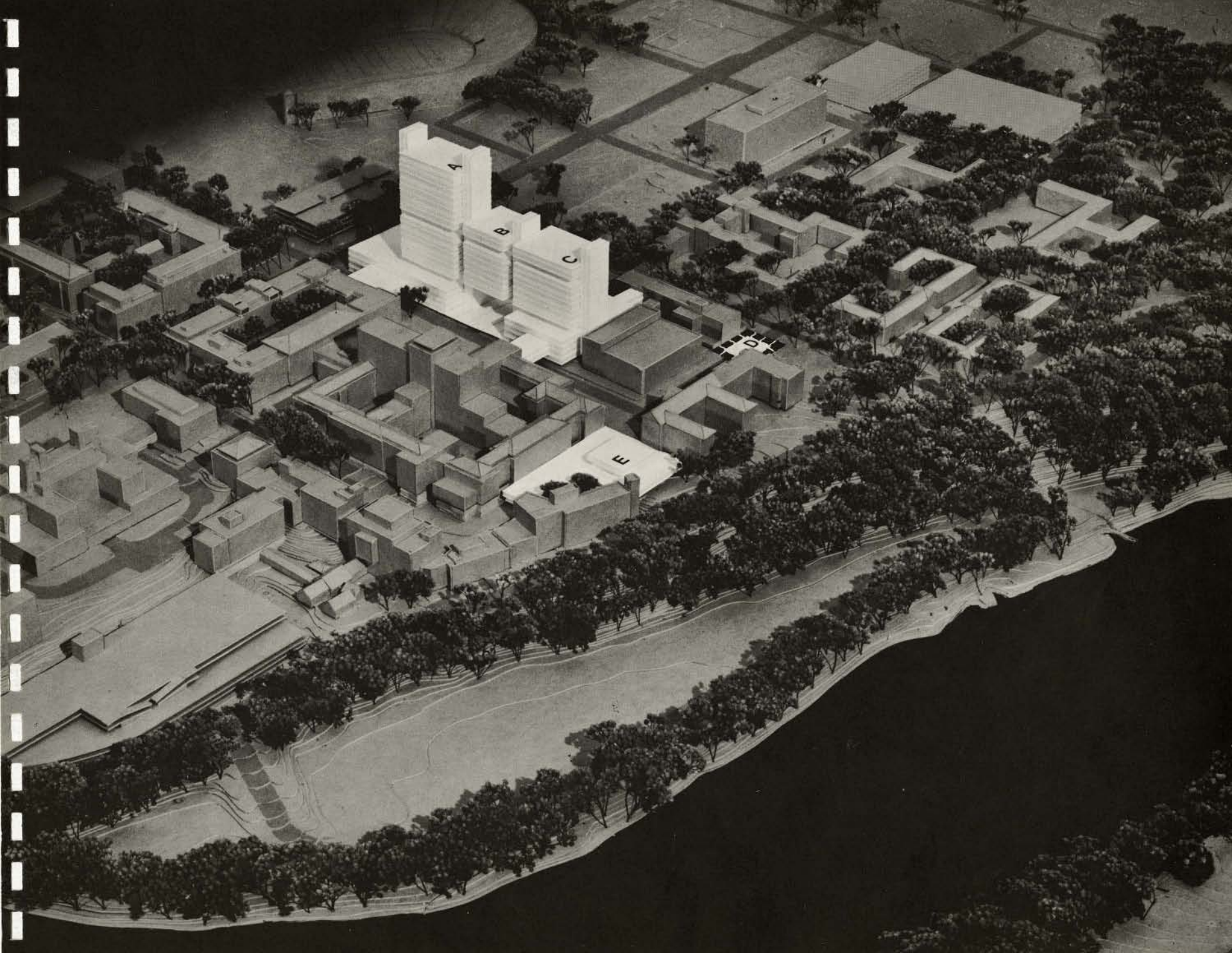
**Report of the Ad hoc Committee on Circulation and Parking, September, 1967.*

FRAMEWORK FOR GROWTH

The identification of the major influences on and problems of the Health Sciences Center provides the framework for planning future growth and development. The background for establishing the expansion is based on the following premises:

1. The development of a simple and direct system of circulation for material and for staff-patient-student flow which replaces the presently over-burdened circulation pattern.
2. The creation of a new center for major receiving and distribution of materials and supplies used in the several hospital elements.
3. Provision for flexible functional uses of new space to be constructed to allow for adaptability to unforeseen needs.
4. The control of vehicular movement within the center of the Health Sciences area and construction of a major parking structure for staff, faculty and some outpatient vehicles remote from the core of the Center and accessible under cover by walking or through use of a mechanical conveyance system.
5. Development of existing land to optimal density, thereby enabling further expansion horizontally, minimizing problems associated with vertical expansion.

PART II. PHASE ONE EXPANSION PROGRAM-1973



VEHICULAR ACCESS AND PARKING— 1973

PARKING

Existing parking facilities for the Health Sciences Center include contract parking for staff in Mayo, in the ramp on River Road East and private parking for outpatients in the existing Mayo Garage. Major new parking structures east of Oak Street at Essex Street will accommodate the presently unmet and increased demands for parking resulting from the Health Sciences expansion. Access to the Center from this new facility will be by a pedestrian walkway, possibly supplemented by a mechanical conveyance system, in the vicinity of Delaware Street.

VEHICULAR AND SERVICE ACCESS

Vehicular access to the expanded Health Sciences Center will use the existing street pattern. The proposed closing of Union Street from Delaware Street to Essex Street will eliminate non-Health Sciences traffic from this part of the Center. Access from River Road East will serve the new service center, Unit 'E'. Hospital admitting will continue in the Mayo Building with vehicular access on Church Street. The Emergency Department access will be off Delaware Street between Masonic Hospital and the new complex.

