EMANUAL HOSPITAL STUDY

The problems which will affect significantly its future development and require an evaluation of the direction in which the hospital should move in the immediate years ahead.

Although strategically located in the central part of the city, the hospital is surrounded by an old and decadent residential and light commercial neighborhood which has been designated as a planned urban renewal area. Much of this area may be developed for light industrial and heavy commercial purposes. If the hospital is to remain in its present location, of necessity it must acquire considerably more of the surrounding properties to protect itself from undesirable encroachments in the future.

Considerable population growth is occurring in the suburban areas to the east, south, and west of Portland. Planned expansion of existing hospitals and projected construction of one or more new hospitals closer to those suburban areas raise implications for Emanuel Hospital. Should the hospital consider the establishment of one or more satellite hospitals in the suburbs? Is its future at its present location likely to be jeopardized by this population trend?

For more than five years now the volume of its inpatient care program has leveled off. The annual number of admissions and days of care, and the average daily patient census has remained stable since 1959, and the bed occupancy consistently has been below a normally acceptable level. The obstetrical program has actually been declining each year since 1958 to the point where the average census has dropped more than 25 percent. What does this trend portend for the future of the hospital? Will the new freeway system improve the hospital's

accessibility to the suburban areas? Will the mushrooming physicians' office buildings close to other in-town hospitals adversely affect Emanuel Hospital's medical staff and the demand for beds?

The board of directors is concerned about the outlook for the recently constructed 48-bed chronic disease and medical rehabilitation center which has been in operation for about a year and a half and as yet has not developed as anticipated.

Notwithstanding that an extensive program of modernization and enlargement of facilities and services has been carried out over the last ten years, much remains to be done to complete the program to provide a completely modern hospital with adequate supporting facilities and excellent patient room accommodations.

In the light of the above influencing situations the board of directors has been considering whether the present location is adaptable to the future of the hospital, and, if so, how best should it be developed both in terms of programs and services and the needed physical facilities. Accordingly, the board authorized this timely study which is to include the following scope:

1 - A brief study of the hospital needs of the area served by Emanuel Hospital and the hospital services available to the area, sufficient to determine the number and type of inpatient beds needed for the immediate and the 20-year future.

2 - In view of the above, and the objectives and policies of Emanuel Hospital, a statement of the recommended roles and appropriate programs of Emanual Hospital in service, in education, and in research.

3 - Analysis of the present space of Emanuel Hospital and its utilization.

4 - Study of the operating functions of the hospital as they affect space utilization.

5 - Development of a schedule of departmental space needs in accordance with the above recommended programs and in comparison with present space utilization.

6 - A description of a long-range physical development program to meet such needs, together with a schematic plan for immediate action toward the accomplishment of the long-range program.

7 - An estimate of the approximate cost of alterations and of new construction proposed in the immediate program.

8 - Recommendations as to the utilization of the present site and/or a satellite site.

9 - Recommendations as to the size of site or sites needed for the proposed development.

10 - The development of a site or sites plan, showing the location, size, and space of the proposed unit facilities.

11 - General recommendations as to the next immediate steps in the procedure of physical development.

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BUILDING AND EQUIPMENT PLANNING • COMMUNITY SURVEYS • ADMINISTRATIVE SURVEYS • MANAGEMENT SERVICE

Main Office - September 25, 1964

Mr. Alfred E. Olson, President
Board of Directors
Emanuel Hospital
2801 North Gantenbein Avenue
Portland 12, Oregon

Dear Mr. Olson:

We are pleased to submit herewith 20 copies of the report of our study entitled "A Program of Development, Emanuel Hospital, Portland, Oregon."

This study is designed to provide the Board of Directors with a suggested blueprint for the future role and development of Emanuel Hospital in the light of the changing physical environment and the growth of the area the hospital serves cooperatively with the many other hospitals in Portland.

The findings and recommendations flowing from this report present a stimulating challenge to the Board of Directors to reorient the role and programs of the hospital and to provide the physical facilities which will assure that Emanuel Hospital is without peer in the community as a most modern and progressive medical center.

My associates in this study, Fred A. McNamara, James W. Stephan, and John Sweetland, Jr., join me in expressing sincere appreciation for the splendid cooperation of the members of the Board of Directors and the medical staff. We wish also to acknowledge the able and generous assistance of Mr. Hanson, the administrator, and his key associates who have greatly facilitated the undertaking of this complex study. We should like to record the cooperation of the administrators of the other hospitals in Portland and the officials of the state and local hospital, health, and planning agencies who we called upon for data essential to the accomplishment of the objectives of this study.

Sincerely,

James A. Hamilton
For JAMES A. HAMILTON ASSOCIATES

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Confidential Report

Submitted by:

JAMES A. HAMILTON ASSOCIATES

Hospital Consultants

Minneapolis, Minnesota 55414

September, 1964

PART ONE - THE ROLE AND PROGRAM

I - THE PRESENT ROLE AND PROGRAM

PART ONE - THE ROLE AND PROGRAM

I - THE PRESENT ROLE AND PROGRAM

The present 483-bed Emanuel Hospital is the largest Lutheran hospital in the United States and the largest community hospital in metropolitan Portland and the state of Oregon. The hospital was established in 1912 with 28 beds in a rented dwelling in southwest Portland. The present location in the central section of the city was acquired and a 60-bed hospital opened in 1916. Continuous growth to meet the demands for hospital care in the area resulted in construction of additions to the original building which increased the bed capacity to 217 by 1926, 268 in 1932, 343 in 1942, and to 448 in 1957. Finally the medical rehabilitation center addition opened in January, 1963, increased the capacity to 483 beds. With the original founding of the hospital a school of professional nursing was established. Its development has kept pace with the hospital's growth and today it has the largest enrollment of any of the diploma or degree schools in the state of Oregon.

The role of this hospital is that of a large nonprofit community hospital operated under the sponsorship of the Lutheran Church and serving predominantly all sections of the city of Portland and the rest of Multnomah County and, to a much lesser degree the other Oregon counties immediately adjacent to Multnomah County. Today it is only one of 15 acute general hospitals in Portland but it provides approximately 16 percent of the acute general care furnished in all hospitals in the city.

The hospital's patient service role has kept pace with the growth in the specialization of medicine and the increased capabilities of its medical staff.

Especially within the last five years the hospital has greatly improved its diagnostic and therapeutic facilities to the point where it now offers services equal or superior to any hospital in the city. The only major inpatient clinical service not offered by the hospital is acute psychiatric care. Traditionally, Emanuel Hospital has emphasized its obstetrical and orthopedic services and both have been recognized in the community as outstanding. Although the obstetrical service has been on the decline from its peak of 4,837 deliveries in 1952 to 3,403 in 1963, it is still the largest in the city. The orthopedic service has 20 percent (98 beds) of the total bed capacity of the hospital allocated to it. It was not until 1954 that the hospital established a pediatric service. About 10 percent of the total bed capacity has been given to that service but it has not been able to develop effective use of these 49 to 52 beds. Occupancy has stabilized at an average of only 58 percent over the last five years. The hospital maintains a unique 18-bed "teen-age" nursing unit on which pediatric patients aged 13 to 17 are cared for. Except for the summer months this unit is not effectively utilized and the average annual occupancy has fluctuated from only 45 to 55 percent since its inauguration. Both the medical and surgical services are comprehensive and specialized in coverage although the proportion of beds allocated to the medical service (20 percent) is well below the experience of most hospitals. Last January (1964) an intensive care nursing unit of 14 beds was opened. The hospital also has a 14-bed surgical recovery room. A year and a half ago the hospital inaugurated its chronic disease and medical rehabilitation program offering both inpatient and outpatient care supported with excellent physical and occupational therapy facilities. Although constructed as a comprehensive 48-bed unit, initially only one 16-bed nursing unit has been

activited; the remainder of the beds have been allocated to the orthopedic and surgical services. Within a few months after the medical rehabilitation program started, the admission of patients began to decline. From a high of 33 admitted in March 1963, the number dropped to less than half that number for each of the remaining months of 1963. This year the decline continued to a low of nine new patients in April (1964). Occupancy of the 16 rehabilitation beds averaged only 11.5 patients or 70 percent for calendar 1963.

Table I on pages 4 and 5 shows a five-year statistical comparison of the inpatient and outpatient programs and the ancillary services for each of the calendar years 1959 through 1963. It will be observed that on an overall basis the magnitude of the inpatient care program has remained practically static for the last five years. During that period the average annual bed occupancy rate has fluctuated between 71 and 77 percent, well below an acceptable 85 percent rate.

The hospital provides the community with a number of ambulatory patient services. Among these is a sizeable emergency room service which handled 10,093 patients in 1963 and provided nearly 2,500 patient admissions to the hospital. Approximately one-half of the patients are traumatic injury cases. The steady increase in the number of patients seen in the emergency room is reported to be ambulatory "drop-in" patients seeking nonemergency care or patients referred by their attending physician. At present each of the major hospitals in the city is designated one day a week as the receiving center for emergency ambulance cases transported by the police department or private ambulance service under the emergency program sponsored by the city health departments. With the opening of new emergency facilities now under construction at the County Hospital, it is anticipated that Emanuel and other voluntary hospitals will lose some of their accident patient load.

TABLE I

Emanuel Hospital, Portland, Oregon

COMPARISON OF INPATIENT, OUTPATIENT, AND ANCILLARY SERVICES

Five-Year Period 1959-1963

Inpatient Services	1959	1960	1961	1962	1963
Number of Patients Discharged*					
Medical	3,234	2,507	2,813	2,790	3,089
Surgical	4,701	5,100	5,103	5,294	5,622
Orthopedic	2,297	2,392	2,347	2,356	2,243
Obstetrical	4,514	4,362	4,090	3,878	3,730
Pediatric	2,443	2,347	2,430	2,352	2,472
Teen-age**	421	487	512	540	524
Total	17,610	17,195	17,295	17,210	17,680
Days of Care*					
Medical	25,330	20,321	21,831	23,924	24,980
Surgical	34,051	35,488	35,498	36,819	38,183
Orthopedic	28,773	31,221	36,618	35,265	32,107
Obstetrical	19,600	18,388	16,715	15,656	14,685
Pediatric	10,670	10,182	11,217	10,241	11,006
Teen-age**	2,641	2,880	3,356	3,315	3,256
Total	121,065	118,480	125,235	125,220	124,218
Average Daily Census*					
Medical	69.4	55.6	60.1	65.5	68.4
Surgical	93.4	96.9	97.3	100.9	104.6
Orthopedic	78.8	85.3	100.0	96.6	88.0
Obstetrical	53.7	50.2	45.8	42.9	40.3
Pediatric	29.2	27.8	30.7	28.0	30.1
Teen-age**	7.2	7.9	9.2	9.1	8.9
Total	331.7	323.7	343.1	343.0	340.3
Average Patient Stay (Days)*					
Medical	7.8	8.1	7.8	8.6	8.8
Surgical	7.3	7.0	7.0	6.9	7.8
Orthopedic	12.5	13.0	15.6	15.0	14.4
Obstetrical	4.4	4.2	4.1	4.1	3.9
Pediatric	4.4	4.3	4.6	4.4	4.4
Teen-age**	6.3	5.9	6.5	6.1	6.2
Total	6.9	6.7	7.2	7.3	7.0

* Excludes newborn.
**Teen-age unit only.

TABLE I (CONTINUED)

Outpatient and Ancillary Services	1959	1960	1961	1962	1963
Outpatient Clinic Visits	1,859	1,841	2,506	3,062	3,300
Emergency Room Visits	7,929	7,871	8,741	8,918	10,093
Laboratory Examinations	215,625	213,136	229,210	230,266	222,149
Radiology					
Diagnostic Procedures	18,164	18,099	18,743	19,995	23,085
Therapeutic Treatments	1,846	1,646	2,387	4,742	5,522
Radioisotopes	-	-	384	527	844
Electrocardiograms	2,779	2,781	2,895	2,895	3,054
Electroencephelograms	-	-	-	416	536
Physical Therapy Treatments	17,524	17,365	18,671	23,185	35,158
Occupational Therapy Visits	-	-	-	-	1,305

As a part of its medical education program, as well as a community service to the medically indigent, the hospital operates a very modest outpatient clinic program staffed by the physicians in residency training under supervision of the active medical staff and conducts organized clinics in medicine, surgery, obstetrics, gynecology, orthopedics, and medical pediatrics. This program was started only nine years ago and the service has been built up gradually to 1,860 visits in 1959 and 3,300 in 1963. In conjunction with the local visiting nurses' association the hospital has provided a well-baby clinic for the last three years which has handled 1,150 visits a year. The hospital also provides the professional medical care for the 12-bed lying-in hospital (Wemme Memorial) maintained by the Salvation Army and the residents in obstetrics deliver the patients at Emanuel Hospital.

The adjunct diagnostic and therapeutic supporting services are comprehensive and include electrocardiographic and electroencephalographic services, heart catheterization equipment, blood bank, extensive clinical and anatomical pathological facilities, diagnostic and therapeutic radioisotopes, and diagnostic and therapeutic radiology including a 300 K.V. deep therapy machine and a cobalt 60 deep therapy machine. The latter was the first one available in Portland at the time of its installation two and one-half years ago.

The hospital has a highly diversified medical staff totaling 288 physicians and three dentists. As of January 1, the active staff membership had 154 physicians, the associate staff had 41 physicians, the courtesy staff consisted of 68 physicians and three dentists, and the honorary staff totaled 25. There was also a house staff of 14 interns and 12 residents as of the same date. Two-thirds of the entire active staff are full diplomates of American specialty boards. They cover the specialties of internal medicine, general surgery,

neurosurgery, plastic surgery, thoracic surgery, proctology, urology, orthopedics, obstetrics and gynecology, pediatrics, opthalmology, otolaryngology, anasthesiology, pathology, and radiology. There are also 29 general practice physicians on the active staff. Only four members of the associate staff have acquired their full specialty boards. Over 50 percent of the courtesy staff are board specialists, including three board psychiatrists, one neurologist, and a vascular surgeon. None of the three dentists on the courtesy staff are board qualified oral surgeons.

In terms of age distribution the medical staff is reasonably well-balanced. Twenty percent of the active staff are under age 40; 42 percent are between age 40 and 51; 25 percent are age 51 through 59; and 13 percent are age 60 and over. As to be expected, nearly two-thirds of the associate staff are under 35 years of age.

While the majority of the active staff hold courtesy staff appointments at other hospitals, 54 members out of 154 of the active staff are affiliated with the active staff of at least one other community hospital and 19 of these 54 physicians hold active staff appointments in two or more such hospitals. Providence Hospital has 24 men from Emanuel Hospital on its active staff. Of the 154 active staff members, 56 (36 percent) have their offices in southwest Portland, 54 (36 percent) are located in northeast, 22 (14 percent) in the north section, 17 (11 percent) in the northwest area, 3 in the southeast section of the city, and 2 in Washington County. The offices of the 41 members of the associate staff are distributed in almost the same proportion as the active staff men.

In the field of education Emanuel Hospital has embraced extensive roles in medical, nursing, and paramedical education. There were 14 physicians interns and 12 residents in training during the year 1963-1964, the largest program in

any community hospital in Portland. The hospital is approved by the Council on Medical Education for 14 one-year rotating internships and all were filled during the past year with graduates of American medical schools. The hospital has been successful similarly in obtaining its full quota of 14 interns for the year beginning July 1, 1964. The hospital offers a three-year residency in obstetrics and gynecology, internal medicine, and anatomic pathology; and one year of a four-year residency in orthopedic surgery in affiliation with the University of Oregon Medical School. All six of the obstetrical-gynecological residencies are filled and two of the three residencies in internal medicine and the one approved residency in anatomic pathology are occupied. The three first-year residencies in orthopedic surgery are also filled. Emanuel Hospital is the only one affiliated for residency training with the University of Oregon Medical School. The hospital also has had an approval for two years of general surgical residency training in preparation for training in surgical specialties but currently has not been able to fill either of the two residencies.

The annual cost of the graduate medical education program is approximately $175,000. The program is headed by a full-time director of medical education. The intern training program has been very successful as attested by the fact that for four successive years now the hospital has filled its entire quota from graduates of American medical schools. The residency training program is experiencing difficulty. Both the residencies in internal medicine and in obstetrics and gynecology have been placed on probationary approval by the national residency review committees until July, 1965. The reasons for these qualified approvals raise the underlying issue of the hospital's ability to maintain a strong residency training program. There is a serious lack of service patients for the residents and the magnitude of the outpatient clinic service is insufficient to

provide the volume of new patients required for each resident. A decision on use of private patients for teaching has to be resolved. In the case of the residency in anatomic pathology, the review committee has urged that it be expanded to include clinical pathology.

There appears to be considerable uncertainty as to the ability of the hospital to provide the substantial increase in volume of outpatients needed to support the residency program. The source of medically indigent patients in Portland is limited to some extent by the above-average economic level of the community. As a matter of policy, county welfare clients are referred for the most part to the outpatient clinics maintained by the medical school at the County Hospital and the University of Oregon Hospital. Emanuel Hospital is already providing close to $200,000 a year of inpatient and outpatient care through its charity clinic program, the cost of which has to be financed from pay patient income. This raises the question of the extent to which the hospital can finance any major expansion of the clinic program even if the service patient supply could be increased.

The medical staff is very progressive in maintaining a program of postgraduate medical education aimed at keeping the staff abreast of advances in medical science. Seminars and specialty institutes are sponsored periodically and attract physicians from a wide area of Oregon and Washington, as well as from the staff itself.

In the field of nursing education, the hospital provides both professional and practical nursing programs. The physical facilities for these programs are excellent. A new modern building houses the schools and the student nurses' residence and includes a large enclosed swimming pool. The three-year diploma school of professional nursing, one of only three in the state or Oregon, has an

outstanding reputation. This is evidenced by the fact that over a period of the last 10 years only 9 out of 498 graduates failed to pass the State Board of Nursing examination for licensure. Each year the school receives about three times as many applicants as can be accepted. Since 1960, when the facilities of the school were expanded, the entering class has averaged 116 freshmen students and the average total annual enrollment has been 238, about one-half of the total enrollment in all three diploma schools. The drop-out rate of students has averaged 30 percent of the freshmen class for the last five years. The gross annual cost of the professional school of nursing in 1963 was $555,000. After deducting tuition income, the net cost was $462,000, or $1,615 per student. This net cost may be further reduced by whatever value may be placed upon the extent to which the services of student nurses reduce the necessity for employment of graduate professional nurses.

Emanuel Hospital is one of five hospitals in Portland which are affiliated with the Portland Community College of the Portland Public School System to provide clinical experience for practical nurse students enrolled in the College's training program. There is an average of 12 students in training at Emanual Hospital at all times.

The hospital supports two chaplaincy educational programs, chaplaincy intern and resident training and the school of pastoral care. The latter is reported to be the only Lutheran postoral clinical training center in the northwest United States. The internship is a 15-month program for graduates of Lutheran seminaries to acquire hospital chaplaincy experience. The 12-month residency program for chaplaincy supervisors is just being started. The combined program contemplates one intern and one resident at a time. The school of pastoral care is affiliated with the Institute of Pastoral Care, Worcester, Massachusetts, and the National

Lutheran Council. The school offers short summer courses (12 weeks) in clinical pastoral training to pastors of churches, institutional chaplains, and others who wish general hospital clinical experience. In the summer of 1963, 32 students were enrolled in this program. The annual net cost to the hospital for the two chaplaincy educational programs is reported to be approximately $7,500.

The hospital participates extensively in other paramedical educational programs. It is approved for training of medical technologists and offers one year of clinical experience in affiliation with three colleges which grant a B.S. degree to the students upon completion of the clinical experience. At present five students are in training. A two-year program for training of x-ray technicians is provided and 11 students were receiving training during 1963. A one-year pharmacy internship is offered for graduates of Oregon State University School of Pharmacy, with one intern currently in training. The hospital is affiliated with the University of Oregon Medical School for dietetic intern training whereby one dietetic intern at a time rotates through the hospital food service department for six weeks of practical experience. One year of residency training in hospital administration is offered through affiliation with the graduate program in hospital administration of the University of Iowa. The hospital is also affiliated with the Oregon State Apprentice Council in a three-year program for training of hospital engineers. One apprentice engineer has been accepted each year.

In the area of medical research, the hospital has not undertaken any major role as yet, although several members of the active medical staff are conducting projects of significant importance under four grants totaling approximately $38,000. The hospital has recently been given a three-year grant of $20,000 for a demonstration home care project by the Oregon Society for Crippled Children and

Finally, currently, the hospital is planning to apply to the State Board of Health for a five year, $350,000 grant for a research project in the area of retarded children. Two other smaller research projects are also being proposed by members of the medical staff if grants to finance them can be secured. At the present time there are no separate research facilities provided for house staff or the active medical staff.

II - THE SERVICE AREA AND ITS NEEDS

II - THE SERVICE AREA AND ITS NEEDS

A - The Hospital Service Area

In planning the hospital's future patient service role and the hospital needs to be met, it is pertinent to analyze the specific sections within the city of Portland as well as the surrounding areas beyond the city limits from which Emanuel Hospital draws its patients. It is also essential to evaluate the extent to which the other hospitals in the metropolitan area of Portland likewise assist in meeting the total hospital needs of the area served by Emanuel Hospital.

The geographic source of the hospital's patient clientele has been determined on the basis of an analysis of all admissions for two comparable four-month periods (January, February, March, and October) in 1958 and 1963. The total number of admissions for each of those comparative four-month periods was almost identical - 5,866 in 1958 and 5,900 in 1963. Likewise the number of admissions from the primary service area varied by only 20 - 5,032 in 1958 and 5,012 in 1963. Since the total annual admissions likewise were almost identical for these two calendar years - 17,800 in 1958 and 17,696 in 1963 - it is considered that these four-month sampling periods, which included one-third of the total annual admissions, provide a dependable index of the hospital's geographic service area.

