

CHAPTER 20

College Housing and Related Service Facilities*

A. NATURE AND COMPOSITION OF FACILITIES

1. DESCRIPTION OF FACILITY

"If a graduate of the class of 1920 were to set out today on a tour of the housing at his old alma mater, he would be struck above all by its variety. The off-campus rooming house, the dormitory quadrangle, and fraternity row are still there—dressed in a different style, perhaps, but still recognizable. But the apartment village for married students is new. So is the center for graduate students. And so is the nearby subdivision where the faculty are building homes. Colleges are housing more people of more kinds, and they realize that a large and varied population demands extensive and varied facilities."¹

In broad terms, college housing includes housing facilities occupied by individuals associated with an institution whether on or off campus, privately or institutionally owned. This discussion will deal only with that part of college housing which is owned and controlled by the institution, and limited to the housing requirements of the college student. Included are residence halls for single students, apartments for married students, houses for special groups and for graduate students. Since the college housing complex is the student's home away from home, other facilities which affect the physical and social well-being such as food service facilities, student centers, and infirmaries are also included.

The structures may be small, large in size, single story, or high-rise, incorporating a wide range of architectural design and floor plan varying with the need and characteristics of the institution, its location and circumstances.

Whatever the nature of the facility, its size or design, it needs first of all to serve the purposes and programs of the institution's educational program. Since institutions vary widely in their philosophies and objectives, it would be expected that the housing patterns would reflect such differences. While definitive statistics are not available on institutional housing policies, tabulations from American Council of Education and Office of Education publications for the school year 1962-63 are informative:

* Prepared by J. Trevor Thomas, Community Facilities Administration, Department of Housing and Urban Development, with minor editing by Committee staff.

¹ Riker, Harrold C., *College Students Live Here*, Educational Facilities Laboratory, 1961.

Percentage of full-time enrollments housed, fiscal year 1963

[In percent]

	Single student dwellings			Student families
	Men	Women	Total	
Public institutions:				
4-year	31.76	48.67	38.24	
2-year	7.85	7.67	7.79	
Private institutions:				
4-year	42.97	63.09	50.58	
2-year	54.16	76.44	65.00	
Total, public and private:				
4-year	36.20	54.30	43.10	
2-year	15.49	25.55	19.27	
Total, all institutions	33.54	50.69	40.06	

Sources: Cartter, Allan, "American Colleges and Universities, American Council on Education," 1963; Gleazer, Edmund J., Jr., "American Junior Colleges, American Council on Education," 1963; "Fall Enrollments in Education, 1962," U.S. Office of Education.

While institutions may vary widely in the amount and type of housing facilities provided, there seems to be near unanimity among them in the durability of the facilities constructed. Educational buildings are expected to last for 50 years. Many buildings extend over such a period. The design and construction of new buildings incorporate enough durability to achieve useful service over the period with as little maintenance as possible.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

Current information is not available on the quantity of college housing in the United States. Publications of the Office of Education and the American Council on Education do not contain information on which to base estimates of the inventory of dwellings for single and married students.

Estimated capacity, college dwelling units, school year 1962-63

	Single student dwellings						Married student dwellings	
	Public			Private			Public	Private
	Men	Women	Total	Men	Women	Total		
1962-63 ¹	310,000	299,400	610,300	283,600	268,200	551,800	43,100	

¹ Tabulated from "American Universities and Colleges—American Junior Colleges," American Council on Education, 1963 and 1964 and extrapolated to 100 percent of enrollment.

If it could be assumed that the percentage of students housed in the fall of 1965 would be the same as in 1962 (see table p. 396), the inventory of college housing in the fall of 1965 would be as follows:

	Single student dwellings				Married student dwellings	
	Public		Private		Public	Private
	Men	Women	Men	Women		
Fall of 1965	462,000	455,000	409,000	363,000	60,000	17,000

Similar information is not available for related service facilities such as dining halls, infirmaries, and student centers.

From the tabulations of housing reported in the American Council on Education publications, distribution of these facilities by regions is revealed as follows:

Geographical distribution of single and married student housing, school year 1962-63

Region	Single student dwellings						Married student dwellings	
	Public			Private			Public	Private
	Men	Women	Total	Men	Women	Total		
Northeast.....	21,875	26,170	48,045	67,854	55,367	123,221	359	2,644
Middle Atlantic.....	29,568	33,967	63,535	47,443	40,077	87,520	1,748	2,462
Southeast.....	68,298	53,841	122,139	40,147	41,844	81,991	8,156	2,380
Middle West.....	80,596	80,150	160,746	63,096	61,985	125,081	14,546	2,730
Southwest.....	70,116	61,338	131,454	28,880	30,840	59,720	10,168	2,279
Far West.....	32,976	32,501	65,477	23,380	25,014	48,394	7,729	2,096
Puerto Rico.....	393	376	769	851	850	1,701	-----	65
Total.....	303,822	288,343	592,165	271,651	255,977	527,628	42,706	14,656

The above table is based on an incomplete report representing institutions enrolling 94 percent of total full-time private college enrollment and 98.7 percent of total public college enrollment.

While no study has been made on the distribution of college housing by community size, the records of the Department of Housing and Urban Development, cumulative to December 31, 1965, reveal such distribution for approved loans for the 16 years of the program. These loans represent housing spaces equal to more than one-third of the total number estimated in use in the fall of 1965.

Net approved loans by community size college housing program

Population	Cumulative through Dec. 31, 1965 ¹	
	Number	Percent
Program total.....	2,537	100.0
Under 500.....	29	1.1
500-999.....	33	1.3
1,000 to 2,499.....	146	5.8
2,500 to 4,999.....	183	7.2
5,000 to 9,999.....	307	12.1
10,000 to 24,999.....	458	18.1
25,000 to 49,999.....	322	12.7
50,000 to 99,999.....	260	10.2
100,000 to 249,999.....	307	12.1
250,000 to 499,999.....	179	7.1
500,000 to 999,999.....	193	7.6
1,000,000 and over.....	120	4.7

¹ 1st loan approved in August 1951.

Based on the methods and sources used in estimating the capacity of existing college housing facilities, the age distribution of such facilities is estimated as follows:

Percentage distribution of single student housing capacity by period of initial occupancy

Period of initial occupancy	Public	Private	Public and private
Through 1899.....	1. 03	4. 68	2. 70
1900-1919.....	3. 65	7. 80	5. 55
1920-39.....	11. 57	11. 74	11. 65
1940-57.....	21. 50	22. 73	
1958-61.....	28. 81	24. 62	26. 88
1962-65.....	33. 44	28. 53	31. 20
Total.....	100. 00	100. 00	100. 00

Ownership of these facilities is estimated to be distributed as follows:

Percentage distribution of ownership of single student dwellings and married student apartments by public and private categories

Ownership	Single student dwellings	Married student dwellings
Public educational institutions.....	54. 29	77. 92
Private nonprofit organizations.....	45. 71	22. 08
Total.....	100. 00	100. 00

Information on the current value of existing college housing structures is not available. From the experience under the college housing program, the current estimated average cost of dwelling space for a single student is \$4,650 and that for a married student is \$12,500.

Assuming these values to represent current construction costs, replacement value of existing college housing residential facilities are estimated as follows:

Estimated replacement value of existing college housing residential facilities

[In millions of dollars]

Type of institution	Single student dwellings	Married student dwellings	Total
Public.....	5, 960. 5	750. 0	6, 710. 5
Private.....	3, 589. 8	212. 5	3, 802. 3
Total.....	9, 550. 3	962. 5	10, 512. 8

B. COSTS AND USER CHARGES

An analysis of 148 projects financed under the Federal college housing program placed under construction during fiscal year 1965 reflects following information on unit costs of college housing facilities:

Structural costs per square foot, college housing program projects placed under construction, fiscal year 1965

of projects.....	148
.....	\$41.25
.....	\$17.01
.....	\$8.29
tile.....	\$19.70
tile.....	\$14.78

Median costs for the same projects by regions were as follows:

Region	Number of projects	Median square foot structural costs
Northeast.....	17	\$19.70
.....	19	18.36
.....	29	14.22
.....	31	16.24
.....	27	16.41
Far West.....	25	19.57
Total.....	148	-----

Historically, colleges have attempted to operate housing facilities on a break-even basis and only rarely have charges been so regulated as to produce an operating profit. It has been customary to segregate income from housing facilities and to employ that income to pay all of the services attendant to the occupancy and use of such

The revenue bond concept under which most college housing loans have been made developed as a method of financing under which a facility is required to produce sufficient income to pay all operating costs plus a debt service requirement which would amortize the cost of the facility, including interest, during the term of the loan. While this objective may have been attainable during the early years of the college housing loan program, it is difficult of attainment now with current student charges and high construction costs.

The latest *Information for Applicants* published by the Department of Housing and Urban Development (August 1962) contains illustrations of the M. & O. expense ranging from \$70 to \$140 per student per year. Assuming the current college housing 3-percent interest rate, a per student construction cost of \$4,650, and a 48-year-loan term with 100-percent coverage, the annual debt service requirement is \$230. The addition of the M. & O. expenses above produces required income from \$300 to \$370 per student per year. Contrasted to this are the dormitory rates actually charged during 1963-64 as

reflected in the Office of Education's "Basic student charges" for that year:

Percentile	School year room rates	
	Men	Women
90th.....	\$299	\$310
75th.....	271	274
50th.....	210	214
25th.....	171	175
10th.....	121	126

Thus, only at the 90th percentile of student charges and at the lower end of the range of required income, does the income approach an amount sufficient to cover M. & O. charges plus debt service. If a more realistic estimate of \$200 per student per year for M. & O. charges is used, current student charges at the 90th percentile provide only 70-percent coverage of M. & O. and debt service requirements.

There are, of course, exceptions to the pattern, notably those institutions which by a combination of higher student charges, effective management and low-cost structures of comparatively short lifespan have reported a profit on student housing operations. Since these methods produce higher cost of college attendance and often abnormally high maintenance charges in later years, most colleges have been reluctant to adopt them.

Definitive data on the extent to which costs for college facilities are being met from general tax resources and general obligation borrowings of State and local government units would only be available after an extensive survey and analysis. However, published Office of Education surveys for 1951-59 and 1959-61 and unpublished data for 1961-64 showed institutions reporting fund sources as follows:

Sources of funds for new construction of residential facilities completed

PUBLIC INSTITUTIONS

	Appropriations	Tax levies	General obligated bonds	HHFA revenue bonds	Other revenue bonds	Gifts, grants	Other sources
1951-56 (average).....	20.8	0.7	4.1	65.8		0.8	7.8
1956-57.....	12.6	1.3	4.0	21.1	48.4	.2	12.4
1957-58.....	4.4	.9	8.8	34.6	46.7	.1	4.5
1958-59.....	7.3	.5	9.1	57.1	16.2	.2	9.4
1959-60.....	18.9	.8	3.3	56.4	13.2	1.3	6.1
1960-61.....	15.4	.8	3.8	44.2	30.5		5.3
1961-62.....	10.5	.1	5.8	43.4	25.4	.5	14.3
1962-63.....	8.6	.8	4.8	55.6	24.4	.2	5.6
1963-64.....	3.7	.5	2.5	45.3	42.8	.3	5.2

PRIVATE INSTITUTIONS

1951-56.....	1.5	0	.3	32.9		38.3	
1956-57.....	0	0	.3	35.4	2.4	27.3	34.5
1957-58.....	2.2	0	0	57.3	0	15.2	25.3
1958-59.....	2.4	0	1.8	64.3	0	13.1	
1959-60.....	1.1	0	.2	63.7	.5	12.4	22.1
1960-61.....	0	0	.9	51.9	.2	26.0	21.0
1961-62.....	0	0	5.6	57.6	.1	18.4	18.3
1962-63.....	0	0	0	75.7	.8	9.7	13.8
1963-64.....	0	0	.3	60.6	.4	14.6	24.1

C. TREND OF CAPITAL OUTLAYS

The trend of annual capital outlays for college housing construction closely the trends in enrollments at colleges and universities:

	Enrollment		Facilities	
	Degree credit enrollment (in thousands)	Index, (1959-60=100)	Estimated value of facilities ¹ (in thousands)	Index (1959-60=100)
-----	3,068	90	4,361,457	87
-----	3,258	96	4,624,318	92
-----	3,402	100	5,008,418	100
-----	3,610	106	5,344,949	107
-----	3,891	114	5,710,079	114
-----	4,206	124	6,204,130	124
-----	4,529	133	6,687,322	133

¹ Higher education facilities survey, pt. 3, with annual increments as reported by colleges in Office of v construction series.

While information is not available for construction completed in and 1965-66, the Office of Education's new construction reported the following for the years 1951-52 through 1963-64:

Residential and auxiliary facilities completed

[In thousands of dollars]

Year completed	Residential facilities		Auxiliary facilities		Residential and auxiliary		
	Public	Private	Public	Private	Residential	Auxiliary	Total
-----	42,967	26,193	13,320	8,143	69,160	21,463	90,623
-----	56,624	18,331	15,464	3,466	74,955	18,930	93,885
-----	27,186	42,640	18,116	10,885	69,826	29,001	98,827
-----	42,123	54,984	17,551	12,507	97,107	30,058	127,165
-----	91,648	82,323	13,629	12,025	173,971	25,654	199,625
-----	169,708	69,105	17,932	6,143	138,813	24,075	162,888
-----	103,436	70,682	22,764	10,757	174,118	45,620	262,861
-----	143,767	73,474	25,896	19,724	217,241	96,592	384,100
-----	177,456	110,052	55,650	40,942	258,411	78,120	336,531
-----	139,730	118,681	49,194	28,926	238,993	81,137	365,130
-----	148,903	135,090	34,050	47,087	390,922	103,129	494,051
-----	216,875	174,047	43,891	59,238	405,367	77,825	483,192
-----	251,591	153,776	49,874	27,951			
Total	1,512,014	1,129,378	377,331	287,794	2,641,392	665,125	3,306,517

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAY

The needs and capital outlay for college housing are assumed to direct relationship to the increases in full-time students in and universities. It has been further assumed that the needs will vary as changing mixes occur in enrollments (i.e., versus private; 4-year versus 2-year; men versus women; Cost factors used are those gained from the experience of the housing program in recent years. The capital outlays listed required to meet the housing needs of the estimated increase in student enrollments in the fall of each of the years listed. on enrollment projections may be found in exhibit I.

Prospective capital outlay, college housing, 1966-75

[Dollar amounts in millions]

	Public institutions	Private institutions	Total
1966.....	\$672.2	\$532.6	
1967.....	713.6	668.7	
1968.....	535.9	341.8	
1969.....	376.3	213.5	
1970.....	523.5	403.7	
1971.....	474.6	417.5	
1972.....	742.1	553.6	
1973.....	610.6	397.4	
1974.....	714.9	510.9	
1975.....	716.6	503.4	
Total.....	6,080.3	4,543.1	
Percent.....	57.23	42.77	

Using the experience of the college housing program, the pr
of the estimated need ascribed to varying community size is e
as follows:

Population:

More than 50,000.....	50.
2,500 to 49,999.....	
Less than 2,500.....	

100.

Reporting institutions in the Office of Education's college
university facilities survey, part 2, planning for college and u
physical plant expansion 1956-70, reported expected sources of
as follows:

*Percentage distribution of proposed sources of funds for residential and
facilities planned by higher education institutions 1956-70*

Sources of funds	Public		Private
	Auxiliary	Residential	Auxiliary
Appropriations:			
State.....	25.08	15.97	
Local.....	.17	.06	
Federal.....	13.16	4.39	1.30
Taxes:			
State.....	.38	.82	
Local.....	.88	.02	
State earmarked.....	.51	.66	
Local earmarked.....	.12	.04	
Bonds:			
State.....	3.20	2.53	
Local.....	.44	.01	
Institutional.....	2.06	.38	.90
Revenue.....	40.16	69.65	29.97
Other sources:			
Gifts and grants.....	6.03	1.51	53.99
Outside borrowing.....	.88	.25	1.91
Endowment investment.....	.36	.06	1.45
Investment of college funds.....	2.84	2.00	4.15
Other.....		.01	
Uncertain.....	3.73	1.63	6.33

Source: College and University Facilities Survey, pt. 2, U.S. Office of Education, 1960.

Applying these estimates to the prospective capital outlay
the following:

Estimated sources of financing, college housing, 1965-75

[In millions of dollars]

	Public	Private	Total
ms:			
State.....	\$1,029.9		\$1,029.9
Local.....	4.4	\$3.2	7.6
Federal.....	323.6	31.2	354.8
State.....	86.2		86.2
Local.....	9.8		9.8
State.....	158.2		158.2
Local.....	3.3		3.3
Institutional.....	33.9	9.8	43.7
Revenue.....	4,044.2	2,353.3	6,397.5
\$:			
Gifts and grants.....	121.6	1,561.3	1,682.9
Borrowing from financial institutions.....	19.3	115.4	134.7
Endowment investment.....	5.6	101.0	106.6
Investment of other college funds.....	127.1	133.2	260.3
Other.....	.5	2.8	3.3
Uncertain.....	112.7	231.9	344.6
Total.....	\$6,080.3	\$4,543.1	\$10,623.4

EXHIBIT 1

ASSUMPTIONS

3, *Degree-credit Enrollment (Aggregate United States)*

1. It is assumed that enrollments are related to live births occurring the period 18 through 21 years before the time of enrollment. Rate assumptions are made about graduate school enrollments the historical data available lumps them with undergraduate students (see p. 4).
2. It is assumed that the historic trend for an increasing proportion live births to be enrolled each year will continue, and that the proportion for men will continue to be different from that for women.
3. It is assumed that both the total and increased enrollments at service schools and at private theological and religious schools continue to be too small to affect estimates significantly. The historical data available did not permit the enrollments at these institutions to be subtracted from the national totals.
4. It is assumed that assumptions 1 and 2 will continue to be true for enrollments at private institutions, as well as for total national enrollments (see pp. 5, 6, and 7).
 - a. It is further assumed that the historic trend for an increasing proportion of total private enrollments to occur at 2-year institutions will continue, and that the proportion for men will continue to be different from that for women.
 - b. It is assumed that the remaining private enrollment will occur at 4-year institutions.
5. It is assumed that the remaining total national enrollment will be at public institutions.
 - a. It is further assumed that the historic trend for an increasing proportion of total public enrollments to occur at 2-year institutions will continue until stabilizing in the fall of 1972, and that the proportion for men will continue to be different from that for women.

b. It is assumed that the remaining private enrollment occur at 4-year institutions.

Design Capacity of Housing Required

The following assumptions are based upon subjective evaluation of information reported by four separate studies of college during the spring of 1956 and the fall of 1957, 1960, and 1962. studies differ in scope, participation and bases. Valid objective comparisons cannot be made among them.

6. It is assumed that private 4-year institutions, excluding logical and religious schools, should provide additional dormitory spaces for 90 percent of the increase in men and women enrolled full time, and have student family units for 2 percent of their total full-time male enrollment.

7. It is assumed that private 2-year institutions should provide additional dormitory spaces for 35 percent of the increase in 100 percent of the women enrolled full time, and have student family units for 1.4 percent of their total full-time male enrollment.

8. It is assumed that public 4-year institutions should provide additional dormitory spaces for 40 percent of the increase in men and 40 percent of the increase in women enrolled full time, and have student family units for 4.5 percent of their total full-time male enrollment.

9. It is assumed that public 2-year institutions should have dormitory spaces for 8.6 percent and student family units for 0.3 percent of their total full-time male enrollment, and dormitory space for 10 percent of their total full-time female enrollment.

Comparison of full-time, degree-credit enrollments, with live births during period 18 to 21 years earlier (aggregate United States)

[In thousands of students]

Enrollment in fall of—	Men			Women		
	Full-time enrollment	Live births 18 to 21 years earlier	Percent of births enrolled	Full-time enrollment	Live births 18 to 21 years earlier	Percent of births enrolled
1962 ¹	1,822	6,026	30.2	1,100	5,708	
1963 ¹	1,914	6,106	31.3	1,176	5,783	
1964 ¹	2,121	6,323	33.5	1,320	5,988	
1965 ¹	2,434	6,690	36.4	1,503	6,335	
1966 ²	2,657	7,047	37.7	1,669	6,676	
1967 ²	2,914	7,452	39.1	1,857	7,062	
1968 ²	3,055	7,561	40.4	1,973	7,173	
1969 ²	3,153	7,561	41.7	2,068	7,179	
1970 ²	3,319	7,700	43.1	2,202	7,316	
1971 ²	3,491	7,862	44.4	2,346	7,470	
1972 ²	3,697	8,089	45.7	2,515	7,690	
1973 ²	3,855	8,203	47.0	2,652	7,801	
1974 ²	4,038	8,360	48.3	2,806	7,949	
1975 ²	4,219	8,506	49.6	2,962	8,093	

¹ Actual.

² Estimated.

Sources: Live births: Bureau of Census; actual enrollments: Office of Education; estimated Community Facilities Administration.