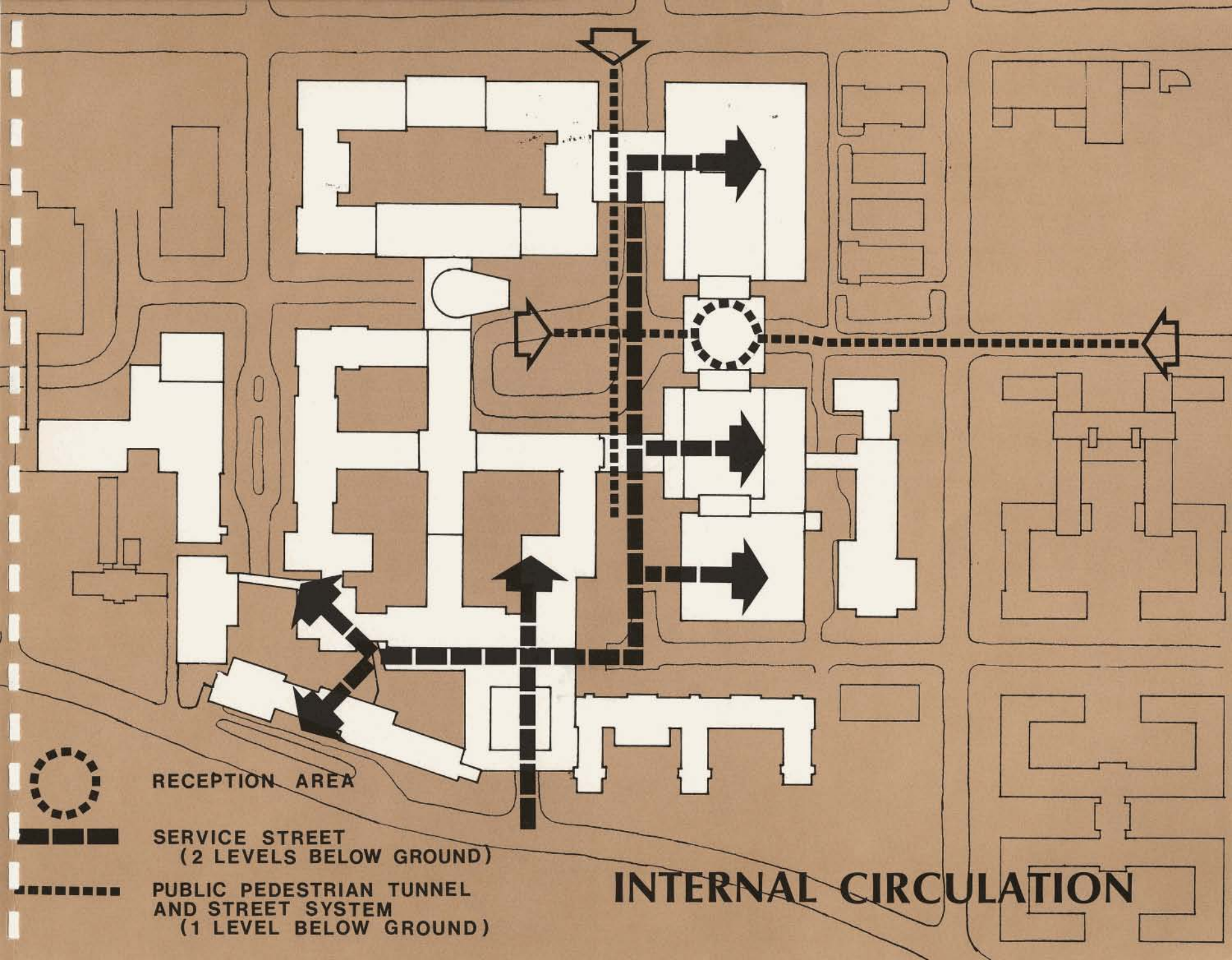
INTERNAL CIRCULATION

PEDESTRIAN CIRCULATION

The major pedestrian access may be via a pedestrian tunnel in the vicinity of Delaware Street linking the new parking ramps and the Health Sciences Center. The western terminus of this tunnel is the Central Information and Reception Area of the Outpatient Department and Dental Clinics. This reception area links directly to a major new north-south interior public pedestrian street of the Center, which will run under Union Street from Washington Avenue south and serve to distribute people throughout the Center independently of the existing buildings. When Washington Avenue is tunnelled, a bus drop-off point will have direct access to this street. This pedestrian distributor will eventually extend south to the proposed new Hospital (see Part III).

SERVICE CIRCULATION

Major service circulation for the Center will be consolidated in a service distribution network one level below the public pedestrian street just described. This network will link the Basic Sciences complex on the north to the new service center on River Road which will house the loading docks, service and storage areas and the new central dietary department. A mechanized distribution system using this service network will greatly facilitate the flow of material and supplies in the Center.



RECEPTION AREA

SERVICE STREET
(2 LEVELS BELOW GROUND)

PUBLIC PEDESTRIAN TUNNEL
AND STREET SYSTEM
(1 LEVEL BELOW GROUND)

INTERNAL CIRCULATION

FIRST PHASE DEVELOPMENT - 1973

DESCRIPTION OF NEW CONSTRUCTION

The first phase development of the Health Sciences Center includes sizeable new and remodelled areas. Major blocks of space to be remodelled include the existing Dental School facilities, the existing Outpatient Department, the existing Department of Radiology and a substantial part of Powell Hall. New construction is summarized as follows:

UNIT 'A'. Building 'A' houses general dental clinics on the lowest base levels with shared classrooms, basic science teaching labs, preclinical dentistry, and public health teaching labs in the upper levels of the base near the ground level. The tower houses the remainder of the School of Dentistry including specialty clinics, administration, and research.

UNIT 'B'. The level immediately below Delaware Street is the main public entry point for the Outpatient and Dental Clinics. Dental clinics occupy the level below that. Tower levels house research space related to new bed spaces in Unit 'C'. Unit 'B' will be identified as the Phillips-Wangensteen Research Building.

UNIT 'C'. The lowest level of this building houses a new diagnostic radiology facility. The Outpatient Department including the new emergency room is located in the base levels above radiology. The existing surgery suite is expanded in the link between Mayo and Unit 'C'. New hospital beds are located in the tower floors, along with research facilities.

UNIT 'D'. This subterranean facility south of Masonic Hospital houses new radiation therapy facilities.

UNIT 'E'. This service center houses centralized loading facilities on the lowest level with storage and supply areas. The new kitchens for a centralized dietary department and new cafeteria and dining facilities occupy the upper levels.