As shown in the following comparative analysis of admissions to Emanuel Hospital for the two 4-month periods in 1958 and 1963 (Table II, page 14, and as depicted on the accompanying Map A, page 15), the hospital in each of those two years derived 85 percent of all its patients from the city of Portland and the remainder of Multnomah County. We have designated this

TABLE 11

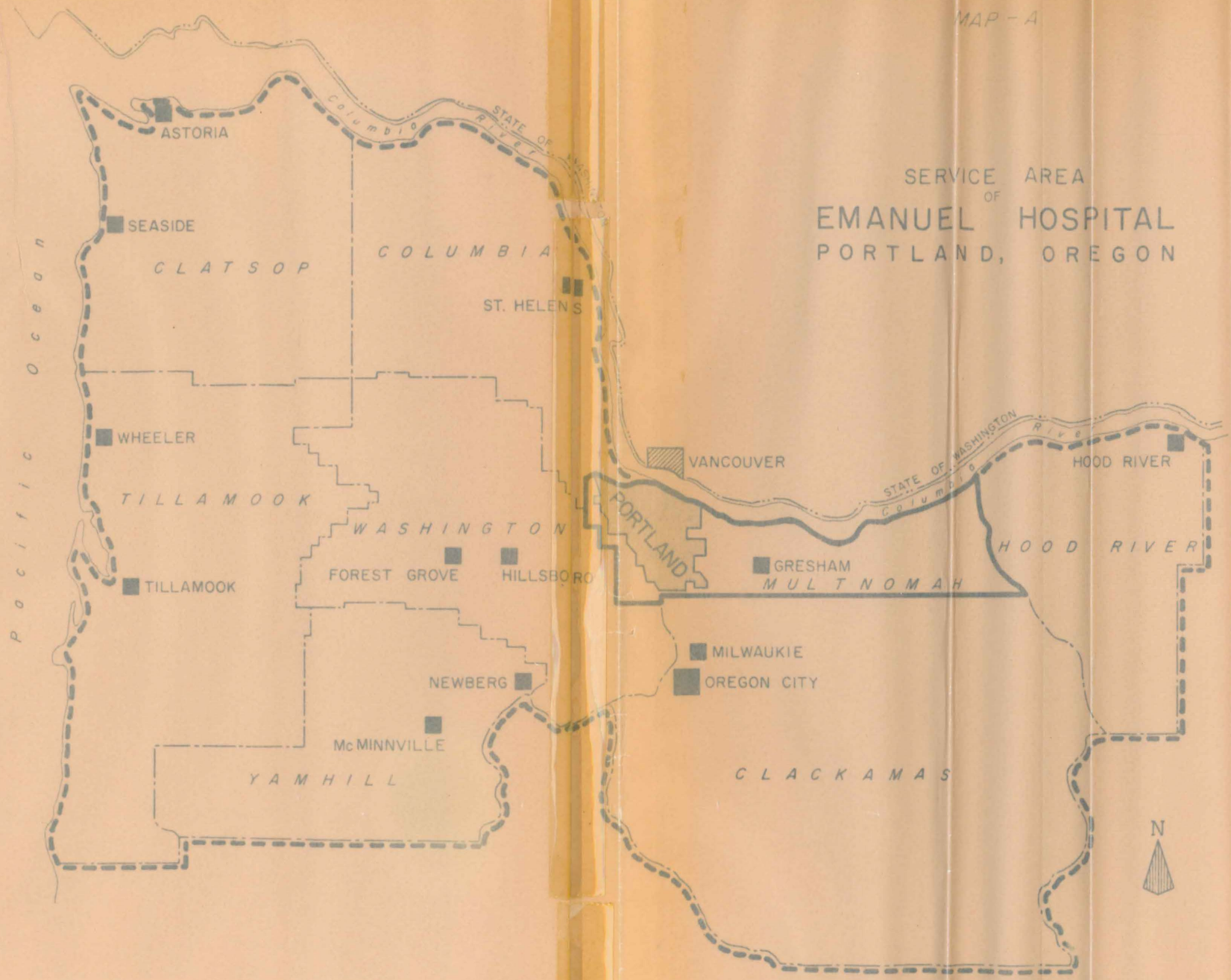
GEOGRAPHIC SOURCE OF PATIENTS ADMITTED TO EMANUEL HOSPITAL

Four Months (January, February, March, and October) of 1958 and 1963

Geographic Area	4 Months - 1958 Number of Patients	4 Months - 1958 Percent of Total	4 Months - 1963 Number of Patients	4 Months - 1963 Percent of Total
Primary Service Area				
Northeast Portland	1,672	28.5	1,732	30.0
Southeast Portland	1,192	20.3	1,320	22.3
North Portland	1,094	18.7	980	16.6
Northwest Portland	143	2.4	150	2.5
Southwest Portland	612	10.4	762	13.0
Remainder of Multnomah County	319	5.3	68	1.1
Total - Multnomah County	5,032	85.6	5,012	85.5
Secondary Service Area				
Clackamas County	154		210	
Washington County	92		42	
Hood River County	28		33	
Columbia County	43		54	
Clatsop County	11		31	
Tillamook County	31		39	
Yamhill County	24		32	
Total - Secondary Area	383	6.5	441	7.3
Remainder of Oregon	253	4.3	243	4.0
Washington State	167	2.9	153	2.5
All Others	31	0.7	51	0.7
Total Patients	5,866	100.0	5,900	100.0

MAP - A

SERVICE AREA OF EMANUEL HOSPITAL PORTLAND, OREGON



LEGEND

- BOUNDARY OF PRIMARY SERVICE AREA
- BOUNDARY OF SECONDARY SERVICE AREA
- COUNTY LINE
- STATE LINE

JAMES A HAMILTON ASSOCIATES
MINNEAPOLIS, MINNESOTA
AUGUST, 1964

source of patients as the hospital's primary service area. Within this primary area, it will be observed that the hospital draws approximately one-half of all its patients from the eastern half of the city of Portland, and that there has been a marked decline in the number of patients admitted from the area of Multnomah County outside the city limits of Portland, principally from the communities of Gresham and Sandy.

Not only is Emanuel Hospital's patient service role predominantly that of serving the population of Multnomah County, but it is very significant to observe that it serves all five geographic sections of the county almost in direct proportion to the total county population distribution, as indicated in Table III below. This table relates the percentage of the total 1963 patient admissions originating from each section to the 1960 population of each of those five sections of the county. The population of each section was derived by totaling the census tract figures for those tracts within the boundaries of each section.

TABLE III

COMPARISON BETWEEN THE PERCENTAGE DISTRIBUTION OF THE 1960 POPULATION OF MULTNOMAH COUNTY AND THE ADMISSIONS TO EMANUEL HOSPITAL FROM MULTNOMAH COUNTY IN 1963 BY GEOGRAPHIC SECTIONS OF THE COUNTY

Geographic Section	Percent of 1960 County Population	Percent of Total 1963 Admissions To Emanuel Hospital from Multnomah County
Northeast	35.0	34.5
Southeast	36.2	28.0
North	12.4	19.5
Northwest	4.2	3.0
Southwest	12.2	15.0
Total - Multnomah County	100.0	100.0

Emanuel Hospital also serves a secondary area comprised of the seven counties in Oregon which generally surround Multnomah County, namely Hood River to the east, Clackamas to the south, Columbia and Clatsop to the northwest, Washington to the west, and Tillamook and Yamhill counties to the southwest. This area extends from Portland in a 50-mile radius to the east, southeast, northwest, west, and southwest, and 30 miles to the south. In 1958, the hospital drew 6.5 percent of its total patients from this secondary service area and 7.3 percent in 1963. Approximately one-half of the patients who are admitted to the hospital from the secondary area reside in nearby Clackamas County, which is the most populous of the seven counties in the secondary area. The slight upward trend between 1958 and 1963 in the percentage of the total admissions to the hospital (from 6.5 to 7.3 percent) which are derived from the secondary area may be expected to continue as the population of Clackamas and Washington counties continue to expand quite rapidly but there is no indication that it will approach 10 percent of the total admissions in the next 15 years.

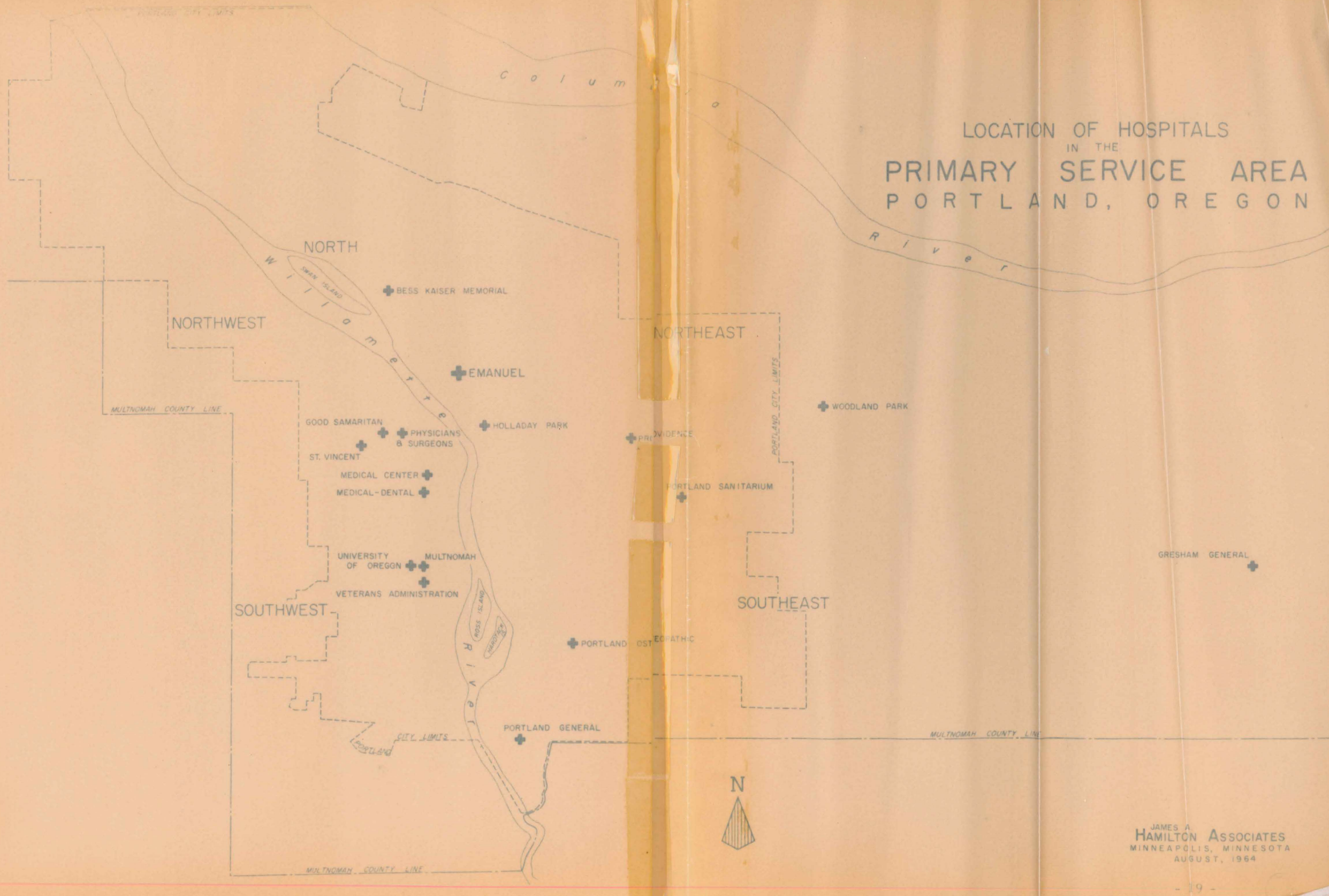
The combined primary and secondary service area accounts for nearly 93 percent of all patients admitted to Emanuel Hospital. This combined area coincides with the boundaries of Region I of the Oregon State Hospital Plan of the Oregon State Board of Health, except that the State Plan also includes Wasco County. Only four percent of the total patients represent referrals from other parts of Oregon or persons who were hospitalized while visiting or traveling through Portland. It is interesting to observe that only one percent of the total admissions come from Vancouver and Clark County, Washington, directly across the Columbia River from Portland.

It is clear that the present service role of Emanuel Hospital is that of a large community acute general hospital predominantly serving quite uniformly all of the sections of the city of Portland and Multnomah County, and to a lesser degree the other counties immediately contiguous to Portland. We anticipate no significant change in either the primary or secondary service areas of the hospital in the forseeable future. The hospital site is readily accessible and centrally located in relation to all sections of Portland and Multnomah County. Its location is being enhanced by the excellent system of freeways already completed, currently under construction, and definitely programmed. With the completion, in 1970, of the new Fremont Bridge and freeway interchange approximately four blocks north of the hospital, the accessibility of the hospital to the western half of the city and county, and particularly to the growing population to the southwest will be markedly improved. Practically any section of the city of Portland is, or will be, within a 15 to 20 minute drive of the hospital.

Emanuel Hospital shares the total responsibility for providing hospital care for the population of its service area with a sizeable number of other hospitals in Portland. (See Map B, page 19, for location of all hospitals in the primary service area.) Inquiries made by us to those hospitals developed the fact that they have not compiled data is to the geographic areas from which their patients are derived. However, the recently organized Hospital Planning Council for the Metropolitan Portland Area (which includes Clark County in Washington State) made a very limited one-month patient origin survey of patients admitted to the 28 hospitals in the metropolitan area for the period of February 15 through March 15, 1964. Although the study has not been completed, we have had the benefit of the data showing the origin of

MAP - B

LOCATION OF HOSPITALS IN THE PRIMARY SERVICE AREA PORTLAND, OREGON



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patients admitted to each hospital. The geographic breakdown of residence of patients is by telephone exchanges in this study rather than by census tracts or postal zones. While the boundaries of a few of the telephone exchanges within the city of Portland overlap among the five major geographic sectors (northeast, southeast, north, northwest, and southwest), for comparative purposes we have constructed a reasonably dependable distribution of the origin of the patients of each hospital for each of those five sectors. For this purpose telephone exchange zones #63, 64, and 25 percent of #66 have been allocated to the northeast section of Portland; the remainder of zone #66 and all of #67 to the southeast section of the city; zones #61 and 62 to the north section; one-half of zone #65 to the northwest section; and one-half of zone #65 and all of #68 to the southwest section of the city.

On the basis of this one-month patient origin study, nine hospitals, including Emanuel Hospital, care for nearly 85 percent of all hospitalized residents of the city of Portland, and 82.5 percent of all Multnomah County residents. Emanuel Hospital accepted nearly 15 percent of the total admissions from the city and the county. The following Table IV shows the number of residents of Portland and Multnomah County admitted during the one-month study period to each of the nine hospitals and cumulatively the total number admitted to the other 19 hospitals in the metropolitan area. Of the 204 residents of Multnomah County living outside the City of Portland, 104 of them were cared for in Gresham General Hospital located to the east of the city.

It will be appreciated, of course, that a one-month sampling of admissions does not provide a completely valid indicator of the geographic source of each hospital's patient intake. However, it can provide an approximation of

TABLE IV

NUMBER OF RESIDENTS OF THE CITY OF PORTLAND AND THE REMAINDER OF MULTNOMAH COUNTY ADMITTED TO HOSPITALS IN THE METROPOLITAN PORTLAND AREA IN THE PERIOD FEBRUARY 15 THROUGH MARCH 15, 1964

	Residents Admitted to Hospitals					
	Portland		Remainder of Multnomah County		Total Multnomah County	
Hospital	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Emanuel	1,059	14.5	42	9.3	1,101	14.1
Multnomah	1,004	13.7	57	12.6	1,061	13.6
Good Samaritan	816	11.1	18	4.0	834	10.7
St. Vincent	739	10.0	6	1.3	745	9.7
Providence	690	9.4	45	10.0	735	9.5
Portland Sanitarium	627	8.5	48	10.6	675	8.9
Bess Kaiser Memorial	439	6.0	15	3.3	454	5.8
Holladay Park	437	6.0	8	1.8	445	5.7
Physicians and Surgeons	366	5.0	9	2.0	375	4.5
Subtotal	6,177	84.2	248	54.9	6,425	82.5
19 other hospitals in metropolitan area	1,157	15.8	204	45.1	1,361	17.5
Total - All Hospitals	7,334	100.0	452	100.0	7,786	100.0

Source: Patient Origin Survey, Hospital Planning Council, Metropolitan Portland Area.

the extent to which the hospital draws its patients from each geographic sector of the city of Portland, and the surrounding counties. The accompanying Table V, page 23, has been compiled to show for each of nine principal hospitals serving Portland, and for the 19 other hospitals as a group, the number of admissions during the one-month study period and the percentage of the total admissions from each of the five geographic sections of Portland, Multnomah County as a whole, Washington County, Clackamas County, and all other areas combined.

Emanuel Hospital drew its patients from the various sections of the city of Portland approximately in proportion to the distribution of the population. One-half of its 1,426 total admissions came from northeast and southeast Portland combined. Numerically, it admitted the largest number of patients (232) from north Portland of any hospital in the city. From the combination of southwest Portland and Washington County (southwest of the city), the hospital received 12.2 percent of its total admissions. Clackamas County accounted for 6.6 percent.

Good Samaritan and St. Vincent Hospitals each drew only one-third of their total patients from the eastern half of the city. Both numerically and percentage-wise, these two hospitals are providing more care to the residents of southwest Portland and Washington County than any other hospital. Good Samaritan Hospital drew 30.3 percent of its total admissions and St. Vincent Hospital drew 32.4 percent from that combined southwest area. Between them they admitted 52 percent of the 1,571 patients admitted from that area to all of the nine principal hospitals serving Portland.

By contrast, Portland Sanitarium and Hospital and Providence Hospital, which are located approximately in the center of the eastern half of the city,

TABLE V

NUMBER AND PERCENT OF ALL ADMISSIONS, BY GEOGRAPHIC SOURCE, TO EACH OF NINE SPECIFIC HOSPITALS IN PORTLAND, OREGON, AND TO A GROUP OF NINETEEN OTHER HOSPITALS IN THE METROPOLITAN PORTLAND AREA DURING THE PERIOD FEBRUARY 15 THROUGH MARCH 15, 1964

Geographic Source of Patients	Number of Admissions												Percent of Total Admissions											
	Emanuel	Multnomah	Good Samaritan	St. Vincent	Providence	Portland Sanitarium	Bess Kaiser	Holladay Park	Physicians and Surgeons	Subtotal - 9 Hospitals	19 Other Metropolitan Area Hospitals	Total - 28 Hospitals	Emanuel	Multnomah	Good Samaritan	St. Vincent	Providence	Portland Sanitarium	Bess Kaiser	Holladay Park	Physicians and Surgeons	Subtotal - 9 Hospitals	19 Other Metropolitan Area Hospitals	Total - 28 Hospitals
Portland																								
Northeast	502	340	244	223	378	252	175	177	135	2,426			35.3	30.0	17.0	18.3	38.3	32.4	28.1	29.3	22.0	27.1		
Southeast	203	276	223	164	252	313	120	114	99	1,764			14.2	24.3	15.6	13.4	25.5	40.2	19.3	18.9	16.1	18.9		
North	232	143	60	84	41	17	91	66	62	796			16.3	12.6	4.2	6.7	4.1	2.3	14.6	10.9	10.1	9.0		
Northwest	33	99	82	90	12	8	12	20	18	374			2.3	8.7	4.7	6.8	1.2	1.0	1.9	3.4	3.0	4.2		
Southwest	89	146	207	178	27	37	41	60	52	837			6.2	12.9	15.5	14.6	2.7	4.7	6.6	10.0	8.5	9.5		
Subtotal	1,059	1,004	816	739	690	627	439	437	366	6,177	1,157	7,334	74.3	88.5	57.0	59.8	71.8	80.6	70.5	72.5	59.7	68.7	22.9	53.0
Balance of Multnomah County	42	57	18	6	45	48	15	8	9	248	204	452	2.9	5.0	1.2	0.5	4.6	6.1	2.0	1.3	1.5	2.8	4.0	3.2
Total - Multnomah County	1,101	1,061	834	745	735	675	454	445	375	6,425	1,361	7,786	77.2	93.5	58.2	60.3	76.4	86.7	72.5	73.8	61.2	71.5	26.9	56.2
Washington County	83	13	212	219	31	13	27	31	105	734	494	1,228	6.0	1.0	14.8	17.9	3.2	1.7	4.3	5.1	17.1	8.3	9.7	8.8
Clackamas County	93	29	105	82	101	51	34	68	66	629	638	1,267	6.6	2.5	7.3	6.7	10.2	6.5	5.4	11.0	10.7	7.1	12.6	9.1
Subtotal	1,277	1,103	1,151	1,046	867	739	515	544	546	7,788	2,493	10,281	89.8	97.0	80.3	84.9	89.8	94.9	82.2	89.9	89.0	86.9	49.2	74.1
All Other Areas	149	31	280	181	120	40	108	59	67	1,029	2,566	3,595	10.2	3.0	19.7	15.1	10.2	5.1	17.8	10.1	11.0	13.1	50.8	25.9
Total	1,426	1,134	1,431	1,221	987	779	623	603	613	8,817	5,059	13,876	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Patient Origin Survey Report, Table 1 - Hospital Planning Council, Metropolitan Portland Area

and the adjoining area in Multnomah County to the east of the city limits. Portland Sanitarium and Hospital derived 78.7 percent (over three-fourths) of all its patients from that combined area and Providence Hospital received 68.4 percent of its patients.

Bess Kaiser Hospital draws its patients geographically in relation to the dispersion of its health care insurance coverage. Analysis of the one-month patient origin study shows the hospital received nearly one-half (47.4 percent) of its patients from the eastern half of the city of Portland, 15 percent from the north section of the city, 11 percent from southwest Portland and Washington County combined, and 15 percent from Clark County, Washington State.

Holladay Park Hospital follows a patient origin pattern quite similar to Emanuel Hospital. It drew almost one-half (48.2 percent) of its total of 603 patients from the eastern half of the city, 11 percent from the north section of the city, and 15 percent from southwest Portland and Washington County. Physicians and Surgeons Hospital derived only 38 percent of its total patients from the eastern half of the city, 10 percent from North Portland, and 19 percent from the combined area of southwest Portland and Washington County.

As is to be expected, Multnomah County Hospital appears to draw its patients rather uniformly throughout the city and the remainder of Multnomah County outside the city in relation to the population distribution.

All of the above eight voluntary hospitals serve Clackamas County to the south of Portland, ranging from 6.5 to 11 percent of their total admissions. No one of those hospitals predominantly draws patients from that area.

B - The Population of the Service Area

1 - Growth of the Population

One of the basic keystones in formulating the future role, size, and scope of services of Emanuel Hospital in relation to those of other hospitals in the community is the future growth and distribution of the population to be served by the hospital. The following Table VI, page 26, presents a comparative picture of the actual total population growth trend between 1950 and 1960, and the projection of that trend to 1970 and 1980 for the city of Portland, the remainder of Multnomah County, and each of the seven counties comprising the hospital's secondary service area.

The hospital's primary service area, from which it obtains 85 percent of all its patients, embraces only the city of Portland and the remainder of Multnomah County. In the 10-year period from 1950 to 1960 the population of Portland remained static at about 373,000 while the balance of the county increased by a sizeable 53.4 percent from 98,000 in 1950 to 150,000 in 1960. For the primary service area as a whole, the increase in that decade was only 10.9 percent. In each of the two decades between 1960 and 1970 and between 1970 and 1980 a further moderate growth in the population total for the primary service area is anticipated. Within the city of Portland, a five percent gain of 17,000 is projected between 1960 and 1970 to a total of 390,000; in the next decade (1970-1980), a somewhat smaller increase of 13,000, or 3.5 percent, is foreseen. By 1980 the population of the city of Portland is expected to constitute only 63 percent of the total primary service area (Multnomah County) population as constrasted with 71 percent in 1960. In that 20-year span

TABLE VI

Emanuel Hospital, Portland, Oregon

TOTAL POPULATION OF THE SERVICE AREA

Service Area	1950	1960 Number	1960 Percent Increase	1970 Number	1970 Percent Increase	1980 Number	1980 Percent Increase
Primary Area							
City of Portland	373,628	372,676	- 0.3	390,000	5.0	402,800	3.5
Remainder of Multnomah County	97,909	150,137	53.4	179,000	19.3	230,100	28.6
Total - Primary Area	471,537	522,813	10.9	569,000	8.8	632,900	11.2
Secondary Area							
Clackamas County	86,716	113,038	30.4	141,740	25.4	176,732	24.7
Washington County	61,269	92,237	55.0	131,740	42.8	188,293	42.9
Hood River County	12,740	13,395	5.1	13,099	- 2.2	12,476	- 4.7
Columbia County	22,967	22,379	- 2.6	20,746	- 7.3	18,796	- 9.4
Clatsop County	30,776	27,380	- 11.0	22,232	- 18.5	18,562	- 16.5
Tillamook County	18,606	18,955	1.9	17,532	- 7.5	15,958	- 9.0
Yamhill County	33,484	32,478	- 3.0	30,143	- 7.2	26,969	- 15.0
Total - Secondary Area	266,558	319,862	20.0	377,232	18.0	457,786	17.6
Total - Combined Primary and Secondary Service Area	738,095	842,675	14.2	946,232	12.3	1,090,686	13.3

Sources: 1950 and 1960 - U.S. Bureau of the Census.
1970 - Estimates for Portland and remainder of Multnomah County derived from estimates used by Utility Companies and Metropolitan Planning Commission, Portland, Oregon.
- Estimates for counties in Secondary Area published by Oregon State Board of Census.
1980 - Estimates for Portland and remainder of Multnomah County - compiled by Metropolitan Planning Commission.
- Estimates for counties in Secondary Area published by Oregon State Board of Census.

From 1960 to 1980 the county population is expected to increase by 110,000, or 21 percent. As indicated in Table VII on page 28, numerically this growth is expected to be distributed proportionately, fairly uniformly in all sections of the city and county, except the northwest section which shows no population gain. The combined northeast and southeast area, from which Emanuel Hospital now derives nearly 55 percent of all its patients, will acquire nearly 79,000 of the expected 110,000 increase by 1980, 66,000 of which will occur beyond the city limits. The southwest area should add about 22,000 of which 8,000 should develop within the city and 14,000 in the county outside the city.