Full-time fall enrollments in private institutions (actual through fiscal year 1966; projected fiscal years 1967-76)

Fiscal year	4-year private			2-year private			Total private		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1963-----	674,712	394,435	1,069,147	28,838	31,014	59,852	703,550	425,449	1,128,999
1964-----	686,272	410,153	1,096,425	30,034	29,828	59,862	716,306	439,981	1,156,287
1965-----	736,040	443,383	1,179,423	35,455	35,753	74,208	774,495	479,136	1,253,631
1966-----	806,445	488,842	1,295,287	46,794	40,552	87,346	853,239	529,394	1,382,633
1967-----	862,000	529,000	1,391,000	54,000	45,000	99,000	916,000	574,000	1,490,000
1968-----	929,000	579,000	1,508,000	62,000	50,000	112,000	991,000	629,000	1,620,000
1969-----	959,000	607,000	1,566,000	69,000	53,000	122,000	1,028,000	660,000	1,688,000
1970-----	976,000	620,000	1,596,000	75,000	55,000	130,000	1,051,000	675,000	1,726,000
1971-----	1,011,000	650,000	1,661,000	82,000	60,000	142,000	1,093,000	710,000	1,803,000
1972-----	1,043,000	683,000	1,726,000	89,000	64,000	153,000	1,132,000	747,000	1,879,000
1973-----	1,090,000	724,000	1,814,000	99,000	68,000	167,000	1,189,000	792,000	1,981,000
1974-----	1,123,000	754,000	1,877,000	107,000	73,000	180,000	1,230,000	827,000	2,057,000
1975-----	1,163,000	789,000	1,952,000	116,000	77,000	193,000	1,279,000	866,000	2,145,000
1976-----	1,201,000	824,000	2,025,000	126,000	82,000	208,000	1,327,000	906,000	2,223,000

Full-time fall enrollments in public institutions (actual through fiscal year 1966; projected fiscal years 1967-76)

Fiscal year	4-year public			2-year public			Total public		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1963-----	949,042	584,561	1,533,603	168,921	90,029	258,950	1,117,963	674,590	1,792,553
1964-----	1,022,082	642,214	1,664,296	175,589	93,442	269,031	1,197,671	735,656	1,933,327
1965-----	1,134,630	729,708	1,864,338	212,194	111,651	323,845	1,346,824	841,359	2,188,183
1966-----	1,305,488	838,807	2,144,295	275,235	135,092	410,327	1,580,723	973,899	2,554,622
1967-----	1,414,000	936,000	2,350,000	327,000	159,000	486,000	1,741,000	1,095,000	2,836,000
1968-----	1,521,000	1,043,000	2,564,000	402,000	185,000	587,000	1,923,000	1,228,000	3,151,000
1969-----	1,611,000	1,116,000	2,727,000	416,000	197,000	613,000	2,027,000	1,313,000	3,340,000
1970-----	1,650,000	1,176,000	2,826,000	452,000	217,000	669,000	2,102,000	1,393,000	3,495,000
1971-----	1,714,000	1,250,000	2,964,000	512,000	242,000	754,000	2,226,000	1,492,000	3,718,000
1972-----	1,746,000	1,230,000	3,076,000	613,000	269,000	882,000	2,359,000	1,599,000	3,958,000
1973-----	1,856,000	1,430,000	3,286,000	652,000	293,000	945,000	2,508,000	1,723,000	4,231,000
1974-----	1,942,000	1,515,000	3,457,000	683,000	310,000	993,000	2,625,000	1,825,000	4,450,000
1975-----	2,042,000	1,610,000	3,652,000	717,000	330,000	1,047,000	2,759,000	1,940,000	4,699,000
1976-----	2,140,000	1,706,000	3,846,000	752,000	350,000	1,102,000	2,892,000	2,056,000	4,948,000

Total full-time fall enrollments—Public and private institutions (actual through fiscal year 1966; projected fiscal year 1967-76)

Fiscal year	Total public-private 4-year			Total public-private 2-year			Total public-private		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1963-----	1,623,754	978,996	2,602,750	197,759	121,043	318,802	1,821,513	1,100,039	2,921,522
1964-----	1,708,354	1,052,367	2,760,721	205,623	123,270	328,893	1,913,977	1,175,637	3,089,614
1965-----	1,870,670	1,173,091	3,043,761	250,649	147,404	398,053	2,121,319	1,320,495	3,441,814
1966-----	2,111,933	1,327,649	3,439,582	322,029	175,644	497,673	2,433,962	1,503,293	3,937,255
1967-----	2,276,000	1,465,000	3,741,000	381,000	204,000	585,000	2,657,000	1,669,000	4,326,000
1968-----	2,450,000	1,622,000	4,072,000	464,000	235,000	699,000	2,914,000	1,857,000	4,771,000
1969-----	2,570,000	1,723,000	4,293,000	485,000	250,000	735,000	3,055,000	1,973,000	5,028,000
1970-----	2,626,000	1,796,000	4,422,000	527,000	272,000	799,000	3,153,000	2,068,000	5,221,000
1971-----	2,725,000	1,900,000	4,625,000	594,000	302,000	896,000	3,319,000	2,202,000	5,521,000
1972-----	2,789,000	2,013,000	4,802,000	702,000	333,000	1,035,000	3,491,000	2,346,000	5,837,000
1973-----	2,946,000	2,154,000	5,100,000	751,000	361,000	1,112,000	3,697,000	2,515,000	6,212,000
1974-----	3,065,000	2,269,000	5,334,000	790,000	383,000	1,173,000	3,855,000	2,652,000	6,507,000
1975-----	3,205,000	2,399,000	5,604,000	833,000	407,000	1,240,000	4,038,000	2,806,000	6,844,000
1976-----	3,341,000	2,530,000	5,871,000	878,000	432,000	1,310,000	4,219,000	2,962,000	7,181,000

Reported capacity of residence halls for single persons, fiscal year 1963

	Public		Private		Public and private		
	Men	Women	Men	Women	Men	Women	Total
4-year institutions.....	289,297	280,827	254,906	231,838	544,203	512,665	1,056,868
2-year institutions.....	14,525	7,516	16,735	24,139	31,260	31,655	62,915
Total.....	303,822	288,343	271,641	256,077	575,463	544,320	1,119,783

Reported capacity of dwellings for married students, fiscal year 1963

	Public	Private	Total
4-year institutions.....	42,159	12,485	54,644
2-year institutions.....	547	423	970
Total.....	42,706	12,908	55,614

Percentage of full-time enrollments housed, fiscal year 1963

	Single student dwellings			Student families
	Men	Women	Total	
Public institutions:				
4-Year.....	31.76	48.67	38.24	2.80
2-Year.....	7.85	7.67	7.79	.19
Private institutions:				
4-Year.....	42.97	63.09	50.58	1.31
2-Year.....	54.16	76.44	65.00	.58
Total, public and private:				
4-Year.....	36.20	54.30	43.10	2.21
2-Year.....	15.49	25.55	19.27	.27
Total, all institutions.....	33.54	50.69	40.06	1.96

Source: Cartter, Allan, *American Colleges and Universities*, American Council on Education, 1964; Gleazer, Edmund J., Jr., *American Junior Colleges*, American Council on Education, 1963; *Opening Fall Enrollments in Education, 1962*, U. S. Office of Education.

CHAPTER 21

Educational Television *

A. NATURE AND COMPOSITION OF PUBLIC WORK OR FACILITY

1. DESCRIPTION OF FACILITIES

(a) Educational television broadcast (ETV) stations operate on television channels which have been reserved for noncommercial educational use. A total of 632 channels have been reserved for this purpose by the Federal Communications Commission. The same general physical characteristics apply to both commercial TV and ETV stations. Each station requires a transmitter, antenna, and related equipment in order to transmit a signal. Space to house the transmitter is also required. Program producing ETV stations require a wide variety of production equipment including TV cameras and videotape recorders. In addition, program producing ETV stations require studio and office space. Repeater ETV stations, which receive all of their programs from other sources, usually only require space to house their transmitters.

(b) The majority of the existing ETV stations are physically located in urban areas. Because of their transmitting power, however, ETV stations provide a broadcast service to nonurban, agricultural, and sparsely populated areas in addition to the urban areas where they are physically located. On the average, ETV stations devote almost 50 percent of their broadcast hours to instructional television programs most of which are intended for classroom reception in elementary and secondary schools. Many credit and noncredit higher education ETV courses are also provided. The remaining broadcast hours are generally devoted to cultural and entertainment programs and programs of a community service nature such as job training and basic health information.

(c) The average ETV station is on the air between 9 and 10 hours a day and operates 5 days a week.

(d) Pursuant to Federal Communications Commission Rules and Regulations, noncommercial educational broadcast stations are licensed only to nonprofit educational organizations upon a showing that the proposed stations will be used primarily to serve the educational needs of the community; for the advancement of educational programs; and to furnish a nonprofit and noncommercial television broadcast service. Educational purposes as applied to educational television broadcasting means the transmission of educational, community service, and cultural programs.

*Prepared by John W. Bystrom, assistant to the Assistant Secretary for Education, and John J. Hurley, deputy assistant to the Assistant Secretary for Education, Department of Health, Education, and Welfare, with minor editing by committee staff.

The nature of the surrounding terrain, antenna height, and transmitting power each have an effect on the total area covered by an ETV station broadcast signal. The maximum effective radiated power for ETV stations operating on VHF channels 2 through 6 is 100 kilowatts and for ETV stations operating on VHF channels 7 through 13 is 316 kilowatts. The maximum effective radiated power for ETV stations operating on UHF channels 14 through 83 is 5 megawatts. The coverage areas of ETV stations average from between 15 to 70 miles.

Based on the average operating schedule, it is estimated that most of an ETV station's broadcast equipment fully depreciates over a 10-year period.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) As of June 30, 1965, there were a total of 103 ETV stations in operation in the United States and Puerto Rico.

(b) These facilities were distributed as follows:

Alabama.....	5	Nebraska.....	1
Alaska.....	0	Nevada.....	0
Arizona.....	2	New Hampshire.....	1
Arkansas.....	0	New Jersey.....	1
California.....	7	New Mexico.....	1
Colorado.....	1	New York.....	3
Connecticut.....	1	North Carolina.....	1
Delaware.....	1	North Dakota.....	1
District of Columbia.....	1	Ohio.....	8
Florida.....	7	Oklahoma.....	3
Georgia.....	5	Oregon.....	2
Hawaii.....	0	Pennsylvania.....	5
Idaho.....	0	Puerto Rico.....	2
Illinois.....	3	Rhode Island.....	0
Indiana.....	0	South Carolina.....	2
Iowa.....	1	South Dakota.....	1
Kansas.....	0	Tennessee.....	2
Kentucky.....	1	Texas.....	5
Louisiana.....	1	Utah.....	5
Maine.....	4	Vermont.....	0
Maryland.....	0	Virginia.....	2
Massachusetts.....	1	Washington.....	5
Michigan.....	3	West Virginia.....	0
Minnesota.....	3	Wisconsin.....	3
Mississippi.....	0	Wyoming.....	0
Missouri.....	2		
Montana.....	0	Total.....	103

(c) The 103 ETV stations in operation as of June 30, 1965, were physically located in cities of the following population size:

500,000 or more.....	22	10,000-49,999.....	23
100,000-499,999.....	41	2,500-9,999.....	6
50,000-99,999.....	10	Under 2,500.....	1

ETV stations provide a broadcast service to a much wider area than the cities wherein they are physically located. For example, ETV station KCSM-TV is located in San Mateo, Calif., which has a population of 69,870. However, the station provides a broadcast service to an area which has a total population of 2,385,866. ETV station WNDT is located in Newark, N.J., which has a population of 405,220. The station currently serves a population of 11,400,000.

- will soon serve a population of 16,300,000 as a result of a recent grant under the Educational Television Facilities Act.
- (d) ETV stations were first authorized by the Federal Communications Commission in 1952. From 1953 through 1960 a total of 51 were activated. An additional 52 stations were activated 1961 through June 30, 1965.
 - (e) Of the 114 ETV stations in operation as of December 31, 1965, or 44 percent were owned by State agencies, including State colleges and universities; 39, or 34 percent were owned by community associations; and 25, or 22 percent were owned by city and county authorities. No stations were owned by profit-organizations or by the Federal Government.
 - (f) The estimated value of 114 ETV stations in operation as of December 31, 1965, was \$61.5 million.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

- (a) ETV station construction costs are divided between (1) costs housing station operations (studios, offices, transmitter buildings, and (2) broadcast equipment.

The wide range of basic requirements and methods utilized to housing for the operation of ETV stations makes it difficult subject these costs to a standard unit of measurement. For many stations operate as repeater stations receiving all of programs from other sources and thus require no more than a transmitter building. Many stations are provided operating within the existing plants of the universities and school systems which they are licensed.

Grants under the Educational Television Facilities Act (Public Law 87-447) are available for the acquisition of eligible transmission systems. As of December 31, 1965, 28 new ETV stations had been licensed with Federal grant assistance. Of these, 9 were repeater stations requiring minimal land and building costs. An additional 9 were licensed to school districts or institutions of higher education. A high percentage of nonproject costs for these stations were not identifiable since they were absorbed within existing transmitter plants. The remaining 10 stations were licensed to community associations. Nonproject costs for these 10 stations break down as follows:

Three of the ten stations had land or land development costs totaling \$39,700, or an average of \$13,233 for each of the three stations.

Nine of the ten stations had building costs totaling \$1,244,804, or an average of \$138,311 for each of the nine stations.

Eight of the ten stations had nonproject broadcast and general purpose equipment costs totaling \$155,000 or an average of \$19,375 for each of the eight stations.

Eight of the ten stations had office equipment costs totaling \$140,954 or an average of \$17,619 for each of the eight stations. The average new station activation grant during 1965 under the Educational Television Facilities Act for eligible broadcast equipment

alone was \$235,000. Since these grants were made on a 50 percent matching basis the total investment in equipment for such a station would be approximately \$470,000.

A recent study of ETV stations financing indicates that the average station investment in overall broadcast property is \$540,000.

(b) ETV station operating expenses vary widely. A station, for example, operates for very much less than a program producing station. Personnel salaries, the largest single expense account for approximately 44 percent of the operating expense stations. The NDEA study of ETV station financing indicates 17 percent operate with less than \$100,000 a year and 39 percent operate with less than \$200,000 a year. Only five stations require more than \$1 million a year to operate.

(c) The estimated first-year operating costs for the 10 ETV stations licensed to nonprofit community associations and analyzed averaged \$201,145. Estimated total salary costs for these stations averaged \$114,440 (57 percent of total estimated operating costs). Of this amount, total administration salary costs averaged \$16,000 (16 percent of total estimated operating costs), total production salary costs averaged \$45,210 (23 percent of total estimated operating costs), and total engineering salary costs averaged \$36,882 (18 percent of total estimated operating costs).

2. USER CHARGES

Under the Rules of the Federal Communications Commission, ETV stations cannot charge for broadcast time in the same manner as commercial TV stations. However, ETV stations are permitted to charge for certain types of services including the production of instructional programs for local schools and institutions of higher education. Services account for approximately 21 percent of the income of ETV stations. In no instance does compensation for services exceed the sum of prorated operating and capital costs.

Of the 114 ETV stations in operation as of December 31, 1965, 50 were owned by State instrumentalities and 25 by local government agencies. Of these 75 stations, 45 had received matching educational grants under the Educational Television Facilities Act totaling \$10 million. All other facilities and construction costs for the 75 stations were met out of general tax resources and general obligation bonds of State and local government units.

C. TREND OF CAPITAL OUTLAYS

1. ETV stations were first authorized in 1952. The rate of station activations was initially slow. For example, one station was activated in 1953, nine were activated in 1954, and seven in 1955. This rate has increased to the point where 16 new stations were activated in 1964 and 15 in 1965.

2. Capital financing for the estimated investment of \$61.5 million in 114 ETV stations was from sources listed below.

(a) Approximately \$22.2 million was appropriated by the States for the 50 ETV stations owned by State agencies.

(b) Approximately \$16.6 million was derived from gifts, bequests, donations, and fund raising drives for the 39 ETV stations owned by nonprofit community associations.

(c) Approximately \$10.6 million was derived from general obligation borrowings of city and county authorities for the 25 ETV stations owned by such authorities.

(d) Matching grants under the Educational Television Facilities Act provided \$12.1 million.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

In terms of the Great Society, capital requirements for ETV stations in the decade 1966-75 total \$354 million.

(a) *Great Society Requirements*

National interest.—It is a national necessity that the capability exist for providing needed knowledge quickly and universally directly to schools and to homes.

Equity.—An ETV signal should be available to every citizen and not limited to those in the centers of wealth and population.

Effectiveness.—As a result of research and demonstrations over the last decade, it is known that television can be used to teach effectively a wide variety of subjects and to expand educational opportunity. Operation experience to date has shown the great potential of statewide interconnection of television facilities and other network arrangements in providing otherwise unavailable high quality materials at reasonable cost to numbers of people who may be widely scattered.

Increased need.—In every sector of the public service there are comparable problems which can be assisted by the use of noncommercial educational television. These include the limited number of trained professionals, greatly increased knowledge, greatly increased need and demand for services by an expanding population, greater differentiation of functions within the service involving an increase in professional specialties, expanded role for subprofessional and semi-skilled categories, and increased stress on public self-reliance assisted by the distribution of public information. There is an increasing use by private industrial management of noncommercial television for training.

Attack on poverty.—The new directions of public policy can be greatly implemented by an effective noncommercial television service. These include emphasis on employment training, increased attention to the needs of certain special groups within the society such as the aging, new efforts to improve the environment in which we live, and greater emphasis on the development of new cultural opportunities.

The Federal Communications Commission has reserved a total of 632 ETV channels in order to make possible a minimum service of one ETV signal in every part of the United States and 2 ETV signals in 40 major population centers. More than 500 additional ETV stations would be required to attain this goal. A number of the presently unused reserved channels are located in very sparsely populated areas. It is possible that State and local authorities would

determine that activation of such channels would be economically inefficient. For this reason, a total of 400 new ETV stations has been used as a basis for this 10-year projection.

(b) The 10-year projection is based on construction of 40 new stations per year with an average total capital investment of \$540,000 for each new station. Of this amount, \$470,000 is attributed to the cost of broadcast equipment alone for each station. The increasing sophistication of TV equipment, including color equipment, will undoubtedly increase basic costs over the next 10 years. This is offset, however, by the fact that it is estimated that approximately 50 percent of the new ETV stations activated during this period will be repeater stations requiring a considerably lower equipment investment than program producing stations. The following table sets forth total capital outlay requirements for 40 new ETV stations per year. It also reflects broadcast equipment replacement costs based on a 10-year depreciation schedule.

[In millions of dollars]

	Capital outlay—40 new ETV stations per year	Capital outlay—equipment replacement costs	Total capital outlay, 1966-75
1966.....	21.6	5.4	27.0
1967.....	21.6	7.2	28.8
1968.....	21.6	9.1	30.7
1969.....	21.6	11.0	32.6
1970.....	21.6	12.8	34.4
1971.....	21.6	14.8	36.4
1972.....	21.6	16.6	38.2
1973.....	21.6	18.5	40.1
1974.....	21.6	20.4	42.0
1975.....	21.6	22.3	43.9
Total.....	216.0	138.0	354.0

NOTE.—All estimates are based on 1965 dollar values.

(c) ETV stations provide a broadcast service to a much wider area than the cities wherein they are physically located. Of the 400 new ETV stations used as a basis for the 10-year projection, it is estimated that 200 would be program producing—transmitting stations, physically located near major population and education centers in the States. The remaining 200 ETV stations would be repeater stations retransmitting materials provided by program producing stations to more sparsely populated areas.

(d) It is estimated that capital outlays for 400 additional ETV stations and yearly broadcast equipment replacement costs would be expended as follows:

- (1) State governments or State agencies, 50 percent.
- (2) Cities, counties, towns, special districts, public authorities or other local public bodies, 33½ percent.
- (3) Private, nonprofit organizations and cooperatives, 16½ percent.
- (4) Proprietary or profitmaking organizations, none.
- (5) Federal Government, none.

CHAPTER 22

Hospital Facilities*

A. NATURE AND COMPOSITION

1. DESCRIPTION OF THE FACILITIES

and (b) *Physical Description and Services*

This chapter will be mainly concerned with general short-term Information on tuberculosis hospitals is included wherever and appropriate.¹

The origin of hospitals in the United States dates back to colonial

At first, any efforts to care for the sick were incidental to for the poor and unfortunate through almshouses. Philadelphia General Hospital, considered by some to be the oldest hospital the United States, traces its history back to "Old Blockley"

which was originally established as a public almshouse in The first incorporated hospital in America, known as The Pennsylvania Hospital, was established in Philadelphia in 1751 solely the care of the physically and mentally ill without regard to status, race or creed. Other early hospitals grew out of a to provide a place for clinical practice for medical schools, in New York, Massachusetts, and Connecticut. These early hospitals chiefly of voluntary sponsorship, other than church or public.

For the next century, hospital construction progressed slowly. the first census of hospitals was made by the U.S. Bureau of in 1873, only 178 hospitals were listed. During this period growth, ideas were changing with regard to the place of the in society. It ceased to be considered principally as an ment for the care of the indigent sick and gradually developed a place for the treatment of people of all classes of society. Ideas ving, also, with regard to the requirements for adequate care the sick, as well as the concept of preventive medicine.

In the early years of the 20th century, rising levels of income stimu- local efforts to construct facilities needed to meet broadening for hospital care. Private fortunes created during the era ial expansion contributed greatly to the building of hospitals. 1909, a hospital census listed 4,359 hospitals. The growth of accelerated steadily through the prosperous decade following War I. The distribution was uneven, however, with over- in some communities and a complete lack of facilities in

*Prepared by Division of Hospital and Medical Facilities, Public Health Department of Health, Education, and Welfare, with minor editing by staff.

hospitals please refer to the chapter on Community Mental Health Centers. Chronic ls are included in the chapter "Long-term Care Facilities."

With the coming of the depression in 1929, new hospital construction practically ceased. More than 700 hospitals were unable to find sufficient operating funds and were forced to close. World War II hospital construction remained at minimum. Following the war, growing demands and increasing shortages drew national attention to the need for hospital facilities as a major part of postwar planning. In October 1944, a Commission on Hospital Care was organized under the sponsorship of the Public Health Service and the American Hospital Association, to study hospital construction. The direct outgrowth was the enactment of the Hospital Survey and Construction Act (Hill-Burton) in August 1946 as title VI of the Public Health Service Act. The purposes of the program thus established were twofold:

1. To assist States in inventorying existing facilities as a basis for determining their need for additional facilities and for developing comprehensive plans for construction of needed facilities, and

2. To provide the necessary incentive, through Federal assistance to the States, for constructing long-needed public and nonprofit hospitals, public health centers, and related hospital facilities—particularly in rural areas.

The availability of modern hospital facilities has helped to attract physicians, including specialists, to relatively isolated areas; and the ratio of physicians to population in these areas as a whole has been fairly constant in recent years. Today the general hospital is organized as the focal point of community health, the training ground for health personnel, and a center for medical research. Never before in some areas and particularly in metropolitan centers, the hospital plant is outmoded, poorly located, and sorely in need of repair or replacement.

Physical characteristics of general hospitals are not readily subject to generalization. Little comparison can be made between a one-story 20-bed hospital on the outskirts of a small town and a 500-bed multistoried and multistructured teaching hospital in a State's largest city. Of necessity the small rural hospital is not able to have the variety of medical skills, costly equipment and special facilities of the large urban hospital.

Today's general hospitals range widely in size and services depending upon location, number of persons to be served, and availability of other health facilities. The average size of a hospital is about 125 beds, of which 85 are medical-surgical, 20 surgical, and 15 pediatric. Basic services and departments include blood bank, central supply, clinical laboratory, electrical department, medical record department, outpatient and emergency departments, pharmacy, X-ray diagnosis, operating rooms, delivery room, postoperative recovery room, medical library, premature nursery, and a physical therapy department.

As hospitals increase in size, the variety and types of services provided increase correspondingly. For example, the 400-bed hospital may consist of a number of wings, units, or separate buildings which provide, in addition to the services listed above, the following departments or services: cancer clinic, dental department, medical service department, X-ray therapy, school of nursing, radioisotope facility, electroencephalograph, and a psychiatric unit.