PRELIMINARY ALLOCATION OF NEW AND REMODELLED SPACES

AMBULATORY CARE

This element consists of a facility planned to accommodate outpatients coming from long distances for diagnostic work which might require a stay of more than one day, and possibly visitors. Plans to test a pilot facility have been made for the summer of 1968. The proposed location for a test facility is to be in Powell Hall. Location for a permanent facility will be determined at a later date.

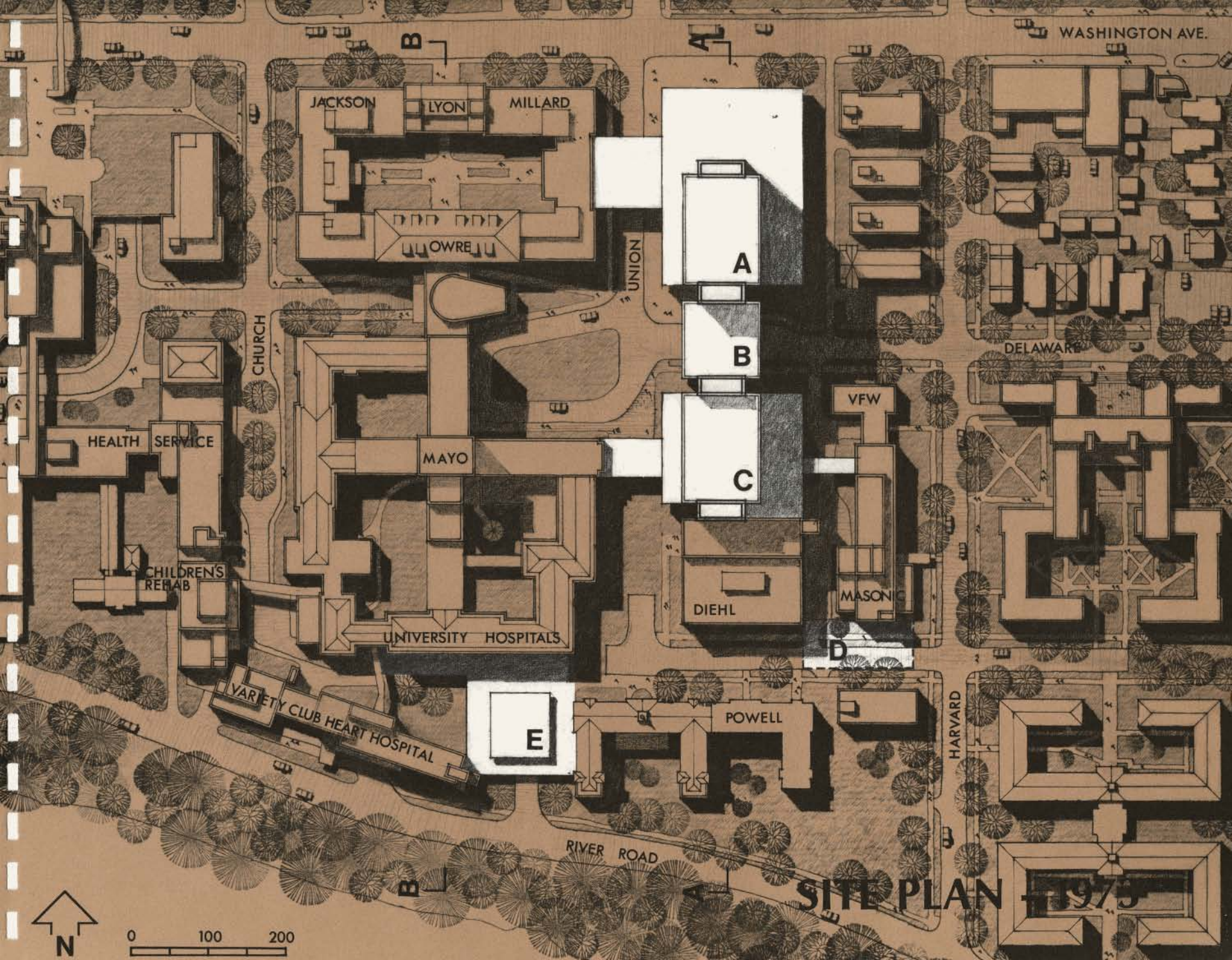
BASIC SCIENCES

The planned increase of the entering Medical class size from 160 to 200 students and Dental classes from 110 to 150 as well as significant increases in number of students in associated health programs will require expansion of existing facilities. Since Basic Sciences act as a foundation for all subsequent Health Sciences programs, this expansion must assume a first priority in point of time.

Expansion areas are to be remodelled spaces in Owre Hall, Jackson-Owre, and Millard to be vacated by the Schools of Dentistry and Nursing, and space in Mayo on the second level vacated by Outpatient Department. Existing microbiology labs in Mayo tower will be vacated for use by the School of Nursing. New teaching laboratories and classrooms will be located in the four-story base of the new Unit 'A'.

BIOMEDICAL LIBRARY

No expansion for the Biomedical Library is being considered for the 1973 Health Sciences Program.



WASHINGTON AVE.

JACKSON LYON MILLARD

B

A

A

B

C

UNION

DELAWARE

CHURCH

HEALTH SERVICE

MAYO

VFW

CHILDREN'S
REHAB

UNIVERSITY HOSPITALS

DIEHL

MASONIC

D

VARIETY CLUB HEART HOSPITAL

E

POWELL

HARVARD

RIVER ROAD

SITE PLAN 1975



0 100 200

CLINICAL TEACHING AND RESEARCH

This program involves expansion in all clinical departments. Much of the expansion will be accommodated in remodelled areas of the existing buildings. The radiology department will be located in the new complex. The central tower (Unit 'B') in the new construction, to be identified as the Phillips-Wangenstein Building, will house clinical research space. Additional research space is planned in both Units 'A' and 'C'.

CONTINUATION EDUCATION

The Continuation Education program will place major emphasis on keeping practicing health sciences specialists abreast of the latest trends in the health sciences field. The extent of the 1973 program will consist of moving existing offices into a larger remodelled area of Powell Hall.