The seven-county secondary service area, from which the hospital received 7.3 percent of its total patients in 1963, experienced an overall 20 percent population growth of 53,500 between 1950 and 1960, from 266,500 to 320,000. The two large counties, Clackamas and Washington, which adjoin Multnomah County to the south and west, gained 57,000 while three counties (Columbia, Clatsop, and Yamhill) sustained losses. Hood River and Tillamook counties experienced only minor increases. In the two decades between 1960 and 1970 and between 1970 and 1980 all five of the counties except Clackamas and Washington are expected to lose population, with the result that by 1980 the population of each of those five counties will be less than that experienced in 1950. For the secondary area as a whole the population is expected to increase 18 percent in 1970 over 1960 to 377,000 and 17.6 percent in 1980 over 1970 to a total of 458,000, a 20-year gain of 138,000. Clackamas County is projected to have a 25 percent gain in each of those two decades and Washington County should correspondingly jump 43 percent. In 1960, the population of the

TABLE VII

DISTRIBUTION OF THE POPULATION OF THE PRIMARY SERVICE AREA

BY GEOGRAPHIC SECTIONS OF PORTLAND AND MULTNOMAH COUNTY

Geographic Section	City of Portland		Remainder of Multnomah County		Total - Multnomah County			
	1960	1980	1960	1980	1960		1980	
	Number	Number	Number	Number	Number	Percent of Total	Number	Percent of Total
Northeast	128,812	133,848	54,497	84,231	183,309	35.0	218,079	34.5
Southeast	118,530	126,477	70,868	106,605	189,398	36.2	233,082	37.1
North	62,417	71,650	2,376	2,489	64,793	12.4	74,139	10.1
Northwest	18,230	17,937	3,862	4,347	22,092	4.2	22,284	3.5
Southwest	44,687	52,890	18,534	32,428	63,221	12.2	85,318	14.8
Total	372,676	402,800	150,137	230,100	522,813	100.0	632,900	100.0
Percent of Total County Population	71.3	63.6	28.7	36.4	100.0		100.0	

secondary service area comprised 38 percent of the total population of the combined primary and secondary service areas; by 1970 it is estimated to be 40 percent and by 1980 42 percent.

In summary, for the combined primary and secondary service areas, which currently provide 93 percent of Emanuel Hospital's patients, a population growth rate of 12 to 13 percent per decade is projected between 1960 and 1970, and between 1970 and 1980. This is a 20-year numerical increase of 248,000 from 842,700 in 1960 to 1,090,700 in 1980. The primary service area will experience a 21 percent gain and will provide 110,000 of that increase. The secondary area (and exclusively Clackamas and Washington counties) will account for the remainder of 138,000, for a 20-year growth rate of 43 percent. For future planning, it is significant to observe that, although the secondary service area had a comparatively high 1960 population of 320,000 as contrasted with 523,000 for the primary service area, it contributed a relatively minor proportion (7.3 percent) of the total admissions to Emanuel Hospital. The projected 20-year growth rate for the secondary service area between 1960 and 1980 is twice that of the primary area, although numerically the increase is only one-fourth more than that of the primary area.

2 - Characteristics of the Population

The primary service area (Portland and Multnomah County) is characteristically a concentrated urban one. The population density of the county in 1960 was 1,233 per square mile. By contrast, the secondary service area is predominantly rural in character. About 45.0 percent of the population of the close-in Clackamas and Washington counties is rural.

Except for Clatsop, which is also 45 percent rural, the remainder of the secondary area is approximately 75 percent rural.

The population of both the primary and secondary service areas is weighted slightly higher in favor of females. In 1960 females comprised 52.5 percent of the total population of Portland, 51.9 percent of Multnomah County, and 50.5 percent of the seven-county secondary area population. There is only a relatively small nonwhite segment of the total population in the primary area but it has been increasing. In 1950, 3.5 percent of the population of Portland was nonwhite; by 1960 it had increased to 5.6 percent. Within the secondary area, the nonwhite population constitutes less than one percent of the total except in Hood River County where it comprised 3.4 percent in 1960.

The primary service area has an unusually high proportion of its population in the age group 65 years and over. In 1960 Portland had 14.2 percent of its citizens in this older age group and Multnomah County's experience was 12.3 percent. These ratios compare with 10.4 percent for the state of Oregon and 8.8 percent for the entire United States. In the secondary service area, the proportion in the age 65 and over group generally averages closer to the state experience. Clackamas County's experience was 9.8 percent and Washington County's 8.9 percent. The other counties ranged from 10.0 percent in Tillamook County to 13.0 percent in Clatsop and Yamhill counties.

The following Table VIII on page 31 indicates the 1962 per capita and per household effective buying income for Portland, Multnomah County, each of seven counties which comprise the secondary service area, the state of Oregon, and the United States as a whole. It will be observed that both the per capita and the per household income for Portland and

TABLE VIII

EFFECTIVE BUYING INCOME

PRIMARY AND SECONDARY SERVICE AREA COUNTIES,

THE STATE OF OREGON, AND THE UNITED STATES

1962

Area	Effective Buying Income	
	Per Capita	Per Household
City of Portland	$ 2,431	$ 6,717
Multnomah County	2,280	6,706
Washington County	2,205	7,393
Clackamas County	1,950	6,381
Clatsop County	1,879	5,490
Columbia County	1,497	4,787
Hood River County	1,670	5,368
Tillamook County	1,696	5,461
Yamhill County	1,614	5,247
State of Oregon	1,947	6,189
United States	1,967	5,979

Source: Sales Management Magazine, 1963 Issue
"Survey of Buying Power"

Multnomah County substantially exceed the averages for the state of Oregon and the United States; that Washington County has the highest per household income within the hospital's combined service area; and that Clackamas County is somewhat higher than the state average. Since 90 percent of all patients admitted to Emanuel Hospital currently come from Multnomah, Clackamas and Washington counties, it is significant, economically, for the hospital that the population of these counties enjoys such a favorable earning power.

C - Hospital Bed Needs

1 - Acute General Care

In evaluating the need for acute general care beds, it is essential that consideration be given to the extent to which this type of care is utilized currently and will be used in the years immediately ahead by the population of the service area. Our principal concern in planning the future of Emanuel Hospital is to estimate the future beds needs for the primary geographic area served by Emanuel Hospital (Multnomah County) plus the beds which may be required in the hospital to provide for that portion of the population of the seven-county secondary service area who may be dependent upon Emanuel Hospital for care. In 1962 Emanuel Hospital provided 16 percent of the 752,000 days of acute general hospital care provided in all hospitals in the primary service area, including 32 percent of the total days of care provided in the University of Oregon Hospital. The latter hospital serves the population of the entire state of Oregon and reports that 32 percent of its annual admissions are derived from Multnomah County and 25 percent from the seven-county secondary service area. Emanuel Hospital also operates 16 percent of the 2,954 acute

general beds available in Multnomah County as of April 1, 1964, including 32 percent (86) of the 268 beds in the University of Oregon Hospital. (See Table IX, page 34, for the list of hospitals and acute general beds as of April 1, 1964, in both the primary and secondary service areas.)

Table X on page 35 indicates the availability and the utilization of acute general hospital beds in 1962* in (a) the primary service area of Emanuel Hospital, (b) the secondary service area, (c) the combined primary and secondary areas, (d) the state of Oregon, and (e) the United States as a whole. The data per 1,000 population shown in this Table is based on a 1962 estimated population of 527,000 for Multnomah County, 331,000 for the seven-county secondary area, and 1,859,000 for the state of Oregon.

It will be immediately obvious from a perusal of Table X that the hospitals in Portland at present provide the major part of the hospital care for the population of the seven-county secondary service area. The admission rate of 201 per 1,000 population of the primary service area in the hospitals in Multnomah County is nearly three times that for the combined 14 hospitals located in the secondary service area. The admission rates for both the primary area population and the combined primary and secondary service area population exceed those of the state of Oregon (138 per 1,000 population) and the United States as a whole (130.8). The average of 1,427 days of hospital care per 1,000 population of the primary service area is also three times that for the secondary service area population (443) and nearly twice as high as the 775 days for the population of the state of Oregon. It is significant to note that the 1,049 average days for the population of the combined primary

*Data for 1962 has been used because comparable data for 1963 will not become available until after completion of this study.

TABLE IX

LIST OF HOSPITALS AND ACUTE GENERAL BEDS IN THE PRIMARY AND SECONDARY SERVICE AREAS

AS OF APRIL 1, 1964

Hospital	Location	Number of Acute General Beds	Average Patient Census - 1962
Primary Service Area			
Emanuel	Portland	467	339
Good Samaritan	Portland	467	319
St. Vincent	Portland	363	256
Providence	Portland	317	254
Multnomah County	Portland	310	243
Portland Sanitarium and Hospital	Portland	275	167
Bess Kaiser Memorial	Portland	138	109
Physicians and Surgeons	Portland	162	103
Holladay Park	Portland	125	75
Gresham General	Gresham	59	33
Portland Osteopathic	Portland	60	52
Woodland Park	Portland	46	-*
Portland General	Portland	41	22
Medical Center	Portland	26	17
Wemme Memorial	Portland	12	4
University of Oregon (Part)	Portland	86**	67**
Subtotal - Primary Area		2,954	2,060
Secondary Service Area			
Oregon City	Oregon City	62	36
Willamette Falls Community	Oregon City	60	40
Tuality Community	Hillsboro	84	59
Forest Grove Community	Forest Grove	48	-***
Columbia District	St. Helens	41	22
Columbia	Astoria	57	20
St. Mary's	Astoria	55	28
Seaside	Seaside	24	14
Hood River Memorial	Hood River	50	20
Tillamook County	Tillamook	78	35
Rinehart Memorial	Wheeler	43	18
McKinnville	McKinnville	50	30
General Clinic & Hospital	McKinnville	41	20
Newberg Community	Newberg	34	16
University of Oregon (Part)	Portland	67**	52**
Subtotal - Secondary Area		794	410
Total - Combined Primary and Secondary Service Areas		3,748	2,470

*Opened in November, 1962.

**32 percent of total capacity of 268 beds and 1962 total average patient census of 211 allocated to primary area and 25 percent to secondary area.

***Opened in June, 1963.

TABLE X

AVAILABILITY AND UTILIZATION OF ACUTE GENERAL HOSPITAL BEDS BY THE POPULATION OF THE PRIMARY AND SECONDARY SERVICE AREAS COMPARED TO UTILIZATION OF BEDS IN THE STATE OF OREGON AND IN THE UNITED STATES

1962

Area	Admission Per 1,000 Population	Average Number Days Stay Per Admission	Average Number Days of Care Per 1,000 Population	Number of Acute General Beds Per 1,000 Population	Average Percent Bed Occupancy
Primary Service Area					
15 Hospitals in Multnomah County*	201.0	7.1	1,427	5.60***	72
Secondary Service Area					
14 Hospitals in seven counties**	75.0	5.9	443	2.40****	54
Combined Service Area					
28 Hospitals including 57 percent of the 268 beds in University of Oregon Hospital	153.0	6.9	1,049	4.20	71
State of Oregon	138.0	6.4	775	3.69	66
United States	130.8	7.6	999	3.65	75

*Includes 32 percent of beds, admissions, etc., of University of Oregon Hospital (268 beds); excludes 96 acute general beds at Veterans Administration Hospital.

**Includes 25 percent of beds, admissions, etc., of University of Oregon Hospital.

***Based on 2,954 beds in 16 hospitals including 46 at Woodland Park Hospital opened in November 1962.

****Based on 794 beds in 15 hospitals including 48 at Forest Grove Hospital completed in 1963.

higher in the primary service area is one-third higher than the experience of 775 for the entire state population but only exceeds the United States average by five percent. It will be observed that while the admission rates per 1,000 population for the combined service area and for the state of Oregon exceed the national rate of 130.8, the average number of days of patient stay in the hospital in 1962 was substantially lower in all hospitals in Oregon as a whole as well as in the primary and secondary service areas than the 7.6 days stay for the entire United States. This shorter average stay tends to offset the higher admission rates and will influence the need for acute general beds.

Nationally the trend in the admission rate per 1,000 population has been upward, averaging one percent increase a year between 1955 and 1962. The average annual number of days of care per 1,000 population has also risen at about the same percentage rate, from 904 days in 1955 to 999 in 1962. For bed need planning purposes, we would propose that for the combined primary and secondary service area an increase of five percent in the admission rate be anticipated from 153 in 1962 to 160 in 1970, and that the average number of days stay per patient will continue at the 1962 experience of 6.9 days. This would result in providing an average of 1,088 annual days of care per 1,000 population by 1970 as compared with 1,049 in 1962. It is also proposed that the same rate of 160 admissions per 1,000 population, the same average length of stay (6.9 days), and the same number of annual days of care (1,083) be used in projecting the bed needs of the combined service area for 1980.

On the basis of providing 1,088 annual days of care per 1,000 population for the projected 1970 population of the <u>combined service area</u>,

there would be a total of 1,029,248 total days of care to be provided in 1970. By 1980 the number of days would increase to 1,186,000. This represents an average of 2,820 patients a day in all hospitals in the combined service area in 1970 and 3,215 by 1980.

In 1962 the 15 hospitals in the primary service area (Multnomah County) admitted 81 percent of the total of 130,975 admissions to all 28 hospitals in the combined service area and furnished 84 percent of the 900,800 total days of hospital care provided in those 28 hospitals. In 1960, the population of the primary service area comprised 62 percent of the total population of the combined service area but the proportion is expected to decline to 60 percent by 1970 and to 58 percent by 1980. The national trend is toward an increasing proportion of the total hospital care in large metropolitan areas being furnished in hospitals in the expanding suburban areas as existing hospitals increase their bed capacity and new hospitals are constructed. It is proposed that for planning purposes it should be anticipated that the hospitals in the primary service area will provide only 81 percent of the total required annual days of care for the combined service area in 1970 and 1980, with the hospitals in the secondary service area meeting the remaining 19 percent of the need - an increase of three percent over 1962. On that basis the hospitals in the primary service area will be expected to provide 832,200 days of care in 1970 and 925,900 in 1980. This represents an average of 2,280 patients a day in 1970 and 2,537 in 1980. Hospitals in the secondary service area should anticipate providing 197,000 days of care in 1970 and 247,200 in 1980 - an average of 540 patients per day in 1970 and 678 in 1980.

The number of acute general beds needed to care for the projected average patient census for 1970 and 1980 for each of the service areas of Emanuel Hospital is dependent upon the average bed occupancy to be experience by the hospitals in those respective areas. As shown in Table X on page 35, in 1962 the hospitals in the primary service area as a group had an average occupancy rate of only 72 percent; the secondary service area hospitals averaged an exceedingly low 54 percent; and all hospitals in the combined service area averaged 71 percent. These occupancy rates compare with only 66 percent for the state of Oregon and 75 percent for the entire United States. The Oregon State Hospital Plan predicates its planning needs upon an average occupancy rate of approximately 73 percent for acute general hospitals of the 101 to 200 bed capacity (75 percent for medical and surgical beds and 70 percent for obstetrical, pediatric, and psychiatric beds), and approximately 78 percent for hospitals of over 200 beds (80 percent for medical and surgical beds and 75 percent for the other beds). For hospitals of 51 to 100 beds, a rate of 70 percent of all beds is used. For future planning purposes, it is recommended that the bed needs of the primary service area be based upon an occupancy rate of 82 percent and those of the secondary area on 75 percent. The majority of the hospitals in the primary area have a capacity over 200 beds; all but four of the hospitals in the secondary area have between 50 and 100 beds.

On the basis of those proposed occupancy rates there will be the need for 3,500 acute general beds in the combined service area by 1970, of which 2,780 should be in the primary service area hospitals and 720 in the secondary service area. By 1980, the total need would be 3,990 beds,

of which 3,090 would be needed in the primary area and 900 in the secondary area.

As of April 1, 1964, there were 2,954 beds available in hospitals in the primary service area, including 32 percent of the 268 beds in the University of Oregon Hospital and excluding any of the beds in the Veterans Administration Hospital. (See Table IX, page 34). It appears, therefore, that there already exists 174 more beds than will be needed by 1970 to serve that area. To compound the apparent excess of beds, personal inquiries made to all hospitals in Multnomah County develop the fact that within the next six years (by 1970) an additional 495 acute general beds are planned, including a proportion of the 170-bed projected addition to the University of Oregon Hospital. Multnomah and Woodland Park hospitals each plan to add 100 beds. Upon completion of currently planned modernization and expansion, Providence Hospital will increase its capacity by 83 beds over its current facilities, St. Vincent Hospital will add 37, and Good Samaritan 33 beds. Portland Osteopathic and the Medical Center hospitals are currently planning adding 40 and 26 beds, respectively. Portland Sanitarium and Hospital will gain another 31 beds when its present remodeling program is completed. If all of these planned additional beds materialize, there will be a total of 3,449 beds available by 1970 in the primary service area hospitals to meet an estimated need for 2,780 beds by 1970 and 3,090 by 1980. To these bed resources there should be added 96 of the present 495 acute general beds in the Portland Veterans Administration Hospital. The hospital reports that 44 percent of the total annual admissions of acute general care patients are residents of Multnomah County and 18 percent

come from the seven-county secondary service area; and that 88 percent of all such patients are hospitalized for conditions which would require hospitalization in the local acute general hospitals if the Veterans Administration Hospital was not available. Since the average patient stay in the Veterans Administration Hospital is twice that for comparable types of patients (medical and surgical) in the community voluntary hospitals, we have assumed that only 22 percent (96) of the beds occupied by acute general care patients in that hospital (instead of 44 percent) are assisting in meeting the total bed needs of the primary service area.

In the light of the above presentation of the presently available and prospectively planned acute general beds in the primary service area, the conclusion is clear that if the hospitals in Portland attain an acceptable average bed occupancy rate there will be an excess of beds to meet the needs currently and between now and 1980. It is true that some of the existing beds in a few hospitals are in need of replacement but practically all of these deficiencies will be remedied in modernization programs now being developed.

To meet the requirements for the secondary service area, there are currently available 794 beds in that area (including 67 beds or 25 percent of the capacity of the University of Oregon Hospital). This is 74 more than the projected need for 720 beds by 1970. When 38 of the acute general beds in the Veterans Administration Hospital are added, (representing the average number occupied by residents of the secondary service area on the reduced length of stay comparable to voluntary hospitals), the current excess of beds over the 1970 requirement is 112. This excess is within 68 of the additional 180 beds needed between 1970 and

1980. No definitive plans for future construction of beds in the secondary service area can be identified with assurance at this time except for a 20-bed addition to the Willamette Falls Community Hospital in Oregon City. However, several new hospital projects are under serious consideration which cumulatively would provide more than the 68 additional beds needed by 1980. These projects include hospitals in Milwaukie, Lake Oswego, and Somerset West.

2 - Acute Mental Care

The provision of acute intensive care facilities for the short-term hospitalization of the mentally ill at the community level is generally accepted as an essential phase of a well-balanced program of hospital service. At the present time Emanuel Hospital does not have an acute psychiatric care service and only two security patient rooms are available. Patients in the hospitals who subsequently develop need for acute psychiatric care are transferred to the only general hospital in Portland which has psychiatric facilities.

No firm criteria for measuring the number of acute mental beds required per 1,000 population in the local communities has been developed as yet. The Oregon State Hospital Plan has adopted a criteria of 0.5 bed per 1,000 population for planning the allocation of such beds as units of a general hospital. We would advocate a somewhat more conservative basis of 0.4 bed per 1,000 population in recognition of the fact that advances in psychiatric treatment may make it possible within the next decade to lower even this criteria.

On the basis of providing 0.4 bed per 1,000 population of the primary service area (Multnomah County), there is a current (1962) need for 210

To meet the needs of the secondary service area, there is a present requirement for 133 beds, and this will increase to 150 by 1970 and to 183 by 1980. For the combined service areas there is presently a need for 343 acute mental beds. By 1970 the requirement will total 378 and by 1980 it will reach 436.

Since none of the hospitals in the seven-county secondary service area at the present time, nor in the foreseeable future, will have the facilities and professional capabilities to staff and operate acute psychiatric beds, we would anticipate that the hospitals in Portland should meet the preponderant share of the bed needs of both the primary and the secondary service areas of Emanuel Hospital. At the present time, in relation to the indicated need, there is a dirth of acute psychiatric beds in the Portland area other than those available in the 460-bed Dammasch State Hospital in Wilsonville, about 18 miles from Portland. The University of Oregon Hospital has a 29-bed acute unit. Holladay Park Hospital, which is a 175-bed general hospital, has 50 of its total bed capacity allocated for acute psychiatric care. None of the other general hospitals have more than a few beds available for handling psychiatric patients primarily on an interim basis. The only other nongovernmental hospital offering psychiatric care is the privately-owned 359 bed Morningside Hospital in Portland. Until recently, only 60 beds in this institution have been available for care of psychiatric patients from the local community as the hospital has primarily been providing continued treatment, long-term care for approximately 200 residents of the state of Alaska. Two of the voluntary hospitals in Portland (Good Samaritan and St. Vincent) are

considering the possibility of providing an inpatient acute mental care service but it is our understanding that neither hospital has reached a decision in connection with its current development plans. In summary, there are currently available approximately 140 mental beds in three hospitals offering acute short-term psychiatric care - University of Oregon, Holladay Park, and Morningside. To what extent additional beds will become available at Morningside hospital to provide acute care for residents of the combined service area is conjectural because of the transition in patient load taking place and the fact that this institution serves a much wider geographic area. There is some indication that Holladay Park Hospital may decrease its mental beds to bring about a better balance between its acute mental and acute general beds.

It is our conclusion that, after considering the extent of availability of beds in the three existing hospitals, and making some allowance for an increase in the number to be available in Morningside Hospital, there is a present shortage of at least 140 acute mental beds in the community to serve the combined primary and secondary service areas. By 1970, the shortage will increase to approximately 175 and by 1980 to 230 beds.

3 - Chronic and Long-Term Care

Medical and hospital care for the chronically ill and those persons requiring long-term care is usually provided in facilities affording two alternate types of service. One is that of specialized hospital facilities which afford medical diagnostic and treatment services including medical rehabilitation and skilled nursing services. The other is the convalescent and nursing home staffed with professional and/or practical

hospital care. The chronic hospital services preferably should be an integral phase of the acute general hospital but at least it should be located close to and affiliated with a well-equipped and staffed larger general hospital. Likewise, the skilled nursing home of the convalescent hospital care type desirably should be affiliated with an acute general hospital, and acute general hospitals should accept part of the total responsibility for assisting in meeting the community needs for nursing home services since they are usually well equipped to operate a high quality program.

In evaluating the need for both chronic hospital and nursing home beds it should be borne in mind that the relative need is substantially greater in the geographic area served by Emanuel Hospital (principally Multnomah County) than for the rest of the state of Oregon because of the substantially higher proportion of the population in the age group 65 years and older. As pointed out earlier in the report, 14.2 percent of the population of the city of Portland and 12.3 percent of the total population of Multnomah County is age 65 and over, as compared with the state experience of 10.4 percent and the national ratio of 8.8 percent. For this reason, it is considered that for planning future bed requirements it is advisable to use a criteria of 1.0 bed per 1,000 population for chronic desease and medical rehabilitation beds and 4.0 beds per 1,000 for nursing home facilities. These criteria are comparable to those used by the Oregon State Hospital Plan of the State Board of Health.

On the basis of allowing 1.0 chronic disease hospital bed per 1,000 population of Multnomah County, there is a current (1963) need for 530

beds based upon an estimated population of 530,000. By 1970 the requirement will be 569 and by 1980, 633 beds. To meet these estimated requirements, the 1963 State Hospital Plan reports that 337 acceptable beds were available. To these we have added the 44 beds in the Oregon Rehabilitation Institute and 100 beds (28.5 percent) of the 350 beds in the Columbia Park State Home in the Dalles, making a total of 481 chronic hospital beds available at the present time. This is a ratio of 0.9 bed per 1,000 of the county population. For practical purposes there is no significant shortage of this category of beds at this time to serve the primary service area of Emanuel Hospital. There will be the need for 88 additional beds by 1970 and 152 by 1980.

In the secondary service area, the State Plan reports the availability of 248 chronic disease hospital beds, to which we have added 63 of the 350 beds at the Columbia Park State Home - a total of 311 beds or a ratio of 0.91 bed per 1,000 of the 328,000 population (1963) of the secondary area. On the basis of providing 1.0 bed per 1,000 population, there will be the need for a total of 377 beds by 1970 and 458 beds by 1980. Accordingly, 66 additional beds will be needed by 1970 and 147 by 1980.