Tuberculosis hospitals were often located far from urban centers the introduction of modern drug therapy in the 1940's. This accordance with the then-prevalent theory that an abundance of fresh air and the avoidance of the stresses of urban living were in the treatment of the disease. Since then, potent chemotherapies have enabled an increasing proportion of patients to receive the major part of their treatment through outpatient care after a brief period of hospitalization. This practice, together with the increase in the rate of new active cases, has served to drastically increase the demand for tuberculosis facilities. Many such hospitals, especially the smaller State or local government tuberculosis facilities, have either closed or converted in whole or in part to other uses.

Quantitative Standards of Performance

Hill-Burton State agencies are currently in the process of submitting plans in which, for the first time, all States will determine their facility needs for hospital facilities on the basis of utilization rate, occupancy, and population served. Uniform criteria for existing beds and for determining the need for facility expansion are also being newly applied. Total beds in existence at the present time are equivalent to 3.97 beds per 1,000 population. The plans received thus far show a national need for 4.11 general hospital beds per 1,000 population (including 3.97 already in existence). However, among many of the States, the gaps between available beds and beds needed per 1,000 population are considerably greater than indicated by the averages for the Nation as a whole.

An additional task facing the country's general hospitals is to repair or renovate approximately 260,000 beds now obsolete due to age or safety hazards or functional deficiencies. Final estimates of the cost for modernization and new capacity will be available later in the year when all State plans have been approved and summarized. The decreased utilization of tuberculosis facilities is clearly illustrated by preliminary findings from State Hill-Burton plans for fiscal year 1966. A national estimate from plans received to date indicates a total need for 0.23 tuberculosis beds per 1,000 population compared with a total of 0.27 such beds per 1,000 population in existence at this time.

Minimum standards for evaluating the structural safety and efficiency of existing hospitals were recently established by the Public Health Service. These standards refer to:

- A. Structural resistance to fire.
- B. Safety of electrical and mechanical equipment, exits, fire alarm system, interior finishes, shafts, smoke barriers, etc.
- C. Patient areas, including room size, corridor width, nurses' stations, windows, and access to corridors.
- D. Service departments, including surgical suite, radiological department central supply, and dietary area.

The standards may be raised or expanded in scope at the State's discretion.

Other PHS standards provide that in the nursing department the patient room should have no more than four beds, not be located on any floor which is below ground level, and have a minimum of 100 square feet of floor space.

80 square feet per bed in two- and four-bed rooms and 100 feet in single bed rooms. Other requirements or recommendations relate to service facilities in each nursing unit, such as nurses' utility room, pantry, storage, and treatment room; also to surgical, obstetrics, emergency, outpatient, contagious disease, and psychiatric departments or units.

(d) *Qualitative Standards of Performance*

Certification of hospitals by the Joint Commission on Accreditation of Hospitals is one measure of qualitative performance. Since completing the field survey of hospitals in January 1953, the Commission has surveyed all hospitals applying for accreditation and periodically resurveyed those fully or provisionally approved.

In 1964, the non-Federal hospitals registered with the American Hospital Association included 5,712 short-term general and specialty hospitals.² Of these 5,712 hospitals, 3,415 were accredited.³ The average size of these 3,415 accredited hospitals is 183 beds; the average size of the 5,712 registered short-term hospitals is 126 beds.

TABLE 1.—*Accredited and total registered non-Federal short-term general hospitals and beds, 1964*

Control	Hospitals		Beds
	Total	Accredited	Total
Voluntary nonprofit.....	3,402	2,493	498,677
Proprietary.....	870	255	46,022
State and local government.....	1,440	667	176,111
Total.....	5,712	3,415	720,810

Of the 187 tuberculosis hospitals registered in 1964 with the American Hospital Association, 108 were accredited.⁴ As is the case with general hospitals, the accredited tuberculosis hospitals are significantly larger in average size than the nonaccredited hospitals. The average size of accredited tuberculosis hospitals was 271 while the other registered hospitals averaged 131 beds.

TABLE 2.—*Accredited and total registered tuberculosis hospitals and beds, 1964*

Control	Hospitals		Beds
	Total	Accredited	Total
Voluntary nonprofit.....	14	10	2,060
Proprietary.....	3	—	205
State and local government.....	170	98	37,324
Total.....	187	108	39,589

² Short-term hospitals are those having an average stay of less than 30 days. The term "specialty" as used here includes maternity, EENT (eye, ear, nose, and throat), children's, orthopedic, and psychiatric and tuberculosis facilities.

³ *Hospitals*, Journal of the American Hospital Association, guide issue, Aug. 1, 1965, p. 484.

⁴ *Hospitals*, Journal of the American Hospital Association, guide issue, Aug. 1, 1965, p. 484.

Federal Government recognition of the importance of accreditation by the Joint Commission is evidenced by the effort made to operate and maintain federally-owned facilities at a level which will meet the accreditation standards. The recently enacted medicare legislation, it is important to note, prescribed that general hospitals currently accredited by the Joint Commission will be deemed to meet all conditions of participation in the program provided that they also furnish adequate evidence of an effective utilization review plan. In the case of tuberculosis and psychiatric hospitals, there are additional staffing and medical records requirements considered necessary for the provision of intensive care.

Almost all States have established licensure requirements for the full operation of general hospitals. As of the beginning of 1964, however, one State had no licensure law or regulations for general hospitals and another State licensed only hospitals operated for profit. Some States, in 1964, did not license some publicly owned hospitals—State, State and county, or county and municipal. Several others license only the maternity departments and only approve or certify hospitals as eligible to receive payments for public aid recipients. In all except five States the licensing agency is the health department. Licensure requirements vary widely from one State to another. A few States have licensure laws which have not been revised for 20 or 30 or more years and do not cover new functions assumed by hospitals in that time or changes in functions existing at the time the law was last updated.

A further indication of qualitative standards of performance is the extent to which existing hospital beds need modernization. As mentioned previously under "quantitative standards," Hill-Burton State agencies are now in the process of submitting plans which show the total number of beds needed and the count of existing beds. These State plans also show the number of beds which conform and do conform to the minimum Public Health Service physical plant on standards plus any standards added or increased by the itself. A preliminary estimate, based on the plans received to this time, is that about 260,000 general hospital beds are in of modernization, that is, do not conform to the minimum ls. In terms of population this means that of the estimated existing beds per 1,000 population, an estimated 2.58 beds per 1,000 population conform to the State and Public Health Service ls and 1.39 need modernization.

Tuberculosis beds are also being measured against these State and Health Service plant evaluation standards. Again using the plans received thus far, the tentative estimate of tuberculosis which conform to the plant evaluation standards is equivalent 0.18 beds per 1,000 population, or two-thirds of the 0.27 total tuberculosis beds per 1,000 population.

2. EXISTING CAPITAL PLANT

and (b) *Number of Facilities and Distribution by State*

At the beginning of 1965, Hill-Burton State plans showed a total of general hospitals. This number includes facilities that have approved and/or scheduled for construction by Hill-Burton

State agencies. State distribution of both general and tuberculosis facilities is given in table 3. Among the States, Texas has the largest number of general hospitals—601, and Delaware the fewest—11. Tuberculosis facilities consisted of 234 hospitals and 103 units in hospitals of other categories.

TABLE 3.—Non-Federal general and tuberculosis facilities, by State, Jan. 1, 1965¹

State	General hospitals	Tuberculosis facilities		State	General hospitals	Tuberculosis facilities	
		Hospitals	Units ²			Hospitals	Units ²
Grand total, United States and territories	6,915	234	103	Mississippi	135	1	—
Total, United States	6,782	228	101	Missouri	166	3	1
Alabama	158	8	—	Montana	65	1	—
Alaska	26	—	3	Nebraska	119	1	—
Arizona	73	2	9	Nevada	20	2	—
Arkansas	113	2	—	New Hampshire	30	1	—
California	561	11	26	New Jersey	107	6	—
Colorado	83	3	5	New Mexico	55	4	—
Connecticut	36	3	1	New York	381	10	—
Delaware	11	1	—	North Carolina	152	4	—
District of Columbia	14	1	3	North Dakota	62	1	—
Florida	184	3	2	Ohio	217	18	—
Georgia	190	1	—	Oklahoma	180	3	—
Hawaii	24	4	—	Oregon	86	1	—
Idaho	52	1	—	Pennsylvania	267	7	—
Illinois	266	23	3	Rhode Island	17	—	—
Indiana	116	7	1	South Carolina	75	—	—
Iowa	147	2	1	South Dakota	69	—	—
Kansas	156	3	1	Tennessee	182	—	1
Kentucky	138	8	—	Texas	601	—	—
Louisiana	166	2	4	Utah	43	—	—
Maine	62	2	—	Vermont	26	—	—
Maryland	46	4	1	Virginia	111	—	—
Massachusetts	135	5	—	Washington	122	—	—
Michigan	272	10	5	West Virginia	84	—	—
Minnesota	182	4	1	Wisconsin	171	26	—
				Wyoming	28	—	—
				Gum.	1	—	—
				Puerto Rico	129	—	—
				Virgin Islands	3	—	—

¹ As reported in Hill-Burton State plans.

² Units of 10 or more tuberculosis beds in general, mental, or chronic disease hospitals.

(c) Distribution of Facilities by Size of Community

The distribution by size of community of general and tuberculosis hospital facilities inventoried in Hill-Burton State plans can only be estimated. Available sources show that almost three-fourths of Federal general hospitals are located in communities of less than 10,000 population. In terms of beds, however, less than half are in communities due to the fact that the average size of hospitals is considerably larger in the larger urban areas (see table 4).

Tuberculosis hospitals do not vary in size directly with community population. Nearly half of all tuberculosis beds are located in communities with fewer than 10,000 persons, the result of a once-popular theory that an abundance of fresh air and complete isolation from stresses and strains of urban living were necessary in the treatment of the disease.

4.—*Estimate of non-Federal general and tuberculosis hospitals and beds by size of community*

Size of community	General		Tuberculosis	
	Hospitals	Beds	Hospitals	Beds
Total.....	6, 915	766, 793	234	55, 287
over.....	726	171, 762	17	8, 956
1,999.....	747	154, 125	46	8, 791
99.....	477	89, 715	27	4, 147
99.....	1, 611	191, 698	55	11, 500
99.....	1, 846	98, 916	29	5, 252
Under 2,500.....	1, 508	60, 577	60	16, 641

Source: *Hill-Burton State Plan Data*, Jan. 1, 1965; and *Master Register of Hospitals*, 1963.

(d) *Age of Facilities*

Data are not available as to the age distribution of hospitals. Many facilities have renovated or replaced at least part of their physical space since their original construction. Information for each hospital as to the construction history of each building or unit would be required in order to be meaningful.

(e) *Ownership*

The estimated distribution of general and tuberculosis hospitals by type of ownership is given in table 5. Private nonprofit general hospitals make up over half of all non-Federal general hospitals in Hill-Burton State plans. In tuberculosis facilities the predominate ownership is by local government with State hospitals next and in third position the private nonprofit tuberculosis hospitals. As can be seen in table 5, however, the relative positions of the ownership groups in both general and tuberculosis hospitals are altered when number of beds is the criterion instead of number of hospitals, due of course to differences in the average size of hospitals.

TABLE 5.—*Estimate of general and tuberculosis hospitals and beds by ownership*

Ownership	General		Tuberculosis	
	Hospitals	Beds	Hospitals	Beds
Total.....	7, 343	878, 644	243	57, 576
Federal.....	428	111, 851	9	2, 289
Total non-Federal.....	6, 915	766, 793	234	55, 287
State.....	318	42, 940	75	26, 593
ment.....	1, 514	164, 861	126	24, 548
Private nonprofit.....	3, 541	497, 649	28	3, 704
Proprietary.....	1, 542	61, 343	5	442

Source: *Hill-Burton State Plan Data*, Jan. 1, 1965; and *Master Register of Hospitals*, 1963

(f) *Current Value*

Total assets and plant assets of all hospitals registered by the American Hospital Association are reported in the annual "guide issue" of *Hospitals*, the association's journal. Plant assets include all funds invested in, or available for additions to land, buildings, and equipment, less any plant fund liabilities. Plant assets plus all other assets such as general fund balance, temporary fund balance, and endowment fund principal make up total assets. Both kinds of assets are shown in table 6.

In 1964, the latest year available, total assets for all 6,402 registered general and special hospitals¹ amounted to \$17.9 billion (excludes all psychiatric and tuberculosis hospitals). Of this amount, \$13.8 billion was plant assets, composed of \$8.5 billion for voluntary nonprofit hospitals, \$3.2 billion representing State and local government facilities, \$1.9 billion for federally owned general and special hospitals and \$0.3 billion in proprietary hospitals. (See table 6.)

Total assets of tuberculosis hospitals amounted to \$471 million and plant assets were \$437 million. State and local government tuberculosis plant assets are 89 percent of this total, or \$387 million. The remainder consisted of Federal—\$29 million, voluntary nonprofit—\$18 million and proprietary tuberculosis hospitals—\$3 million.

In reference to the assets information in table 6 and to all other data from the "guide issue" of *Hospitals*, it should be noted that there is some underrepresentation of proprietary hospitals therein. While the hospitals not represented are probably smaller and involve only a relatively minor volume of patient care, their absence does have some slight effect.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

(a) Construction Costs

There are three main types of construction pertaining to hospitals: new buildings, additions to existing buildings, and remodeling. In many construction projects, two or all three of these types are involved. Construction cost per square foot or per bed is available on a national basis only for a sample of new general hospital buildings aided through the Hill-Burton program. The 1964 survey in table 7 should be interpreted with caution, due to the small size of the sample used in comparison with the volume of construction nationally.

TABLE 6.—Assets of general and tuberculosis hospitals, 1964

[Assets in thousands]

Ownership	General and other special ¹			Tuberculosis		
	Number of hospitals	Total assets	Plant assets	Number of hospitals	Total assets	Plant assets
Total.....	6, 402	\$17, 890, 126	\$13, 822, 318	194	\$470, 537	\$436, 829
Federal.....	390	1, 859, 045	1, 850, 988	7	29, 005	29, 005
Total non-Federal.....	6, 012	16, 031, 081	11, 971, 330	187	441, 532	407, 824
Private nonprofit.....	3, 564	11, 837, 003	8, 474, 544	14	26, 161	18, 195
Proprietary.....	889	428, 847	336, 684	3	3, 312	2, 956
State and local government.....	1, 559	3, 765, 231	3, 160, 102	170	412, 059	386, 673
Total short-term.....	5, 712	14, 888, 421	11, 111, 449	-----	-----	-----
Private nonprofit.....	3, 402	11, 422, 566	8, 216, 608	-----	-----	-----
Proprietary.....	870	413, 429	324, 785	-----	-----	-----
State and local government.....	1, 440	3, 052, 426	2, 570, 056	-----	-----	-----
Total long-term.....	300	1, 142, 660	859, 881	-----	-----	-----
Voluntary nonprofit.....	162	414, 437	257, 936	-----	-----	-----
Proprietary.....	19	15, 418	11, 899	-----	-----	-----
State and local government.....	119	712, 805	590, 046	-----	-----	-----

¹ Excludes psychiatric hospitals.

Source: *Hospitals*, Aug. 1, 1965, p. 451.

² Includes all general and special hospitals—short term (defined in footnote 2, p. 414) and long term (having an average stay of 30 days or more).

7.—Construction costs of new general hospital buildings in the Hill-Burton program, 1964 survey

Project size in beds	Number of projects	Square feet per bed	Building and fixed equipment costs		Total project costs	
			Per square foot	Per bed	Per square foot	Per bed
-----	5	724	\$25.09	\$15,267	\$26.04	\$22,213
-----	19	707	27.00	19,086	30.82	21,783
-----	16	708	27.93	19,780	33.31	28,592
-----	10	723	27.33	19,716	33.33	24,047
-----	6	926	27.93	25,869	33.21	30,761
-----	3	925	25.95	23,988	30.72	28,404
Total-----	59	804	27.19	21,871	32.38	26,041

Source: U.S. Department of Health, Education, and Welfare, Public Health Service, *Representative Costs of Hill-Burton Hospitals and Related Health Facilities*, January-April 1965, and unpublished

There is such a wide variation in hospital projects involving additions that costs per square foot or per bed have little meaning. There usually some and often extensive remodeling in conjunction with addition and there also may be considerable equipment expense any particular project. Therefore, national data are not meaningful addition or remodeling type projects.

(b) Operating Costs

The 5,712 non-Federal short-term general and special hospitals added with the American Hospital Association had a total expense of \$8.3 billion in 1964. Payroll expense was \$5.2 billion or 62 percent of total expense. Expense by size of hospital, as shown in table 8, greater payroll expense per bed and per patient-day in the hospitals as well as the inclusion for large hospitals of the expense such services and departments as emergency room, cafeteria, outpatient clinics, occupational therapy, and so forth. Another that for food, has been estimated for all registered hospitals the United States in 1964 at \$1 billion.⁶

TABLE 8.—Total expense of registered non-Federal short-term general and other special hospitals, by size, 1964¹

Size in beds	Number of hospitals	Beds	Total expense		
			Amount (in thousands)	Per bed	Per patient day
-----	583	10,171	\$71,430	\$7,023	\$34.67
25 to 49-----	1,480	52,572	431,363	8,205	35.53
-----	1,449	100,694	936,165	9,297	37.22
100 to 199-----	1,095	151,422	1,640,957	10,837	39.50
200 to 299-----	542	130,759	1,645,119	12,581	43.24
-----	286	97,018	1,255,030	12,936	43.47
-----	122	53,755	714,571	13,293	44.15
500 or more-----	155	124,419	1,654,588	13,299	44.97
Total-----	5,712	720,810	8,349,223	11,583	41.58

¹ Excludes short-term psychiatric hospitals.

Source: *Hospitals*, "Guide Issue," Aug. 1, 1965, pp. 450-451.

⁶ *Hospitals*, Dec. 1, 1965, p. 64.

The hospital plant operation department is the administrative unit responsible for plant maintenance. Dollar costs per patient-day for the plant operation department by geographical region and size, estimated for 1963, are shown in table 9. For this year, the New England region had the highest estimated plant operation expenses per patient-day, \$2.67. The South Atlantic region had the lowest expenses of \$1.97 per patient-day.

Several factors can be mentioned among those responsible for the rising cost of hospital plant operation. The increasing necessity to modernize facilities is one of the most influential factors. Installation of air conditioning, electronic units, and waste disposal systems would be some major examples. Maintenance of electrical and mechanical systems represents an estimated expense of over 40 percent of all hospital maintenance costs. In many of the older hospitals, demands on the electrical and water systems far exceed allowances made during the planning for their initial construction.

2. USER CHARGES

Patient revenue in 1964 for voluntary nonprofit short-term general and other special hospitals amounted to \$5.7 billion, or \$40.40 per patient-day.⁷ Total revenue for the same hospitals was \$6.2 billion, or \$43.28 per patient-day. This exceeded by only 2 percent their total expense of \$6 billion, or \$42.47 per patient-day. The \$5.7 billion in patient revenue represents 95 percent of total expense and 93 percent of total revenue.

Obviously then, patient revenue in general hospitals is not sufficient to cover annual maintenance and operation expenses, which generally make some allowance for depreciation. However, it has been estimated that about 20 percent of hospitals do not calculate depreciation and 70 percent do not fund it.

TABLE 9.—*Plant operation department estimated cost per patient day, 1963, by region and size of hospital*

Size in beds	New England	Middle Atlantic	South Atlantic	East North Central	West North Central	South Central	Mountain States	Pacific Coast
All.....	\$2. 67	\$2. 28	\$1. 97	\$2. 45	\$2. 06	\$2. 11	\$2. 11	\$2. 66
1 to 100.....	2. 56	2. 35	1. 83	2. 50	1. 90	2. 19	2. 02	2. 70
101 to 225.....	2. 46	2. 16	2. 09	2. 39	1. 94	1. 96	2. 17	2. 34
226 and over.....	2. 99	2. 34	2. 00	2. 45	2. 35	2. 18	2. 15	2. 94

Source: *Hospital Management*, June 1965, p. 41.

Practices used by third party payers for handling depreciation differ in various sections of the country. Third-party payers in the East generally allow only historical costs to be depreciated. In the Far West, current replacement cost is generally allowed by the Blue Cross plans and other third-party purchasers of care. It is still generally true, however, that patient revenue does not provide capital requirements above and beyond historical cost depreciation,

⁷ *Hospitals*, "Guide Issue," Aug. 1, 1965, p. 451.

and in some cases capital requirements are not taken into account at all in cost reimbursement formulas. A recent poll of all American and Canadian Blue Cross plans showed that 12 percent (7 out of 59 replying) did not consider depreciation in their reimbursement cost schedules.⁸ An additional factor is the almost unanimous complaint by hospitals that public authorities do not adequately reimburse even operational expenses for public charge patients.

Average annual depreciation costs on a straight line method depend on the expected number of years of useful life. A facility having an expected life of 50 years would depreciate 2 percent yearly.

Depending on the age of the facility or equipment, average annual straight line depreciation costs for existing general hospitals would probably fall within the following limits:

Buildings, 2 to 5 percent.

Fixed equipment, 3 to 6 percent.

Movable equipment, 6 to 10 percent.

Illinois requires that depreciation be based upon historical costs and not permit "interest cost" to be included as a cost. Among 199 hospitals reporting to the Illinois State Health Department, depreciation averaged 5.8 percent in 1964, varying from 5 percent for the 300-bed-and-over hospitals to 6.3 percent for hospitals from 100 to 199 beds in size.⁹ On a per-patient-day cost basis, depreciation added an average of \$2.47 to the daily cost, which came to \$42.61 for all 199 hospitals. The range by size of hospitals was from \$1.90 to \$2.78 per patient-day.

Capital cost expenditures by State and local governments for general hospitals alone are not available. Based upon 1964 construction data for all health facilities, State and local governments are now meeting about 18 percent of the capital costs of all such facilities. This is considerably lower than the 40- to 45-percent range of the early and mid-1950's. Since that time the national volume of health facility construction has almost tripled while construction by State and local governments increased by approximately 10 percent. Public non-hospital outlays are obviously relatively stable and assume a lesser proportion of hospital construction when the volume is high, as is the case now and seemingly will be for the near future.

C. TREND OF CAPITAL OUTLAYS

1. ANNUAL CAPITAL OUTLAY

During the 20 years 1946-65 a total of \$18.2 billion of hospital and health facility construction was put in place. This amount represents the value of construction for general hospitals, other types of hospitals, nursing homes, diagnostic and treatment centers and other health facilities. No breakdown is available for each category of facilities.

Publicly owned construction accounted for \$7.4 billion of hospital and privately owned projects came to \$10.8 billion. (See table

⁸ Barbatelli, Ettore. *Hospital Plant and Equipment Records*. American Appraisal Co., New York, N.Y. in the service of Foundation for Economic and Business Studies, Indiana University.) 24 pages.