SCHOOL OF DENTISTRY

Programmed increase of the entering Dental students class size will be from 110 to 150. Similarly, the entering class sizes in both Dental Hygiene and Dental Assistant students will increase from 50 to 150. Because of these increases as well as recent and proposed programmatic changes, all divisions in the School must be expanded. These include Endodontics, Human Ecology and Preventive Dentistry, Oral Biology, Oral Diagnosis, Oral Pathology, Oral Surgery, Orthodontics, Pediatric Dentistry, Periodontics, Restorative Dentistry. This will necessitate construction of a major new facility which will be located in Unit 'A' of the new complex. The large dental clinics and preclinical dentistry will be in the lowest levels and specialty clinics, research and administration in the upper levels of the tower.

MAYO GARAGE

New parking facilities for the Health Sciences are planned in a location related to the proposed Dartmouth Street interchange. In the first phase, part of the Mayo Garage will be developed for animal quarters expansion. Outpatient parking will remain in one level of the Mayo Garage. The existing parking ramp at Washington Avenue and Union Street is also proposed as an outpatient parking facility.

HOSPITAL

The University Hospitals including Variety Club Heart Hospital, Children's Rehabilitation, Masonic Memorial Hospital and Mayo had a combined total of 854 beds as of February, 1968. In order to maintain a minimum number of beds to sustain existing and planned programs, a bed total for the combined hospitals of approximately 1,000 beds is necessary by 1973. Some beds existing in Mayo are planned to be moved into new facilities in the 1973 expansion. Areas vacated by these beds will be remodelled for new uses. Additional beds for teaching will be available in the affiliated hospitals.

Subsequent to 1973, it is planned that all beds will be moved out of Mayo into new facilities. Mayo would then be used for other purposes such as research, office space, student study space, administration, etc. Beds in Variety Club Heart, Children's Rehabilitation and Masonic Memorial would remain.

Phase I construction programs will not provide for the ideal consolidation of all hospital departments. However, it does anticipate, as a minimum, the following major moves:

Emergency suite will be located in the ground floor level of Unit 'C' of the new complex directly related to the outpatient department on that level.

The **new patient care units** will be located in the upper levels of Unit 'C' of the new complex.

New **central kitchen facilities and dining rooms** for the nutrition department will be located in the upper levels of the new service center south of Mayo between Powell Hall and Variety Club Heart Hospital.

Purchasing, receiving and stores also will be centralized in the new service center south of Mayo. Loading docks will be provided with access from River Road. A central distribution system will use an underground network at the lowest level of the new complex to serve both existing and new areas.

The **urgery suite** will be expanded in new space adjacent to the existing facility.

Expansion in other hospital departments will be accommodated through a series of adjustments within the existing hospital complex although there may be some satellite units in the new facilities.



essex

RESEARCH
LIBRARY

OUTPATIENTS

PHILLIPS
WANGENSTEEN

RESEARCH

DENTAL RESEARCH

DENTISTRY

RESEARCH

RESEARCH

RESEARCH

MECH.

MECH.

MECH.

INPATIENT BEDS

RESEARCH

DENTAL SPECIALTY CLINIC

EMER. ROOM

OUTPAT.

delaware

PUBLIC HEALTH

SHARED CLASSROOMS

BASIC SCIENCE LABS (TEACHING)

PRECLINICAL DENTISTRY

DENTAL CLINICS

OUTPATIENTS

LOBBY - INFO.

DENTAL CLINIC

washington

POWELL HALL

DIEHL HALL

UNIT 'C'

UNIT 'B'

UNIT 'A'

SECTION AA THROUGH NEW CONSTRUCTION

REMODELED AREA

ADMINISTRATIVE AND RELATED SPACE

Space has been provided in existing facilities for the Administrative Offices of the College of Medical Sciences and numerous other service activities such as: bookstores, building services, Minnesota Medical Foundation and Student Affairs Offices.

ANCILLARY PROGRAMS

New programs include: Biomedical Data Processing, Bio-Engineering Research and Training, Information Retrieval, Laboratory and Hospital Automation, Electroencephalography Technicians, Inhalation Therapy, Medical Art and Photography and Mortuary Sciences. These facilities will be located in remodelled areas of the Mayo Building.

ON-CALL QUARTERS

Present quarters located in Powell Hall will remain. Some new on-call rooms are programmed under new patient care facilities.

OUTPATIENT CLINICS

Major emphasis on outpatient care will require phasing out of existing facilities and construction of new facilities. These will be located in Unit 'C' of the new complex and will be served by the public 'street' one level below grade which will have direct connections to Mayo Garage, new garage facilities east of Oak Street, and eventually to a public transit stop at Washington Avenue when it is tunnelled. Existing outpatient facilities in Variety Club Heart Hospital will remain.

SCHOOL OF NURSING

Consolidation of administrative and seminar facilities for the School of Nursing will be accomplished in the initial expansion program. Present space occupied by the School of Nursing in Powell Hall and Owre and Millard will be vacated for other

uses. The new location and future expansion space for the School of Nursing will be in the Mayo tower.

SCHOOL OF PUBLIC HEALTH

The School of Public Health will be consolidated in new facilities at a later stage of development. In the interim period a major part of Public Health teaching and administration will be located in remodelled areas in Powell Hall. Labs, including those in the existing space in Mayo tower, will be located in the new Unit 'A'. This space will be vacated when new facilities are available and will be used for School of Dentistry expansion.