On the basis of allowing 4.0 nursing home beds per 1,000 population, there is a current (1963) requirement for 2,120 beds to serve the population of Multnomah County. A total of 2,276 beds will be needed by 1970 and 2,532 beds by 1980. To meet these requirements for the county population alone there are now available within the county 1,118 acceptable nursing home beds in 25 homes including 100 beds in the new Crestview Convalescent Center and 39 additional beds in Gresham General Hospital

which were opened in the spring of 1964. The State Plan reports the availability of 184 additional beds in nine nursing homes which are classed as unsuitable but correctable. There are 1,354 additional beds in 39 nursing homes which are classified as permanently unsuitable. On the basis of these available resources, there is a ratio of only 2.46 acceptable and correctable beds per 1,000 of the county population at present as compared with the planning criteria of 4.0 beds per 1,000 population. Including the 1,354 permanently unsuitable beds, the ratio of available beds currently is 5.0 per 1,000 population, indicating an excess of beds. Although Multnomah County contains only 28.4 percent of the total state population, it has 50 percent of the 5,460 nursing home beds (including 1,354 permanently unsuitable beds) in the state. This indicates that the present nursing home resources in Multnomah County are being utilized to a substantial extent to serve the population of other areas of the state of Oregon and perhaps parts of southern Washington State.

Applying the present availability of the 1,118 acceptable and the 184 correctable beds in the county toward meeting the current need for 2,120 nursing homes beds for the county population alone, there is a current shortage of 818 beds. By 1970 this need for additional beds will increase to 974 and by 1980 will reach 1,230 beds. To the extent that any of the present 1,354 permanently unsuitable beds are replaced, the shortage of beds would be reduced were it not for the fact that it can be expected that the nursing home facilities in Portland and the remainder of Multnomah County will be called upon to meet some of the needs of the surrounding areas.

area served by Emanuel Hospital for the reason that those beds should be provided locally in the respective communities closer to the population of those areas. Emanuel Hospital should not be concerned with the nursing home needs of these areas in considering its future programs.

4 - Summary of Bed Needs for the Service Area

The following summarizes the need for acute general, acute mental, and chronic hospital beds and nursing home beds to serve the population of the primary and secondary areas served by Emanuel Hospital in cooperation with the other hospitals in Portland. The population of the primary service area, Multnomah County, is currently (1963) estimated at 530,000 and is expected to increase to 569,000 by 1970 and 632,900 by 1980. The population of the hospital's secondary service area is now 331,000 (1962) and should expand to 377,000 by 1970 and go to 458,000 by 1980.

Acute General Beds - The primary service area of Emanuel Hospital produces 85.5 percent of all patients admitted to the hospital. The city of Portland alone accounts for 84.4 percent of them. Emanuel Hospital operates 16 percent of all acute general hospital beds available in its primary service area and provides approximately 16 percent of the total annual days of acute general care furnished in all hospitals in Multnomah County. Emanuel Hospital derives only a little more than seven percent of its patients from its seven-county secondary area.

In 1962, the 15 acute general hospitals in Multnomah County provided a total of 1,427 days of acute general care per 1,000 of the population of the county. It is projected that by both 1970 and 1980 there will be need for 1,463 days of care. In the secondary service area, the 14

hospitals in the seven counties which comprise that area provided 443 days of care per 1,000 population of the secondary area. By 1970 and 1980 it is estimated that the need will increase to 522 days of care as a greater proportion of the total hospital needs of the population of the secondary area will be met in hospitals in the suburban communities.

To provide the projected required volume of care for the primary service area population, it is estimated there will be the need for a total of 2,780 beds by 1970 and 3,090 beds by 1980. There already exists 2,954 acute general beds in the primary service area or 174 more than are expected to be needed by 1970. Currently there are about 495 additional beds planned for acquisition within the next six years, which would increase the bed supply to 3,449 or 395 more than the need projected to 1980 and 669 more than the 1970 estimated requirements. To meet the estimated requirement for the secondary service area of 720 beds by 1970 and 900 beds by 1980, there are currently available 794 beds in the 14 hospitals in that area. This is 74 more than the projected need for 1970 and 106 less than the 1980 requirement. If 38 beds in the Portland Veterans Administration Hospital are added to the current available supply, the 1980 shortage is reduced to only 68 beds.

Acute Mental Beds - On the basis of providing 0.4 beds per 1,000 population, there is an estimated 1970 need for 228 acute mental beds for the primary service area and this will increase to 253 beds by 1980. For the secondary service area the needs are estimated at 150 by 1970 and 163 by 1980.

To meet these needs of the combined primary and secondary areas there are approximately 140 acute mental beds in three hospitals in Portland.

Assuming 63 additional beds becoming immediately available in Morningside Hospital, there will be a projected shortage of 140 beds for the combined service areas by 1970 and 230 beds by 1980.

Chronic and Long-Term Care - On the basis of allowing 1.0 chronic hospital bed per 1,000 population, there is a projected need for 569 beds for the primary service area (Multnomah County) by 1970 and for 633 beds by 1980. To meet these needs there are now available 481 beds, or 88 less than will be required by 1970 and 152 less than the 1980 need. The secondary service area currently has 311 chronic hospital beds available to it to meet a projected 1970 need of 377 beds and a 1980 requirement of 458. The indicated shortages are 66 beds by 1970 and 147 by 1980.

The need for nursing home beds is limited to the primary service area, Multnomah County. On the basis of providing 4.0 beds per 1,000 population, there is an indicated need for 2,276 beds by 1970 and 2,532 by 1980. At present there are only 1,302 suitable and correctable beds available in the county, or 2.46 beds per 1,000 population. If the 1,354 additional beds in nursing homes classed as permanently unsuitable are included in the available supply, there is now available a ratio of 5.0 beds per 1,000. This excess of beds over the needs for Multnomah County alone is used to serve many areas of the state which lack nursing home facilities.

Excluding the 1,354 permanently unsuitable beds, there will be a shortage of 974 nursing home beds by 1970 and 1,230 by 1980 to serve the population of Multnomah County only.

In summary, the bed requirements, resources, and shortages to provide the needed hospital facilities for the primary and secondary areas served by Emanuel Hospital and the nursing home facilities for the population of Multnomah County are estimated as follows for 1970 and 1980.

Type of Care	Number of Beds Required 1970	Required 1980	Available 1963	Additional Planned	Shortage 1970	Shortage 1980
Acute General						
Primary Service Area	2,780	3,090	2,954	495	(669)	(359)
Secondary Service Area	720	900	832	-	(112)	68
Combined Service Area	3,500	3,990	3,786	495	(781)	(291)
Acute Mental						
Primary Service Area	228	253	203	-	25	50
Secondary Service Area	150	183	-	-	150	183
Combined Service Area	378	436	203	-	175	230
Chronic Hospital						
Primary Service Area	569	633	481	-	88	152
Secondary Service Area	377	458	311	-	66	147
Combined Service Area	946	1,093	792	-	154	299
Nursing Home						
Primary Service Area	2,276	2,532	1,302*	-	974	1,230

*Excludes 1,354 permanently unsuitable nursing home beds which should be replaced.

III - THE FUTURE ROLE AND PROGRAMS

III - THE FUTURE ROLE AND PROGRAMS

The first two parts of this report describe the present role and programs of Emanuel Hospital; the geographic areas from which the hospital derives its patients; the projected growth of the population of those areas to 1970 and 1980; the extent to which the population receives acute general hospital care, and Emanuel Hospital's role in providing that care; the future need for acute general, acute psychiatric, and chronic disease hospital beds and nursing home beds, and the extent of shortages in each of these categories. All of this background data is very pertinent in arriving at judgments as to the formulation of the future role and programs of Emanuel Hospital.

It will be recalled that, as the largest acute general hospital in Portland, Emanuel Hospital's overall patient care services reached a plateau five years ago and since 1959 have remained at a static level even though the community at large has continued to grow; that the hospital's bed occupancy has been consistently below an acceptable and desirable level; that the hospital is located in an old section of the city marked for eventual urban renewal; that the hospital draws 84 percent of its patient clientele from within the city of Portland and proportionately from all five sections of the city in relation to the population distribution; and that the population of the city is expected to increase 8.5 percent between 1960 and 1980, and the remainder of Multnomah County will enjoy a 50 percent growth in that two-decade period. It is significant to remember that Emanuel Hospital provides 16 percent of all the acute general beds in Portland and furnishes approximately 16 percent of the total acute general care rendered annually in all 15 general hospitals in the city. The conclusion has been reached that currently there is no shortage of acute general beds in the

primary and secondary areas served by Emanuel Hospital to meet present needs and that the definitely planned construction of additional beds within the next few years will more than adequately meet the projected needs of the expanding population to 1970 and 1980. There is presently a need for more acute psychiatric beds and the shortage will increase to 230 beds by 1980. There is projected a need for 154 more chronic disease hospital beds by 1970 and this shortage will possibly increase to 300 by 1980 to meet the needs of both the primary and secondary service areas. The greatest need of all is for acceptable nursing home beds, of which there is a sizeable current shortage just to serve the population of Multnomah County. This shortage can be expected to amount to nearly a thousand beds by 1970 and go to over 1,200 by 1980.

Before conclusions may be reached as to the future role of Emanuel Hospital, two major and basic policy questions should be answered. The first question is whether the present location of the hospital is inimical to its future development. Is the site on north Gantenbein Avenue across the Willamette River from and north of the central business district of Portland undesirable? Could this location jeopardize the future security of the present level of patient service programs because of the decadent character of the Albina neighborhood, its possible inaccessibility to patients and the medical staff, the migration of the expanding population to the suburban areas, and the competition of other hospitals expanding or developing in the suburban areas? The second policy question is whether the hospital should curtail its development at its present location and acquire and/or build one or more satellite and/or feeder hospitals in the surrounding area outside Portland.

At the outset may we emphasize that Emanuel Hospital enjoys two very important assets which play important parts in influencing answers to the above questions.

First, the community image of Emanuel Hospital is excellent and patients are attracted to it by its reputation for quality patient care. This has not been jeopardized by the hospital's location. Second, the hospital has an agressive and imaginative management and a professionally progressive medical staff, both capable of accepting the challenge of any new role and programs for the hospital which the changing times may dictate.

It is our considered judgment that the answer to each of the above basic policy questions is "no". We believe the future of Emanuel Hospital can be extremely promising at its present location if certain qualifying conditions are met. Likewise, we conclude that the hospital should not consider building or otherwise acquiring any satellite hospitals. Our conclusions are premised on the following considerations.

The present site of the hospital is still highly desirable notwithstanding the present characteristics of the neighborhood. The strategically central location in terms of the role of the hospital in serving the entire population of Portland and the remainder of Multnomah County could not be improved materially. The potentials for upgrading the Albina area, especially that part which lies within a radius of three or four blocks of the hospital, are excellent. However, as the major community organization vitally affected by the projected plans for urban redevelopment of the area, it is imperative that the board of directors of Emanuel Hospital should exert real community leadership and influence the planning of the Portland Development Commission. The Commission is faced with a most difficult task of housing relocation of the present residents of the area. Financial resources for implementing city-wide urban redevelopment projects are limited. Unless the hospital agressively supports the Albina project it may not receive the highest priority needed to assure its immediate

undertaking. It is crucial to the future of the hospital that this blighted area be improved immediately and that the board exert its influence to assure that seriously undesirable future land use be avoided.

To improve the present site and protect adequately the hospital from undesirable future encroachments and to provide for development of the hospital's own facilities, it is urged that Emanuel Hospital should acquire all of the land (excluding Dawson Park) in the area bounded by Fargo Street (three blocks north of the hospital), North Williams Avenue (two blocks east), Russell Street, (two blocks south), and North Kerby Avenue (one block west of the hospital). The hospital already occupies or has acquired about one-third of this land area. The remaining properties are mostly old one-story houses except for the deteriorated stores and other light commercial buildings on parts of North Vancouver and North Williams Avenues.

We foresee no threat to the future maintenance of both the volume and scope of patient services at the present location of the hospital. The accessibility of the hospital to patients and visitors has not been materially impaired by the growth of the population in the suburban areas or the increasing traffic congestion which naturally develops in densely populated cities. Emanuel Hospital draws nearly 85 percent of its patients from all five sections of Portland. The accessibility of the hospital site to all parts of the city has been greatly enhanced by the excellent system of freeways already completed. The major arterial freeways through the east and south sections of the city pass within two blocks west of the hospital and exits from the freeway are conveniently located wtihin a few blocks north and south of the hospital. With the completion of the Stadium Freeway and the Marquam Bridge now under construction on the west side, the accessibility of the hospital to the west section of the city and to

the growing suburban areas beyond Multnomah County will be greatly improved. Finally, when the new Fremont Bridge across the Willamette River and the freeway interchange only five blocks north of the hospital are completed in 1970, the hospital will be brought within 15 minutes driving time of every part of Portland. There will also be direct, high speed roadway access to the hospital from the suburban areas in all of the surrounding counties.

Another important asset of the present location is the opportunity it affords to develop ample parking space for the medical staff, employees, and visitors - something that no other hospital in the central part of the city has today or is in a position to provide.

While the present site is most accessible to the 50 members of the active and associate medical staffs whose offices are located on the east side of the river in the vicinity of Holladay Park Hospital and in the Lloyd Center, the future existence of Emanuel Hospital can be seriously jeopardized unless it is made more accessible to a much larger proportion of the active and associate staffs. Other hospitals in Portland are "anchoring" physicians to them by stimulating the construction of professional buildings adjacent to them. Increasingly throughout the nation physicians are locating their offices close to the hospital of their first choice for the convenience of themselves and their patients. At present one-half of the entire active and associate staffs have their offices on the west side of the river either in downtown professional office buildings or in the immediate area of Good Samaritan, St. Vincent, and Physicians and Surgeons hospitals. Another 20 physicians are located in close proximity to Providence Hospital.

We regard it imperative that at least 40 to 50 physicians be prevailed upon to relocate immediately adjacent to Emanuel Hospital and encouraged to construct

their own one-story group clinic buildings. The time is psychologically ripe for this to be accomplished. A sizeable number of physicians interviewed by us indicated their strong desire to move close to the hospital. Without exception they expressed the intention to build their individual group office building. They have no interest in renting space in a multistory professional office building. We urge the board of directors to give top priority to organizing a task force to formulate dynamic plans for attracting physicians into the area to be redeveloped and immediately adjacent to the proposed enlarged site for the hospital's own needs. The hospital could either acquire a sizeable tract of land under the condemnation powers of the public redevelopment authority or through direct purchase and then lease or resell the land to the physicians. We would advise that the hospital should not construct any office buildings. Any portion of the area we have urged be acquired for the hospital's own expansion which might not be needed for that purpose could be made available for physicians' offices, particularly the section between North Vancouver and North Williams Avenues.

In counseling against Emanuel Hospital extending itself by establishing one or more satellite hospitals, we feel they are not needed as "feeder" sources of referral patients to sustain the present bed capacity of the hospital. Neither does it appear essential as a broader community service on the part of Emanuel Hospital. The hospital is already the largest community hospital in the city and can increase its sphere of influence by broadening its service right where it is. There is no particular virtue in becoming an even larger hospital unless there is a great unmet community need for beds. Quite the contrary is true! It would be unwise for Emanuel Hospital to add to the present over-supply of acute general beds or to compete with the firm plans of other hospitals closer to the

suburban area to expand their facilities. The projected population increases in the far eastern sections of Portland and Multnomah County will be substantially served by the expansion plans of Providence Hospital, Portland Sanitarium and Hospital, and Woodland Park Hospital. In effect, these hospitals have pre-empted that suburban area in terms of need for further bed resources. Gresham General Hospital, located well beyond the rapidly developing residential areas, is more than adequately serving the far eastern part of Multnomah County and may even be adversely affected by the expansion of the other three hospitals in the eastern part of the city, particularly Woodland Park Hospital. Because of the close proximity to Portland hospitals of the communities in Clackamas county (to the south) and Washington County (to the west and southwest), the residents of these areas obtain the bulk of their hospital care in Portland. There is no current shortage of beds to serve those counties and most of their future needs can likewise continue to be met in that manner. There is much current discussion of one or more new hospitals being constructed south or southwest of the city, at Beaverton and/or Lake Oswego. Should one or two of them materialize, this should adequately meet the foreseeable need.

It is true that Emanuel Hospital is losing obstetrical patients and its pediatric census is not increasing. This is the normal experience of large "in-town" hospitals in expanding metropolitan areas and will undoubtedly continue to be experienced by Emanuel Hospital and the other hospitals, principally Good Samaritan and St. Vincent hospitals. However, as we see it, the fairly sizeable projected population increase throughout all sections of Portland in the years ahead plus the improved accessibility of the hospital by reason of the new freeways being developed will not only generate increases in medical and surgical admissions to Emanuel Hospital to offset the loss of obstetrical patients

and the stabilization of the pediatric admissions, but will produce a sufficient volume of admissions to bring about a more effective occupancy of the present medical and surgical beds. We believe Emanuel Hospital will continue in the future to provide 16 percent of the total acute general hospital care provided in Portland hospitals if the management succeeds in holding the present size and calibre of its medical staff and continues its aggressive program of modern hospital services and facilities.

A - Patient Care

It is proposed that the future role of Emanuel Hospital should continue to be that of a major community acute general hospital providing a broad spectrum of clinical services predominantly to the population of its primary service area, namely, the city of Portland and the remainder of Multnomah County. It is essential that it broaden the scope of its services to embrace acute psychiatric care and convalescent and skilled nursing home care. Increased emphasis should be given to the scope and intensity of its internal medicine program. The excellent capabilities of its medical staff should be augmented by the addition to its active staff of board certified specialists in cardiology, neurology, proctology, psychiatry, physiatry, and oral surgery. It would be highly desirable to add another board man in opthalmology.

Obstetrics - It the future the role of the hospital in providing obstetrical care will be de-emphasized of necessity. It will no longer be one of the two dominant patient care programs. In the last five years the average census has declined 25 percent from a high of 56 in 1958 to 40 in 1963 and the trend has continued downward in 1964. Admissions dropped 18 percent and average length of patient stay was shortened by 10 percent. St. Vincent Hospital averaged an occupancy of only 50 percent of its 33 obstetrical beds

in 1963 and Good Samaritan Hospital experienced about the same average utilization of its 60 beds. While the central city hospitals are losing obstetrical patients and the length of stay is being shortened, Providence Hospital is planning to add 30 obstetrical beds in its current building program. Woodland Park Hospital is now building 12 beds and plans to double that number about two years hence. Portland Sanitarium and Hospital has completely modernized its obstetrical facilities and expects improved use of its 28 beds. In the face of these available and projected obstetrical beds, it is recommended that Emanuel Hospital's obstetrical program be based on providing only 45 beds, a reduction of 18 from the present 63. This will provide for an average patient census of 36 at an average bed occupancy rate of 80 percent as contrasted with the 1963 occupancy rate of 64 percent.

Pediatrics - During the last five years the average census has stabilized at 28 to 30 patients which has resulted in a very low average occupancy of from 57 to 60 percent of the 52 pediatric beds. There are obviously too many beds allocated to this service and there is little likelihood that the admission rate of pediatric patients will increase. It is proposed that the number of beds be reduced from 52 to 40. This will provide for continuation of the present level of admissions at an acceptable bed occupancy rate of 75 percent.

Teen-Age - This specialty nursing unit program has leveled out at about 525 admissions a year to this 18-bed unit. The patient census has averaged only nine for an average bed occupancy of only 50 percent instead of 80 to 85 percent. It is recommended that the service be retained, that the number of beds be reduced to 12, and that in planning the physical development of the hospital this teen-age unit be developed as a subnursing unit of the

pediatric nursing unit to permit more economical operation during periods of low occupancy.

Medical - This program warrants greatly increased emphasis in the future growth of the hospital. It is generally conceded to be the "weak" clinical service although it has definitely been on the upgrade for several years. Surprisingly, admissions to the medical service in 1963 constituted only 17.5 percent of the total admissions to the hospital although this is an increase from 14.6 percent in 1960. In 1963 the 93 beds assigned to the medical service had an average occupancy of only 74 percent as contrasted with an acceptable rate of 90 percent. We would anticipate that the medical program will increase its admissions by 10 percent. After making provision for this increase, the number of beds required at 90 percent average occupancy would be 84 - nine less than now available.

Orthopedic - This surgical subspecialty program is outstanding and has been allocated one-fifth of the total bed capacity of the hospital. Annual admissions have been stable the last five years, ranging between 2,250 and 2,400 and the average annual census has fluctuated between 80 and 100 patients. In 1963 the orthopedic service averaged 89 percent occupancy of the 99 beds assigned to it, with higher rates in the two preceding years. Continuation of strong emphasis on this program is proposed in the future until the impact of the opening of the new emergency room at the County Hospital and the opening of any new hospitals in the southwest suburban areas can be evaluated.

Surgical - This program has definitely been an expanding one in terms of volume and complexity of services. Over the last four years, admissions have increased nearly 20 percent, annual days of care have gained 12 percent, and

the average census is up 12 percent. Surgical admissions (excluding orthopedics) constituted 32 percent of all admission in 1963. The surgical service has 128 beds (27 percent of the total bed capacity) and during 1963 they had an average utilization of 80 percent. In anticipation of a continuing upward trend in this program it is proposed that the 128 beds for this service be retained.

Chronic Disease and Medical Rehabilitation - This program was inaugurated a year and a half ago and was visualized as a highly skilled therapeutic center for patients in need of comprehensive medical rehabilitation. Admissions to the service have been screened to assure that long-term geriatric patients in need of only convalescent care or minimal therapy would not be admitted. The concept has been ideal but in practice the need for this intensive and specialized service has not been demonstrated. Explanations range from lack of interest in or appereciation of the advantages of medical rehabilitation on the part of the medical staff to insufficient sophistication on the part of community agencies as to what medical rehabilitation is and can accomplish. Competing programs of the 44-bed Oregon Institute of Medical Rehabilitation, the 52-bed Lovejoy Rehabilitation Hospital, and the outpatient clinic of the State Industrial Accident Board, and the high cost of hospital care for comprehensive medical rehabilitation have all proved to be serious handicaps to the success of the new program at Emanuel Hospital. Only 16 of the 48 beds planned for this Center have been staffed for the program and admissions have been declining almost from the opening of that nursing unit. During 1963 the average census was only 11.5 patients. Discussions with representatives of the University of Oregon Medical School developed the indication that in time a medical rehabilitation program will be inaugurated

at the University Hospital as an educational mechanism to more fully acquaint the present and future practicing physicians with the uses of and benefits obtainable from medical rehabilitation. It is recommended that the present concept of a medical rehabilitation center be changed and that the program be modified and reoriented to a chronic and convalescent hospital care program with supporting rehabilitation services. It is recommended that a 24-bed chronic and convalescent care nursing unit be established and that the individual physicians on the medical staff continue to provide professional care of their patients on this unit with consultation services of a physiatrist and other specialists as indicated.

Intensive Care - The 14-bed intensive care program has only been in operation since the first of this year. It has been envisioned as a surgical intensive care unit. We would propose that this service be broadened to include care of medical patients as well, especially acute cardiac and respiratoty cases. There should be the need for 20 beds if this service is effectively utilized by the medical staff and it is recommended the service be expanded to provide that number of beds.

Psychiatric - As a phase of the development of the proposed broadened community service role of the hospital and to round out its services, it is recommended that Emanuel Hospital should accept responsibility for providing acute mental hospital care. The modern concept of providing for the treatment of acute phases of psychiatric illness in the local community contemplates that the large general hospitals will meet this responsibility. Yet in Portland no one of the six largest hospitals in the city have as yet established an acute psychiatric service. In our discussions of the future programs of the hospital with a substantial number of staff physicians the

need for acute mental beds was strongly emphasized. As has been brought out earlier, there is a current need for more beds of this type in the community and the demand will increase. It is recommended that a 20-bed psychiatric nursing unit be established. The hospital already has excellent and adequate physical and occupational therapy facilities to support this new program. To staff this new service professionally will require the appointment of at least two qualified psychiatrists to the active medical staff. At presetn there are three board psychiatricts on the courtesy staff.