⁹ Unpublished material.

TABLE 10.—Hospital construction: Value put in place, 1946-65

[In millions of dollars]

Calendar year	Hospital construction by ownership in current dollars ¹				Construction cost index (1957-59=100) ³	Total hospital construction in 1957-59 dollars
	Total	Public		Private		
		Total ²	State and local			
1946	170	85	64	85	54.0	
1947	187	77	47	110	63.5	
1948	339	213	115	126	71.6	
1949	660	458	289	202	72.5	
1950	843	499	353	344	75.8	
1951	946	527	395	419	81.7	
1952	889	495	382	394	84.4	
1953	686	369	303	317	87.1	
1954	670	333	298	337	87.8	
1955	651	300	278	351	90.4	
1956	628	300	263	328	94.8	
1957	879	354	309	525	97.7	
1958	990	390	355	600	99.4	
1959	998	428	370	570	102.9	
1960	1,006	401	345	605	105.0	
1961	1,140	369	314	771	106.3	
1962	1,382	397	342	985	108.8	
1963	1,433	403	337	1,030	111.3	
1964	1,741	440	367	1,301	114.6	
1965	1,928	494	400	1,432	118.5	
Total	18,166	7,332	5,926	10,832	-----	-----

¹ Construction of health related facilities, such as nursing homes, is included.² Does not include Defense Department construction.³ Boeckh composite cost index for apartments, hotels, and office buildings.Source: U.S. Department of Commerce, Bureau of the Census, *Value of New Construction 1946-63, Revised* and Construction Reports C 30-65 *S Value of New Construction Put in Place 1962-65*.

In 1946 hospital construction had just begun to respond to peacetime health needs of the Nation. An early postwar peak reached in 1951, by which time the "construction put in place" volume of \$946 million had increased 456 percent since 1946. The next 5 years was a period of declining volume culminating in a low of \$628 million in 1956. All sources of funds showed decreases but the sharpest drops from 1951 were in federally financed projects (mainly veterans hospitals) and in Hill-Burton grant funds (table 11). Since 1956 a strong upward trend of construction put in place has been evident. Construction of Federal aid has led the field by almost tripling in volume. An important factor in the rise has been a threefold increase since 1951 in the construction of nursing home beds, particularly those of proprietary ownership. Currently we are riding a wave of unprecedented construction activity in almost every type of facility. Public interest and concern with health care has never been greater and vigorous strides to meet these expectations are being taken by private initiative as well as by public authorities on the State, and local levels.

2. CAPITAL OUTLAY BY OWNERSHIP

Hospital construction data from the Bureau of the Census is somewhat limited as to detail by ownership. The annual outlays for State and local governments are not published separately and are therefore shown together in table 10. The same is true for outlays to nonprofit and proprietary hospital construction data;

are combined as "private" in table 10. Federally owned construction is shown in table 11 along with a breakdown of hospital totals by federally aided or unaided, and amount of Hill-Burton grant funds.

TABLE 11.—*Hospital construction: Financing 1946-65*¹

[In millions of dollars]

Calendar year	Total	Direct Federal ²	Non-Federal			Hill-Burton Federal share
			Total	Without Federal aid	Hill-Burton sponsor share	
1946.....	170	21	149	149	-----	-----
1947.....	187	30	157	157	-----	-----
1948.....	339	98	238	232	6	3
1949.....	660	169	450	367	83	41
1950.....	843	146	611	469	142	86
1951.....	946	132	710	568	142	104
1952.....	889	113	689	554	135	87
1953.....	686	66	547	438	109	73
1954.....	670	35	584	502	82	51
-----	651	22	588	531	57	41
1956.....	628	37	545	469	76	46
1957.....	879	45	756	581	175	78
-----	990	35	842	569	273	113
1959.....	998	58	793	453	340	147
-----	1,006	56	793	473	320	157
1961.....	1,140	55	920	608	312	165
1962.....	1,382	55	1,155	811	344	172
1963.....	1,433	66	1,200	842	358	167
-----	1,741	73	1,495	1,105	390	173
-----	1,926	94	1,664	1,237	427	168

¹ Value of new construction put in place.² Does not include Defense Department construction

Source: Special reports to the Public Health Service by the Bureau of the Census.

3. CAPITAL OUTLAY BY SOURCE OF FINANCING

The Social Security Administration for several years now has been making estimates on the volume and sources of financing for all expenditures in the Nation. Expenditures for "medical construction by source of funds for selected years 1950-64" are shown in table 12. The distribution of Government funds, shown in table 12, is based on the ultimate source of funds and includes as expenditures those amounts actually paid out by State and Federal Governments and nonprofit sponsors under Federal grant-in-aid programs.

This source of funds series by Social Security Administration consists in general of a reworking of hospital construction value put in table 10 and financing data (tables 10 and 11) plus Defense Department expenditures. Broad assumptions were made as to the sources of financing for construction of private facilities, other than those receiving Federal grants, due to the availability of only fragmentary data.

A number of States have now or in the past had grant-in-aid programs for construction of hospital and medical facilities. As of December 31, 1964, 12 States had active programs—Alabama, Alaska, Arizona, California, Georgia, Hawaii, Kentucky, Maryland, Mississippi, Nevada, New York, and North Carolina. Prior to 1964, Arkansas, Colorado, Connecticut, Delaware, Florida, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming had active programs at some time after World War II.

Information as to expenditures by year from these State grant-in-aid programs is not available. However, it is known that approxi-

mately \$175 million was appropriated for State hospital grant programs from 1946 to 1963.

TABLE 12.—*Expenditures for medical facility construction by source of funds ownership, selected years 1950-64*

[In millions]

Year and ownership	Total	Source of funds					State and local
		Private			Public		
		Total	Philan- thropy	Own or bor- rowed	Total	Federal	
1950—All.....	\$840	\$294	\$176	\$118	\$547	\$229	
Public.....	496				496	18	
Private.....	344	294	176	118	50	4	
1955—All.....	721	324	194	130	397	153	
Public.....	370				370	110	
Private.....	351	324	194	130	27	23	
1960—All.....	1,074	510	255	255	564	28	
Public.....	469				469	19	
Private.....	605	510	255	255	95	8	
1961—All.....	1,197	670	335	335	527	27	
Public.....	426				426	18	
Private.....	771	670	335	335	101	9	
1962—All.....	1,314	757	379	378	557	28	
Public.....	444				444	18	
Private.....	870	757	379	378	113	10	
1963—All.....	1,568	939	470	469	629	35	
Public.....	508				508	208	
Private.....	1,060	939	470	469	121	1	
1964—All.....	2,003	1,288	644	644	715	36	
Public.....	585				585	25	
Private.....	1,418	1,288	644	644	130	15	

¹ Includes Defense Department construction.

Source: Social Security Administration, Office of Research and Statistics.

There are three Federal agencies empowered to make loans hospital construction—Public Health Service, Small Business Administration and Department of Housing and Urban Development (HUD).

The Public Health Service, through its Hill-Burton hospital medical facility program of grants and loans has made only loans for \$3.9 million since they were authorized in 1958. Small Business Administration, as of December 31, 1965, had 129 loans to hospitals for \$20.8 million under its health facility program. Through September 30, 1965, the Department of Housing and Urban Development made 118 loans for \$79 million under the college housing loan program, to finance dormitory facilities for student nurses or in public and nonprofit hospitals with approved training programs. In addition, the Department of HUD makes interest-free loans for the advance planning of public works, including public hospitals and other medical facilities. Through September 30, 1965,

advances approved for hospital and the medical facilities numbered 95 and amounted to \$4.8 million.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

1. CAPITAL REQUIREMENTS

The capital requirements for hospital facilities for the decade 1966-75 are:

	<i>Millions</i>
Backlog of unmet need as of June 30, 1965 ¹ -----	\$8,457.5
Total additional requirements through June 30, 1975 ¹ -----	7,252.5
Total estimated need-----	15,710.0

¹ Includes modernization and additional bed needs.

(a) Estimates of capital needs have been limited to general hospitals. The volume of capital outlay for separate tuberculosis hospitals has sharply declined in recent years and the future outlook is for the development of such facilities as parts of broader health facility complexes and not as independent institutions.

Hill-Burton State plans for fiscal year 1966 provided the basic data—in terms of hospital beds—for developing estimates of current capital needs for general hospitals. From these plans, national totals were derived for (1) total existing beds, (2) total beds needed, (3) beds to be modernized, and (4) beds needed over and above the present supply. Dollar estimates were obtained by applying an average cost of \$25,000 per bed to the national estimates of beds to be modernized and additional beds needed. Experience under the Hill-Burton program has indicated that, on a cost per bed basis, there are relatively minor differences between the costs of new construction and the costs of modernizing obsolete facilities.

Projections of the costs of modernization and needed additional general hospital beds were based on the following assumptions and factors: (1) population growth, (2) a 3-percent obsolescence rate per year, or an assumption of a 33-year hospital "life," (3) an annual increase in bed capacity at the average rate which has obtained over the past decade, (4) maintenance of the current estimated need for beds in terms of beds per 1,000 population, and (5) maintenance of the current volume of nonfederally aided construction, but with some shifting emphasis from new construction to modernization of facilities.

(b) The estimated capital needs (in millions) for general hospitals, 1966-75 are as follows:

	Total	Moderniza- tion	Additional capacity
Backlog as of June 30, 1965-----	\$8,457.5	\$6,795.0	\$1,662.5
Annual increments:			
1966-----	642.5	355.0	287.5
1967-----	655.0	362.5	292.5
1968-----	670.0	372.5	297.5
1969-----	687.5	382.5	305.0
1970-----	710.0	392.5	317.5
1971-----	732.5	402.5	330.0
1972-----	755.0	412.5	342.5
1973-----	777.5	425.0	352.5
1974-----	800.0	435.0	365.0
1975-----	822.5	447.5	375.0
Backlog plus increments-----	15,710.0	10,782.5	4,927.5

(c) It is not feasible to estimate the proportions of these needs by size of community. The bulk of modernization and replacement work needed in the Nation's general hospitals, however, comes from urban areas, particularly the core cities of large metropolitan areas. The existing need for additional capacity is generally located in areas of low per capita income and in areas of rapid population growth. Entire States in the Far West, as well as suburbs of large cities in every section of the country, are experiencing sizable increases in population.

(d) The proportion of the estimated capital outlays to be expended by non-Federal entities, is 100 percent. There is no feasible method for breaking this down among the non-Federal entities.

CHAPTER 23

Clinics and Other Outpatient Facilities*

A. NATURE AND COMPOSITION

1. DESCRIPTION OF FACILITIES

Within a relatively short span of years, facilities for outpatient care have expanded substantially in number and volume of services provided. Diagnostic and therapeutic services are being provided in a variety of facilities, including hospital outpatient departments, diagnostic and treatment centers, public health centers, and rehabilitation facilities.

(a) *Physical Characteristics*

Outpatient facilities in the United States can be grouped into the following major categories:

Hospital outpatient departments including scheduled clinics and emergency care services.

Hospital adjunct services including laboratory; radiological services (diagnostic and therapeutic); pharmacy; poison center; and rehabilitative services (physical and occupational therapy).

Free standing specialized facilities operated by governmental and voluntary agencies and those operated by private practitioners, either individually or in group practice.

Hospital outpatient departments are defined by the U.S. Public Health Service as: "That section of the hospital with allotted physical facilities, regularly scheduled hours, and personnel in sufficient numbers assigned for established hours, to provide for care of patients who are not registered as inpatients while receiving physician, dentist, or allied services."¹

Physical features commonly found in the outpatient department of a short-term, general, community hospital can be grouped into the following general areas for service to the public concerned:

Public facilities.—Parking areas; entrances from the street and the hospital lobby; separate lobby with reception, information, and appointment desks; seating for persons waiting for services; toilets; drinking fountains; and public telephones.

Administrative offices.—Office spaces for executive and secretarial personnel; admitting procedures; business office; cashier's desk; medical records file room; rooms for maintenance and housekeeping services; and storage of supplies.

* Prepared by the Division of Hospital and Medical Facilities, Public Health Service, Department of Health, Education, and Welfare, with minor editing by Committee staff.

¹ U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Hospital and Medical Facilities. *Facts and Trends on Hospital Outpatient Services*. PHS Publication No. 930-C-6, June 1964.

Clinic facilities.—Clinics are defined as “those various units (including adjunct services units) of the outpatient department, responsible for general and specialty management of designated diagnostic and treatment procedures.”² Outpatient clinics will generally require and contain similar spaces and items of equipment common to most physicians’ and dentists’ offices, or examination and treatment rooms.

In addition to these basic and general facilities, certain clinics, such as the emergency services unit, will require specialized areas and equipment. The emergency services unit is “that unit (clinic) the outpatient department where services are rendered to outpatients in the diagnosis or treatment of conditions determined clinically, considered by the patient (or his representative), as requiring *immediate* physician, dentist, or allied services.”³

Required by the very nature of its services, the emergency service unit ideally has a distinctive architectural design, with physical features augmented by specialized equipment. Typically, the emergency services unit is located within the total area of, and adjacent to the other clinics of the outpatient department, providing easy communication of patients and staff personnel between clinics and specialized facilities. In addition to the usual examination and treatment room(s), the major physical features peculiar to this unit include: separate entrances, protected from the weather, with wide, swinging doors for use of patients arriving on foot or by ambulance; a concrete walkway to entrances, without steps; platform for unloading ambulances; a waiting area for relatives and friends of patients; a room for use by police officers and press reporters; facilities for restraint of psychotic and alcoholic patients; a poison center; storage spaces for wheelchairs and stretchers; and room(s) with beds and other equipment for observation, treatment, and procedures prior to possible admittance of emergency patients to the inpatient section of the hospital. Commonly included in the equipment specifically provided for emergency care, are: wheelchairs and stretchers; aspiration, drainage, and suction equipment; equipment for administration of drugs, medication, and anesthetic agents; emergency dental equipment; portable X-ray equipment; a storage safe for narcotics and drugs; and a storage safe for patients’ valuables.

Hospital adjunct services are “those special diagnostic and therapeutic facilities and services established in the hospital for assisting in the determination and confirmation of the physician’s or dentist’s diagnosis, and/or the provision of treatment ordered by and under supervision of a physician or dentist.”⁴ These services are commonly thought of as including radiological, laboratory, pharmacy, and rehabilitative activities. Additional and specialized adjunct services, such as blood banks, bone and tissue banks, prosthetic, electrocardiology, and inhalation therapy, may be also offered depending upon program needs and other factors. Each of the major adjunct services normally requires extensive specialized equipment and housing space.

² *Ibid.*

³ *Ibid.*

⁴ *Ibid.*

Dramatic increases in utilization of hospital outpatient services and for extension of services offered for the community's residents caused a growth of specialized outpatient facilities. These are provided by Federal, State, and local governments, by health agencies, and in some cases by private practitioners, individually or in group practice. Illustrative of these specialities are the following:⁵

Public Health Center.—A publicly owned facility including related facilities such as laboratories, clinics, and administrative offices operated by a local health unit for the provision of public health services.

Auxiliary Public Health Facility.—State or local health department laboratory and/or clinics physically separated from the central administrative office.

Diagnostic or Treatment Center.—A facility providing community care for the diagnosis or diagnosis and treatment of ambulatory patients, usually operated in connection with a hospital, or in which care is under the professional supervision of persons licensed to practice medicine or surgery in the State, or, in the case of dental services or treatment, under the professional supervision of persons licensed to practice dentistry in the State. This includes outpatient departments and clinics.

Rehabilitation Facility.—A facility providing community service operated for the primary purpose of assisting in the rehabilitation of disabled persons through an integrated program under professional supervision, of (a) medical evaluation and services, (b) psychological, social, or vocational evaluation and services. A major portion of the required evaluation and services must be provided within the facility; and the facility must be operated either in connection with a hospital or as a facility in which all medical and health services are prescribed by or are under the general supervision of persons licensed to practice medicine or surgery in the State. Integrated services may be provided in a facility to care for persons of disabilities or a single type of disability.

Services Rendered

Adequate, high-quality outpatient services, including emergency services, are essential elements in the contribution of hospitals to the total health program for the community. In terms of diagnostic, preventive, and restorative health procedures, such services complement inpatient care as well as the nonhospital services of physicians and dentists. Outpatient services help the hospital to fulfill its role as the true focal point of community health, professional education, and service to humanity. The extent of services to be offered is determined by the community's pattern of medical practice, professional competencies, community needs, and the role of the hospital in meeting the needs or demands of the community.

Many hospitals and other medical care facilities find it necessary or desirable to limit the number and types of outpatient services to be provided. Inclusion, or exclusion, of types of services or of persons materially affects the planning, design, organization, and over-all programs of the hospital's outpatient department.

⁵ U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Hospital Facilities, *Hill-Burton State Plan Data: A National Summary as of Jan. 1, 1965*. PHS Publication No. 930-F-2 (revised 1965).

Hospital adjunct services can be formally organized and located to serve either inpatients only, outpatients only, or both categories of patients. Whether these services will be established and operated for both inpatients and outpatients, or solely for the use of the outpatient department, depends upon patient loads and characteristics, managerial concepts and decisions, and other considerations.

Regardless of the decision for utilization, the hospital's adjunct services need to be located in proximity to the outpatient clinics with accommodations to facilitate the flow of patient traffic.

In addition to the various general and specialty clinic services offered by hospitals, specialized health and clinic services are offered by Federal and local governments, voluntary agencies, and practitioners. These entities provide a wide range of preventive health services and specialized programs for chronic diseases, accident prevention, and direct patient care. The range of services offered (other than by the Federal Government) is usually determined by community demands and local availability of qualified professional practitioners. Representative of the more commonly offered clinical services are those concerned with:

Alcoholism	Immunizations
Cerebral palsy	Multiple sclerosis
Crippled children	Podiatry
Dermatology	Psychological
Family health	Social services
Health education	Speech
Hearing	Venereal diseases
Chronic long-term disease	Well-child

(c) *Standards of Performance*

Some measure of the overall magnitude of the increased use of outpatient facilities is indicated by the fact that, in 1955, a total of 4,832 hospitals reported outpatient visits to the American Hospital Association, compared with 5,624 hospitals reporting such visits in 1964. During that decade, total reported outpatient visits increased from 73,497,500 to 125,123,200,⁶ or from 445 visits per 1,000 population in 1955 to 654 per 1,000 in 1964. Although these increases reflect, to some extent, more complete reporting by hospitals registered with the American Hospital Association, the actual increase in visits is unquestionably substantial.

Included in total outpatient visits are those for emergency services, clinic services, and for diagnostic or treatment procedures upon referral from physicians. In 1964, of the 654 total outpatient visits per 1,000 persons, 139 per 1,000 were for emergency services, 239 per 1,000 were for clinic services, and 112 per 1,000 were for services upon physicians' referral. The remainder, or 164 visits per 1,000 persons, were not classified as to type of visit.

Public health centers have increased in number from 468 in 1948 to 1,194 as of January 1965. Auxiliary public health facilities also have grown substantially in number—from 722 to 1,050 in the 1948-65

⁶ American Hospital Association. *Hospitals*, "Guide Issue," pt. II, Aug. 1, 1965.

Services in these facilities vary widely—from purely environmental health activities to extensive preventive services provided to all. No data are available on the volume of services provided.

Only very limited information is available on the standards of performance, in terms of persons served, of all other types of clinics or health facilities. A 1964 directory of rehabilitation facilities reported a total of 288,000 persons served in the 372 centers reporting patient service. These centers, however, represented only half the total participating in the study and only about 20 percent of the number identifying themselves as rehabilitation facilities.⁸

The most current data available on private group practice clinics date back to 1959. At that time, 1,623 medical groups were reported in various sections of the country. These multispecialty and single specialty groups were staffed by a total of 14,841 physicians; about 60 percent of these physicians were on a full-time basis. No data are reported on the number of patients served by the various groups.⁹

Data are not available on the numbers of persons served by free-standing diagnostic and treatment centers (those not physically connected with a hospital) or by other free-standing specialized facilities operated by governmental or voluntary agencies.

For new construction under the hospital and medical facilities (Hill-Burton) program, outpatient departments, diagnostic or treatment centers, public health centers, and rehabilitation facilities must meet requirements established by regulation. For example, outpatient departments must be located on the most easily accessible floor and must have convenient access to radiology, pharmacy, laboratory, and physical therapy units. Public health centers must provide administrative, clinical, laboratory, and service areas to serve the program needs of the center and the population involved. Similarly, rehabilitation facilities must provide adequate space and proper physical location for the various services provided.

Qualitative Standards of Performance

All outpatient and clinic facilities operated in direct connection with a hospital are covered by standards established for hospitals in the Hill-Burton program.

Included in requirements for accreditation of hospitals by the Joint Commission on Accreditation are specifications relating to health services. The recently enacted Social Security Act Amendments, which provide payment for hospital inpatient and outpatient services to persons 65 years of age and older, prescribe that hospitals approved by the Joint Commission are eligible to participate in the program, provided they also furnish adequate evidence of an effective utilization review plan.

⁸ U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Hospital and Health Facilities. *Hill-Burton State Plan Data: A National Summary as of Jan. 1, 1965*. PHS Publication No. 1063, 1963.

⁹ U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Public Health. *Medical Groups in the United States 1959*. PHS publication No. 1063, 1963.

Nearly all States have established licensure requirements for operation of general hospitals. These requirements extend to the outpatient as well as inpatient service, including rehabilitation facilities, diagnostic and treatment centers, and other clinics.

No single accreditation or approval body has been organized for certification of rehabilitation centers. However, specific services within a center's program may be certified by an accrediting group. For example, the American Board of Examiners in Speech Pathology and Audiology, and the American Board for Certification in Orthotics and Prosthetics, Inc., have established standards and certify in their respective areas.¹⁰

Information on quality control of group practice clinics is limited. A 1959 survey of such clinics indicated that "approximately two-thirds of the medical groups surveyed reported having some formal or methods for maintaining quality of care. These methods varied from minimum standards for staff membership to professional supervision by a medical director * * * to periodic medical audits by an outside review board." Some groups will accept only board-certified specialists.¹¹ No national accrediting organization has as yet been established for such groups.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) and (b). *Number of Facilities and Distribution by States*

Of the 6,665 hospitals of all types (including Federal) reporting the American Hospital Association on facilities and services in a total of 2,950, or 44 percent, reported having an "organized" patient department. An "organized" department is defined by the Joint Commission on Accreditation of Hospitals as one organized in sections (clinics), the number of which depends on the degree of departmentalization of the medical staff, available facilities, and needs of the community. Well over 2,500 additional hospitals report the provision of outpatient services do not report the existence of "organized" departments. The maintenance of emergency departments was reported by 5,565 hospitals, or 83.5 percent of the reporting to the American Hospital Association in 1964. No data are available on the distribution of hospital outpatient or emergency departments by State.