SCIENTIFIC APARATUS SHOP

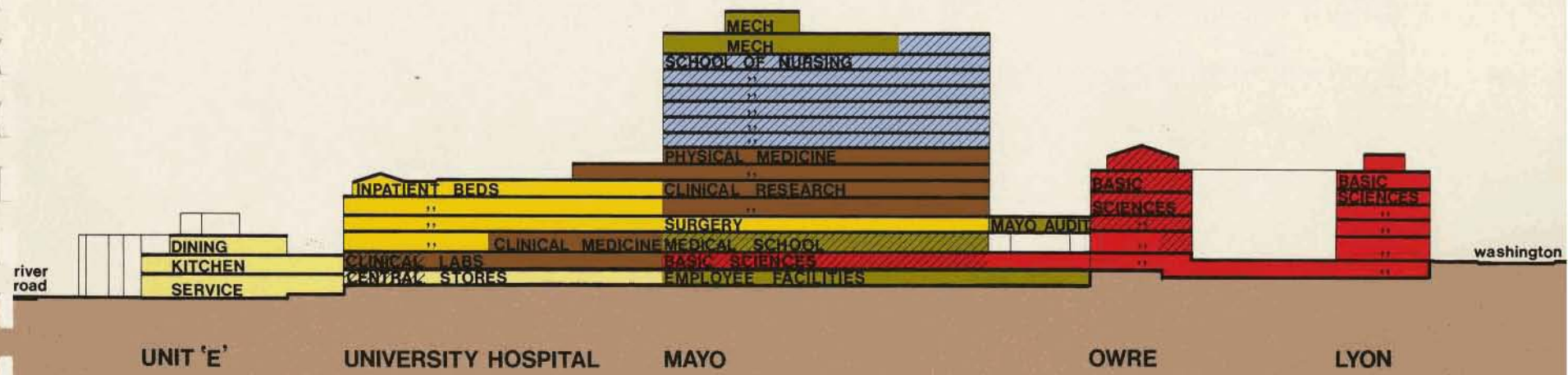
Additional space for this facility for design and fabrication of apparatus required for scientific research will be located adjacent to the existing area in the base of the new complex.

STUDENT HOUSING

Student housing is not included in this program; however, the space vacated in Powell Hall by the relocation of the students is considered to be part of the net square footage available for the initial expansion program. This vacated space is scheduled for remodelling and will be used by the School of Public Health, Continuation Education and for Ambulatory Care.

GENERAL PURPOSE CLASSROOMS

This program consists of teaching spaces utilized by Health Sciences, including Mayo 100 and Mayo 125. Major blocks of this space will be located in the Unit 'A' base to relate directly to Basic Sciences, Dentistry, Pharmacy (in later phase) and Public Health. It is recommended that Mayo Auditorium be modified so that it may be made available for Health Sciences instructional use.



SECTION BB THROUGH THE EXISTING COMPLEX

SUMMARY OF EXPANSION PROGRAM AREAS (NET SQUARE FEET)

	Existing	Vacated	Additional Proposed	New Space	Remodelled Space	Total 1973
Ambulatory Care	—	—	8,780	—	8,780	8,780
Basic Sciences	160,495	14,799	97,505	49,114	63,190	258,000
Biomedical Library	72,075	—	—	—	—	72,075
Clinical Teaching and Research	238,378	27,409	139,815	139,197	28,027	378,193
Continuation Education	1,185	1,185	1,315	—	2,500	2,500
School of Dentistry	63,190	63,190	155,310	218,500	—	218,500
Garage	91,567	—	—	—	—	91,567
Hospital	346,670	51,433	148,820	125,042	75,211	495,490
Administrative and Related Space	49,831	2,456	5,370	—	7,826	55,201
Ancillary Departments	—	—	10,000	—	10,000	10,000
On-Call Quarters	16,848	—	—	—	—	16,848
Out-Patient Clinics	25,439	23,451	67,801	91,252	—	93,240
School of Nursing	12,482	12,482	20,018	—	32,500	32,500
School of Public Health	40,520	17,160	44,660	20,000	41,820	85,180
Scientific Apparatus	6,699	—	5,001	5,001	—	11,700
Student Housing	56,289	56,289	-56,289*	—	—	—
General Purpose Classrooms (including Mayo 100 & 125)	13,369	—	19,781	19,781	—	33,150
TOTAL	1,195,037	269,854	667,887	667,887	269,854	1,862,924

*Existing space made available for remodelled program expansion.

BUDGET CONSIDERATIONS JUNE 1968

The preliminary estimate of costs included in the Regents Report to the Minnesota Legislative Building Commission in July 1967 totalled \$53,440,800. This estimate was based on the following data:

New Construction	1,140,000 sq. ft. gross	
Area to be remodelled	216,613 sq. ft.	
Total cost of new construction		\$ 47,375,500
based on average cost of \$41.50 per		
sq. ft. $\frac{47,375,500}{1,140,000} = \41.50		
Total cost of remodelling		\$ 5,415,300
based on average cost of \$25.00 per		
sq. ft. $\frac{5,415,300}{216,613} = \25.00		
Land Costs		\$ 650,000
GRAND TOTAL July 1967		\$ 53,440,800

In our judgment the most reliable method of estimating cost figures is to use recent local construction cost experience as a guide.

We, therefore, have taken the Space Science Center bid in 1966 as an example of a building which could be considered as comparable to the proposed Health Sciences Center buildings in general complexity.

To the basic square foot cost of this building we have added a factor for escalation, special finishes, additional foundation costs, additional fixed equipment and non-building costs, which results in the costs below:

Space Science Center basic		
construction cost per sq. ft.	\$ 32.30	
Escalation factor of 11.4%	3.70	
Special finishes	.75	
Additional Foundation Costs	1.50	
(caissons)		
Additional Fixed Equipment	1.00	
Total Building sq. ft. cost	39.25	
Add for Non-building Costs 25%	9.80	
(as per standard University policy)		
TOTAL Estimated sq. ft. cost	\$ 49.05	
New Construction, based on a net		
of 667,887* sq. ft. and a gross of		
1,055,260 sq. ft. @ \$49.05		
per sq. ft.		\$ 51,760,500
Remodelling of 269,854 sq. ft.		
@ \$30.00 per sq. ft.		\$ 8,095,260
GRAND TOTAL		\$ 59,856,120

*The 667,887 sq. ft. net includes approximately 10% for inter-departmental circulation.