Convalescent and Nursing Home - Because of the major shortage of acceptable convalescent and nursing home beds in County, it is strongly urged that Emanuel Hospital should accept responsibility for assisting in meeting this need. This program should be clearly distinguished from the proposed chronic and convalescent hospital care and rehabilitation program. This convalescent and nursing home care program would be envisioned in part as an extension of the hospital services. The facilities would be in a completely separate building detached from the hospital but located sufficiently close by to permit full utilization of the administrative, food, utility, pharmacy, and other services of the hospital. Patients no longer requiring active therapeutic treatment and close medical supervision, but faced with a prolonged period of convalescence or needing only skilled nursing care and limited therapy would be transferred to this much less expensive nursing home unit. Primarily this program would be designed for direct admission of persons who need only skilled nursing care and extended convalescence. The program should offer high quality services and accommodations which would not be competitive, either in service or cost, with the present large volume of minimal care nursing home facilities throughout the city. It is recommended

that initially a 50-bed nursing home program be established and that the site and building be planned to permit future expansion to 150 beds.

Emergency Service - Although major remodeling of the emergency room has just been completed there is still a need to strengthen this service which currently has reached the level of 10,000 annual visits. With the rehabilitation of the Albina area and the relocation of its residents (who now account for a sizeable portion of the emergency room clientele) future expansion of this program will probably be limited to ambulatory patients seeking non-emergent care, including referrals of private patients of medical staff members to the hospital after office hours. The trend toward the development of this latter service on the part of hospitals is gaining rapidly. If a large number of physicians relocate their offices close to the hospital, the volume of such referrals can be expected to increase. For future planning purposes it is proposed that this program be based on 12,000 annual visits. It would be desirable to provide separate examining room facilities for ambulatory non-emergency patients adjacent to the emergency suite and staffed by the emergency room.

Outpatient Clinics - The present outpatient clinic program is limited in scope and designed primarily to meet the clinical teaching needs of the residency training program. This should be the premise upon which the hospital accepts a role in ambulatory clinic services for free or part-pay patients. With the changing character of the neighborhood surrounding Emanuel Hospital and the competition of the needs of the University Hospital for extensive outpatient resources for its teaching program, it is highly questionable that Emanuel Hospital can or should in the future sustain a large outpatient clinic program offering a breadth of specialty clinics. It is recommended that the

future program be geared solely to supporting whatever level of medical education is to be accepted by the hospital. Emphasis should be placed on conducting quality clinic services in only two or possibly three clinical areas and on developing a sufficient volume of both in- and outpatients to meet the requirements for approval of the residency training programs to be conducted in the future. The present volume of 3,300 annual clinic visits is inadequate, when spread over six clinical specialties, to provide the minimum requirement for new patients for a residency training in any one specialty field.

In summary, it is proposed that the hospital's bed capacity be modified to reflect the curtailment of some inpatient programs and the addition of new ones, with the result that the present total capacity of 483 hospital beds would be reduced to 472 and 50 nursing home beds would be added. The future total capacity of the hospital would be increased to 522 beds, distributed as follows:

Clinical Classification	Number of Beds		
	Present	Proposed	Increase or Decrease
Acute General			
Medical	93	84	- 9
Surgical	128	128	-
Orthopedic	99	99	-
Obstetrical	63	45	- 18
Pediatric	52	40	- 12
Teen-Age	18	12	- 6
Intensive Care	14	20	+ 6
Subtotal	467	428	- 39
Acute Mental	-	20	+ 20
Chronic and Rehabilitation	16	24	+ 8
Total - Hospital	483	472	- 11
Convalescent and Nursing Home	-	50	+ 50
Total	483	522	+ 39

B - Education

In the area of medical education, the future of the residency training program is at the crossroads. Both the three-year residencies in obstetrics-gynecology and internal medicine are on probation because of lack of service patients and insufficient volume of outpatient clinic patients. The one-year orthopedic surgery residency affiliation with the University Medical School has an uncertain future depending upon the school's need for clinical teaching material and future policy toward affiliations with voluntary hospitals. The introductory surgical residency (two years) begs the question why the hospital cannot offer a full four-year surgical residency with its large service and competent staff. The three-year anatomic pathology program is too restrictive in the light of the competencies and facilities of the hospital. Of no small concern is the cost of the medical education program (close to $400,000 a year, including free patient services) since the entire cost must be financed from pay patient income.

One source of strengthening the residency program would be a strong affiliation with the medical school. Traditionally, the school has not been interested in such alignments with the voluntary hospitals in the community. The trend nationally is for medical schools to rely as completely as possible upon their own hospital resources for their teaching needs. We are persuaded that there is no likelihood that Emanuel Hospital will be able to develop any such affiliation beyond the present orthopedic surgical residency arrangement. A further limitation on the hospital's ability to develop a strong residency training program is the fact that a large number of the active medical staff of the hospital hold clinical teaching appointments on the faculty of the medical school. Quite naturally, for prestige purposes and

because of their interest in teaching, they are desirous of continuing this association. After meeting their medical school commitments they have only limited time to devote to Emanuel Hospital's education program.

The issues to be faced are two-fold. First, what teaching responsibilities are the medical staff willing and able to accept? Are the staff men willing to make their private patients available for teaching and are the patients in this hospital willing to cooperate in such a program? Second, how large a program can the hospital afford to finance?

After extensive discussion with knowledgeable members of the medical staff, including the former and present directors of medical education, the chiefs of the major clinical services, and the dean of the medical school, it is our conclusion that the present very successful intern training program (14 interns) should be continued and that the residency program should be limited to only one or at the most two three-year residencies, plus expansion of the three-year pathology residency to include clinical pathology and continuation of the one-year orthopedic surgery residency affiliation with the medical school. Emphasis should be placed upon providing an outstanding, high quality residency rather than numbers of residencies. Continuation of the residency program in the clinical specialties should be contingent upon either demonstrated ability to increase the volume of service patients (both in- and outpatients) or agreement by the medical staff to use private patients to the extent needed for teaching purposes. With the decrease in the volume of the obstetrical service it is questionable that more than three residents can be supported in that residency instead of six as at present.

In the area of nursing education it is recommended that Emanuel Hospital should continue its major role in professional nursing education at the diploma school level and also continue its support of the practical nursing affiliation program with the Board of Education of Portland. There is a continuing need for training of professional nurses in Oregon even though the major source of professional nurses is inmigration of graduate nurses from other states. As of July, 1963, the State of Oregon had 314 licensed and practicing professional nurses per 1,000 population. This contrasts with a national ratio of 280 and a national goal of 350. It is anticipated that with the projected increase in enrollment in the baccalaureate degree program at the University of Oregon and the establishment of associate degree programs at new junior (two-year) colleges in Oregon, the present enrollment level of 286 student nurses could be reduced gradually as those new resources materialize and augment the overall nurse supply. This would assist in reducing the heavy cost of the professional nursing education now being experienced.

In the areas of paramedical education, including the chaplaincy programs, it is strongly urged that all of the present training opportunities for chaplains, hospital administration residents, medical technologists, x-ray technicians, pharmacy interns, dietitians, and hospital engineers be continued at their present level. This is one of the broadest paramedical programs provided by hospitals anywhere and it redounds to the reputation of Emanuel Hospital that it is making such a significant contribution to the supply and development of skilled hospital workers.

C - Research

The area of medical research offers an opportunity for the hospital to broaden its overall role. Up to now the role in research has been very limited. Very recently interest in sponsoring a major research project in mental retardation of children has developed. The protocal for this research undertaking, as we understand it, does not involve direct clinical studies.

As the largest hospital in the city, it would be appropriate for the hospital to adopt a policy of actively engaging in major clinical investigations and establishing research laboratory facilities provided outside financial resources for construction and operation can be guaranteed. In any event it is proposed that a modest amount of laboratory space including animal laboratory research facilities be provided in support of the medical education program. In the formulation of a master plan for the future physical development of the hospital a site should be earmarked for a future medical research building.

D - Summary of Proposed Future Role and Programs

The following summarizes the proposals outlined for the future development of the hospital's role and programs in patient care, education, and research.

1 - Patient Care

The present location of the hospital is suitable for development of the future of Emanuel Hospital, and its patient care role and programs are not threatened by the neighborhood environment, by inaccessibility to its future patient clientele, or by the expansion of the population into the suburban areas.

It is vital that the board of directors actively participate in plans for the redevelopment of the Albina neighborhood to assure suitable future land uses of the areas surrounding the hospital.

Emanuel Hospital should acquire all of the properties within two or three blocks of the hospital in all four directions to provide adequately for its own future physical development and to prevent undesirable encroachments.

It is imperative that the hospital develop dynamic plans to attract 40 to 50 physicians to relocate their offices immediately adjacent to the hospital to assure continuation of the present volume and quality of patient care programs.

Emanuel Hospital does not need to and should not consider acquiring one or more satellite or feeder hospitals to provide a source of patient referrals to its present hospital or to assist in meeting the hospital needs of the growing suburban areas.

Emanuel Hospital should continue its role as a major community acute general hospital serving predominantly the population of the city of Portland and the remainder of Multnomah County; that in view of the adequacy of acute general beds in the community, the hospital should not provide any additional acute general beds and should reduce the size of its obstetrical, pediatric, teen-age, and medical bed allocations to reflect either declining programs or unacceptable bed occupancy; and that the present concept of the medical rehabilitation center be changed and the program reoriented to one of chronic and convalescent hospital care with supporting rehabilitation services, with a 24-bed nursing unit.

The hospital should accept a role in providing acute mental hospital care to the extent of providing a 20-bed nursing unit.

The hospital should accept a role in providing convalescent and nursing home care by inaugurating a 50-bed nursing home program with the future expectation of expanding it to 150 beds.

Broaden the capabilities of the active medical staff by the addition of board certified specialists in cardiology, neurology, proctology, psychiatry, physiatry, and oral surgery, and increase the number of opthalmologists.

Strengthen the emergency room service and limit the outpatient clinic program solely to the type of clinics needed to support whatever future residency training program is to be accepted by the hospital.

2 - Education

In medical education, the hospital should continue its role but re-examine the scope of the program. The successful intern training program should be continued at its present level but the residency training program should be limited preferably to only one high quality three-year residency in one of the clinical specialties, the present three-year residency in anatomic pathology should be broadened to include clinical pathology, and the one-year residency in orthopedic surgery affiliated with the University Medical School should be continued as long as the school is willing to maintain the affiliation. Continuation of the residency program should be contingent upon the demonstrated ability to increase the volume of service patients or agreement by the medical staff to use private patients for teaching.

In view of the continuing need to increase the professional nurse supply in Oregon, Emanuel Hospital should continue its major role in nursing education at the diploma school level but should gradually reduce the student enrollment as the overall nurse supply is increased by reason of expansion of the baccalaureate degree program at the University of Oregon and the establishment of associate degree programs at junior colleges. The affiliation with the Portland Public School System to provide clinical experience for practical nurse trainees should be continued.

The hospital should continue its most commendable role in chaplaincy training and other paramedical education.

3 - Research

The hospital should consider broadening its present very limited role in medical research. It would be desirable to provide a modest amount of research laboratory facilities in support of the medical education program and to actively engage in some major clinical investigations provided outside financial resources for construction and operation of research laboratory facilities can be guaranteed.

PART TWO - PROGRAM OF PHYSICAL DEVELOPMENT

I - THE PRESENT HOSPITAL FACILITIES

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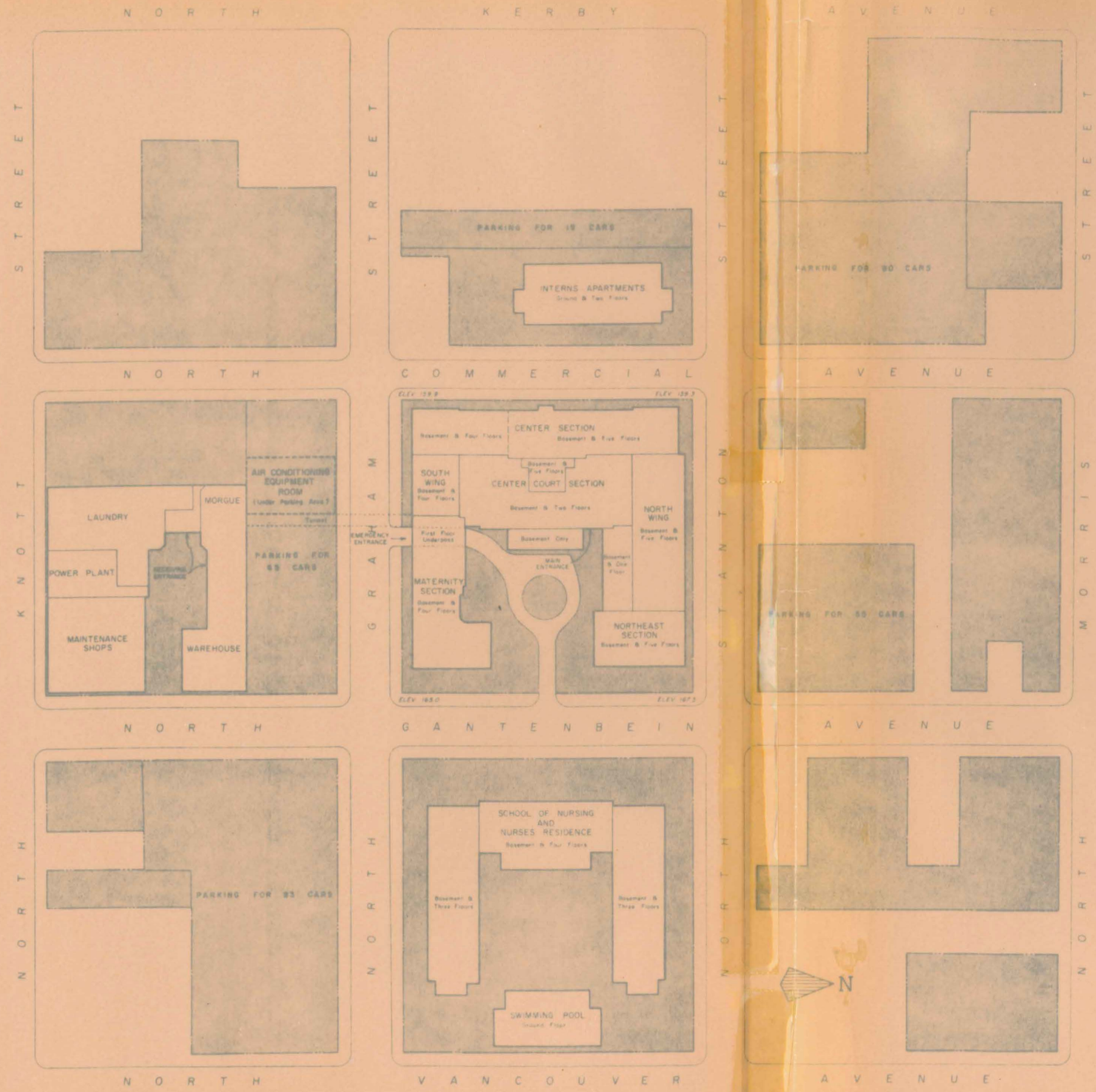
A - Description of the Present Site and Hospital

Emanuel Hospital is located approximately two miles north of the central business district of Portland on the east side of the Willamette River which flows through the center of the city and bisects it east and west. The hospital site lies in the area between the river and North Williams Avenue, the principal north-south arterial street running through the central Albina district of the city. The site occupies three entire city blocks and one-half of another block for hospital buildings. Major portions of three other adjoining city blocks are owned by the hospital and used for parking areas. Parts of the three latter blocks as well as portions of four other close-by city blocks have been acquired by the hospital and further acquisitions of small pieces of property are being completed progressively in the 11 city-block area in the center of which the hospital building proper is situated. The accompanying Existing Site Plan (Sketch A) on page 74 shows the boundaries of the nine block area within which all of the hospital buildings and parking areas are located.

The hospital complex consists of the hospital building itself, the school of professional nursing and the student nurses' residence, an apartment building for interns and residents, and the service facilities including the power plant, laundry, maintenance shops, air-conditioning equipment, and central warehouse. The hospital building is very accessible by private automobile and public transportation. As described earlier, the city-wide freeway system



EMANUEL HOSPITAL
PORTLAND, OREGON

EXISTING SITE PLAN

LEGEND
PROPERTY OWNED BY HOSPITAL

SCALE 50 0 50 FEET

JAMES A. HAMILTON ASSOCIATES
MINNEAPOLIS, MINNESOTA
AUGUST, 1964

converges into the center of the city and passes just west of the hospital, with exits conveniently located north and south of the hospital area. A major bus line route operates northbound on North Williams Avenue, two blocks east of the hospital and southbound it passes the front of the hospital building.

The general area of the hospital site is well elevated on high level land. The topography rises sharply from the east bank of the Willamette River, approximately six blocks west of the hospital building. There are no nearby multistory buildings in any direction to mar the view from the upper floors of the hospital. The city block occupied by the hospital building does have a significant difference in elevation between the east (front) side and the west (rear) side. The elevation at the corner of North Gantenbein Avenue and North Stanton Street (northeast corner of the property) is 167.5. At the northwest corner - North Commercial Avenue and North Stanton - it drops 8.2 feet to 159.3. On the south side of the city block there is a difference in elevation of 5.1 feet between the southeast corner, at North Gantenbein Avenue and North Graham Street (165.0), and the southeast corner, at North Commercial Avenue and North Graham Street (159.9). The first floor elevation of the hospital building is 165.86 so that the main entrance to the hospital on North Gantenbein Street is at grade.

All sections comprising the hospital building are considered fire resistive and are constructed of reinforced concrete. All sections except the original 1926 structure and the maternity section of the hospital building have brick veneer exterior. The following general description is furnished of each of the buildings. The Existing Site Plan (Sketch A) indicates their location within each of the contiguous city blocks as well as their general configuration.

1 - The Hospital Building

The hospital building proper covers the entire city block bounded by North Gantenbein Avenue on the east, North Stanton Street on the north, North Graham Street on the south, and North Commercial Avenue on the west. The general shape of the structure is that of the letter "U", with the opening of the "U" facing Gantenbein Avenue and providing a court or areaway leading to the main entrance which faces Gantenbein Avenue. The property line is 272 feet long on each of the four sides of the city block. There is a very limited set-back between the property lines and the exterior walls of the building which occupies almost the entire land area of the city block. However, on the east side (Gantenbein Avenue) the building does set back approximately 24 feet from the sidewalk for its full length on that side.

The hospital building is actually comprised of a series of sections which have been serially constructed since the original section of the present building was built in 1926. As shown on the Existing Site Plan, these sections consist of the center section, south wing, north wing, maternity section, center court section, and the northeast (medical rehabilitation) section. The south half of the center section was built in 1926 and is a basement and four-story rectangular-shaped structure. The north half of the center section, built in 1932, is one story higher than the south half. The entire center section extends along North Commercial Avenue for 243 feet. The south wing is the same height as the south half of the center section which it adjoins. The maternity section, which is a 144-feet extension eastward of the south wing, was constructed in two increments, one-half of it in 1931, and the other

half in 1942. It is L-shaped and has a basement and four floors. In 1957 the hospital opened its basement and five-story north wing which, in effect, is a 145-foot extension eastward of the center section. At the basement and first floor levels this wing is 70 feet wide and then cuts back to a 48-foot width on the four upper floors. Coincident with the construction of the north wing the center court section was constructed abutting the east side of the center section and the north side of the south wing. This structure has a basement and five floors and extends eastward 66 feet from the center section on the first and second floors. The basement extends another 19 feet beyond those two floors, while the third, fourth, and fifth floors extend only 32 feet from the center section. At the basement, first, and second floor levels this center court section fills in the entire area between the north and south wings. Above the second floor, however, the structure is only 34 feet wide, setting back 63 feet from both the north and south wings to form a tower rising in the center court above the second floor level.

The last structural addition to the hospital building was the northeast section which was completed in 1962 to house the chronic disease and medical rehabilitation program. This addition has a basement and five floors and is rectangular shaped. It is an eastward extension of the north wing for a distance of 57 feet to the east end of the hospital building. This northeast section fronts on Gantenbein Avenue for a distance of 85 feet.

The center section houses a total of 148 beds on the second through the fifth floors - 30 percent of the total bed capacity. The food service department occupies all of the basement. The first floor provides space

for most of the pathology department and for the medical records office, medical library, and nursing administration. The center court section contains no patient rooms. In the basement is located the therapeutic x-ray equipment, central supply, pharmacy, and some storage and mechanical space. The first floor houses the main lobby, gift shop, diagnostic radiology department, and part of the administrative activities. The second floor is occupied entirely by the surgical suite. The three upper floors are only extensions of the main bank of four elevator shafts.

The south wing houses 32 patient beds on its three upper floors as well as the 13-bed surgical recovery room. The emergency room suite uses the entire first floor area and the basement is a part of the main kitchen. The north wing provides a total of 168 beds on the second through the fifth floors - 35 percent of the total bed capacity. Other activities housed in this part of the hospital include the special diagnostic unit, occupational therapy, female employees' facilities, and a general storage area in the basement; and the chapel, the major portion of the administrative offices, and the remainder of pathology on the first floor. The northeast section houses 50 beds on the second, third, and fourth floors. The top (fifth) floor is used for nursing education and conference room purposes. Physical therapy utilizes the entire basement area, and the first floor houses the outpatient department, chaplaincy department, and the board of directors' conference room.

The maternity section has 22 gynecological beds on the first floor as well as space for inservice nursing education. The second and third floors house the 63 obstetrical beds and the nurseries, while the entire fourth floor is allocated to the delivery suite.

Throughout all sections of the hospital building, floor elevations are substantially identical with the exception of the basement of the maternity section, which is 1.3 feet higher than the level of the rest of the basement areas, and the north end of the center section used as the employees' dining room, which is 2 feet 1½ inches below the level of the rest of the floor. There is no uniformity in floor-to-floor heights. Except for the basement of the maternity building, the basement height is 11 feet, 1 inch, the first floor height is 12 feet, 5 inches, the second and third floors 10 feet, 8 inches, the fourth floor 12 feet, and the fifth floor 14 feet. Corridor widths on all patient floors are an acceptable eight feet.

We are advised that no section of the hospital building is designed to permit vertical expansion so that any plan for enlargement of the hospital building must anticipate horizontal expansion.

The hospital has a total of six passenger elevators plus the designed space for one future passenger elevator, and two freight elevators. All are electric. Three of the passenger elevators and the future one are located in the center court section. Two are in the northeast section. All five are relatively new, fully automatic Westinghouse elevators capable of transporting a patient bed and travel at the rate of 250 feet a minute. The remaining passenger elevator (Otis) is located in the maternity section, is about 20 years old, will take a bed, and has a speed of 200 feet a minute. At the fourth floor this elevator opens directly into the obstetrical delivery suite. There are two freight elevators, each at least 20 years old. One is fully automatic and is located in the center section at the junction with the south wing. The other is manually operated and is in the maternity section.

There are four electrically driven dumbwaiters in the center court section. Two serve the central supply and pharmacy and open into the clean utility rooms on the nursing unit on each floor in the center section as well as into the workroom in the surgical suite. The other two dumbwaiters serve the main kitchen to transport food tray carts to each of the patient floors and open into the serving kitchens in the center section. There is no pneumatic tube system or conveyor system in the hospital.

Piped oxygen and suction are provided in the surgical suite, emergency room, and the surgical recovery room; and all patient rooms on all floors in the south wing, the fourth and fifth floors of the north wing, and the fifth floor of the center section. More than one-half of the patient rooms do not have these facilities. The newborn nurseries have piped oxygen but the entire obstetrical delivery suite lacks these essential adjuncts. Piped compressed air is furnished to the special diagnostic unit, the physical therapy department, and some laboratories. Conductive flooring exists in the operating rooms,delivery rooms, and the treatment rooms in the recently remodeled emergency room suite.

An extensive program designed to provide 100 percent air conditioning for the entire hospital building is underway. A large central air-conditioning equipment room was recently constructed beneath part of the parking lot on North Graham Street across the street from the hospital building. This room has space capacity to house ample chiller equipment to meet the maximum air-conditioning requirements. At present many areas of the hospital building are air-cooled by large package units, although only a relatively few patient rooms are included. Areas now covered by

numerous package units include the surgical suite, obstetrical delivery suite and nurseries, the entire northeast section, the entire south wing, except the basement, administrative offices in the north wing, main lobby, chapel and gift shop, radiology, central supply, pharmacy, blood bank, medical records office, and the dishwashing rooms in the kitchen. The surgical suite, delivery rooms and nurseries use completely fresh air and have both temperature and humidity control.