At the start of 1965, State agencies which administer the Burton program reported a total of 1,194 primary public health centers, 1,050 auxiliary public health facilities, 4,513 diagnostic centers, and 1,339 rehabilitation facilities. In 1959, the year for which data are available, a total of 1,623 medical facilities were in operation throughout the country. The distribution of various types of facilities by State is shown in table 1.

¹⁰ Association of Rehabilitation Centers, *op. cit.*

¹¹ U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Field Methods. *Medical Groups in the United States, 1959*. PHS publication No. 1063, 1963.

1.—Public health centers, diagnostic or treatment centers, rehabilitation facilities, and medical groups, by State

State	Public health centers (January 1965)			Diagnostic or treatment centers (January 1965)	Rehabilitation facilities (January 1965)	Medical groups (1959)
	Total	Primary centers	Auxiliary public health facilities			
United States and territories.....	2,244	1,194	1,050	4,513	1,339	-----
United States.....	2,035	1,132	903	4,379	1,312	1,623
Alabama.....	74	54	20	156	7	19
Alaska.....	33	5	28	15	4	0
Arizona.....	15	10	5	59	9	6
Arkansas.....	25	18	7	1	22	26
California.....	109	60	49	160	35	139
Colorado.....	13	9	4	80	19	42
Connecticut.....	24	6	18	45	46	6
Delaware.....	3	2	1	12	13	1
D.C.....	32	1	31	12	20	11
Florida.....	64	39	25	25	55	19
Georgia.....	143	36	107	74	21	24
Hawaii.....	13	11	2	25	5	11
Idaho.....	21	3	18	56	2	12
Illinois.....	9	9	-----	197	41	52
Indiana.....	5	4	1	120	10	34
Iowa.....	1	1	-----	171	17	63
Kansas.....	9	9	-----	161	7	34
Kentucky.....	82	72	10	123	9	29
Louisiana.....	86	54	32	37	11	54
Maine.....	-----	-----	-----	65	6	1
Maryland.....	161	22	139	80	46	12
Massachusetts.....	17	17	-----	155	86	12
Michigan.....	28	28	-----	27	14	37
Minnesota.....	6	4	2	472	144	152
Mississippi.....	142	36	106	40	26	35
Missouri.....	48	48	-----	152	15	47
Montana.....	-----	-----	-----	62	17	18
Nebraska.....	4	4	-----	130	7	26
Nevada.....	2	2	-----	17	8	5
New Hampshire.....	-----	-----	-----	31	7	5
New Jersey.....	13	11	2	106	60	14
New Mexico.....	17	14	3	62	6	8
New York.....	61	36	25	17	31	69
North Carolina.....	97	93	4	163	10	33
North Dakota.....	5	5	-----	81	16	28
Ohio.....	141	120	21	241	45	90
Oklahoma.....	36	25	11	13	4	25
Oregon.....	20	14	6	78	17	28
Pennsylvania.....	95	21	74	105	86	29
Rhode Island.....	-----	-----	-----	17	9	1
South Carolina.....	126	42	84	13	14	25
South Dakota.....	2	1	1	42	1	18
Tennessee.....	92	65	27	29	36	17
Texas.....	37	29	8	32	57	134
Utah.....	7	7	-----	43	8	15
Vermont.....	-----	-----	-----	36	1	2
Virginia.....	65	60	3	95	11	48
Washington.....	37	11	26	118	14	30
West Virginia.....	10	10	-----	129	81	18
Wisconsin.....	5	4	1	165	66	51
Wyoming.....	2	2	-----	31	10	8
Guam.....	9	8	1	3	1	-----
Puerto Rico.....	196	53	143	128	26	-----
Virgin Islands.....	4	1	3	3	-----	-----

Source: U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Hospital and Medical Facilities. "Hill-Burton State Plan Data—A National Summary as of Jan. 1, 1965," PHS Publication No. 930-F-2 (revised 1965). U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Public Health Methods. "Medical Groups in the United States, 1959," PHS Publication No. 1063, July 1963.

(c) Distribution by Size of Community

Data on the distribution of outpatient facilities by size of community are available for only one category—medical practice groups. For these groups the information is limited and relates to the year 1959.

At that time, slightly more than half of 1,623 medical groups were located in metropolitan counties containing at least one city 50,000 or more residents. Less than one-sixth were in counties adjacent to metropolitan counties. The remaining one-third were counties considered for the study as "isolated". The group pl however, were more heavily concentrated in metropolitan than were the group clinics. Nearly two-thirds of the group pl were in metropolitan counties, compared with about half of the clinics.

(d) *Age of Facilities*

Specific information is not available on the age distribution types of outpatient facilities. Many of the outpatient *services* distinguished from *facilities*) date from the establishment of the general hospitals in this country. The Philadelphia Dispensary, for example, opened its doors in 1786. The impetus to the development of present-day rehabilitation facilities came from efforts to rehabilitate disabled members of the Armed Forces during World War II.

The first public health center was established in Philadelphia in 1912. Since that time their development has been uneven, with stimulation to their growth given in fairly recent years through Federal construction program. In 1948, only 468 public health centers were in existence. Since that time the number has increased but steadily to a total of 1,194.

Limited data on medical practice clinics indicate that in the reporting year of establishment, 258 were organized prior to 1951 during 1940-44; 263 during 1945-49; 251 during 1950-54 and 1955 or later.

(e) *Ownership*

As reported by the American Hospital Association, the following table indicates the distribution by ownership of organized outpatient departments and emergency units in operation in 1964:

TABLE 2.—Organized outpatient departments and emergency departments, ownership, 1964

Ownership	Organized outpatient departments		Emergency departments	
	Number	Percent	Number	Percent
Total reporting.....	2,950	100.0	5,565	
State or local government.....	812	27.5	1,475	
Voluntary nonprofit.....	1,425	48.3	3,086	
Proprietary.....	304	10.3	649	
Federal Government.....	409	13.9	355	

Source: American Hospital Association. *Hospitals*, "Guide Issue," pt. II, Aug. 1, 1965.

Of 390 rehabilitation facilities reporting on ownership to the Association of Rehabilitation Centers, Inc., 84 or 21.5 percent were under governmental ownership, 301 or 77.2 percent were under voluntary nonprofit auspices, and 5 or 1.3 percent were proprietary. Further details are shown in table 3.

TABLE 3.—*Rehabilitation facilities, by type of ownership, 1963*

Ownership	Number of facilities reporting	Percent
Total.....	390	100.0
Governmental.....	84	21.5
Federal.....	5	1.3
State.....	51	13.1
City or county.....	27	6.9
District.....	1	.2
Voluntary nonprofit.....	301	77.2
Church or church related.....	31	7.9
Other.....	270	69.3
Proprietary.....	5	1.3
Corporation.....	3	.8
Partnership.....	1	.2
Individual.....	1	.3

Source: Association of Rehabilitation Centers, 1964 *Directory of Rehabilitation Facilities*, May-June 1964.

Data by ownership are not available for other types of clinics or other outpatient facilities.

(f) *Current Value*

Information is not available on the current value of any of the categories of clinics and other outpatient facilities, nor are any data available by which even the most gross estimate can be made.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

The following data are available regarding construction and operating costs.

(a) *Construction Costs*

The following information on construction costs is based on records available through the Hill-Burton program for projects constructed under that program. In all instances, the costs per square foot include the costs of fixed equipment. Average cost data are not available for movable equipment since the use of such equipment varies widely from facility to facility, depending upon the program of service.

TABLE 4.—*Construction costs per square foot*

Type of facility:	Cost of construction and fixed equipment
Diagnostic or treatment center:	
Directly attached to hospital.....	\$32.00
Free-standing.....	25.00
Public health center.....	22.50
Rehabilitation facility.....	21.00

Source: Unpublished data from Division of Hospital and Medical Facilities, Public Health Service.

(b) *Operating Costs*

Estimates of operating costs of clinics and other outpatient facilities are available only for rehabilitation centers. For 296 rehabilitation facilities reporting to the Association of Rehabilitation Centers in 1963, income in that year totaled \$96.8 million or an average of \$327,000 per center. Total expense for the same year reached \$101.7 million—an average of \$344,000 per center. In terms of patients served, annual expense per patient averaged about \$458.

2. USER CHARGES

(a) and (b)—A thorough search of all available literature has not provided any type of information on user charges for service in clinics or other outpatient facilities.

(c)—Data are not available on the extent to which costs of clinics and other outpatient facilities are met out of general tax resources and general obligation borrowings of State and local government units.

C. TRENDS OF CAPITAL OUTLAYS

1. ANNUAL CAPITAL OUTLAY

Other than for the types of facilities receiving construction aid under the Hill-Burton program (public health centers, diagnostic or treatment centers, and rehabilitation facilities) data are not available on the dollar volume of construction for clinics and other outpatient facilities.

The original Hill-Burton Act (Public Law 79-725) provided Federal assistance to States and local communities for construction of public health centers. While separate funds are not designated for the construction of such centers, but are included in the overall authorization for hospital construction, the amount of \$65.9 million out of a total of \$2.4 billion has been used for public health center construction from 1948 to June 30, 1965.

As of June 1965, Hill-Burton funds had assisted in the construction of 1,045 public health centers with an additional 116 built in combination with general hospitals; 726 diagnostic or treatment centers; and 338 rehabilitation facilities. Table 5 shows the number of such projects approved each year and the Federal and State or local funds involved. A more detailed breakdown of the State or local contribution is not available.

2. SOURCES OF FINANCING CAPITAL OUTLAYS

Although each applicant for Hill-Burton aid must submit a financial statement including data on the applicant's financial resources, the information relating to public health centers, diagnostic or treatment centers, and rehabilitation facilities has not been summarized. The work involved prohibits undertaking such a summarization at this time. Even were the data readily available, they would represent a very small portion of the capital outlay picture for all clinics and other outpatient facilities.

TABLE 5.—*Public health centers, diagnostic or treatment centers, and rehabilitation facilities approved under the Hill-Burton program, 1948-65*

[Dollars in millions]

PUBLIC HEALTH CENTERS

Fiscal year	Number of projects	Project costs		
		Total	Federal share ¹	State and local share
Total.....	² 1,045	\$192.8	\$65.9	\$127.0
1948-55.....	464	57.6	19.3	38.3
1956.....	73	13.9	5.1	8.8
1957.....	69	14.5	5.4	9.0
1958.....	64	16.6	6.2	10.4
1959.....	73	18.1	5.4	12.7
1960.....	74	15.9	4.8	11.1
1961.....	42	7.2	2.7	4.5
1962.....	43	7.2	2.9	4.3
1963.....	52	9.2	4.1	5.1
1964.....	48	12.2	5.3	6.9
1965.....	43	20.5	4.7	15.8

DIAGNOSTIC OR TREATMENT CENTERS

Total.....	726	\$316.9	\$110.5	\$206.3
1955.....	1	.3	.1	.2
1956.....	79	38.5	11.1	27.3
1957.....	55	16.5	5.4	11.1
1958.....	65	25.2	9.3	15.9
1959.....	61	22.1	7.4	14.7
1960.....	86	18.5	6.8	11.7
1961.....	62	23.2	7.9	15.3
1962.....	67	27.2	10.3	16.9
1963.....	75	44.0	16.6	27.4
1964.....	87	45.8	16.4	29.4
1965.....	88	55.7	19.3	36.4

REHABILITATION FACILITIES

Total.....	338	\$217.0	\$73.6	\$143.3
1955.....	43	35.0	9.0	25.9
1956.....	19	11.1	3.6	7.5
1957.....	20	10.7	3.6	7.1
1958.....	32	20.6	7.7	12.9
1959.....	41	20.0	7.2	12.8
1960.....	35	19.9	8.4	11.5
1961.....	43	29.0	10.5	18.5
1962.....	39	21.2	8.5	12.7
1963.....	32	23.6	7.2	16.5
1964.....	34	25.9	7.9	18.0

¹ According to statute, annual Hill-Burton appropriations have a 2-year availability.² Excludes 116 public health centers built in combination with general hospitals and not reported as separate projects.

Source: Unpublished data from Division of Hospital and Medical Facilities, Public Health Service.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

CAPITAL REQUIREMENTS

The capital requirements for clinics and other outpatient facilities (limited to rehabilitation facilities and diagnostic or treatment centers) for the decade 1966-75 are:

	Millions
Backlog of unmet need as of June 30, 1965.....	\$1,584.0
Total additional requirements through June 30, 1975.....	1,652.1
Total estimated need.....	3,236.1

(a) Estimates of capital needs have been limited to rehabilitation facilities and diagnostic or treatment centers (frequently the organized outpatient departments of hospitals). No information is available on capital needs or outlays for other types of outpatient facilities, including private group clinics.

Hill-Burton State plans for fiscal year 1966 provided the basic data for developing current capital needs for rehabilitation facilities and diagnostic or treatment centers. From these plans, national totals were derived for (1) total existing facilities, (2) total facilities needed, (3) facilities to be modernized, and (4) facilities needed over and above the present supply. Dollar estimates were obtained by applying an average cost of \$700,000 to the national estimates for rehabilitation facilities and \$550,000 to the national estimates for diagnostic or treatment centers.

Projections of the costs of modernization and needed additional rehabilitation facilities and diagnostic or treatment centers were based on the following assumptions or factors: (1) Population growth, (2) a 3-percent obsolescence rate per year, or an assumption of a 33-year "life," (3) an annual increase in the number of facilities at the average rate which has obtained over the past 8 years, (4) maintenance of the current estimated need in terms of facilities per million population, and (5) maintenance of the estimated current volume of nonfederally aided construction.

(b) The estimated capital needs (in millions) for rehabilitation facilities and diagnostic or treatment centers, 1966-75, are as follows:

	Total	Modernization	Additional capacity
Backlog as of June 30, 1965.....	\$1, 584. 0	\$864. 0	\$720. 0
Annual increments:			
1966.....	139. 3	75. 6	63. 7
1967.....	143. 3	79. 0	64. 3
1968.....	148. 0	82. 5	65. 5
1969.....	153. 7	86. 5	67. 2
1970.....	160. 7	90. 5	70. 2
1971.....	167. 1	94. 5	72. 6
1972.....	174. 5	99. 0	75. 5
1973.....	181. 4	103. 6	77. 8
1974.....	188. 3	108. 1	80. 2
1975.....	195. 8	113. 2	82. 6
Total, backlog plus increments.....	3, 236. 1	1, 796. 5	1, 439. 6

(c) It is not feasible to estimate the proportions of these needs by size of community.

(d) The proportion of the estimated capital outlays to be expended by non-Federal entities is 100 percent. There is no feasible method for breaking this down among the non-Federal entities.

CHAPTER 24

Long-Term Care Facilities*

A. NATURE AND COMPOSITION

The past three decades have seen the emergence of a new type of facility—the nursing home. Prior to the 1930's, only a handful so-called nursing homes were in existence. In succeeding years, their growth accelerated rapidly, brought about by a combination of medical, social, and economic changes in our society. The impetus was given by the enactment of the Social Security Act of 1935, which made public assistance funds available to the needy except inmates of public institutions. As a result, proprietary nursing homes began to flourish. In 1939, there were approximately 1,200 nursing, convalescent, and rest homes throughout the country having a bed capacity of about 25,000.

Meanwhile, medical advances were extending life expectancy to a high level, resulting in a rapidly growing older population. Acute, infectious diseases were giving way to degenerative, long-term diseases as major causes of illness and death. Patterns of housing and living were changing, and increased employment opportunities for women were reducing the number available at home to care for older family members. At the same time, the general attitude concerning institutional care was changing considerably. Gradually, the nursing home was recognized as having an important role in the total medical picture.

In 1954, the Congress amended the Hospital Survey and Construction (Hill-Burton) Act to emphasize the need for long-term care facilities.

Funds were specifically authorized to assist in the construction of public and voluntary nonprofit skilled nursing homes, chronic disease hospitals.

At that time there were just over 265,000 long-term care beds in the country, including beds in chronic disease hospitals and skilled nursing homes.

With the advent of "medicare," national concern over nursing or "extended care facilities"—their availability, kinds and quality of service provided, and future prospects—has reached a new level. Today, some 13,500 nursing homes with a capacity of 550,000 beds are licensed to operate in the 50 States, District of Columbia, and Puerto Rico.¹ In addition, there are approximately 70,000 beds for nursing in chronic disease hospitals or in long-term units of general hospitals. Across the country, the number of long-term care beds

*Prepared by the Division of Hospital and Medical Facilities, Public Health Service, Department of Health, Education, and Welfare, with minor editing by the staff.

¹ Unpublished data from Hill-Burton State plans submitted to the Division of Hospital and Medical Facilities, Public Health Service; and from the American Nursing Home Association.

(skilled nursing homes and chronic disease facilities) averages 34.6 each 1,000 persons 65 years of age and older.

1. DESCRIPTION OF FACILITIES

Over the years, the term "nursing home" has been applied to wide variety of nonhospital facilities bearing varying names offering a wide range in service. Among these are nursing nursing home units of hospitals, convalescent and rest homes, for the aged, boarding homes, and county homes. Services ranged from a purely domiciliary type of care to full-time professional nursing service with physical and recreational therapy, psychological care and the services of other medical specialists.

Gradually, however, the definition of a nursing home has tightened to generally exclude the purely domiciliary-type and to represent one which serves convalescing or other patients who are neither acutely ill nor in need of hospital care, but who do require skilled nursing care beyond personal services. The Hill-Burton Act construes a facility for long-term care (including chronic hospitals and skilled nursing homes) as one which provides "nursing service for inpatient care for convalescent or chronic patients who require skilled nursing care and related services."²

(a) *Physical Characteristics*

Until rather recently, a nursing home generally could be described as a large, multistoried house, usually in an older part of the community, which had been converted to a home for elderly persons who were either convalescing or chronically ill. Too frequently, space would be cramped, hallways narrow, elevators lacking, rooms few, and therapy aid nonexistent. Staff might be limited to the nursing home owner—frequently an elderly woman—and a nursing aid or housekeeper-attendant. Many would have practical nurses as their highest nursing-skill level. Homes of this description still exist today in hundreds of communities out the country.

A new image of the nursing home has been emerging in recent years. While they approximate a homelike atmosphere to the extent possible, they no longer serve merely as substitutes for private dwellings but are developing as genuine medical institutions. Most of the new facilities are built as wings on community hospitals or as separate units on hospital grounds. Most are free-standing and independently operated. As a general rule they are one story, attractive, contemporary design, and planned to serve the needs of the nursing home patient. The nursing units and patient areas may resemble those of a community general hospital. Corridors are wide and bright and permit the passage of wheelchairs. Centrally located recreation rooms and dining rooms are provided. Patient rooms are large enough to allow for movement of patients using wheel chairs, walkers, canes, or crutches, with furniture designed to accommodate the wheel chair patient. Privacy

² U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Medical Facilities. *Public Health Service Regulations—Part 53—Pertaining to the Construction of Hospital and Medical Facilities*, Dec. 29, 1964, p. 2.

bedrooms is provided by screens or curtains. Nurses' systems are installed in each room. Bath and toilet facilities are conveniently located, and in some facilities lavatories are provided in each bedroom to encourage self-care. Each nursing unit has a station, and a separate consultation and treatment room is available for use by physicians. Physical therapy equipment—in the treatment of certain long-term conditions and disabilities is frequently available. Construction of this new type of home is going on at an increasing pace throughout the country. In general, nursing homes have tended to be small, averaging about 125 beds in 1961 in all nongovernmental facilities.³ (Governmental—Federal, State, and local—are much larger, on the average, than homes under proprietary or private nonprofit auspices. A survey conducted during April–June 1963, showed that government nursing homes having nursing care as the primary type of service had an average of 125 beds.)⁴ Homes constructed during recent years are somewhat larger than older facilities. An inventory conducted in 1954 gave the average size of nongovernmental homes as 125 beds. A 1965 survey by the American Nursing Home Association showed that nursing homes now have an average size of about 40

Services Rendered

To appraise the services provided in nursing home facilities, it is important to have some knowledge of the people they serve. A recent estimate indicates that there are approximately 500,000 persons in nursing homes at the present time. The very elderly predominate; a number of studies have indicated that the average age (median) is about 80 years. While cardiovascular diseases are the largest single cause of disability among nursing home patients, senility and fractures (especially of the hip) are among the most frequent causes. Although various studies differ as to the relative number of nursing home patients who are ambulatory, confused, or comatose, all agree that a substantial proportion (at least one-fifth) can walk unassisted; from 10 to 20 percent are bedfast; perhaps half are confused part or most of the time.

To prevent the mental and physical deterioration to which so many nursing home patients are prone requires continuing care and attention. It would be expected that, above all, nursing care should constitute the primary service. In terms of personnel to provide nursing care, many homes still have licensed practical nurses as their highest nursing-skill level. A 1961 inventory conducted by the Public Health Service indicated that among nearly 10,000 non-skilled nursing homes 39 percent had full-time licensed practical nurses only; 29 percent had full-time registered professional nurses; 18 percent had both full-time professional nurses and licensed practical nurses; but 13 percent had neither full-time registered professional nor licensed practical nurses. Many of the homes, however, have the part-time services of registered professional nurses and

³ U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Hospital and Health Facilities, *Characteristics of Nursing Homes and Related Facilities: Report of a 1961 Nationwide Survey*, PHS Publication No. 930-F-5, 1963, p. 14.

⁴ U.S. Department of Health, Education, and Welfare, Public Health Service, National Center for Health Statistics, *Characteristics of Residents in Institutions for the Aged and Chronically Ill*, Series 12, No. 2, 1965, U.S. Government Printing Office, Washington, D.C., table A, p. 3.

⁵ American Nursing Home Association, News release, Washington, D.C., Dec. 29, 1965.

the great majority probably have around-the-clock coverage patients at least by nursing aids.

Aside from nurses, however, the full-time employment of professional personnel is the unusual rather than the usual. Only the newer and larger homes are likely to provide the physical, occupational, and speech therapists, recreational and in relatively rare instances the full-time services of physicians. Indications are, however, that concern with active, restorative is growing and that more and more homes are providing some physical and occupational therapy.

(c) *Standards of Performance*

Ideally, nursing homes should be planned according to community needs. Statistics and other requirements relating directly to individual community are needed before planning can be undertaken. Surveys of community needs and existing resources provide the data for determining the beds required and services to be provided. State Hill-Burton agencies are currently determining the need for long-term care facilities in communities throughout the State, taking into consideration present utilization, a desirable occupancy and the population to be served. Preliminary indications are that from 45 to 50 long-term care beds are required for each 1,000 of 65 years of age and older. The ratios may vary widely from community to community, of course, depending on the existence of community health programs and the availability of other resources. Currently there are about 35 beds per 1,000 aged more than one-third of which require modernization or replacement because of fire and safety hazards or functional deficiencies in patient or service areas.