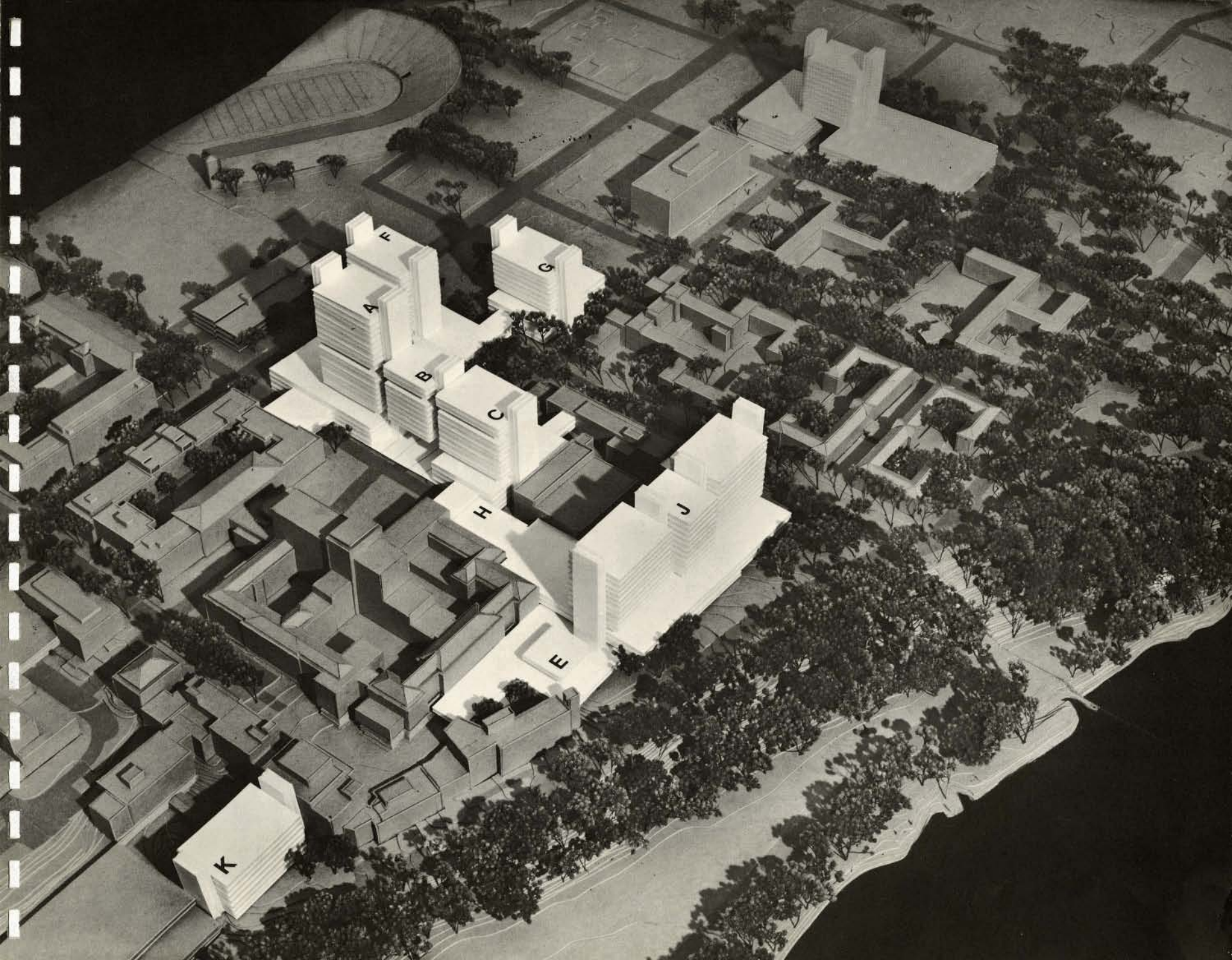
PRELIMINARY SCHEDULE OF DEVELOPMENT FOR 1973 PROGRAM

It is expected that response to the report will assist the architects in establishing individual priorities in the construction and design schedule for the Health Sciences expansion. Subsequent work with the Design Coordinating Committee will be devoted to timing of the various elements of the plan. We list below for consideration a preliminary schedule for design and construction.

Completion of Schematic Design	January 1969
First Grant Application Submission to Federal Funding Services*	February 1969
Completion of Design Development	January 1970
Completion of Earliest Construction Documents	July 1970
Begin Construction of Earliest Elements	September 1970
Completion of Construction Documents	July 1971
Completion of Earliest Elements	September 1973
Completion of Construction	September 1974

*Subsequent submittals are dependent upon individual agency requirements. When possible, submittals will be coordinated.

PART III. POTENTIAL DEVELOPMENT THROUGH 1986



VEHICULAR ACCESS AND PARKING— 1986

When Washington Avenue is tunnelled, major vehicular access for the Health Sciences Center will shift to the east end of the campus. Delaware Street at Ontario will become the main vehicular entrance from the Dartmouth Street extension. Expanded parking facilities in that area will allow most cars to be parked at the edge of the campus. Users at that point will transfer to the access system in the vicinity of Delaware Street. The central drop-off point for taxis and cars is the entrance court at Union and Delaware. Main street level entrances to the academic center, Hospital Outpatient Departments and Dental Clinics will be at this point with direct connections to the main pedestrian street one level below.

FUTURE GROWTH

Forseeable expansion of the Health Sciences beyond that originally programmed for 1973 and extending through 1986 includes new facilities for the College of Pharmacy and the School of Public Health, expanded facilities for the Basic Sciences and Dentistry, new cardiovascular research facilities, and a new hospital to replace beds now located in the Mayo Building. Space vacated by beds and other hospital functions in Mayo will be remodelled and used for expansion of clinical teaching and research, student study space, faculty and administrative offices.

A summary of new construction includes:

UNIT 'F'. The base of this new building provides expansion area for shared classrooms, for Basic Sciences, and for Dentistry. The tower would be the College of Pharmacy.

UNIT 'G'. The base levels of this building would house large shared classrooms and teaching labs for the School of Public Health, which were in the first phase located in the base levels of Unit 'A'. That vacated space in Unit 'A' will be used for expansion of the School of Dentistry. Tower floors of Unit 'G' would house the remainder of the School of Public Health. First phase Public Health space in Powell Hall would be vacated to allow for the removal of the building to make room for the new hospital.

UNIT 'H'. This structure ties the old and new parts of the Health Sciences Center together. At ground level it would contain the hospital entry concourse and allied public facilities, allowing public access to the new hospital from the Delaware and Union entry court. The level above the entry concourse includes expansion for the surgery suite.

UNIT 'J'. This building accommodates new hospital facilities for the Center. Hospital functions now located in Mayo Building will move into this complex. Teaching and research facilities may also be included.

UNIT 'K'. Probable location of a Cardiovascular Research Center related to The Variety Club Hospital.