Fire hazards are at a minimum in this hospital. The State Fire Marshal's office has made regular and comprehensive inspections and has required numerous improvements to eliminate possible hazards. The entire hospital building is equipped with automatic closing corridor smoke barrier doors on all floors which house patients. However, there are no smoke barriers in the basement corridors despite the fact fires in hospitals do originate in kitchen and storage areas. There is reason for concern about the inadequacy of the fire stairwells in the center section of the hospital. None of these three stairwells has an exterior exit at the first floor level. Instead, they open into the main corridor which has no barrier partitions or doors to provide a protected passageway to the nearest out-of-doors exit. The first floor stairwell door at the south end of the center section is 65 feet from the nearest outside exit. The stairwells in the north, northeast, and maternity sections meet fire code requirements and open directly to the outside at the first floor level. A fire hazard exists in the maternity section and the center section by reason of the fact that all patient rooms have single panel wood doors which are only three feet six inches wide. Under the hospital's modernization program, all wood doors in the south section

have recently been replaced with standard fire resistant doors and they have been widened to the acceptable four foot width. The only fire sprinklered areas throughout the basement of the hospital are the surgical supply room and the physical therapy area.

The electrical system throughout the hospital building is reported to be in excellent condition and adequate to handle current demand. New electrical panels have just been installed and new feed lines have been run up to all floors. The plumbing system is understood to be in acceptable condition except for the nurses' residence. All piping in the entire north end of the hospital building has been replaced recently with copper piping. No problem is reported with the adequacy of the sanitary sewer lines within the hospital. The hospital has three emergency electrical generators with a combined capacity of only 65 K.V., entirely inadequate to provide emergency electricity to the essential areas throughout the hospital building. Two of these generators are located in the hospital building and one in the power plant.

The hospital has at present a total of 273 off-street automobile parking spaces in five parking areas surrounding the hospital building, including the 19-car area in rear of the intern-resident apartment building. This total number of spaces is approximately one-half the amount of parking space required for a hospital the size of Emanuel Hospital. A minimum of 600 spaces will be needed and the continuing program of acquisition of private properties near the hospital should permit gradual attainment of that goal.

Table XI on pages 83 through 86 indicates the location of existing functions in the hospital building and other buildings which comprise the hospital complex.

TABLE XI

Emanuel Hospital, Portland, Oregon

LOCATION OF EXISTING FUNCTIONS IN THE HOSPITAL

Floor	Hospital Building	Service Buildings	School of Nursing and Nurses' Residence	Intern-Resident Apartment Building
Basement	Center Section	Laundry	Nursing Arts and Science Laboratories	
	Food Service (Part)	Power Plant	Library	
	Central Supply (Part)	Incinerator	Assembly Hall-Recreation Room	
	Pharmacy Storage (Part)	Maintenance Shops	Snack Bar	
	Center Court Section	Central Warehouse	Storage Rooms	
	Food Service (Part)	Central Air-Conditioning Equipment Room		
	Therapeutic Radiology	Morgue		
	Pharmacy	Oxygen Cylinder Storage		
	Central Supply (Part)	Pharmacy Storage (Part)		
	Purchasing Office			
	Housekeeping Storage (Part)			
	General Storage (Part)			
	Medical Records Storage			
	Mechanical Equipment (Part)			
	South Wing			
	Food Service (Part)			
	North Wing			
	Food Service (Part)			
	Central Supply (Part)			
	Special Diagnostic Unit			
	Occupational Therapy			
	Female Professional Employees' Facilities			
	Administration (Part)			
	General Storage (Part)			
	Mechanical Equipment (Part)			
	Northeast Section			
	Physical Therapy			
	Maternity Section			
	Food Service (Part)			
	Central Supply (Part)			
	Personnel Office			
	Housekeeping			
	Female Nonprofessional Employees' Facilities			
	Male Employees' Facilities			
	Volunteers' Storage			
	Formula Room			

TABLE XI (CONTINUED)

Floor	Hospital Building	Service Buildings	School of Nursing and Nurses' Residence	Intern-Resident Apartment Building
Ground				Three Efficiency Apartments Three Two-Bedroom Apartments Recreation Room Laundry Storage Area
First	Center Section Pathology (Part) Nursing Administration Medical Records Office Medical Library Medical Staff Lounge Center Court Section Main Lobby Gift Shop and Coffee Shop Public Toilets Volunteers' Office Telephone Switchboard Administration (Part) Diagnostic Radiology South Wing Emergency Room North Wing Pathology (Part) Administration (Part) Chapel Northeast Section Administration (Part) Outpatient Clinics Chaplaincy Office Medical Education Office Maternity Section 22-Bed Gynecology Nursing Unit In-Service Nursing Education Volunteers' Workroom		Faculty Offices Classrooms Main Reception Room and Parlors Student Health Clinic House Mothers' Apartments (Three) Student Sleeping Rooms	Four Efficiency Apartments Four One-Bedroom Apartments Three Two-Bedroom Apartments
Second	Center Section 32-Bed Orthopedic Unit (Part) 36-Bed Orthopedic Nursing Unit (Part) Surgical Suite (Part)		Student Nurses' Sleeping Rooms, Toilets, Showers, and Laundry	Four Efficiency Apartments Two One-Bedroom Apartments Two Two-Bedroom Apartments

TABLE XI (CONTINUED)

Floor	Hospital Building	Service Buildings	School of Nursing and Nurses' Residence	Intern-Resident Apartment Building
Second (Continued)	Center Court Section			
	Surgical Suite (Part)			
	South Wing			
	32-Bed Orthopedic Nursing Unit (Part)			
	14-Bed Surgical Recovery Room			
	North Wing			
	36-Bed Orthopedic Nursing Unit (Part)			
	30-Bed Orthopedic Nursing Unit (Part)			
	Surgical Suite (Part)			
	Northeast Section			
	30-Bed Orthopedic Nursing Unit (Part)			
	Maternity Section			
	31-Bed Obstetrical Nursing Unit			
	Newborn Nurseries			
Third	Center Section		Student Nurses' Sleeping Rooms, Toilets, Showers, and Laundry	
	30-Bed Surgical Nursing Unit			
	29-Bed Surgical Nursing Unit (Part)			
	16-Bed Surgical Nursing Unit (Part)			
	South Wing			
	16-Bed Surgical Nursing Unit (Part)			
	14-Bed Intensive Care Unit			
	North Wing			
	30-Bed Surgical Nursing Unit (Part)			
	29-Bed Surgical Nursing Unit (Part)			
	Northeast Section			
	30-Bed Surgical Nursing Unit (Part)			

TABLE XI (CONTINUED)

Floor	Hospital Building	Service Buildings	School of Nursing and Nurses' Residence	Intern-Resident Apartment Building
Third (Continued)	Maternity Section			
	32-Bed Obstetrical Nursing Unit Newborn Nurseries			
Fourth	Center Section		Center Section Only	
	29-Bed Medical Nursing Unit 23-Bed Medical Nursing Unit (Part)		Student Nurses' Sleeping Rooms, Toilets, and Showers	
	South Wing			
	23-Bed Medical Nursing Unit (Part)			
	North Wing			
	41-Bed Medical Nursing Unit			
	Northeast Section			
	16-Bed Rehabilitation Nursing Unit			
	Maternity Section			
	Obstetrical Delivery Suite			
Fifth	Center Section			
	18-Bed Teen-Age Nursing Unit			
	North Wing			
	52-Bed Pediatric Nursing Unit			
	Northeast Section			
	Multipurpose Classrooms and Conference Room			

2 - The School of Nursing and Nurses' Residence

The school of nursing and nurses' residence occupies the entire city block bounded by North Gantenbein Avenue on the west, North Vancouver Avenue on the east, North Stanton Street on the north, and North Graham Street on the south. The main entrance to the building is on North Gantenbein Avenue directly across the street from the main entrance to the hospital. The building is connected to the hospital by an underground tunnel. The building is U-shaped, with the center section on North Gantenbein Avenue and the north and south wings paralleling North Stanton and North Graham Streets. An enclosed swimming pool at the rear of the city block (along North Vancouver Avenue) encloses the open end of the U-shaped building. (See Sketch A, Existing Site Plan, page 74.)

The center section was constructed in 1945 as a fire-resistant reinforced concrete basement and four-story structure. The north and south wings were added in 1962 and each has a basement and three floors. They are designed to permit the construction of a future fourth floor. The swimming pool was built in 1962 at the ground level. The layout of the various rectangular-shaped sections of the school and nurses' residence on the site has permitted the development of an interior enclosed patio or court. The nurses' residence has sleeping room accommodations for 276 students. There are three apartments for house mothers. Since the room capacity will not house the peak enrollment of the entire student body, married students are permitted to live out.

The center section is 62 feet long by 46 feet wide. Each of the wings is 176 feet long and 48½ feet wide. Corridors are eight feet wide in the two wings and five and one-half feet in the center section.

There are enclosed fire stairwells at the east end of both wings which exit directly out-of-doors. Similar stairwells with exterior exits are located at either end of the center section. The building has two automatic elevators, one in each wing at the juncture with the center section, with capacities of 16 and 26 passengers respectively.

The school of nursing utilizes the entire basement area (including the combination assembly hall - recreation room in the south wing) and all of the first floor north wing and center section. The house mothers' apartments, student health clinic, and isolation sleeping room are located on the first floor of the south wing. The upper floors of all sections house the student sleeping rooms.

3 - Intern-Residents' Apartment Building

This three-story (ground, first, and second) structure was built in 1961 and accommodates 25 apartments for married and single house staff physicians. It is located directly across the street from the rear of the hospital building and occupies approximately one-half of the city block to the west of the hospital. It has a 19-car parking area in the rear of the building for the use of its occupants. There are 11 efficiency apartments, and six one-bedroom and eight two-bedroom suites. On the ground floor there are also a recreation room, laundry, and storage area. The capacity of this apartment building is adequate for the present size of the house staff and should provide for any future intern-residency program.

4 - Service Buildings

The service buildings consist of the power plant and incinerator, laundry, maintenance shops, central warehouse, morgue, and central

air-conditioning equipment room. Together, they occupy three-fourths of the entire city block immediately adjoining and to the south of the hospital building. The remainder of the city block is used as a parking area. This complex of buildings is connected to the hospital at the basement level by an underground tunnel. The floor level of all buildings except the air-conditioning equipment room is 152.2, or about two feet below the level of the basement of the hospital building. The floor level of the air-conditioning equipment room is 147.5, approximately four and one-half feet below the floor level of the tunnel and the other service buildings.

The power plant, incinerator, laundry, and morgue building was constructed in 1941. The power house section is 44 x 64 feet and houses three boilers, a 300 h.p. package, a 300 h.p. marine, and a 250 h.p. boiler. All boilers are fired by fuel oil and only one boiler can be converted to gas in case of a fuel oil shortage. It is reported that the power plant has no excess capacity to provide for any expansion of the hospital.

The main part of the laundry is 56 x 110 feet and there are two other small sections of 28 x 32 feet and 20 x 24 feet. The laundry processes approximately 230,000 pounds a month. The laundry is equipped with monorail equipment to transport wash loads from washers to extractors and dryers.

The maintenance shops building, which abuts the power house on the east, was constructed in 1953. It extends 87 feet from the power house to the east property line of the city block on North Gantenbein Avenue and is 90 feet wide. The central warehouse was built in 1952. It

extends from the east property line on North Gantenbein Avenue for a distance of 150 feet to the east line of the tunnel passageway. For 57 feet of that distance this structure is 60 feet wide and then narrows to 39 feet for the rest of its length. In addition to the central warehouse this building houses the paint shop, a gas sterilizing room, and can washing room.

These three buildings, laundry and power plant, maintenance shops and warehouse, form a U-shaped complex with the opening of the "U" on North Gantenbein Avenue. A service roadway enters at North Gantenbein Avenue and sharply drops down six feet in grade into the service court area between the buildings. The service delivery entrance is at the base of the court between the laundry and warehouse and at the mouth of the tunnel which connects with the hospital building. An out-of-doors, 340 square foot oxygen and gas cylinder storage area is located in the service court area along the south wall of the warehouse building at the point where its width cuts back from 60 to 39 feet. The hospital does not have a liquid oxygen storage tank.

The 50 x 82 foot air-conditioning equipment room was only recently completed and only a portion of its 4,000 square foot capacity is being used to house the equipment at present. This building is entirely below the grade level of the parking area and the roof of this building serves as a part of the parking area. The structure abuts the west side of the tunnel between the morgue and the north property line on North Graham Street. Because the floor level of this building is four and one-half feet below the floor of the tunnel, access from the tunnel is provided by a ramp down to the lower level of this equipment room.

B - Existing and Required Space and Facilities - Emanuel Hospital

1 - The Bed Complement

Table XII on page 92 shows the distribution of the present bed complement of 483 beds by each of the 17 nursing units, by clinical services, and by type of room accommodations. It will be noted that only 11 percent (53) of the total beds are in one-bed (private) accommodations, 43 percent (210) are in two-bed (semiprivate) rooms, 34 percent (162) are in three- and four-bed rooms, and the remaining 12 percent (58) are in five- and six-bed rooms. In planning the modernization of the hospital it is proposed that between 25 and 30 percent of the total bed capacity should be provided in one-bed private rooms. It is also suggested that no patient patient room should accommodate more than four beds.

Of the total of 212 patient rooms, only 75 rooms, or 35 percent of the total, have separate toilets. An additional 12 rooms housing four beds in each room enjoy only a connecting toilet for each two rooms, or one toilet for eight patients. Only 27 of the one-bed private rooms have a toilet and 12 of those 27 rooms have both a toilet and a shower or a bathtub. Of the 210 semiprivate (two-bed) rooms, only 20 percent (43) have a toilet. Forty rooms in the center section and one in the maternity section have no lavatory. It is strongly recommended that all patients rooms should be provided with a private toilet and a lavatory in the interest of conserving nursing personnel and improving patient accommodations.

With few exceptions, practically all rooms in the center section and the maternity section are substandard in width by present-day design standards. Instead of a minimum width of 11 feet 6 inches, most of the one- and two-bed rooms vary in width from 8 feet 6 inches to 10 feet 6 inches. All of the multibed rooms in the center and maternity sections are also below acceptable width standards for the number of beds accommodated. Room depths throughout all sections of the hospital are an acceptable minimum of 15 feet or deeper.

TABLE XII

Emanuel Hospital, Portland, Oregon

EXISTING BED COMPLEMENT BY NURSING UNITS AND TYPES OF ROOM ACCOMMODATIONS

Type of Room Accommodation	Nursing Units: Orthopedic 2-South Rooms	Beds	Orthopedic 2-North Rooms	Beds	Orthopedic 2-Northeast Rooms	Beds	Surgical 3-Center Rooms	Beds	Surgical 3-South Rooms	Beds	Surgical 3-North Rooms	Beds	Surgical 3-Northeast Rooms	Beds	Intensive Care Rooms	Beds	Medical 4-Center Rooms	Beds	Medical 4-South Rooms	Beds	Medical 4-North Rooms	Beds	Rehabilitation 4-Northeast Rooms	Beds	Teen-Age 5-Center Rooms	Beds	Pediatrics 5-North Rooms	Beds	Gynecology 1-Maternity Rooms	Beds	Obstetrical 2-Maternity Rooms	Beds	Obstetrical 3-Maternity Rooms	Beds	Total Rooms	Beds
One-Bed Room																																				
with toilet and shower	1	1	1	1	-	-	-	-	1	1	1	1	-	-	-	-	1	1	5	5	-	-	-	-	-	-	-	-	-	-	1	1	1	1	12	12
with toilet	-	-	2	2	2	2	1	1	-	-	2	2	2	2	-	-	2	2	-	-	1	1	2	2	1	1	-	-	-	-	-	-	-	-	15	15
without toilet	3	3	1	1	-	-	3	3	1	1	-	-	-	-	-	-	6	6	-	-	-	-	-	-	-	-	-	-	1	1	6	6	5	5	26	26
Subtotal	4	4	4	4	2	2	4	4	2	2	3	3	2	2	-	-	9	9	5	5	1	1	2	2	1	1	-	-	1	1	7	7	6	6	53	53
Two-Bed Room																																				
with toilet and shower	-	-	1	2	1	2	-	-	-	-	-	-	-	-	-	-	1	2	1	2	1	2	-	-	-	-	-	-	-	-	1	2	1	2	7	14
with toilet	-	-	1	2	5	10	1	2	-	-	7	14	6	12	-	-	-	-	-	-	11	22	1	2	3	6	1	2	-	-	-	-	-	-	36	72
without toilet	12	24	2	4	2	4	8	16	7	14	-	-	2	4	1	2	5	10	8	16	-	-	2	4	-	-	4	8	4	8	2	4	3	6	62	124
Subtotal	12	24	4	8	8	16	9	18	7	14	7	14	8	16	1	2	6	12	9	18	12	24	3	6	3	6	5	10	4	8	3	6	4	8	105	210
Three-Bed Room																																				
without toilet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	6	18	1	3	1	3	1	3	10	30
Four-Bed Room																																				
with toilet	-	-	2	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	-	-	-	-	-	-	-	-	-	-	3	12
with connecting toilet	-	-	3	12	1	4	-	-	-	-	3	12	1	4	-	-	-	-	-	-	4	16	-	-	-	-	-	-	-	-	-	-	-	-	12	48
without toilet	1	4	1	4	1	4	2	8	-	-	-	-	1	4	1	4	2	8	-	-	-	-	1	4	2	8	2	8	-	-	1	4	1	4	18	72
Subtotal	1	4	6	24	2	8	2	8	-	-	3	12	2	8	1	4	2	8	-	-	4	16	2	8	2	8	2	8	-	-	1	4	1	4	33	132
Five-Bed Room																																				
with toilet	-	-	-	-	1	5	-	-	-	-	-	-	1	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	10
without toilet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	10*	2	10	1	5	1	5	6	30
Subtotal	-	-	-	-	1	5	-	-	-	-	-	-	1	5	-	-	-	-	-	-	-	-	-	-	-	-	1	10*	2	10	1	5	1	5	8	40
Six-Bed Room																																				
without toilet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	6	-	-	1	6	1	6	3	18
Total	17	32	14	36	13	31	15	30	9	16	13	29	13	31	4	14	17	29	14	23	17	41	7	16	7	18	16	52	8	22	14	31	14	32	212	483

*Bassinets

Present Space and Its Utilization and Space Requirements for the Present and Proposed Program of the Hospital

An analysis of the current space resources and requirements of all hospital departments and the school of nursing and nurses' residence is essential; first, to provide a clear appreciation of the extent to which the present facilities are deficient to support the present 483 hospital bed program and the 286 average student enrollment of the school of nursing; and, second, to furnish the basis for developing the additional physical needs to meet the proposed future program of 472 hospital beds, 50 nursing home beds (with facilities to be provided currently to support future expansion to 150 beds), and continuation of the school of nursing at its current student enrollment level. The available space in the 25-apartment intern-resident apartment building has been excluded from this analysis as it is considered this building meets adequately the requirements for any future medical education program.

Table XIII on page 94 and 95 compares the net square feet of floor space presently available to the various departments of the hospital and to the school of nursing and nurses' residence with reasonable minimum space requirements for (a) the existing 483-bed complement of the hospital and the 286-student enrollment program for the school of nursing and nurses' residence, and (b) the proposed future program for the hospital, nursing home, and school of nursing.

As Table XIII indicates, at pr ent there is available a total of 161,610 net square feet of space in the hospital building and the service buildings, including 1,440 net square feet on the fifth floor of the northeast section of the hospital building which are presently not assigned to any activity. It will be noted that there is an acutal need

TABLE XIII

Emanuel Hospital, Portland, Oregon

PRESENT AVAILABLE SPACE AND PROPOSED SPACE REQUIREMENTS BY DEPARTMENTS

(Excluding Intern-Resident Apartment Building)

Department	Net Square Feet For 483 Beds and School of Nursing			
	Present Available	Required	Additional Needed	Required for Proposed Program*
Administration	14,458	16,897	2,439	17,497
Central Supply	1,988	4,514	2,526	4,514
Emergency	1,700	2,454	754	2,454
Employee Facilities	2,601	4,800	2,199	5,400
Food Service	9,537	13,711	4,174	15,185
Housekeeping	1,197	2,300	1,103	2,600
Intravenous and Inhalation Therapy	-	700	700	700
Laundry	7,029	7,660	631	9,010
Medical Rehabilitation	4,288	4,655	367	4,655
Newborn Nurseries	2,006	2,276	276	2,276
Nursing Education (In-Service)	1,762	350	(1,412)	350
Nursing Units	59,253	88,230	28,977	89,727
Obstetrical Delivery Suite	4,340	3,702	(638)	3,702
Outpatient Services	1,097	2,897	1,800	2,897
Pathology	4,228	7,118	2,890	7,118
Pharmacy	1,032	1,804	772	2,064
Power Plant and Mechanical	16,662	20,882	4,220	23,572
Radiology	4,127	6,062	1,935	6,062
Special Diagnostic Unit	1,237	1,237	-	1,237
Special Services	2,640	10,100	7,460	10,100
Storage	11,335	15,700	4,365	17,860
Surgical Suite and Recovery	7,653	14,030	6,377	14,030
Unallocated Space on Fifth Floor, Northeast Section	1,440	-	(1,440)	-
Three Level Connecting Corridor to New Hospital Building	-	1,680	1,680	1,680
Total Hospital	161,610	233,760	72,150	244,310

TABLE XIII (CONTINUED)

Department	Net Square Feet For 483 Beds and School of Nursing: Present Available	Required	Additional Needed	Required for Proposed Program*
School of Nursing and Nurses' Residence	68,065	68,065	-	68,065
50-Bed Nursing Home, including Connecting Tunnel	-	-	-	13,550
Total	229,675	301,825	72,150	325,925
Deduct Available Space				229,675
Total Additional Space Required				96,250
Hospital			82,700	
Nursing Home			13,550	

*Proposed Program - 472-bed hospital, 50-bed nursing home, and school of nursing for 286 average student enrollment - Hospital facilities are provided to support future expansion of nursing home to 150 beds.

for a total of 233,760 net square feet of space to upgrade the present facilities and patient rooms to meet the modern concepts of a 483-bed hospital. This indicates an additional need for 72,150 net square feet of space - an increase of 45 percent over the present space available for operation of the hospital. To provide for the proposed 472-bed hospital program and the supporting services for the immediate 50-bed nursing home program plus those required for the future addition of another 100 nursing home beds, an additional 10,550 net square feet of space will be needed - a total increase of 82,700 net square feet over the presently available space.

The school of nursing and nurses' residence has a total of 68,065 net square feet available and no additional space for these activities is considered necessary. The school has only very limited space deficencies. An auditorium is needed to permit assembly of the entire student body and this facility is included in the requirements for the hospital. Four more faculty offices are desirable but with the provision of clinical instructors' offices in the hospital building on the expanded nursing units, the present congestion in the school will be substantially alleviated. A 120-seat classroom is needed but this can be met either by using the new auditorium, the present assembly hall in the basement of the school, or by throwing together three existing classrooms by installing folding partitions.

The 50-bed nursing home will require approximately 13,550 net square feet of space, including 920 net square feet in the tunnel which would connect the nursing home with the proposed new hospital addition. The space included for this building makes provision for a 50-bed nursing

unit of one- and two-bed patients rooms with private toilet, lavatory and wardrobes, a lounge, reading room, television room, meditation room, dining room, serving kitchen, physical and occupational therapy room, treatment and examining room, consultation room, and reception and admitting area.

In summary, a total of 96,250 net square feet of additional space will be required to meet the needs of the proposed development program for Emanuel Hospital.

It will be observed from Table XIII that, with the minor exceptions of the obstetrical delivery suite and in-service nursing education, every department of the hospital requires additional space to provide adequately for the present operating level of 483 hospital beds and the proposed 472 hospital bed program. Where the amount of space shown in the last column of Table XIII exceeds the square footage in the "Required" column for the present program, the increased square footage is the additional amount needed to support the projected 150-bed nursing home program, with the exception of the increase of 1,497 net square feet for the nursing units. Although the number of hospital beds under the proposed program will decrease by 11 to 472, the additional space required for a lesser number of hospital beds is occasioned by the fact that a larger number of net square feet per bed is required for chronic and mental beds than for other types.