Minimum standards for evaluating the structural safety and efficiency of existing nursing homes were recently established by the Public Health Service for use by Hill-Burton State agencies. They relate to—

- A. Fire resistiveness of construction;
- B. Safety with regard to such items as electrical and mechanical services, exit facilities, fire alarm system, interior vertical shafts, smoke barriers;
- C. Patient areas, including room size, width of nurses' stations, windows, and access to corridors; and
- D. Service departments, including ventilation, equipment and sanitation in the dietary and laundry areas.

For new construction under the Hill-Burton program, nursing homes must meet certain requirements established by regulation. No nursing unit within a home, for example, may have more than four beds. Although four beds within a room are permitted, it is recommended that patient rooms contain no more than two beds. Single bed rooms must have a minimum of 80 square feet per bed, and double bed rooms must have at least 100 square feet. Each patient must be provided with a lavatory. Other requirements or recommendations relate to service facilities in each nursing unit, such as nurses' station, utility room, treatment room, and pantry; recreation areas, and solarium; and departments for occupational and speech therapy, examination and treatment and administration areas.

(d) *Qualitative Standards of Performance*

All States and territories, except the Virgin Islands, have established requirements for the operation of nursing homes. The responsibility, however, is assigned to several types of agencies. In 46 States and territories the licensing agency is the health department, in four States the welfare department, and in the rest of the States it is in other agencies. Licensure requirements are from uniform and are often the minimum standards that will protect patient's safety. Because of the shortage of nursing homes, special licensing is not unusual for homes unable to meet upgraded standards. In some States, certain homes are exempt from licensing, such as those sponsored by church or fraternal organizations. In the 1961 inventory by the Public Health Service, about half the reported one or more homes which were operating without full licensing. At that time, beds in these homes accounted for 5 percent (16,500) of the total number of skilled nursing home beds in the country.

The need for minimal standards which would assure quality care in nursing homes has been recognized by various organizations for many years. A number of accreditation programs have been initiated by nursing home associations and various national groups. Just recently, however, an accreditation program has been instituted by the Joint Commission on Accreditation of Hospitals. The program is directed to "extended care facilities," defined in brief as institutions providing accommodations and nursing and related health care to two or more persons (not related to the owner or administrator) for 24 hours or more, but not primarily for care and treatment of the acutely ill.

The standards as established by the joint commission are based on the principle that the patient must be under a continuing planned program of care, focusing on the total needs of the patient and rendered in a physical and social environment conducive to the safety of the patient and the achievement and maintenance of the maximum level of restoration. Substantial compliance with all the standards is a prerequisite for accreditation.⁶

The Social Security Administration has recently issued the conditions of participation (constituting qualitative standards to be met) for extended care facilities in the health insurance program for the aged. Included in the conditions of participation are standards relating to (1) compliance with State and local laws, (2) administrative services, (3) patient care policies, (4) physician services, (5) nursing services, (6) dietary services, (7) restorative services, (8) pharmaceutical services, (9) diagnostic services, (10) dental services, (11) laboratory services, (12) patient services, (13) clinical records, (14) transfer services, (15) physical environment, (16) housekeeping services, (17) disaster plan, and (18) utilization review plan.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) and (b) *Number of Facilities and Distribution by States*

As of January 1, 1965, Hill-Burton State agencies reported a total of about 13,900 long-term care facilities in the United States and possessions. Included in the total were some 13,000 skilled nursing

⁶Joint Commission on Accreditation of Hospitals. *Standards for Accreditation of Extended Care Facilities*. Attached as app. B.

homes and chronic disease hospital facilities and nearly 900 long-term care units attached to other hospitals. Altogether, nearly 550,000 beds were reported—about 550,000 in skilled nursing homes and in chronic disease hospitals or hospital units. Table 1 shows distribution of long-term care facilities and beds among the States.

TABLE 1.—*Long-term care facilities, by State, as of Jan. 1, 1965*¹

State	Facilities		Total beds
	Chronic disease hospitals and nursing homes ²	Other ³	
United States and territories.....	12,997	881	
United States.....	12,983	878	
Alabama.....	106	3	
Alaska.....	2	3	
Arizona.....	53	8	
Arkansas.....	155	3	
California.....	1,024	104	
Colorado.....	148	22	
Connecticut.....	253	4	
Delaware.....	12		
District of Columbia.....	70	4	
Florida.....	287	13	
Georgia.....	168	6	
Hawaii.....	21	6	
Idaho.....	56	4	
Illinois.....	744	32	
Indiana.....	426	26	
Iowa.....	466	34	
Kansas.....	49	25	
Kentucky.....	100	6	
Louisiana.....	172	21	
Maine.....	195	3	
Maryland.....	202	2	
Massachusetts.....	775	11	
Michigan.....	522	30	
Minnesota.....	362	52	
Mississippi.....	58	3	
Missouri.....	416	37	
Montana.....	44	22	
Nebraska.....	121	22	
Nevada.....	9	15	
New Hampshire.....	113	5	
New Jersey.....	270	4	
New Mexico.....	36	10	
New York.....	824	57	
North Carolina.....	65	16	
North Dakota.....	36	8	
Ohio.....	1,024	30	
Oklahoma.....	476	15	
Oregon.....	192	20	
Pennsylvania.....	492	36	
Rhode Island.....	120	1	
South Carolina.....	82	15	
South Dakota.....	82	1	
Tennessee.....	178	14	
Texas.....	685	8	
Utah.....	57	2	
Vermont.....	77	3	
Virginia.....	174	15	
Washington.....	364	21	
West Virginia.....	55	14	
Wisconsin.....	548	53	
Wyoming.....	17	9	
Guam.....			
Puerto Rico.....	14	3	
Virgin Islands.....			

¹ Represents chronic disease and skilled nursing home beds.

² Chronic disease hospitals and skilled nursing homes.

³ Represents units of 10 or more long-term care beds in general, mental, or tuberculosis hospitals.

Source: U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Medical Facilities. *Hill-Burton State Plan Data: A National Summary as of Jan. 1, 1965*, Publication No. 930-F-2, March 1966.

(c) *Rural-Urban Distribution*

Although current data from all States are not available, the findings the 1961 Public Health Service inventory indicated that States half or more of their people living in rural areas have relatively filled nursing care beds available than States with the majority their population in urban areas.

TABLE 2.—*Skilled nursing care beds per 1,000 persons aged 65 and over*

Percent rural population	Number of States ¹	Beds per 1,000 population
-----	18	11.7
-----	11	23.9
-----	14	23.3
-----	9	22.4

¹ Excludes Guam and Puerto Rico.

Source: U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Medical Facilities. *Characteristics of Nursing Homes and Related Facilities: Report of a 1961 Inventory*. PHS Publication No. 930-F-5, 1963, p. 12.

Interestingly, the skilled nursing care bed-population ratio was no or metropolitan areas than the overall average for predominantly urban States. A total of 227,723 skilled nursing care beds reported for facilities located in the standard metropolitan areas. These metropolitan areas have 23.1 beds per 1,000 aged 65 and over—about the same as the average statewide the 34 States with more than half of their population in urban

In the recently conducted survey of the American Nursing Home on, responses were received from 20 States and the District Columbia on nursing home construction within the past 5 years, by community. Survey results showed the following:

TABLE 3.—*Nursing homes constructed during 1961-65, by size of community*

Size of community	Nursing homes	
	Homes	Percent
Total.....	2,965	100.0
0.....	146	4.9
999.....	834	28.1
9.....	410	13.8
9.....	761	25.7
.....	415	14.0
.....	399	13.5

Source: Unpublished data from the American Nursing Home Association.

Age of Facilities

Unfortunately, data are not available on the age distribution of existing nursing homes. Many, it is known, are converted former residences, undoubtedly built in the late 1800's or early 1900's. In a recent survey conducted by the American Nursing Home on, the oldest home responding was built in 1879. A total 1,629 homes representing 35 percent of the association's member-

ship responded to the survey questionnaire. Half of these reported that they had been built within the past 10 years.

(e) *Ownership*

All recent nursing home surveys have found that about 90 of the homes are under proprietary ownership. These homes nearly three-fourths of all skilled nursing home beds. Of the profit homes, about an equal number are owned by public church groups, and fraternal and other voluntary organizations. Among these, the public institutions (excluding Federal) have greatest number of beds, as shown in table 4.

TABLE 4.—*Ownership of skilled nursing homes*

Type of ownership	Homes		Beds	
	Number	Percent	Number	Percent
Total reported.....	9,582	100.0	330,981	
Proprietary.....	8,297	86.6	236,845	
Public.....	432	4.5	40,841	
Church related.....	438	4.6	28,740	
Other voluntary nonprofit.....	415	4.3	24,555	

Source: 1961 PHS Nationwide Inventory, p. 14 (see table 2).

The ownership pattern found in the recent American Nursing Association survey closely resembled that shown by the 1961 Inventory. Neither survey included facilities owned and by the Federal Government.

(f) *Current Value*

Data are not available on the current value of existing homes. Unquestionably, any estimate would extend into the of dollars. An effort was made by the American Nursing Home Association to obtain such an estimate for those facilities constructed the period 1961-65. Only partial responses were obtained. If partial results could be assumed to represent the value of all constructed during the 5-year period, a value figure approaching billion is estimated.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

(a) *Construction Costs*

Wide variations in methods of construction and contractual procedures present difficulties in arriving at unit cost figures for homes. In some instances costs reported include purchase of movable equipment and furnishings, and architects' fees; in such costs are excluded. Some owners participate directly in construction work without full contractual procedures. Others general contractual procedures, either negotiated or competitive. quality of materials and workmanship, type and method of

and price ranges in labor and materials in various localities are influencing factors.

Under the Hill-Burton program, applicants must perform actual construction work by the lump sum (fixed price) contract method. These methods must be employed to obtain competitive bidding prior to awarding the construction contract. Also, applicants must meet certain minimum requirements for construction and equipment to assure properly planned and well constructed facilities which can be efficiently maintained and operated to furnish adequate services. Data on nursing home construction costs are compiled periodically by the Division of Hospital and Medical Facilities, Public Health Service, which administers the Hill-Burton program. Average unit figures for nursing home projects approved under the program show the upward trend in building costs over the past several years. Data are available only on a square footage and per bed basis and not available on a per-person-served basis.

TABLE 5.—Nursing homes: New construction costs

Year	Building and fixed equipment average cost	
	Per square foot	Per bed
1961-62	\$18.17	\$8,476
1960-61	18.92	9,421
1959-60	19.96	10,712
1958-59	19.25	9,207

Source: U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Hospital Facilities, Architectural, Engineering, and Equipment Branch. "Representative Construction Costs of Hill-Burton Hospitals and Related Health Facilities," January-April 1965, p. 1. Processed.

A study of 40 nursing homes, conducted in 1961-62 by the Division of Hospital and Medical Facilities, Public Health Service, in cooperation with the American Nursing Home Association, provided limited data on construction costs. Of the 40 homes selected for study, 20 were proprietary in ownership and 20 were under nonprofit ownership and built with Hill-Burton assistance. Construction costs were difficult to analyze since precise information, particularly among Hill-Burton homes, was sometimes lacking and some owners participated in construction without full contractual procedures. More important, there were wide differences among the homes in overall area per bed. In the 20 homes built without Hill-Burton aid the total space varied from a minimum of 147 square feet per bed to a maximum of 1,000 square feet per bed. The trend value of unit cost per bed for these homes rose steadily over this range from \$1,500 per bed at the low end to about \$4,500 per bed. At the median area of 236 square feet, the unit cost per bed approximated \$3,125. Areas in homes receiving Hill-Burton assistance ranged from 300 to 740 square feet per bed. In these homes, the unit cost per bed extended from \$4,500 to about \$14,000. At the median area of 400 square feet per bed, the unit cost was about \$10,000 per bed.

On a square footage basis, the median cost for the 20 homes Hill-Burton aid was \$12.90 per square foot and for those with such assistance, \$15.27. When the total unit area was considered, however, the unit costs per square foot among the homes showed a measure of agreement.

(b) *Operating Costs*

Operating cost data are available only from widely scattered surveys conducted usually by State or local groups. Such surveys are widely spread in operating costs per patient day. A variety of factors account for this spread, including size of the facility, staffing, comprehensiveness of care provided and economic status of community.

A sample survey of 133 homes was conducted in California late in 1963 by the California Association of Nursing Homes, Sanitarium Rest Homes, & Homes for the Aged.⁷ The total operating cost of 133 homes averaged \$10.81 per patient day. The range reported was wide, however, from \$6.98 per day to \$19.91. Wage costs averaged \$6.08 per patient day—56.3 percent of the total costs. Food costs per day accounted for another \$0.94, or 8.7 percent of all costs. Again, the ranges within the averages were wide.

In Illinois in 1964 a survey undertaken at the request of the Illinois Nursing Home Association, showed similar wide variations in operating costs among the 26 homes studied.⁸ Total operating cost averaged from an average of \$5.24 per patient day in counties with a low living index to \$12.34 per day in counties with a high cost index. As expected, salaries comprised the major portion of cost—55 percent in low economic areas and 50 percent in the high economic areas. Food costs ranged from a low of \$0.48 to a high of \$1.15 per patient day and accounted, on the average, for just 10 percent of the total per diem costs. Plant operation and maintenance costs reported by the 26 homes ranged from 6.3 percent of operating costs in homes in the high economic areas to 9.3 percent in low economic areas. Housekeeping and laundry and linen costs combined generally accounted for 6 to 9 percent of total costs.

A nationwide survey conducted in 1965 by staff of the *Professional Nursing Home* obtained operating cost data which indicated similar wide ranges in average daily operating costs.⁹ In proprietary homes of 100 beds or more, operating costs per bed averaged \$8.86 compared with \$7.76 in homes with fewer than 50 beds. For nonprofit homes the average ranged from \$8.03 per bed in facilities with fewer than 50 to \$7.24 per day in facilities with 50 to 99 beds. Nonprofit homes having 100 beds or more reported an average daily operating cost of \$7.84. No data were reported on breakdown of operating costs such as food, salaries, and main

⁷ California Association of Nursing Homes, Sanitariums, Rest Homes & Homes for the Aged, Inc. *of Patient Care in California Nursing and Convalescent Homes*. Sacramento, Calif., June 1964, 50 pp.

⁸ DeBruyn, Joseph P., Illinois Nursing Homes report on costs. *Nursing Home Administration*, December 1965, pp. 52-57.

⁹ Planning guide. *Professional Nursing Home*, December 1965, p. 23.

The fragmentary data available as to the wage and salary component of costs, there is no breakdown between custodial and other personnel.

2. USER CHARGES

Only limited information is available on current charges to patients for nursing-home care. No data are available on the extent to which such charges cover maintenance and operation and other expenses, such as debt service payments on indebtedness incurred to finance capital costs of the facilities. The recent survey of the membership of the American Nursing Home Association which brought responses from 1,629 homes—35 percent of the total membership—provides the most current data on charges. As of late 1965, patients in the reporting homes were distributed by monthly charge rate as follows:

TABLE 6.—*Distribution of patients by basic monthly charges for room, board, and routine nursing services*

Monthly rate	Patients	
	Number	Percent
Total	66,589	100
Less than \$100	906	1
\$100 to \$149	7,325	11
\$150 to \$199	10,806	25
\$200 to \$249	17,170	26
\$250 to \$299	11,145	17
\$300 to \$349	7,585	11
\$35 and over	5,652	9

Source: Unpublished data from the American Nursing Home Association.

The survey of institutions for the aged and chronically ill, conducted by the National Center for Health Statistics during April-June 1963, provided information on monthly charges for care of residents by proprietary and nonprofit nursing care homes.¹⁰ The average most frequent charge for proprietary nursing care homes was \$211 per month; for nonprofit nursing care homes, \$176 per month. As pointed out in the survey report, "the difference between these estimated charges do not necessarily indicate either the amount of profit being made by homes under different types of ownership or the cost of providing care. Possibly the charges made by nonprofit homes—are lower than those made by proprietary homes because they have sources of income other than the individuals being served."

¹⁰ U.S. Department of Health, Education, and Welfare, Public Health Service, National Center for Health Statistics. *Institutions for the Aged and Chronically Ill: United States April-June 1963*, Series 12, No. 1, July 1965, U.S. Government Printing Office, Washington, D.C., p. 15.

With regard to sources of patient funds the following summarizes the results of the ANHA survey:

TABLE 7.—*Distribution of patients by sources of funds for payment of nursing home care*

	Percent of patients
Total.....	100
Source of funds:	
Personal or family funds.....	37
Medical assistance for aged.....	27
Other public assistance.....	17
Social security.....	15
Veterans' Administration.....	2
Blue Cross.....	(1)
Commercial insurance.....	(1)
Other.....	2

¹ Less than 1 percent.

Source: Unpublished data from the American Nursing Home Association.

C. TREND OF CAPITAL OUTLAYS

A large gap exists in present-day information on capital outlays for nursing homes. Other than for facilities receiving Federal aid for construction, no data are available on the presumably large dollar volume of work which has been going on in this field.

Federal assistance in nursing home construction is provided principally through three agencies—the Public Health Service (Hill-Burton program), the Federal Housing Administration, and the Small Business Administration.

Hill-Burton program.—In August 1946, Congress passed the Hospital Survey and Construction Act, establishing what is generally known as the Hill-Burton program. Federal participation in approved projects may range from one-third to two-thirds of the total costs of constructing and equipping the project.

In 1954 the act was amended to authorize funds specifically for the construction of public and voluntary nonprofit nursing homes and chronic disease hospitals. In 1964 the chronic disease and nursing home categories were combined into a single category designated as "long-term care."

By June 30, 1965, Hill-Burton funds had provided a total of 50,308 long-term care beds (chronic disease and nursing homes) either in new facilities or as additions to existing facilities. The total cost of these projects amounted to nearly \$679 million with the Federal contribution amounting to more than \$225 million and the State and local share totaling \$454 million. The following table shows the dollar volume of projects approved each year since 1955:

8.—Long-term care projects approved under the Hill-Burton program, 1955-65¹

[Dollars in millions]

Fiscal year	Number of projects	Beds provided	Project costs		
			Total	Federal share ²	State and local share
TOTAL LONG-TERM CARE PROJECTS					
-----	8	284	\$1.8	\$0.8	\$1.0
-----	101	5,302	67.5	21.0	46.5
-----	72	3,079	39.1	12.9	25.2
-----	69	3,677	45.7	13.6	32.2
-----	82	4,565	52.0	17.5	34.5
-----	73	4,062	51.8	15.2	36.6
-----	88	4,621	61.1	19.9	41.2
-----	135	6,930	95.3	34.3	61.0
-----	130	6,361	86.5	34.0	52.5
-----	106	6,334	111.3	33.3	78.1
-----	84	5,093	67.5	23.0	44.5
Total-----	948	50,308	678.7	225.4	453.3

NURSING HOMES

-----	2	123	\$0.5	\$0.2	\$0.3
-----	56	2,687	30.6	9.1	21.5
-----	40	1,698	18.6	6.0	12.6
-----	52	2,792	32.7	10.0	22.7
-----	62	3,604	38.4	12.9	25.5
-----	63	3,755	44.1	12.8	31.3
-----	68	3,414	36.7	14.3	22.3
-----	96	5,362	61.9	23.5	38.4
-----	87	4,434	54.8	21.5	33.3
-----	80	4,600	73.5	21.9	51.6
-----	61	3,806	45.7	15.5	30.1
Total-----	667	36,275	437.4	147.9	289.5

CHRONIC DISEASE

-----	6	161	\$1.3	\$0.6	.0
-----	45	2,615	37.0	11.9	\$25.0
-----	32	1,381	19.5	6.8	12.7
-----	17	885	13.0	3.6	9.5
-----	20	961	13.6	4.7	9.0
-----	10	307	7.7	2.4	5.3
-----	20	1,207	24.4	5.6	18.9
-----	39	1,568	33.4	10.7	22.7
-----	43	1,927	31.7	12.5	19.2
-----	26	1,734	37.9	11.4	26.5
-----	23	1,287	21.8	7.5	14.4
Total-----	281	14,033	241.3	77.6	163.8

¹ Unpublished Hill-Burton program data.² According to statute annual Hill-Burton appropriations have a 2-year availability.

No breakdown of the sources of funds comprising the State and local share of project costs is available. Although a financial statement, required to be submitted by each applicant for Hill-Burton aid, provides data on the applicant's financial resources, this information has not been summarized. To prepare such a summary is a time-consuming project of such proportions that it has not been undertaken.

However, a study has been made of the extent to which construction funds for nursing homes were obtained through loans identifiable on the project application as mortgage loans. Of 114 voluntary non-profit nursing home projects approved during the years 1963 through 1965, a total of 61, or 54 percent, indicated mortgage loans as one means of financing their share of the project construction costs. Thirty of these projects were for completely new homes; the others were for additions to existing homes or for nursing home units of hospitals. Not all of the project sponsors reported details of their mortgage arrangements. Of those reporting the majority (58 percent) obtained their loans through banks or trust companies, although some obtained the loans through mortgage brokers or savings and loan associations.

The loans ranged in amount from \$22,000 to \$1,250,000 and averaged \$457,000 over the 3-year period. Not all of the sponsors reported the interest rate paid or the maturity period of the loan. ... those reporting, the loans were obtained for an average of 16 years with some, 23 percent, having loans of less than 10 years and a few, 10 percent, having loans with a maturity of 25 years. Interest averaged (unweighted) 5.61 percent, although one sponsor reported that a loan had been obtained at a rate as low as 4 percent.

Federal Housing Administration.—Mortgage insurance for the construction or remodeling of proprietary or private nonprofit nursing homes is made available through the Federal Housing Administration, an agency of the Department of Housing and Urban Development. Purchase of land and cost of site improvement and of certain non-residential facilities such as recreational and social facilities, plus built-in fixtures and equipment, may be included in the mortgage. Homes obtaining this mortgage insurance must have a capacity of at least 20 beds and must present a certificate of need for the home from the State Hill-Burton agency. Through December 31, 1965, 364 nursing home projects for \$213.4 million were insured by FHA to provide 33,159 beds.