WASHINGTON AVE. (TUNNELED)

JACKSON LYON MILLARD

ALLOWELL

A

F

G

B

DELAWARE

CHURCH

HEALTH SERVICE

MAYO

VFW

HARVARD

K

CHILDREN'S REHAB

C

DIEHL

MASONIC

H

D

VARIETY CLUB HEART HOSPITAL

E

J

RIVER ROAD

POTENTIAL DEVELOPMENT

1986



0 100 200

UNIVERSITY OF MINNESOTA HEALTH SCIENCES PLANNING COMMITTEES

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Appointed October 1964

Elmer W. Learn, *Chairman*
 McCollum E. Brasfield
 Winston A. Close
 Lyle A. French
 Edna L. Fritz
 Sterling B. Garrison
 N. L. Gault, Jr.
 Gertrude M. Gilman
 Eugene D. Grim
 Mellor R. Holland
 Robert B. Howard
 Robert J. Issacson
 Ione M. Jackson
 James R. Jensen
 Frederic J. Kottke
 Richard M. Magraw
 Robert Mulhausen
 Hugh G. S. Peacock
 Peter H. Sammond
 Erwin M. Schaffer
 William G. Shepherd
 James W. Stephan
 William T. S. Thorp
 Lawrence C. Weaver
 John H. Westerman, *Executive Secretary*

Consultant:

Edmund K. Nelson, *Representing James A. Hamilton Associates*

SUBCOMMITTEES APPOINTED BY THE LEARN COMMITTEE

Ancillary SubCommittee

Frederic J. Kottke, *Chairman*
Professor & Head, Physical Medicine & Rehabilitation
 Eleanor M. Anderson
Assoc. Professor, Public Health Nursing
 Eugenijus Gedgaudas
Assoc. Professor, Radiology
 Anna Hampel
Assoc. Professor, Dentistry
 Ruth Hovde
Professor & Director, Division of Medical Technology
 William G. Kubicek
Professor, Physical Medicine & Rehabilitation

Arnold Lazarow
Professor & Head, Anatomy
 Elizabeth Whitney
Asst. Professor, School of Nursing

Basic Sciences SubCommittee

Eugene D. Grim, *Chairman*
Professor, Physiology
 Ellis Benson
Professor & Director, Laboratory Medicine and Clinical Labs
 Richard G. Bond
Professor & Director, Environmental Health, School of Public Health
 S. Gaylen Bradley
Professor, Microbiology
 William J. H. Felts
Professor, Anatomy
 Isabel M. Harris
Assoc. Professor & Asst. Director, School of Nursing
 Robert J. Issacson
Professor, Division of Orthodontics, School of Dentistry
 Joseph Larner
Professor, Biochemistry
 Jack W. Miller
Assoc. Professor, Pharmacology
 Lee W. Wattenberg
Assoc. Professor, Pharmacology

Clinical Medicine and Hospital SubCommittee

N. L. Gault, *Chairman*
Associate Dean, College of Medical Sciences, Assoc. Professor of Medicine (resigned September, 1967)
 Lyle A. French, *Chairman: Clinical Medicine Task Force, Professor & Director, Neurosurgery*
 Richard W. Anderson
Professor, Psychiatry
 Charles Branthaver
Asst. Professor, Pediatrics
 James B. Carey
Assoc. Professor, Medicine
 Nancy L. Cook
Asst. Professor, Nursing
 Donald Cowan
Professor, Public Health, Director, University Health Service

Guilio J. D'Angio
Professor, Radiology, Director, Radiation Therapy

Robert J. Gorlin
Professor, Dentistry
 Eugenijus Gedgaudas
Assoc. Professor, Radiology
 Norman O. Holte
Professor, Oral Surgery, School of Dentistry
 Florence J. Julian
Director, Nursing Service, University Hospitals
 Richard C. Lillehei
Professor, Surgery
 Robert Mulhausen
Asst. Dean, College of Medical Sciences (succeeded N. L. Gault)

Konald A. Prem
Assoc. Professor, Obstetrics & Gynecology
 Paul G. Quie
Assoc. Professor, Pediatrics
 Peter Sammond
Chairman: Hospital Task Force, Assoc. Director, University Hospitals
 James W. Stephan
Professor & Assoc. Director, Program in Hospital Administration, School of Public Health
 F. H. Van Bergen
Professor & Chairman, Anesthesiology
 Paul C. Winchell
Assoc. Professor, Medicine

Public Health SubCommittees

Gaylord Anderson
Professor & Director, School of Public Health
 Richard G. Bond
Professor, Environmental Health
 Allyn G. Bridge
Assoc. Professor, Maternal & Child Health
 Jim Matthews
Assoc. Professor, Anesthesiology
 Louis H. Muschel
Professor, Microbiology
 Robert W. Schwanke
Asst. Professor & Asst. Director, School of Public Health
 George M. Yamane
Professor & Chairman, Division of Oral Diagnostics, School of Dentistry

Dentistry SubCommittee

Mellor Holland, *Chairman*
Asst. Dean, School of Dentistry
 Dwight L. Anderson
Assoc. Professor, Dentistry
 Allyn C. Bridge
Assoc. Professor, Maternal & Child Health, School of Public Health
 Carl B. Heggstad
Assoc. Professor, Anatomy
 JoAnn R. Hubbard
Instructor, School of Nursing
 Robert J. Issacson
Assoc. Professor & Lecturer, School of Dentistry
 James R. Jensen
Professor, Dentistry
 E. Severn Olsen, Jr.
Professor, Dentistry, Chief of Hospital Dentistry
 Leon Singer
Professor, Physiological Chemistry
 W. Albert Sullivan
Assoc. Professor of Surgery, Director, Continuation Medical Education

Nursing SubCommittee*

Edna L. Fritz, *Chairman*
Professor & Director, School of Nursing
 S. Gaylen Bradley
Professor, Microbiology
 Edward C. Defoe
Assoc. Professor of Pediatrics, Ass't. Director of Comprehensive Clinic
 Frances E. Dunning
Asst. Professor, School of Nursing
 Frances D. Moncure
Asst. Professor, School of Nursing
 Betty M. Pederson
Assoc. Director, Nursing Service of University Hospitals
 Hubert H. Serr
Professor, Dentistry
 Dorothy E. Titt
Asst. Professor, School of Nursing