The over-all deficiency of 72,150 net square feet in the hospital to support the present 483 beds - a total shortage of 45 percent - is predominantly reflected in the inadequacy of the nursing units, which accounts for 40 percent, or 29,000 net square feet, of the total shortage.

Percentage-wise, by departments the current space shortages range from nine percent in laundry and medical rehabilitation (physical and occupational therapy) to 10 percent in administration, 13 percent in the newborn nurseries, 25 percent in the power plant and mechanical, 39 percent in storage space, 44 percent in the food service department, 68 percent in pathology, 70 percent in diagnostic radiology, 75 percent in pharmacy, 83 percent in the surgical suite and recovery room, 85 percent in employees' lounge, locker and toilet facilities, 92 percent in the housekeeping department, 127 percent in central supply, 160 percent in the outpatient clinics, and 280 percent in special services facilities.

The special services, which need the largest percentage increase in space and quantitatively account for 10 percent of total additional space requirements for the hospital program, include the following activities - auditorium, coffee and gift shops, chapel, chaplaincy program offices, patients' library, volunteers' workroom, locker room and toilet, on-call sleeping quarters for male and female technicians and anesthetists, and beauty and barber shops. There is an urgent need for an auditorium to meet the requirements of the school of nursing and to provide adequate facilities for medical staff meetings, educational programs of the medical staff, administrative and technical institutes sponsored by the hospital, volunteers' programs, etc. Our space recommendations include a 300- to 325-seat auditorium. We have increased the present space for the chaplaincy program to provide a coat room for local chaplains who are visiting patients in the hospital. We have more than doubled the present extremely inadequate accommodations for the coffee and gift shops, and have added a room for a patients' library. Provision

has been made for adequate facilities for the volunteers' program to replace the currently dispersed and deficient space. No accommodations are available now in the hospital building for housing on-call personnel who should be sleeping in at night. Interns and residents on call occupy their apartments immediately across the street, but other personnel are housed in a dwelling nearby which the hospital owns. We have made provision for suitable sleeping and lounge accommodations for both male and female on-call personnel. Provision has also been made for a beauty shop and a barber shop, neither of which is now available.

Under the broad departmental heading of administration are included the office of the administrator, the general accounting and business office, the credit, admitting, medical records, personnel, purchasing, and public relations offices, nursing administration offices, medical library, medical staff coat room and lounge, board of directors and other conference rooms, office reproduction services, mail and pneumatic tube center, main lobbies of the present and proposed new hospital buildings, information and telephone switchboard services, and personnel and public toilets. The need for an increase of 10 percent in over-all administrative space is scattered among the many above enumerated activities. The present main lobby space needs to be increased one-third and a private waiting room adjacent to it should be provided. Provision has been made for the lobby in the new hospital building. The other major deficiencies are the personnel and purchasing offices, both of which are inaccessibly located and inadequately housed in the basement, the medical records office, and the medical staff library. Space has been provided for a public relations office and an office for a secretary to the medical

staff, and an increase in space has been incorporated for the mimeograph and reproduction room and to house the mail and pneumatic tube center. Provision has also been made for enlarging the space available to nursing administration to provide a conference room and another office for the assistant directors of nursing service. The relatively small additional requirement of 600 net square feet in administration to support the projected 150 nursing home beds represents principally the additional limited needs of the general business office and medical records office.

The facilities available to the central supply department are seriously deficient and dispersed, and do not permit the functioning of a completely centralized service. Our recommended space contemplates complete centralization of all sterilization except surgical instrument sterilization. Major increases in work areas and sterile supply and equipment storage spaces are imperative. Provision has been made for organizing and housing a separate intravenous and inhalation therapy department, although it could be operated as an adjunct of either the central supply department or the nursing service.

Although the facilities of the emergency room have just been remodeled and enlarged, it is felt that they should be further improved by the addition of a six-bed observation or holding ward, a separate waiting room for police and ambulance personnel and reporters, and stretcher storage space.

Lounge, locker, and toilet facilities for both professional and non-professional female employees and male personnel are in need of major expansion to reasonably meet their needs. There will be an indicated need for an additional 600 net square feet of space to accommodate the

increase in nonprofessional personnel in various departments when the new nursing home program is expanded to 150 beds.

The food service department requires major increases in practically every area and will have to be relocated in order to eliminate the present fractionation and duplication of facilities and to bring the bulk food storage area close to the main kitchen. The needed space cannot be acquired in the present location without displacing other departments which are more urgently needed in the present hospital building. Food preparation facilities should be built in at this time to support the full 150-bed projected complement of the proposed nursing home, which will require approximately 1,500 additional square feet of space over the amount needed for the present hospital and nursing school programs.

The proposed doubling of the present housekeeping department space contemplates providing an office for an assistant housekeeper and a clerical office, a cart storage room, and transfer and relocation of the uniform room from laundry to housekeeping. A modest additional amount of space for this department (300 square feet) should be provided to handle the workload of the new nursing home.

The laundry space is reasonably adequate to handle the workload of the hospital and the school of nursing although there is need for a clerical office, a laundry supplies storeroom, and more space for clean linen storage and for the pressing unit in the main work area. Replacement of some of the existing washing, extracting, drying, and pressing equipment with modern equipment of increased handling capacity is essentail and would improve the present space utilization. The laundry building will have to be enlarged to provide the space needed both for the

present operating level of the hospital and for the 150-bed nursing home workload.

A relatively small increase of about 375 net square feet is desirable in the present excellent facilities of the medical rehabilitation department. It is advisable to provide some increase in office space, enlarge the waiting room and stretcher storage space in the physical therapy section, and add an activity-of-daily-living kitchen in the occupational therapy area.

Despite a proposed reduction in the number of obstetrical beds to 45, from the present 63 beds, there is actually a need for an increase in space for the newborn nurseries. At present one large full-term nursery housing 30 to 32 bassinets is provided on each of two floors, adjacent to each of the two obstetrical nursing units. Each nursery has a separate examining and workroom. The space in the nursery averages less than 15 net square feet per bassinet instead of the standard minimum of 24 square feet. Housing as many as 32 full-term infants in a single nursery is contrary to present-day acceptable hospital and public health department criteria and poses extremely serious potentials for infections. We are proposing that only eight-bassinet nurseries be provided which will permit use of the cohort system of caring for full-term babies, with a separate examining and workroom between each two nurseries. The present premature nursery is entirely too small. The isolation nursery lacks a separate adjacent workroom. There is need for a circumcision room.

The nursing units present the largest single problem in terms of remedying deficiencies, modernizing patient rooms, and improving the bed

capacity of many of the units. A sizeable part of the additional space for the nursing units is accounted for by having to replace the large number of patient rooms which will be lost as the result of enlarging the width of the undersized rooms in the center and maternity sections, elimination of excess beds in multibed rooms, and installing private toilets in the majority of all patient rooms. None of the present 17 nursing units has all of the ancillary facilities needed on a modern, up-to-date nursing unit. On a few the deficiencies are limited, but most of them lack essential facilities and/or those available are too small or improperly located for efficient operation of the nursing unit. Some of the nurses' stations are too small and lack nurses' toilets, doctors' charting areas and head nurses' offices. Medication rooms are inadequate on some units, and generally, there are insufficient bath and shower facilities. There is a lack of treatment rooms, consultation rooms, conference and classrooms, clinical instructors' offices, solaria and waiting rooms, and public toilets; clinical supervisors' offices are too small. On some nursing units the clean and soiled utility rooms are undersized and not well located, and there is need for stretcher and wheel chair storage space.

The estimated requirement of 89,727 net square feet of space for the 472 hospital bed program is based upon reducing the present 17 nursing units to 14 and adding the new 20-bed mental unit, making a revised total of 15. The size of most of the units has been increased to a more efficient operating bed capacity. As is indicated in the following enumeration of the present and proposed nursing units, six of them would have an optimum capacity of 36 to 45 beds, as compared with only two at present

Present Nursing Units	Proposed Nursing Units
41-bed Medical	42-bed Medical
29-bed Medical	42-bed Medical
23-bed Medical	40-bed Surgical
31-bed Surgical	34-bed Surgical
30-bed Surgical	28-bed Surgical
29-bed Surgical	25-bed Surgical (Gyn.)
22-bed Surgical (Gyn.)	38-bed Orthopedic
16-bed Surgical	34-bed Orthopedic
36-bed Orthopedic	28-bed Orthopedic
32-bed Orthopedic	45-bed Obstetrical
31-bed Orthopedic	40-bed Pediatric
32-bed Obstetrical	12-bed Teen-Age
31-bed Obstetrical	24-bed Chronic
52-bed Pediatric	20-bed Intensive Care
18-bed Teen-Age	20-bed Mental
16-bed Chronic	
14-bed Intensive Care	
483 Beds	472 Beds

The present obstetrical delivery suite, which occupies an entire floor of the maternity section, was designed to support 85 obstetrical beds, as contrasted with the proposed future program of only 45 beds, a reduction of almost 50 percent. Yet, because of the many deficiencies in the existing delivery suite, a reduction of only 15 percent in space requirements can be effected. The present four delivery rooms are sub-standard in size and no one of them is sufficiently large to properly accommodate caesarian sections. There is no recovery room with the result patients are held in delivery rooms after delivery. It is proposed that the multibed labor rooms be eliminated, the present 16 beds be reduced to eight, the size of most of the 11 rooms be reduced, and the number of showers be increased. The nurses' station, doctors' lounge and toilet, and storage space need to be enlarged, and a nurses' lounge and toilet should be provided. On the other hand, the nurses' clean-up

and work area is excessive, especially if much of the work is reassigned to the central supply department. The opening of the elevator directly into the center of the delivery suite is a most undesirable situation which should be rectified. It is obvious that the obstetrical delivery suite should be completely relocated in any physical development plan and, preferably, the entire obstetrical service should be grouped on the same floor.

The proposal to nearly triple the size of the outpatient department and the facilities for the medical education program is contingent upon the policy decision to upgrade the quality and level of the present outpatient program for service patients in order to assure approval of whatever intern and residency training program the hospital aspires to in the future.

In both the departments of pathology and diagnostic radiology, the problem is principally one of insufficient space to handle the increasing workloads, although both departments lack some essential facilities. It is proposed that a research laboratory and animal operating room should be provided and both departments should have a conference room-library. The pathology department needs an acceptable autopsy room and refrigerate morgue to replace the present rather grotesque morgue.

The pharmacy situation presents the problem of no office for the pharmacist or any clerical space for this very busy activity. Bulk storage space and alcohol storage is extremely inadequate and poorly located. The dispensing, drug preparation, compounding and manufacturing space is highly congested and needs to be increased 50 percent to permit effective operation and safety in handling of drugs and medications. An extra 160

II - PROPOSED PROGRAM OF PHYSICAL DEVELOPMENT

net square feet of space will be needed in this department to support the proposed nursing home program.

The proposed increase in space requirement for the power plant is essential for the boiler room and mechanical and air-conditioning equipment, both to support the proposed new hospital addition building and the nursing home capacity of 150 beds. The amount of space currently available for the maintenance shops, on the other hand, is substantially in excess of reasonable needs.

Although the present surgical suite is only seven years old, initially it lacked some facilities needed in the modern surgical suite and most of the other facilities were inadequately sized. Basically, the number of operating rooms and all the supporting facilities, as well as the recovery room are inadequate to support a total of 227 surgical beds, including orthopedics. Only the orthopedic and cystoscopic operating rooms are adequate in size. There is no major operating room of sufficient size to perform the newer and more complicated surgical procedures. The nurses' station, control desk, operating room supervisor and clinical instructor offices are completely inadequate, doctors' and nurses' locker, toilet and lounge accommodations should be doubled, and space for the anesthesia office, workroom, and equipment storage needs to be quadrupled. Workroom, supply, equipment, and instrument storage spaces are very deficient. A relatives' waiting room, classroom, coffee bar, electronic monitoring room, and outpatient dressing rooms are elements which should be provided. The present 13-bed surgical recovery room is already proving inadequate. Provision should be made for 20 beds including a one-bed separate isolation room.

The space requirements make no provision for facilities for hyperbaric oxygenation. This newly developed technique, which involves surgical radiation, and other procedures performed in a sealed, high pressure atmosphere saturated with pure oxygen, is still considered to be only in the experimental stage. Any significant capital expenditures at this time for such facilities could prove to be premature and wasteful.

II - PROPOSED PROGRAM OF PHYSICAL DEVELOPMENT

A - Proposed Physical Development Program

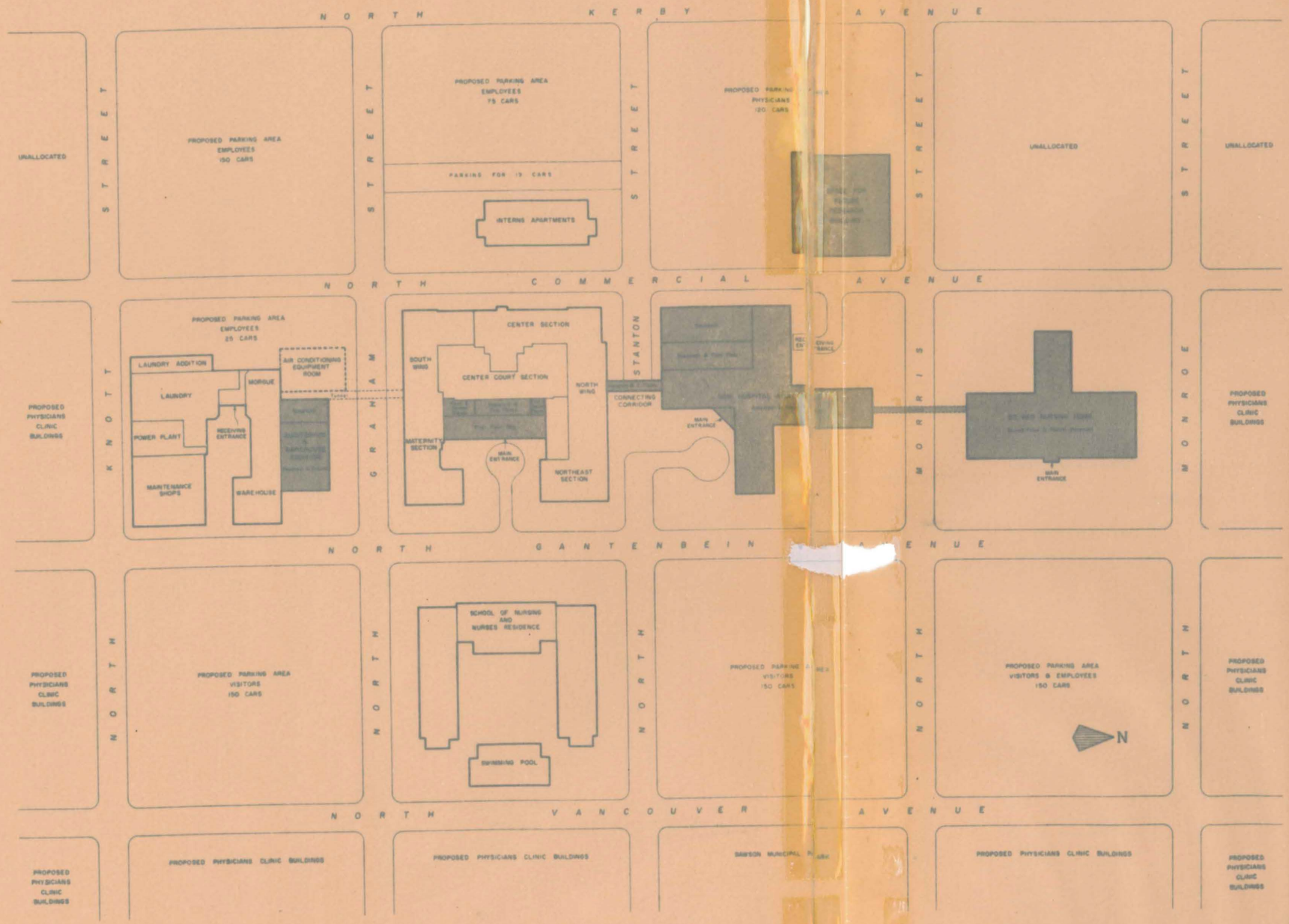
In order to provide the additional space and facilities needed for a program of 472 beds, a school of nursing with an average student enrollment of 286, and a 50-bed nursing home plus the supporting facilities and services for the future increment of 100 additional nursing home beds, it will be necessary to construct approximately 99,000 net square feet, of 147,900 gross square feet of space. Of this total gross square footage, 126,275 would be for the hospital buildings and 21,625 for the nursing home. It is contemplated that the proposed new construction, except the laundry and warehouse additions, would be air-conditioned. In addition to this new construction, it is estimated that a total of about 62,370 net square feet of existing space in the present hospital building and service buildings will have to be remodeled to varying extents, and that the two elevators in the maternity section of the hospital building will have to be replaced with fully automatic elevators of equal capacity.

It is also proposed that the amount of off-street automobile parking space for medical staff, personnel, and visitors be increased from the 273 now available to at least 600 spaces, and that ample land area be reserved to provide for the increased parking needs when the capacity of the nursing home is expanded to 150 beds. Although no immediate major program of medical research is recommended at this time, the proposed development program should reserve an adequate site of approximately one-fourth of a city block adjacent to the hospital upon which a medical research building may be constructed in the future.

SKETCH - B

EMANUEL HOSPITAL
PORTLAND, OREGON

PROPOSED EXPANSION PLAN



LEGEND
- EXISTING CONSTRUCTION
- PROPOSED CONSTRUCTION

SCALE 50 0 50 FEET

JAMES A. HAMILTON ASSOCIATES
MINNEAPOLIS, MINNESOTA
SEPTEMBER, 1964

In our earlier analysis of the desirability and suitability of the present location of the hospital in the central Albina area we emphasized the imperative need for Emanuel Hospital to acquire a substantial amount of additional property in all four directions from the hospital building to protect the hospital from undesirable encroachments during the urban redevelopment of the Albina area. We stressed equally the vital importance of prevailing upon a large number of physicians to relocate their offices immediately adjacent to Emanuel Hospital.

Our proposed program of physical development for Emanuel Hospital is predicated upon the acquisition of all or as much of the land in the 23 city block area (excluding the city block occupied by Dawson Municipal Park) bounded by North Fargo Street (on the north), North Williams Avenue (on the east), North Russell Street (on the south), and North Kerby Avenue (on the west) as will ensure control of the future use of this large area. The hospital already owns approximately one-third of this 23-block area. As shown in Sketch B, Proposed Expansion Plan, on page 110, it is proposed that the 12 city blocks bounded by North Morris Street, North Vancouver Avenue, North Knott Street, and North Kerby Avenue be acquired for the future development of Emanuel Hospital. It is also proposed that the nine city blocks immediately to the north, east, and south of the proposed 12 city block hospital development area be reserved for physicians' clinic buildings to be constructed and owned by them. To assure the availability and control of these nine city blocks for that purpose, the hospital should acquire the land as rapidly as possible and either lease or sell it to the physicians, or prevail upon the physicians to buy properties themselves in that area. No specific used for the two remaining city blocks between North Commercial

and North Kerby Avenues within the total 23-block area are proposed at this time. We consider their acquisition necessary as buffers between the hospital area and any private developments of land areas to the north of North Fargo Street and south of North Russell Street.

To acquire the additional 126,275 gross square feet of space for the hospital and service buildings and 21,625 gross square feet for the new nursing home (including a connecting tunnel to the home), we propose the construction of the following, as shown on Sketch B on page 110 This construction program will necessitate the closure of North Stanton Street for the one city block between North Gantenbein and North Commercial Avenues in order to permit construction of a three-level connecting corridor between the existing hospital building and the proposed new hospital addition at the basement, first, and second floor levels. Since North Stanton Street is not a significant through-traffic lane, the hospital administration assured us that no serious difficulty should be encountered in obtaining approval for closing this street.

1 - <u>New Hospital Addition</u>

A basement and three-story building to occupy most of the land area of the city block north of and immediately across the street from the existing hospital building, with a three-level connecting corridor crossing North Stanton Street to connect the new addition to the existing hospital building at the basement, first, and second floor levels. <u>This building is to be designed to permit the future construction of three additional floors</u>. An offset-cross building design is proposed as the one which will permit the most effective plan for housing the activities recommended tentatively to be located in this building. However, the

architect may wish to consider alternative designs including the double corridor concept at such time as a decision is made by the hospital to proceed with a firm development program. The proposed structure would be 260 feet long north and south and 240 long on its east-west axis. The four legs of the building would be 48 feet wide. The south end of the structure would abut the property line on the north side of North Stanton Street and the connecting corridor would extend from this south end of the new building to the north side of the north wing of the existing hospital building. On the second and third floors there would be 22,000 gross square feet of space. On the basement floor there would be the need for 31,150 gross square feet of space. This additional 9,150 square feet would be obtained by extending the south leg of the building westward for a distance of 84 feet to fill in the area between the south and the west legs. On the first floor a total of 24,875 gross square feet will be provided by extending the south leg westward for a distance of 26 feet.

There would be a total of 99,965 gross square feet and 65,610 net square feet of space in this building. The three-level connecting tunnel, 12 feet wide by 70 feet long, would contain a total of 2,520 gross square feet and 1,680 net square feet. The total gross square feet of new construction for the new hospital addition and connecting corridor would be 102,485.

2 - Auditorium and Warehouse Addition

A basement and ground floor structure on the present parking lot on the south side of North Graham Street directly opposite the maternity section of the present hospital building. This new building would abut

the existing warehouse on the south and the connecting tunnel on the west at the basement level. It would be 60 feet wide on both floors. The basement, to house the warehouse addition, would be 120 long paralleling North Graham Street. The ground floor auditorium would be 77 feet long. The footings for this building should be designed to permit future extension of the ground floor level westward for the full length of the basement.

There would be a total of 10,160 net square feet and 11,800 gross square feet in this building. The basement would have 6,480 net and 7,200 gross square feet. The ground floor would have 3,680 net and 4,600 gross square feet.

3 - Laundry Addition

A one-story, basement level addition to the present laundry building, 20 feet wide by 100 feet long, paralleling the west side of the building. This addition would contain 1,600 net and 2,000 gross square feet. In order to provide the additional needed space for expansion of the boiler room and power house mechanical equipment, it is proposed to reduce the space available for maintenance shops by 5,000 gross square feet and expand the power house into the present maintenance shops building. Should this conversion of maintenance shops space not be concurred in, then it would be necessary to enlarge the proposed addition to the laundry by another 5,000 gross square feet to permit expansion of the power plant into a major portion of the present laundry.

4 - Extension of Center Court of Present Hospital Building

(a) An eastward extension of the entire 125 foot wide first floor of the present center court section for a distance of approximately

42 feet to fill in the area between the maternity section and the north wing of the present hospital. This first floor extension would contain 3,500 net and 5,250 gross square feet of space.

(b) An eastward extension of the second floor of the present center court for a distance of 29 feet and for a width of approximately 154 feet, the distance between the maternity section and the north wing of the hospital at the second floor level. This addition would have 2,700 net and 4,500 gross square feet of space.

The combined two-floor center court extension would contain 6,200 net and 9,750 gross square feet of space.

5 - Fifth Floor Solarium - Center Section

A 12-foot by 20 foot addition to the fifth floor of the present hospital building on the west side of the north end of the center section to provide a solarium for the teen-age nursing unit. This addition would be constructed on the roof of the fourth floor which extends beyond the fifth floor. The construction would be of light-weight aluminum and glass. The net square footage would be 200 and the gross square footage 240.

6 - 50-Bed Nursing Home and Connecting Tunnel

A ground floor and partial basement 50-bed nursing home building to occupy most of the city block north of the hospital building and bounded by North Monroe Street, North Gantenbein Avenue, North Morris Street, and North Commercial Avenue, with a basement-level connecting tunnel between the nursing home and the proposed new hospital addition. The structure would be in the shape of the letter "T" and would face on North Gantenbein Avenue. On the ground floor the rectangular top of the "T" would be 210

feet long (north to south) and 80 feet wide. The short leg of the "T" would extend westward 75 feet and would be 43 feet wide. The ground floor would contain 12,330 net and 20,025 gross square feet of space. The partial basement would have 300 net and 450 gross square feet. The 10 foot by 115 foot connecting tunnell would have 920 net and 1,150 gross square feet.