Small Business Administration.—Under a program inaugurated in August 1956, the Small Business Administration makes commercial loans available to construct, expand, improve, or operate proprietary nursing homes whose dollar volume of receipts is not more than \$1 million annually. The amount of the loan is limited by statute to \$350,000 and may be either a direct loan or a participation loan jointly with SBA banks and other private lending institutions. A certificate of need for the facility must be obtained from the State Hill-Burton agency before the loan can be processed. As of December 31, 1965, a total of 506 applications had been approved by SBA for loans to sanatoria and convalescent rest homes. The cumulative amount of the loans totaled \$36,763,000.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

1. CAPITAL REQUIREMENTS

The capital requirements for long-term care facilities for the decade 1966-75 are:

	<i>Millions</i>
Backlog of unmet needs as of June 30, 1965.....	\$3, 186. 3
Total additional requirements through June 30, 1975.....	3, 044. 0

Total estimated need.....	6, 230. 3
---------------------------	-----------

- (a) Hill-Burton State plans for fiscal year 1966 provided the basic terms of long-term care beds—for developing estimates of capital needs for long-term care facilities. From these plans, totals were derived for (1) total existing beds, (2) total needed, (3) beds to be modernized, and (4) beds needed over above the present supply. Dollar estimates were obtained by using an average cost of \$10,000 per bed to the national estimates of beds to be modernized and additional beds needed. Experience the Hill-Burton program has indicated that, on a cost-per-bed there are relatively minor differences between the cost of new tion and the costs of modernizing obsolete facilities.

Projections of the costs of modernization and needed additional n care beds were based on the following assumptions and (1) population growth, (2) a 3-percent obsolescence rate per or an assumption of a 33-year "life," (3) an annual increase in capacity at the average rate which has obtained over the past years with a gradual lowering of the rate toward the end of the (4) maintenance of the current estimated needs for beds in of beds per 1,000 population, and (5) maintenance of the est-current volume of nonfederally aided construction for the years of the decade with a gradual "leveling off," thereafter.

- (b) The estimated capital needs (in millions) for long-term care are as follows:

	Total	Modernization	Additional capacity
June 30, 1965.....	\$3, 186. 3	\$1, 882. 6	\$1, 303. 7
ments:			
1966.....	227. 0	125. 0	102. 0
1967.....	242. 0	138. 0	104. 0
1968.....	256. 0	150. 0	106. 0
1969.....	273. 0	165. 0	108. 0
1970.....	293. 0	180. 0	113. 0
1971.....	312. 0	195. 0	117. 0
1972.....	331. 0	210. 0	121. 0
1973.....	351. 0	225. 0	126. 0
1974.....	370. 0	240. 0	130. 0
1975.....	389. 0	255. 0	134. 0
Total, backlog plus increments.....	6, 230. 3	3, 765. 6	2, 464. 7

- (c) It is not feasible to estimate the proportions of these needs by community.

- (d) The proportion of the estimated capital outlays to be expended non-Federal entities is 100 percent. There is no feasible method breaking this down among the non-Federal entities.

CHAPTER 25

Community Mental Health Centers*

BACKGROUND

Following a study of the findings and final report of the Joint Commission on Mental Illness and Health in early 1963, President Johnson sent to the Congress his special message on mental illness and retardation. In that message the President asked for a bold approach to replace the State mental hospital system with a system providing comprehensive mental health services at the community level. This system would emphasize service which was short intensive rather than long term and custodial. It would also emphasize the prevention of mental illness through consultation and education, as well as the full rehabilitation of those who have mentally ill. The community mental health center program is based on the belief that it will be possible to reduce substantially, within a decade or two, the number of patients who receive only custodial care in an institution—or who are not under treatment at all—who they could be helped by the application of one or more of the methods of dealing with emotional disturbances and the illnesses.

The community mental health centers program authorized in October 1963, under Public Law 88-164, title II (as amended by Public Law 89-105), is designed to stimulate State, local, and private action to provide comprehensive mental health services in the community setting—close to the homes, families, and jobs of the mentally ill. These community centers will provide for the first time in the Nation's history the concentrated collaboration of resources required for a concerted program of prevention, diagnosis, and treatment, of the mentally ill.

A. NATURE AND COMPOSITION OF CENTERS

1. DESCRIPTION OF COMMUNITY MENTAL HEALTH CENTERS

(a) *General Physical Characteristics*

The community mental health center refers not to a facility but to the concept of a program of comprehensive health services available within, and easily accessible to, a community. To make this definition more specific, three key words—"community," "comprehensive services," and "program"—require elaboration.

*Prepared by Dr. Martin A. Kramer, Chief, Community Mental Health Facilities Branch, National Institute of Mental Health, National Institutes of Health, Public Health Service, with minor editing by committee staff.

"Community" means all the people within that area, including the children and the aged, the rich and the poor, the residents and the transients, the healthy and the sick (whether the illness be mild or severe, acute or chronic).

"Comprehensive community mental health services" include inpatient, outpatient, partial hospitalization (at least day care), emergency, consultation and education, diagnostic, rehabilitation, precare and aftercare, training, and research and evaluation services.

All the services provided by a community mental health center must be tied together in a "program," and "program" is synonymous with "continuum of care." Such a program exists when patients, clinical information and professional staff can move easily and quickly from any one element of service to any other according to the needs of the patients. In effect, this establishes a "one-door" policy for mental health services, and the door must be open to any patient and to any qualified professional.

While the program demands a one-door policy, however, it does not require one roof. Indeed, it is possible for each of the services to be offered under separate auspices and in separate physical facilities.

(b) *Services Rendered and Performance Standards*

For the most part, the facility requirements for a community mental health center will vary widely along two dimensions: (a) the population served and its service utilization rate, and (b) the treatment program profile. The first dimension is self-evident. The second refers to the varying emphasis, from program to program, on each element of service. For example, one center might put a heavy emphasis on day care programs and attempt to move inpatients to the day care services whenever and as soon as possible. In this case there would be less need for inpatient beds and more for day care space. The relatively recent rapid developments in treatment techniques (for example, drug therapy) also affect the needs for physical facilities. For these reasons, the most commonly recurring theme in regard to architectural considerations for mental health centers is a stress on flexibility.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) *Community Mental Health Centers*

As of this writing there are no existing community mental health centers consistent with the conceptual requirements outlined above. Thirty construction grant applications have been approved under the terms of the community mental health centers program (title II, Public Law 84-164, as amended by Public Law 89-105). Because of the construction lag time, however, the first "center" will open its doors early in the next year.

(b) *Other Mental Health Facilities*

Considering all mental health facilities, there is quite an extensive capital plant on which to build future community mental health centers. For example, there are approximately 1,050 general and specialty hospitals which admit psychiatric patients, and have about 25,000 beds for such patients. These, of course, are facilities and

do not bear a 1-to-1 correspondence to program resources. For example, one general hospital may admit patients for three services: inpatient, 24-hour emergency service, and day care. The double counting problem comes into focus here if we note that there are twice as many hospitals with psychiatric emergency service (2,108) as have psychiatric inpatient beds.

In addition, there are about 280 public mental hospitals with about 500,000 beds excluding those administered by the Veterans' Administration. Information as to the age of their facilities is not available. The potential future utility of these 280 hospitals in relation to community centers, however, is reflected in these facts:

- *Only about one-third of the hospitals are located in relatively heavily populated areas.

- *Less than one-third of the hospitals are accredited.

- *Numerous hospitals in this group had their beginnings many years ago—53 of the hospitals were opened before the Civil War; Another 102 of the hospitals were opened before the Spanish-American War.

- Another 36 were opened before World War I.

By the end of the Second World War, the total reached nearly 240.

The facilities in many areas cannot be adapted to the concept of the community mental health center.

In addition to the public mental hospitals, there are 258 private mental hospitals with about 15,000 beds. Of these, about 95 are located within relatively heavily populated areas.

Apart from these hospital facilities there are also about 2,000 outpatient clinics. These are typically quite small in terms of facility and manpower resources though they do provide fairly extensive organizational resources.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

(a) *Construction costs*

The estimated cost of constructing one unit is \$1,300,000. This estimate is based on the assumption that \$18 per square foot would be the average construction cost in 1964-65 for the noninpatient facilities. The assumptions behind that assumption are that approximately—

- Twenty-four percent of patients will utilize the inpatient service, which will require about 16 beds (Hill-Burton, \$20,000 per bed, estimates were used);

- Sixty percent of patients will utilize the outpatient services (some average "educational facility" costs were used);

- Sixteen percent will utilize day-night care facilities (the costs of which were estimated to be approximately midway between other two estimates).

Beyond these estimates, several other factors were considered: the average per square foot cost of research laboratories (which will appear in the average unit in varying degrees); the cost of emergency service facilities; the cost of rehabilitation facilities; the cost of parking lot construction; etc.

The difficulties involved in arriving at the average construction cost for a facility which houses at least 10 different functions in varying proportions to each other—and each requiring a different *kind* of construction—should be obvious. The average cost which finally evolved (\$18 per square foot) was tested against the actual costs of several kinds of psychiatric facilities which were built in 1963 and 1964 in different parts of the country. This test demonstrated that the \$18 estimate is reasonably accurate when equipment, furnishings, and architect fees are included.

(b) *Operating Costs*

It is estimated that the annual cost of operating one unit will be approximately \$1,200,000 of which about 80 percent will be staffing costs.

The staffing pattern estimated for a one-half unit (an essential services center for a population of 100,000) would be as follows:

Type	Number	Cost
Total.....	72	\$603,000
Psychiatrists.....	6	135,000
Psychologists.....	4	60,000
Social workers.....	6	60,000
Nurses.....	14	112,000
Psychiatric aids.....	24	120,000
Health educators.....	2	20,000
Occupational therapists.....	2	16,000
Supporting personnel (including EEG technicians, laboratory technicians, X-ray technicians, dieticians, practical nurses, and orderlies).....	14	80,000

Based on this pattern, it is estimated that the staff required for a unit would probably number about 110, and the cost therefore would reach about \$950,000. While these figures represent something of an ideal, the actual staffing patterns of the future are more likely to show fewer numbers of professionals; but with continually rising salaries and operational costs, the dollar figures shown above may remain fairly accurate.

2. USER CHARGES

In both the construction and operation of community mental health centers, there are of necessity many sources of support; the extent to which user charges will provide support, however, can not be estimated at present. While the major portion of the existing system of mental health care has rested on State support of the State mental hospital system, the new direction in mental health programs will require a large assumption of responsibility by local public and private agencies and by the Federal Government. At the same time, the States' financial responsibility will certainly continue, both because the States will have to maintain at least part of the State hospital system for an extended period of time, and because the States will be called upon to support the development of community programs.

Construction funds.—Because the bulk of the cost of mental health care was carried by the State hospital systems, many communities have been able to construct outpatient clinics, and a few have constructed inpatient facilities. The two types of achievement have been with and sometimes without Hill-Burton support. As the thrust

of the new program is toward centering all mental health services within communities, however, a much larger contribution toward the cost of operation will have to come from the communities.

For the relatively few construction grant applications approved thus far, construction support is to be borne by (a) Federal Government (average 50 percent), (b) State government (20 to 30 percent) and (c) local public and private funds (20 to 30 percent).

Sources of operating funds.—There are 25 States which provide State moneys to assist communities in assuming part (indeed up to 75 and 80 percent) of the costs of public mental health services (as through Community Mental Health Services Acts). Several other States are in the process of considering new legislation which would authorize similar support programs of their own. In large measure, of course, these represent new State expenditures—but it is anticipated that they also will begin to represent some redirection of State funds from the State hospital system to the new community care programs.

There is an encouraging movement among the Nation's health insurance carriers to liberalize the coverage of the treatment costs of mental illness. At the present time, substantial benefits are widely available for mental health services on an inpatient basis. The promising new developments lie in outpatient and partial hospitalization areas, though in these areas, too, two caveats must be added: Actual coverage of outpatient and partial hospitalization services at this time are extremely inadequate, and the high rising costs of health insurance may put such coverage out of the reach of too many people anyway. On the other hand, the 1964 contract agreement between the UAW and the automotive industries includes rather comprehensive mental health insurance coverage for the UAW members and their dependents (some 2.5 million people), the cost of which will be borne entirely by the employers. This agreement may set a precedent. rapid developments throughout the insurance industry. The major groups of the uninsured will then be the unorganized workers in the less industrialized and more service-oriented occupations.

While the per hour and per diem costs of treating mental illnesses have continued to rise (along with all medical costs), the new methods of short-term intensive treatment are making the per case costs gradually decrease. Hence, the percentage of costs which can be borne by patient fees—out of the patient's pocket or from third party payments—should continue to increase.

With the passage of Public Law 89-105 authorizing initial staffing grants for community mental health centers, a great many local programs will be able to get started. Once started, and once their value is demonstrated, the resources to keep them going are likely to be found.

C. TREND OF CAPITAL OUTLAYS

As indicated above, there are at present no community mental health centers in operation, in terms of the comprehensive program envisaged. However, some of the existing mental health facilities as indicated below will be adaptable for use in the program.

Assumptions regarding use of existing resources. For many reasons, it is unlikely that more than one-half of the facility resources and administrative footholds presented by existing hospitals and clinics

will be used in community mental health center projects. The proportion is likely to be somewhat higher for existing general hospital and a selected few mental hospital inpatient units. For these purposes it is estimated that 600 such units will be used.

It can be further assumed that approximately 1,000 of the existing outpatient clinics will fit into community mental health center programs. As a community mental health center becomes more comprehensive—i.e., as it provides a greater range of services—more existing community resources will be potentially available. For example, existing rehabilitation facilities, recreation facilities, and residential facilities (for such as halfway houses) may be utilized in a comprehensive community mental health center. While it is not possible to either predict, or to attach a dollar value to, such potential developments, some allowance has been made for them by slightly inflating the probable value of the existing inpatient and clinic facilities. This inflation is reflected in the following figures on the dollar value for community mental health center purposes. It is estimated that each of the 600 inpatient facilities expected to be used in community mental health centers has a value of \$325,000 in 1965.

It is further estimated that each of 1,000 clinic facilities to be used has a value of \$100,000 in 1965.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

Year-by-year estimates of capital requirements for community mental health centers, 1965-75, are presented below. The projections are based on the assumption that as the construction of comprehensive community mental health centers gets underway, existing inpatient and outpatient resources will be utilized to provide interim mental health services. These units will be eventually converted into comprehensive centers dispensing a broad range of mental health services: inpatient, outpatient, hospitalization, consultation-education, diagnostic, rehabilitation, etc. The program assumes the creation of a total of 2,200 comprehensive centers by 1975, serving a population of 220 million.

Projection of need for community mental health centers, 1966-75

Year	Amount ¹ (millions)	Physical units	
		Changeover of existing facilities to centers	new con- struction
1966.....	\$100	(²)	(²)
1967.....	130	(²)	(²)
1968.....	185	(²)	25
1969.....	209	91	60
1970.....	279	112	90
1971.....	301	131	115
1972.....	425	243	133
1973.....	422	260	140
1974.....	435	260	140
1975.....	448	260	140
Total.....	2,934	1,357	843
Total centers.....		2,200	

¹ Represents amounts obligated for construction each year, not completion dates of centers.

² Utilization of existing facilities while the construction program gets underway.

(a) *Factors taken into account in making projections.*—A physical unit for the purposes of this 10-year projection is a comprehensive community health center serving a population of 100,000. The average cost of constructing such a unit has been estimated at \$1.3 million. It is assumed that most characteristics of any center (e.g., staff size and cost of construction) are linear with respect to population, so that a comprehensive center serving for example 200,000 people would be the equivalent, in terms of cost, of 2 units.

It is anticipated that the bulk of the early years' capital outlay will be applied to use of existing facilities. This is based on the assumption that it will take time for States to begin to shift capital expenditures from State hospitals to community centers and that in the interim it would be desirable to make at least the essential mental health services available to as many people as possible.

(b) Estimated capital needs on a per-year basis. (See above.)

(c) All of the community mental health centers envisaged will be located in cities with populations of 50,000 or more (each comprehensive mental health center is designed to serve a population of 100,000).

(d) The distribution of estimated capital expenditures for housing community mental health programs, 1966-75, is expected to be as follows:

	<i>Percent</i>
1. State governments or State agencies.....	} 50
2. Cities, counties, and local public authorities.....	
3. Private, nonprofit organizations.....	} 50
4. Proprietary or profitmaking organizations.....	

CHAPTER 26

Facilities for the Mentally Retarded*

Note: This chapter consists of two parts: I. Community Facilities for the Mentally Retarded and II. University-Affiliated Facilities for the Mentally Retarded.

I. COMMUNITY FACILITIES FOR THE MENTALLY RETARDED

INTRODUCTION

Mental retardation has been defined as impairment of ability to learn and to adapt to the demands of society.

The first step in developing programs for the mentally retarded in the United States was taken in 1848 by the opening of an institution in Massachusetts. Similar institutions were shortly established in New York, Pennsylvania, Ohio, Connecticut, and Kentucky. In 1876, a founded what is today known as the American Association on Mental Deficiency.

Special education classes for the mentally retarded were established in Providence, R.I., in 1896. These classes in public schools for the most part, for the mildly retarded. It was not until the 1920's that classes were introduced for the moderately retarded.

Parallel with developments in education for the retarded came new developments in the institutional field. Colonies were organized for the twofold purpose of moving part of the population in overcrowded ons to cheaper quarters in rural areas and of utilizing the adult l for work on farms owned by the institutions and in domestic type jobs within the facility.

Public concern over the problem of mental retardation has increased over the past 10 years. This concern was reflected by the ment by President Kennedy in October 1961 of a panel of out- g consultants with a mandate of preparing a national plant to mental retardation. The report of this panel, "National To Combat Mental Retardation," published in 1963, was ental in pushing the problems of this handicapping condition to the forefront of national interest and attention. From this interest stemmed increased activity at all levels. The Mental Retarda- Facilities and Community Mental Health Centers Construction of 1963 (Public Law 84-164) authorizes grants for construction of centers; grants for construction of community facilities for the treatment, and training of the mentally retarded; and assistance

*Prepared by the Division of Hospital and Medical Facilities, Public Health U.S. Department of Health, Education, and Welfare, with minor editing ittee staff.

in the construction of clinical facilities providing specialized services for the retarded and the clinical training of physicians and specialized personnel needed in the program. A majority of States now have legislation making possible public schooling for the retarded and in some 40 States clinical programs for the retarded are available in public health departments. Increased interest and efforts of voluntary organizations should be added to these growing efforts of public agencies.

Most authorities agree that approximately 3 percent of the population, or about 5.8 million in 1965, would be classified as mentally retarded to some degree with about 126,000 additional being born each year.

A. NATURE AND COMPOSITION

1. DESCRIPTION OF THE FACILITIES

(a) *Physical Characteristics*

The term "facility for the mentally retarded" means a facility specially designed for the diagnosis, treatment, education, training, custodial care, or sheltered workshops for the mentally retarded. Such a facility may be under private ownership—voluntary nonprofit or proprietary—or under State or local governmental ownership.

It is difficult to describe the physical characteristics of buildings and equipment of facilities for the mentally retarded, since many of the programs are housed in buildings which have been converted from their former uses, as schools, churches, etc. Furthermore, the type, size, equipment, and other characteristics of new facilities will depend upon the scope and nature of the services provided, as well as the pattern of care on the State and local level.

Specially designed structures for the mentally retarded should create an environment appropriate to their particular needs. The functional requirements are often complex and may not always be compatible with the creation of an informal atmosphere of warmth and intimacy that is so desirable in these facilities. However, every effort should be made to eliminate any suggestion of an institutional character in the physical setting. In general, structures of one floor are preferable for ease of access and interior circulation and single-story buildings present a more intimate environment. Buildings as modest in size as function will permit; avoidance of rigid uniformity in planning; and skilled use of form, materials, and color will contribute to an informal atmosphere. This informality may be further enhanced by incorporating patios or landscaped areas in relation to the building. Architecturally, the buildings should recognize community standards and conform to applicable regulations, but the importance of an esthetic appearance cannot be overemphasized. Economical and efficient operation and maintenance of the facility is, of course, an important consideration in the total design.

Although programs for the mentally retarded may be housed in many different kinds of buildings, there are four broad types of facilities: (1) Diagnosis and evaluation clinics—those providing diagnostic and evaluation services; (2) day facilities—those providing any or all elements of treatment, education, training, personal care, and sheltered workshop services for less than 24 hours per day; (3) residential facilities—those providing such services for a 24-hour period per day; and (4) group home facility—those providing group home or housing services for individuals being trained to live independently in the community and those who are employed within a community but need some type of minimal supervision.

(b) *Services Rendered*

The primary objective of all services for the mentally retarded should be to provide opportunities for each individual to attain his fullest potential. The types of services rendered, however, will be influenced by the number of individuals in various levels of retardation—mild, moderate, severe, and profound—and in age classifications such as children (preschool and school age) and adults. To meet the needs of the retarded as shown in chart I, taken from the report of the President's panel, and also to provide a continuum of care, widely diversified services have been developed. Chart II shows both the variety and range of representative services needed by the retarded.

CHART I.—*Developmental characteristics of the mentally retarded*

Degrees of mental retardation	Preschool age, 0 to 5, Maturation and development	School age, 6 to 20, training and education	Adult, 21 and over, social and vocational adequacy
..	Gross retardation; minimal capacity for functioning in sensorimotor areas; needs nursing care.	Some motor development present; may respond to minimal or limited training in self-help.	Some motor and speech development; may achieve very limited self-care; needs nursing care.
..	Poor motor development; speech is minimal; generally unable to profit from training in self-help; little or no communication skills.	Can talk or learn to communicate; can be trained in elemental health habits; profits from systematic habit training.	May contribute partially to self-maintenance under complete supervision; can develop self-protection skills to a minimal useful level in controlled environment.
..	Can talk or learn to communicate; poor social awareness; fair motor development; profits from training in self-help; can be managed with moderate supervision.	Can profit from training in social and occupational skills; unlikely to progress beyond 2d grade level in academic subjects; may learn to travel alone in familiar places.	May achieve self-maintenance in unskilled or semi-skilled work under sheltered conditions; needs supervision and guidance when under mild social or economic stress.
..	Can develop social and communication skills, minimal retardation in sensorimotor areas; often not distinguished from normal until later age.	Can learn academic skills up to approximately 6th grade level by late teens. Can be guided toward social conformity.	Can usually achieve social and vocational skills adequate to minimum self-support but may need guidance and assistance when under unusual social or economic stress.