This SubCommittee is assisted in its planning by a Task Force consisting of:

Nancy Cook
Asst. Professor, School of Nursing

Margaret Granger
Asst. Professor, School of Nursing
 Helen Hansen
Asst. Professor, School of Nursing
 Isabel Harris
Assoc. Professor & Asst. Director, School of Nursing
 Grace Sarosi
Asst. Professor, School of Nursing

SPECIAL SUBCOMMITTEES APPOINTED BY THE DESIGN COORDINATING COMMITTEE

Animal Quarters SubCommittee

William Kubicek, *Chairman*
Physical Medicine & Rehabilitation
 Dwight Anderson
Dentistry
 Eugene Grim
Physiology
 Phillip Harris
Pharmaceutics
 George Michaelson
Environmental Health & Safety

Robert Mulhausen
Medical Administration

Frederick Shideman
Pharmacology

Wesley Spink
Medicine

C. M. Stowe
Vet. Physiology & Pharmacology

Richard Varco
Surgery

Clinical Laboratories SubCommittee

Ellis Benson, *Chairman*
Laboratory Medicine & Clinical Labs
 Graham Beaumont
Medicine
 Edward Deloe
Pediatrics
 John Delaney
Surgery
 Eugene Johnson
Biomedicine Data Processing

Michael Paparella
Otolaryngology

Peter Sammond
Hospital Administration

Paul Strandjord
Laboratory Medicine

Robert Vickers
Oral Pathology

Emergency Room Subcommittee

F. H. Van Bergen, *Chairman*
Anesthesiology

Gregory Culley
Pediatrics

Theodore Grage
Surgery

William Kane
Orthosurgery

Peter Sammond
Hospital Administration

George Sarosi
Medicine

Irmagene Stark
Outpatient Nursing

Hospital Patient Care Unit Subcommittee

David Preston, *Chairman*
Hospital Administration

George Flora
Neurology

Mary Lou Freeberg
Nursing

Marie Manthey
Nursing Service

Margaret McHugh
Hospital Housekeeping

Michael Paparella
Otolaryngology

Marie Perreault
Hospital Pharmacy

Walter Petrykowski
Hospital Maintenance

Henry Sauls
Pediatrics

Leland Schultz
Environmental Health & Safety

Hospital Systems Subcommittee

C. Thomas Smith, *Chairman*
Hospital Administration

Eugenijus Gedgaudas
Radiology

B. J. Kennedy
Medicine

Phillip Little
Pharmaceutics

James Matthews
Anesthesiology

Stanley Nyquist
Mechanical Engineering

Gus Scheffler
Environmental Health & Safety

James Stephan
Hospital Administration

Paul Strandjord
Laboratory Medicine

Operating Suite Subcommittee

Joseph Buckley, *Chairman*
Anesthesiology

Kurt Amplatz
Radiology

Arndt Duval
ENT

Lyle French
Neurosurgery

John Harris
Ophthalmology

William Kane
Orthosurgery

George Michaelsen
Environmental Health

Genevieve Scholtes
OR Supervision

C. Thomas Smith
Hospital Administration

Richard Varco
Surgery

Outpatient Subcommittee

Richard Anderson, *Chairman*
Psychiatry

Charles Branthaver
Pediatrics

Shelley Chou
Neurosurgery

Arndt Duval
ENT

Benjamin Fuller
Family Practice

Hugh Kabat
Pharmacy

Severn Olsen
Dentistry

Peter Sammond
Hospital Administration

Paul Winchell
Medicine

College of Pharmacy Subcommittee

Lawrence Weaver, *Chairman*
Pharmacology

Frank Digangi
Medical Chemistry

Lyle French
Neurosurgery

Edna Fritz
Nursing

Eugene Grim
Physiology

Phillip Harris
Pharmaceutics

Norman Holte
Dentistry

Thomas Jones
Clinical Pharmacy
Hospital Administration

Hugh Kabat
Pharmaceutics

Robert Mulhausen
Medical Administration

Phillips-Wangensteen Subcommittee

Robert Mulhausen, *Chairman*
Medical Administration

William Krivit
Pediatrics

Joseph Larner
Biochemistry

Konald Prem
Obstetrics

Wesley Spink
Medicine

Richard Varco
Surgery

Owen Wangenstein
Surgery

Radiology Subcommittee

H. O. Peterson, *Chairman*
Radiology

Joseph Buckley
Anesthesiology

Benjamin Fuller
Family Practice

Eugenijus Gedgaudas
Diagnostic Radiation

Merle Loken
Nuclear Medicine

Donlin Long
Neurosurgery

Russell Lucas
Pediatrics

C. Thomas Smith
Hospital Administration

Daniel Waite
Oral Surgery

George Yamane
Dentistry

Services & Utilities Subcommittee

Roy Lund, *Chairman*
Asst. Vice President
Director, Plant Services

C. Luverne Carlson
University Services

William Cook
Plant Services

David Kerkow
Plant Services

E. A. Kogl
Plant Services

Ligouri LeMay
Plant Services

Joseph Leveroni
Plant Services

E. B. Merz
Plant Services

O. Jerome Nelson
Plant Services

Walter Petrykowski
Hospital Maintenance

Warren Soderberg
Plant Services

Donald Veara
Medical Center Plant Services

Teaching Space Subcommittee

Mellor Holland, *Chairman*
Dentistry

Gaylord Anderson
Public Health

Vernon Ausen
Space Allocation & Scheduling

H. Mead Cavert
Medical Administration

Frank Digangi
Pharmacy

Isabel Harris
Nursing

Ruth Hovde
Medical Technology

Joseph Larner
Biochemistry

Gary Peterson
Hospital Administration

Teaching Space Task Force on Instructional Resources

Ramon Fusaro, *Chairman*
Medicine

Marla Batchelder
Space Allocation & Scheduling

Glenn Brudvig
BioMedical Library

John Geier
Dentistry

Wesley Grabow
Audio-Visual Education

Isabel Harris
Nursing

Gary Peterson
Hospital Administration

Edward Rippe
Pharmacy

Robert Schwanke
Public Health (sits with this group)