In total, there would be 13,550 net and 21,625 gross square feet of space in the nursing home and connecting tunnel. The nursing home structure is to be designed to permit the future addition of two more floors to increase the capacity to 150 beds.

Summary of Space Development Plan

Building	Net Square Feet	Gross Square Feet
1 - New Hospital Addition and Connecting Corridor	67,290	102,485
2 - Auditorium and Warehouse Addition	10,160	11,800
3 - Laundry Addition	1,600	2,000
4 - Extension of Center Court of Existing Hospital	6,200	9,750
5 - Fifth Floor Solarium - Center Section	200	240
Total	85,450	126,275
6 - 50-Bed Nursing Home and Connecting Tunnel	13,550	21,625
Total	99,000	147,900

The excess of 2,750 net square feet over the 82,700 net square feet required for the hospital is due to the accrual of that amount of additional space in the design of the new hospital addition.

The following Table XIV on pages 117 and 118 shows, by floors and by buildings, the tentative suggested future location of all departments and activities in the present and new hospital buildings and the service buildings. There is also presented on pages 119 through 123 a block schematic plan for each of the floors of the hospital and service buildings indicating the location and approximate allocation of gross space for each activity. It will be noted that all surgical nursing units and the surgical suite are grouped in the present hospital building. The medical nursing units, intensive care unit, and special diagnostic unit are concentrated in the new hospital addition, with a direct access to the intensive care unit from the surgical suite. The entire obstetrical service would be housed on one floor in the new building.

No changes in location of any of the facilities of the school of nursing, nurses' residence, and intern-resident apartment building, as shown in Table XI, pages 83 through 86, are contemplated.

B - Estimated Cost of the Program

The estimated total cost of the proposed physical development program is $6,860,000, and includes the cost of the new construction, the remodeling of areas in the existing hospital building and service buildings, replacement of elevators, and furniture, furnishings, and portable equipment for the expanded facilities. The total cost does not include the purchase of any of the land proposed to be acquired to implement the proposed physical development program of the hospital, nor does it include the cost of air conditioning existing space in the present hospital building since a program of completion of the air conditioning of that building is well under way.

TABLE XIV

Emanuel Hospital, Portland, Oregon

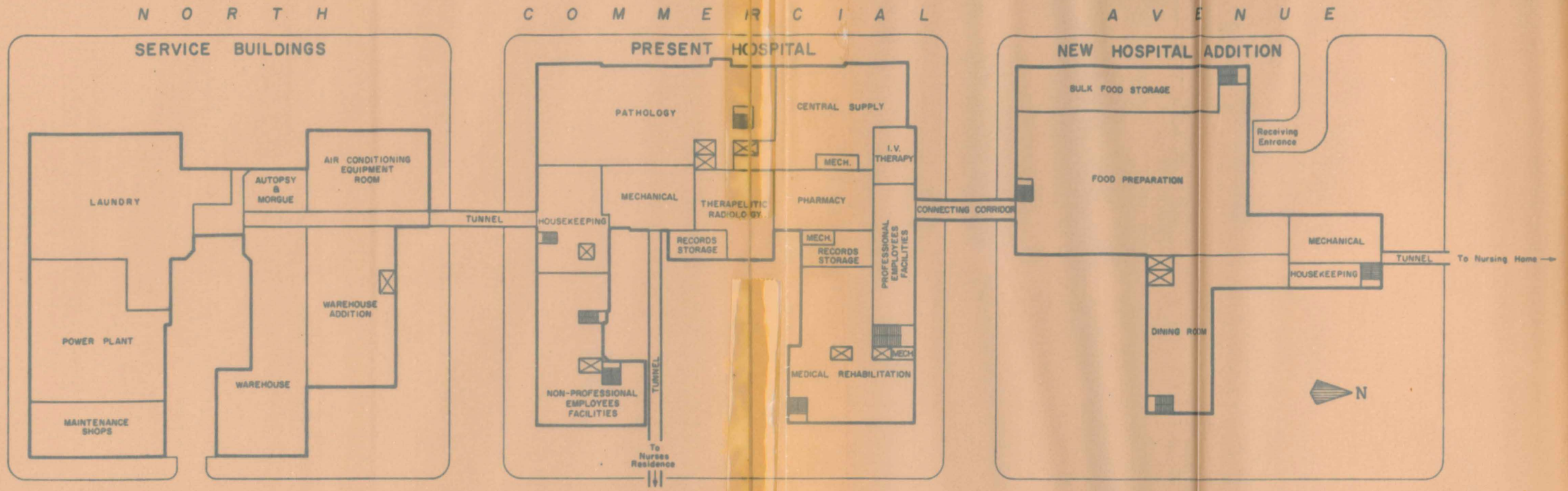
TENTATIVE LOCATION OF DEPARTMENTS IN HOSPITAL BUILDINGS UNDER THE PROPOSED DEVELOPMENT PLAN

Floor	Present Hospital Building	New Hospital Addition	Service Buildings
Basement	Central Supply Pharmacy Intravenous and Inhalation Therapy Housekeeping (Part) Medical Rehabilitation Pathology (except Autopsy and Morgue) Therapeutic Radiology Employees' Facilities - Male and Female Inactive Records Storage (Part) Mechanical Equipment (Part)	Food Service Housekeeping (Part) Mechanical (Part)	Laundry Power Plant Incinerator Maintenance Shops Central Warehouse and Warehouse Addition Central Air-Conditioning Equipment Room Liquid Oxygen Storage Autopsy Room and Morgue
First	Administration Main Lobby, Gift and Coffee Shops Chapel Chaplaincy Program Offices In-Service Nursing Education Emergency Room Diagnostic Radiology Outpatient Clinics and Medical Education Volunteers' Workroom, Lounge and Storage	Lobby Obstetrical Delivery Suite Newborn Nurseries 45-Bed Obstetrical Nursing Unit	Auditorium
Second	Surgical Suite and 20-Bed Recovery Room 25-Bed Surgical (Gynecology) Nursing Unit 24-Bed Chronic Nursing Unit On-Call Sleeping Quarters	20-Bed Intensive Care Unit 42-Bed Medical Nursing Unit Special Diagnostic Unit	

TABLE XIV (CONTINUED)

Floor	Present Hospital Building	New Hospital Addition	Service Buildings
Third	38-Bed Orthopedic Nursing Unit	42-Bed Medical Nursing Unit	
	34-Bed Orthopedic Nursing Unit	20-Bed Mental Nursing Unit	
	28-Bed Orthopedic Nursing Unit		
Fourth	40-Bed Surgical Nursing Unit		
	34-Bed Surgical Nursing Unit		
	28-Bed Surgical Nursing Unit		
Fifth	40-Bed Pediatric Nursing Unit		
	12-Bed Teen-Age Nursing Unit		

SKETCH - C



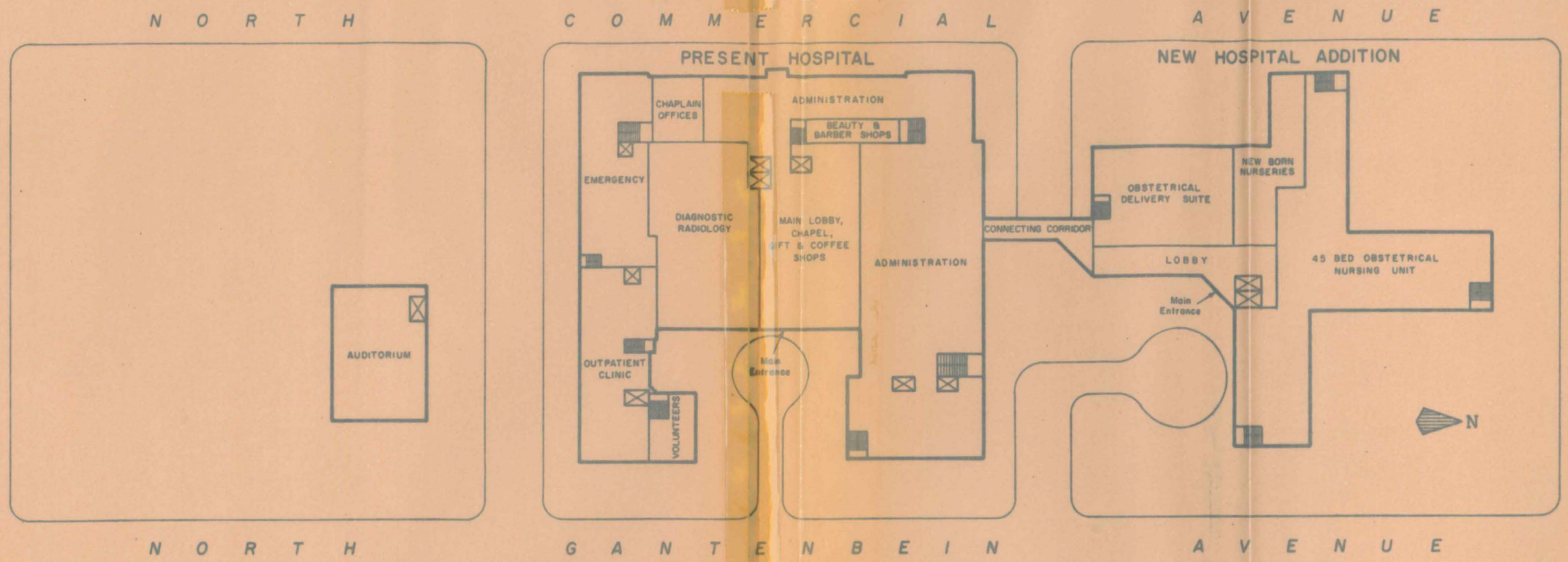
BASEMENT PLAN

SCALE 40 0 40 FEET

JAMES A. HAMILTON ASSOCIATES
MINNEAPOLIS, MINNESOTA
SEPTEMBER, 1964

EMANUEL HOSPITAL
PORTLAND, OREGON

SKETCH-D



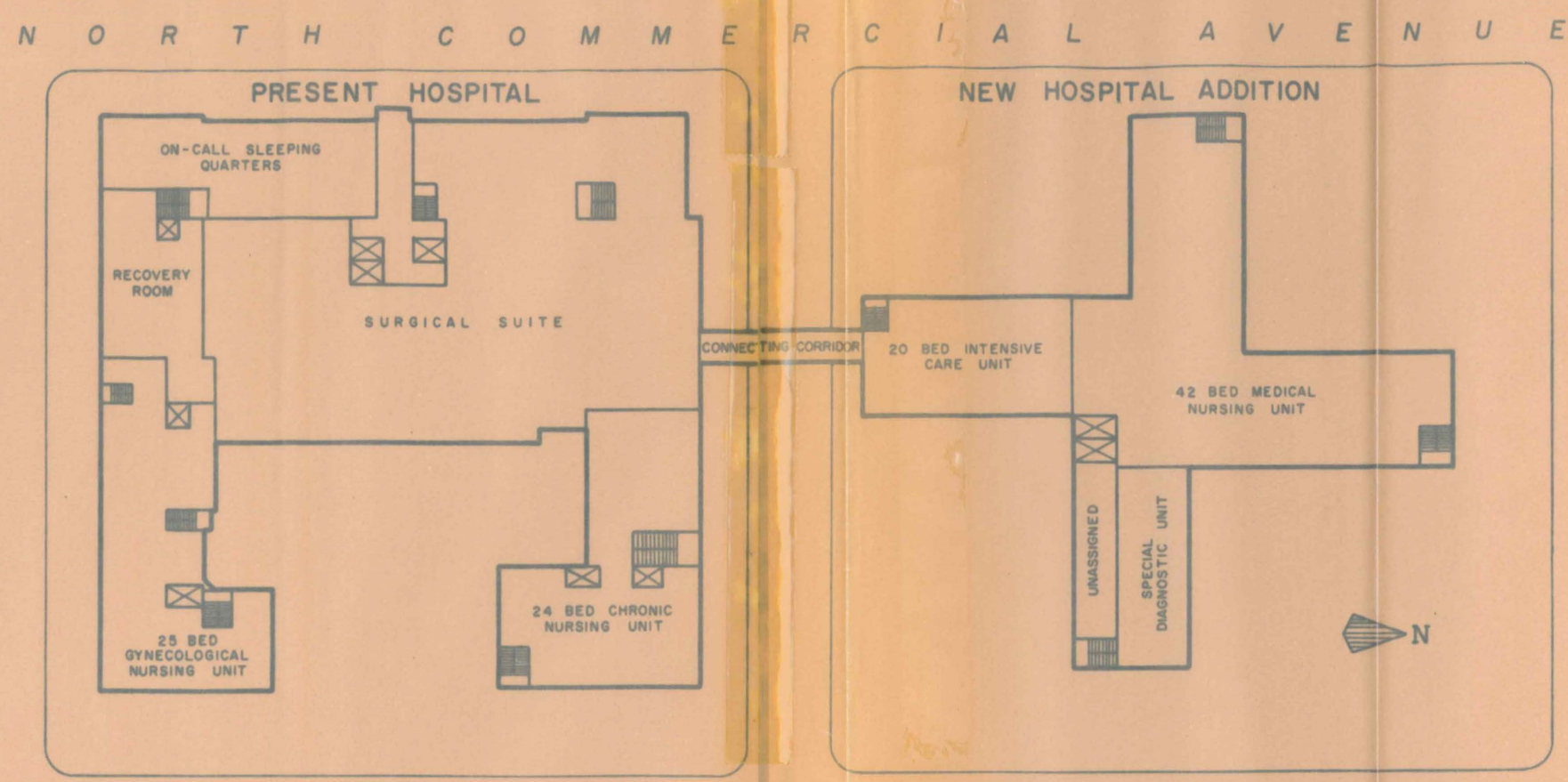
FIRST FLOOR PLAN

SCALE 40 0 40 FEET

JAMES A. HAMILTON ASSOCIATES
MINNEAPOLIS, MINNESOTA
SEPTEMBER, 1964

EMANUEL HOSPITAL
PORTLAND, OREGON

SKETCH-E



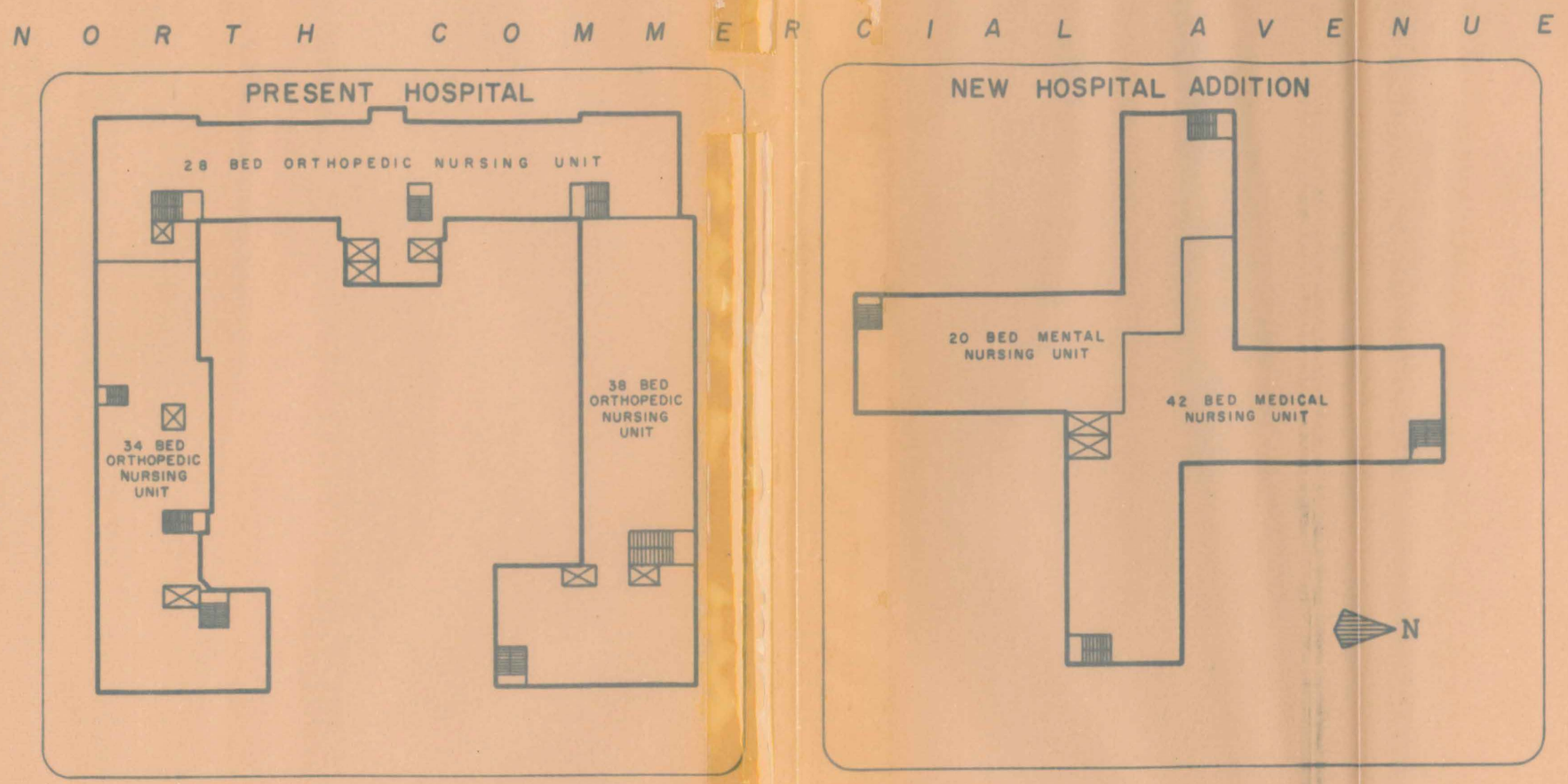
SECOND FLOOR PLAN

SCALE 40 0 40 FEET

JAMES A HAMILTON ASSOCIATES
MINNEAPOLIS, MINNESOTA
SEPTEMBER, 1964

EMANUEL HOSPITAL
PORTLAND, OREGON

SKETCH-F



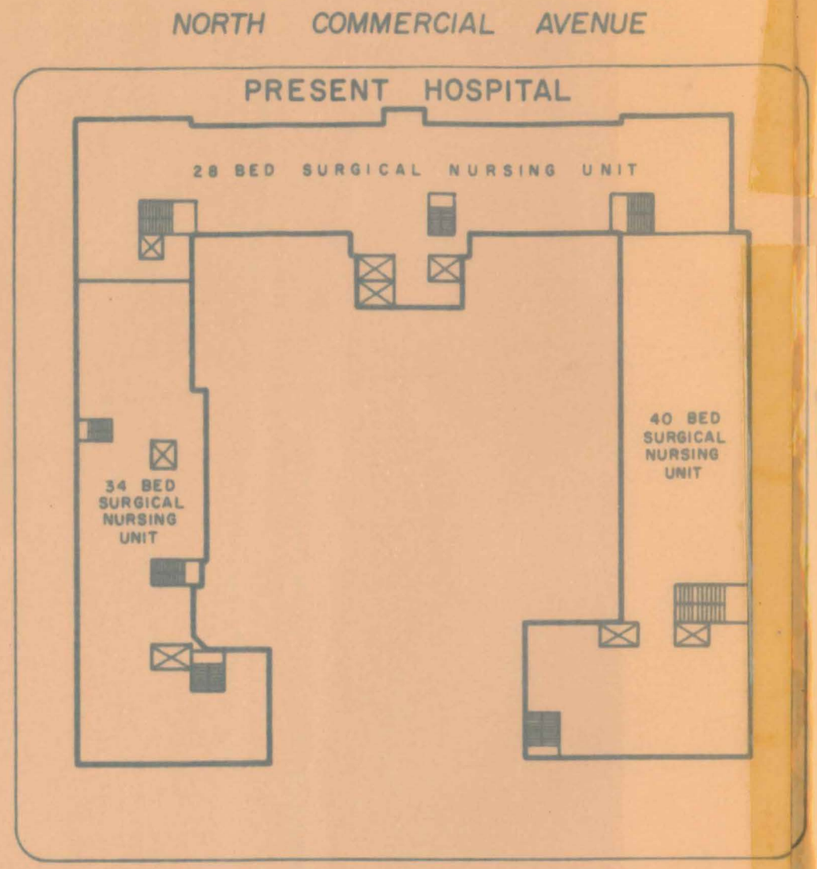
THIRD FLOOR PLAN

SCALE 40 0 40 FEET

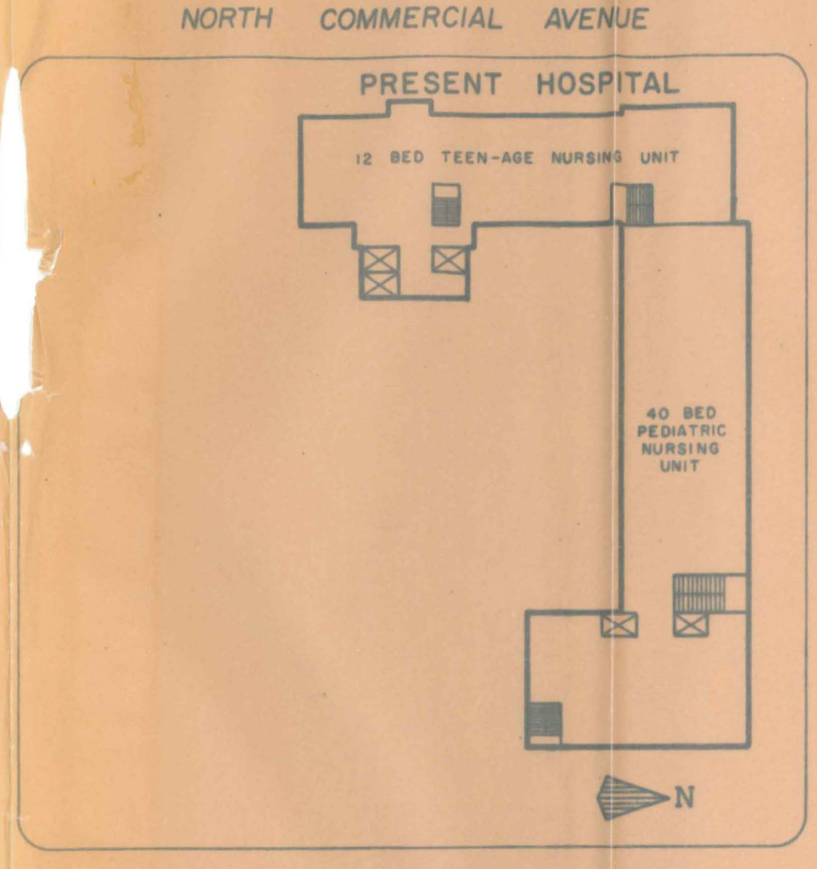
JAMES A. HAMILTON ASSOCIATES
MINNEAPOLIS, MINNESOTA
SEPTEMBER, 1964

EMANUEL HOSPITAL
PORTLAND, OREGON

SKETCH-G



FOURTH FLOOR PLAN



FIFTH FLOOR PLAN

SCALE 40 0 40 FEET

EMANUEL HOSPITAL
PORTLAND, OREGON

JAMES A. HAMILTON ASSOCIATES
MINNEAPOLIS, MINNESOTA
SEPTEMBER, 1964

The construction costs include architects' fee of eight percent and consultant's fee of one percent, contingencies, and installed equipment. New construction is estimated at $33.00 a gross square foot and includes air conditioning. Remodeling costs will vary depending upon the extensiveness of the work required and can only be determined on the basis of subsequent detailed architectural and engineering studies. However, on a judgment basis, it is estimated that the cost will average $22.00 a net square foot. The square foot cost of new construction is based upon estimates furnished by the hospital's architect. Both new construction and remodeling costs are projected ahead to 1966.

These costs estimates, as summarized below, are intended to provide a reasonably dependable indication, for general decision making purposes, of the overall cost of the proposed physical development program for the hospital

New Construction		
147,900 gross square feet @ $33.00		$ 4,880,700.00
Remodeling Existing Space		
62,370 net square feet @ $22.00		1,372,140.00
Replace Two Elevators in Maternity Section		40,000.00
Furniture, Furnishings, and Portable Equipment		
Hospital	$ 500,000.00	
Nursing Home	65,000.00	565,000.00
Total Estimated Cost of Program		$ 6,857,840.00
Round to:		$ 6,860,000.00