Source: U.S. Department of Health, Education, and Welfare. *Mental Retardation Activities of the U.S. of Health, Education, and Welfare*, Washington, D.C., U.S. Government Printing Office, July

CHART II.—Array of direct services for the retarded ¹

Life stage	Components of special need						
	Physical and mental health	Shelter nurture protection	Intellectual development	Social development	Recreation	Work	Economic security
Infant.....	Specialized medical followup, special diets, drugs or surgery.	Residential nursery, child welfare services.	Sensory stimulation.				
Toddler.....	Home nursing, correction of physical defects, physical therapy.	Foster care, trained babysitter.	Nursery school.	Home training, environmental enrichment.			
Child.....	Psychiatric care, dental care.	Homemaker service, day care.	Classes for slow learners, special classes—educable, trainable, religious education.		Playground programs.		
Youth.....	Psychotherapy.	Short stay home, boarding school, halfway house.	Work-school programs, speech training, occupational training, vocational counseling.	Day camps, residential camps, youth groups, social clubs, personal adjustment training.	Scouting, swimming.		"Disabled child's" benefits, health insurance.
Young adult.....	Facilities for retarded in conflict.	Guardianship of person long-term residential care.		Marriage counseling.	Bowling.	Selective job placement, sheltered employment, sheltered work-shops.	Total disability assistance.
Adult.....		Group homes.	Evening school.	Social supervision.			Guardianship of property, life annuity or trust.
Older adult.....	Medical attention to chronic conditions.	Boarding homes.			Evening recreation.		Old age assistance, OASI benefits.

¹ Not included are diagnostic and evaluation services, or services to the family; the array is set forth in an irregular pattern in order to represent the overlapping of areas of need and the interdigitation of services. Duration of services along the life span has not been indicated here.

Source: The President's Panel on Mental Retardation. *National Action to Combat Mental Retardation*. Washington, D.C., U.S. Government Printing Office, October 1962.

Among the more important services required in an overall program are the following:

Diagnosis and evaluation.—These services involve the diagnosis and evaluation of the individual; the appraisal of resources of the individual, his family, and the community; and the development of a plan to help the individual develop to the extent of his capabilities. An adequate and thorough diagnosis of all retarded persons is an essential service in any mental retardation program. Since all other services are largely dependent upon the quality of the diagnosis and evaluation services provided, these services are the keystone to the development of a complete array of services in any community.

Treatment.—These services include medical and appropriate related ancillary services and therapies to provide for the improvement of the individual: physically, psychologically, and socially. The importance of developing and maintaining adequate treatment services for the retarded is emphasized by the fact that a significant number of retardates have associated disabilities such as impaired hearing, difficulty in perceiving, impaired vision, poor muscular coordination, and physical deformities.

Education.—These services include curriculums of instruction geared to the needs of the mentally retarded at various levels of retardation and in different age groupings.

Training.—Included in these services are training in motor skills, self-help, and activities of daily living; vocational training; and socialization experience conducive to personality development.

Custodial care.—These services cover food, shelter, clothing, and medical care. Also included are special medical and nursing services directed at the prevention of regression in the retarded individual and stimulation of his maturation.

Sheltered workshops.—These services include vocational evaluation, training, and paid work experience.

(c) *Standards of Performance*

Uniform national statistics regarding mental retardation are very limited. In view of this, only gross estimates of the overall magnitude of the problem can be established. One such estimate may be derived through measures of intelligence. Experience has shown that most people with IQ's below 70 have difficulty in learning and in adapting to their environment. On this basis, it is estimated that about 30 per 1,000 population would score below this level. Based on the 1965 civilian resident population of 192 million, about 5.8 million persons would be affected. It should be borne in mind that large numbers of these people are classified in the mild category, and no special facilities or services are needed. In the best judgment of authorities in the field of mental retardation, the number of mentally retarded for which special facilities should be provided is not 30 per 1,000 population but closer to 10 per 1,000 population.

Some indication of the number being served in existing facilities for the mentally retarded may be obtained from information reported in 46 State plans. On the basis of this information, it appears that about 1.75 individuals per 1,000 civilian resident population are presently being served in existing facilities for the mentally retarded. Of the 46 States reported, the District of Columbia has the highest

ratio—4.53 per 1,000 population, and Florida has the lowest—0.29 per 1,000 population.

Construction projects under the Mental Retardation and Community Mental Health Centers Construction Act of 1963 must meet certain requirements established by regulation. Each facility, for example, is required to meet certain architectural standards to insure that the facility is fire safe, structurally sound, and so planned as to carry out effectively the proposed program.

(d) *Qualitative Standards of Performance*

At the present time there are no standards of performance for facilities for the mentally retarded that have been nationally adopted. No joint accreditation programs or procedures have been established such as those existing in the category of hospitals and related medical care facilities.

Some States have developed their own standards for the maintenance and operation of these facilities which may include provision for licensing.

Many of the institutions are owned and operated by the State and are under the supervision of State agencies specifically responsible for the care and treatment of the mentally retarded. Other facilities such as those for day care may be the responsibility of the public education authorities, while still others are operated by voluntary and religious organizations. Regardless of the sponsorship, some of the States exercise a significant degree of supervision over the quality and volume of care provided.

On the Federal level all Government agencies involved in this field are coordinating their efforts in providing guidance, recommendations, and financial assistance. These efforts are directed toward improved care through expanding programs in research and training, additional and more appropriately designed facilities, and greater concern for the individual retardate.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) and (b) *Number of Facilities and Distribution by States*

Information is not yet available as to the total number of existing facilities for the mentally retarded in the United States. However, some indication of the number of facilities in which the mentally retarded are served may be obtained from the State plans relating to such facilities. Unfortunately, not all of the State plans have been received to date. On the basis of information presently available, it appears as though there are about 2,600 existing facilities in which the mentally retarded are served in the 46 States from which plans have been received.

Table 1 shows the distribution of the facilities serving the mentally retarded by State. As can be seen from table 1, California has the largest number of existing facilities in which the mentally retarded are served, with Pennsylvania and Massachusetts being next in order of magnitude of the 46 States reporting.

TABLE 1.—*Number of facilities in which the mentally retarded are served, based on data reported in 46 State plans*

Total.....	2,571	Montana.....	12
Alabama.....	(¹)	Nebraska.....	(¹)
Alaska.....	11	Nevada.....	4
Arizona.....	21	New Hampshire.....	8
Arkansas.....	27	New Jersey.....	59
California.....	261	New Mexico.....	26
Colorado.....	33	New York.....	83
Connecticut.....	32	North Carolina.....	42
Delaware.....	(¹)	North Dakota.....	12
District of Columbia.....	15	Ohio.....	146
Florida.....	51	Oklahoma.....	40
Georgia.....	38	Oregon.....	37
Hawaii.....	43	Pennsylvania.....	168
Idaho.....	9	Rhode Island.....	8
Illinois.....	95	South Carolina.....	10
Indiana.....	66	South Dakota.....	8
Iowa.....	68	Tennessee.....	34
Kansas.....	58	Texas.....	87
Kentucky.....	(¹)	Utah.....	19
Louisiana.....	58	Vermont.....	(¹)
Maine.....	24	Virginia.....	50
Maryland.....	54	Washington.....	80
Massachusetts.....	163	West Virginia.....	20
Michigan.....	138	Wisconsin.....	100
Minnesota.....	102	Wyoming.....	7
Mississippi.....	(¹)	Puerto Rico.....	26
Missouri.....	118	Virgin Islands.....	(¹)

¹ Not available.

Source: Data compiled from State plans submitted under the requirements of title I, pt. C, of the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963, Public Law 88-164.

(c) Distribution of Facilities by Size of City

There is considerable variation among States and territories in the distribution of facilities for the mentally retarded by size of city. In California, the largest proportion of such facilities are located in cities ranging in size from 10,000 to 49,999; whereas, in Pennsylvania, the largest number of facilities for the mentally retarded are situated in small towns (under 2,500). Table 2 presents the distribution of facilities by size of city based on information reported in the 46 State plans indicated in table 1. It should be noted that the distribution of facilities for the mentally retarded by size of city in which the facilities are located is not intended to represent the service area of the facility.

TABLE 2.—*Existing mental retardation facilities, by size of city*

Size of city	Number of facilities	Percent
Total reported.....	2,571	100.0
500,000 or more.....	240	9.3
100,000 to 499,999.....	421	16.4
50,000 to 99,999.....	290	11.3
10,000 to 49,999.....	797	31.0
2,500 to 9,999.....	428	16.6
Under 2,500.....	395	15.4

Source: Based on data compiled from State plans submitted under the requirements of title I, pt. C, of the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963, Public Law 88-164.

(d) *Age of Facilities*

Data are not presently available concerning the age distribution of facilities for the mentally retarded. Since the first institution for the mentally retarded was opened in 1848 in Massachusetts, many of the existing facilities were probably built in the late 1800's or early 1900's.

(e) *Ownership*

Table 3 shows the distribution of existing facilities in which the mentally retarded are served by ownership. It will be noted that almost half of the facilities are owned by nonprofit organizations with proprietary organizations being next in order of ranking. This distribution is based on information reported in the State plans of the 46 States reporting.

TABLE 3.—*Existing mental retardation facilities, by type of ownership*

Type of ownership	Number of facilities	Percent
Total reported.....	2,571	100.0
State government.....	288	11.2
Cities, counties, towns.....	353	13.7
Nonprofit.....	1,202	46.8
Proprietary.....	460	17.9
Not identified as to ownership.....	268	10.4

Source: Based on data compiled from State plans submitted under the requirements of title I, Part c, of the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963, Public Law 88-164.

(f) *Current Value*

Information is not available on the current value of existing facilities for the mentally retarded. Furthermore, it would be extremely difficult to arrive at a reasonable estimate in the near future, since many of the facilities are shared with other programs and it would be necessary to appraise each facility to determine the proportionate share of the current value of the facility. A review of the literature reveals that no surveys concerning this problem have been conducted on a national level.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

(a) *Construction Costs*

A precise estimate of construction costs for facilities for the mentally retarded requires a detailed knowledge of the specific conditions which exist. The many variables that are involved quite obviously are reflected in the cost of a facility. The function of the building and the requirements of its operational program, the type and method of construction, quality of materials and workmanship, nature and extent of furnishings and equipment, as well as the price range for labor and materials in various geographical areas and under certain market conditions are some of the major factors that significantly influence any determination of construction costs. Recognition of the variables which may be involved suggests that a range of costs for construction in each category should be considered. In this connection, the follow-

ing estimates are made based on previous experience and records available. Data are not available on a per-person-served basis.

TABLE 4.—*Range of approximate costs*

Type of facility	Cost per square foot	
	Construction and fixed equipment	Movable equipment
Diagnosis and evaluation clinics.....	\$20-\$30	\$5
Day facilities.....	16- 23	4
Residential facilities.....	18- 25	4

(b) *Maintenance and Operation Expenses*

Information is not available regarding expenditures for maintenance and operations for all facilities for the mentally retarded. Furthermore, much of the information which is available is fragmentary and inconclusive. Some indication of the trend of expenditures for maintenance and operations, however, may be seen from available data for public institutions for the mentally retarded for the period 1956 through 1965. On the basis of these data, it appears as though the aggregate amounts expended for maintenance and operations have been increasing significantly from 1956 to 1965. Table 5 presents the available information by year. Separate data on the wage and salary bill in general, or on the wage bill for custodial personnel in particular, are not available.

TABLE 5.—*Expenditures for maintenance of public institutions for the mentally retarded, United States, 1956-65*

[Thousands of dollars]

Year:	Total expenditures for maintenance ¹
1956.....	\$168,851
1957.....	190,316
1958.....	214,813
1959.....	234,715
1960.....	266,237
1961.....	288,386
1962.....	324,071
1963.....	353,575
1964.....	391,764
1965.....	439,350

¹ Includes salaries and wages; purchased provisions; fuel, light, and water; and other maintenance.

Source: U.S. Department of Health, Education, and Welfare, Public Health Service, National Institute of Mental Health.

Costs per resident day have also risen for public institutions for the mentally retarded. Table 6 shows the cost per resident for 6 years.

TABLE 6.—*Maintenance expenditures per day per resident patient, public institutions for the mentally retarded*

Year:	
1956.....	\$3. 19
1958.....	3. 86
1960.....	4. 51
1962.....	5. 07
1964.....	5. 89
1965.....	6. 36

Source: 1956-65, U.S. Department of Health, Education, and Welfare, Public Health Service, National Institute of Mental Health.

2. USER CHARGES

Data are not available on user charges for all facilities for the mentally retarded, and it is not known to what extent user charges are employed to pay for services, occupancy or use of these facilities. Undoubtedly, there is wide variation in user charges among different types of facilities and among States. Some indication of average charges in residential facilities, day facilities, and State institutions may be obtained from information presented in the "Directory for Exceptional Children," published by Porter Sargent, Boston, Mass., in 1965. Based on information reported for 203 privately operated residential facilities (voluntary nonprofit and proprietary), the average charge approximated \$2,300 per year. For a reported 164-day facilities, also under private ownership, the annual charge averaged about \$500. Charges for a total of 61 State-owned institutions, all identified as primarily residential facilities, averaged approximately \$1,200 per year. It will be noted that the average charge in private residential facilities is about double the average charge in State institutions. No explanation is offered in the source document, but it appears that the charges in the State institutions are largely based on ability to pay. This, for the most part, would probably account for the difference. In view of these and other limitations, extreme caution should be exercised in interpretation and use of these data.

In terms of the total group of community facilities for the mentally retarded, it is not possible to state the extent (in percentage terms) to which the costs of the facilities and structures are met out of the general tax resources and general obligation borrowings of State and local governments.

C. TREND OF CAPITAL OUTLAYS

Information is very limited pertaining to capital outlays for facilities for the mentally retarded. In fact, the only information presently available is the amount expended for additions, improvements and other capital expenditures of public institutions for the mentally retarded, and the amount expended for projects for the mentally retarded under the Hill-Burton program.

As can be seen from table 7, expenditures for additions, in ments, et cetera, ranged from \$27 million in 1961 and 1962 to \$42 million in 1963. This, of course, is only a small part of the total capital outlays since it only includes public institutions for the tally retarded, and it excludes the initial amount expended for struction of the existing facility.

TABLE 7.—*Additions, improvements, and other expenditures of public institutions for the mentally retarded*

Fiscal year:	I
1960-----	
1961-----	
1962-----	27, 434
1963-----	
1964-----	

Source: U.S. Department of Health, Education, and Welfare, Public Health Service, Nation of Mental Health.

In addition to the information on expenditures of public institutions for the mentally retarded, data are also available on the 70 projects approved under the Hill-Burton program for the mentally retarded. As will be noted from table 8, the total capital outlay for these projects is about \$83.8 million with the Federal share amounting to \$24.5 million. The largest capital outlay occurs for projects approved in 1964 and 1965 when over half of the total capital outlay was obligated. Table 8 shows the number of projects, total cost, and Federal share, by year.

TABLE 8.—*Capital outlay for projects approved under Hill-Burton program for the mentally retarded*

(Dollars in thousands)

Fiscal year	Number of projects	Total cost	Federal share
Total.....	70	\$83,755	\$24,529
1958.....	1	508	43
1959.....	4	1,537	774
1960.....	8	7,517	2,318
1961.....	13	7,126	2,989
1962.....	9	11,435	5,146
1963.....	8	8,108	3,552
1964.....	8	22,140	3,306
1965.....	17	23,154	5,677
1966 (6 months).....	2	2,230	724

It should be noted that there may be some overlap between the data presented in tables 7 and 8 for 1960-64. However, information is not available to determine the extent of the overlap, if any.

Obviously, it is not meaningful to attempt any trend analysis of data on capital outlays, because of the fragmentary information. However, it does appear that capital expenditures for facilities for the mentally retarded have been increasing significantly since 1960.

The only available information on sources of financing for capital outlays is for the projects approved under the Hill-Burton program. Of the 70 projects shown in table 8, 55 projects or 79 percent were reported under State ownership. This accounts for the fact that about three-fourths of the applicants' share was obtained from appropriations from State governments. Of course, it is not possible to generalize about the sources of financing for all capital outlays for mental retardation, but it does seem that the Federal and State Governments have been the main source of financing in the building of facilities for the mentally retarded.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

1. CAPITAL REQUIREMENTS

The capital requirements for community facilities for the mentally retarded during the decade 1966-75 are as follows:

	Millions
Backlog of unmet needs as of June 30, 1965.....	
Total additional requirements through June 30 1975.....	\$3, 016. 9
Total estimated need.....	

(a) As previously mentioned, national statistics regarding community facilities for the mentally retarded are very limited. In view of this, only gross estimates of capital requirements for these facilities can be made, and care should be exercised in their use.

Additional requirements were estimated on the basis of the annual increase in population and appropriate allowance for replacing obsolete facilities, which were translated into costs.

(b) The estimated capital needs for community facilities for the mentally retarded are as follows:

	<i>Millions</i>
Backlog as of June 30, 1965.....	
Annual increments:	
1966.....	\$251. 4
1967.....	260.
1968.....	268. 4
1969.....	278. 9
1970.....	292. 2
1971.....	305. 7
1972.....	319. 3
1973.....	333. 1
1974.....	360. 7
1975.....	360. 7
Total.....	<u>3, 016. 9</u>

Total, backlog and annual increments.....

(c) Facilities for the mentally retarded frequently serve areas much larger than the immediate community in which they are located. In view of this, it is not possible to estimate the distribution of need by size of community. It is expected, however, that most facilities will be located in areas of greater than 50,000 population.

(d) The proportion of the estimated capital outlays to be expended by non-Federal entities, is 100 percent. There is no feasible method for breaking this down among the non-Federal entities.

II. UNIVERSITY-AFFILIATED FACILITIES FOR THE MENTALLY RETARDED

A. NATURE AND COMPOSITION

Because of the importance placed upon the needs for trained specialized personnel for the mentally retarded, the Congress approved part B, title I, of the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963 (Public Law 88-164), which provides Federal grants for the purpose of assisting colleges, universities, or hospitals affiliated with a college or university to construct clinical facilities with a full range of inpatient and outpatient services.

1. DESCRIPTION OF THE FACILITIES

(a) *Physical Characteristics*

Structures, generally, are multistory and in some instances, additions, extensions, or remodeled space in existing buildings may be involved. Special consideration must be given to fire safety, structural, mechanical, and electrical aspects in meeting specific require-

ments and at the same time, provide a measure of flexibility for possible future expansion of the structure for training programs. To a degree, the teaching methods will dictate that planning includes space and facilities for lecture rooms, conference rooms, demonstration areas, and direct or audiovisual observation. Consideration must be given for the provision of space for comprehensive day care services for the clinical population selected for teaching programs. These services include diagnosis, evaluation, training and education, as well as recreation. When required by the project program, space will be provided for residential care of short-term inpatients, and living accommodations for their parents may also be included. Faculty and student space will comprise offices, study rooms, conference rooms, libraries, and research areas. Support space for such purposes as administration, lobbies, waiting areas, toilets, lockers, and maintenance is a necessity.

(b) Services Rendered

Services rendered to the mentally retarded are primarily clinical and diagnostic in nature which demonstrate the "continuum of care" in the selecting, blending, and using in proper sequence the medical, educational, and social services required by the retardate to minimize his disability in every point of his life span. The kinds and types of services rendered will be influenced by the types of the clinical population in the various levels of retardation—mild, moderate, severe, and profound. The availability of professionals qualified to teach and train students in the most advanced practices of their respective professions, will also have an impact on service. The services rendered to the mentally retarded bear a direct relationship to the training programs and to the clinical practices used for teaching demonstration purposes.

(c) Standards of Performance

Professional training programs in mental retardation are not subject to the accreditation programs of any national body. As above indicated, institutions are expected to enforce qualitative as well as quantitative standards of practice and service to the mentally retarded.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

In 1965 no facilities or structures were in existence of the type envisioned by the legislation.

B. COSTS AND USER CHARGES

As previously indicated, no projects have been completed to date, therefore, no current or accurate data are available to provide any precise estimate of cost for training facilities; however, a gross estimate by applicants on 10 recently approved projects ranges from \$30 to \$40 per square foot for total cost, which includes architectural fees, initial equipment, and other associated construction costs. All structures are of longtime durability, and applicants are required to secure an interest in the site sufficient to assure the undisturbed use and possession of the land for 50 years and to assure the Federal Govern-

ment that the facility will continue to be operated as a nonprofit facility for training of specialized personnel for the mentally retarded for a period of not less than 20 years.

1. CONSTRUCTION COSTS AND OPERATING COSTS

Accurate information is not available regarding expenditures for maintenance of these facilities for the reason that none are presently in existence. Due to the varying scope of programs, a range of construction costs or of maintenance and operation costs is not very meaningful. However, of the 13 projects approved up till late July 1966 (to provide university-affiliated facilities for the mentally retarded), the total capital cost per facility has ranged from below \$1 million to above \$5 million. It has been estimated that the operating cost for such a facility is approximately 75 percent as much *in a single year* as the *total capital cost*. (NOTE.—The total capital cost does not mean simply the depreciation allocated to a single year. It means the total regardless of the number of years over which it might be written off.)

2. USER CHARGES

Data are not available on user charges for any approved training facility for the mentally retarded. It is believed that tuition and other charges to the trainees will constitute a minor part of the expense of occupancy and use of these facilities. Likewise, charges for patient care are made nominal due to the low socioeconomic group normally being served, and the fact that, to a degree, inpatients as well as outpatients are admitted on a selective basis to provide proper training opportunities for trainees.

Since it is anticipated that a majority of approved facilities will be located at State universities and State owned and operated medical schools, the requirement for matching funds is met out of general tax resources and/or general obligation bonds of State governments.

C. TREND OF CAPITAL OUTLAYS

No information is presently available to show the amount of annual capital outlays for the mentally retarded by State governments. It is safe to say that universities have been conducting effective training programs for the mentally retarded particularly in special education, social work, psychology, etc. No basis exists for an estimate of these capital outlays.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

1. CAPITAL REQUIREMENTS

The capital requirements for the university-affiliated facilities for the mentally retarded for the decade 1966-75 are:

Requirements through June 30, 1975..... \$327, 000, 000

(a) The projection of the needs was based on experience gained in projects which have been approved as of this date. Due to the prevalence of mental retardation in the general population and the expected

population growth, estimates were made on the basis that, as a minimum, the kind and type of facility envisioned by this legislation should be made available to all of the medical schools in the country. Additionally, training programs which emphasize training in the educational and social aspects of mental retardation with limited training in medical diagnosis and evaluation are also considered necessary to provide the manpower resources needed for the mentally retarded.

(b) The estimated capital annual needs for university-affiliated facilities for the mentally retarded are:

Annual increments 1966-75:	<i>Millions</i>
1966.....	\$13. 5
1967.....	13. 5
1968.....	20. 0
1969.....	40. 0
1970.....	40. 0
1971.....	40. 0
1972.....	40. 0
1973.....	40. 0
1974.....	40. 0
1975.....	40. 0
Total.....	327. 0

(c) Since, as indicated, approved facilities will be located at institutions of higher learning, it is expected that all approved facilities will be located in metropolitan centers of 50,000 population or more.

(d) The proportion of the estimated capital outlays to be expended Federal entities, is 100 percent. There is no feasible method breaking this down among the non-Federal entities.

CHAPTER 27

Health Research Facilities*

A. NATURE AND COMPOSITION OF HEALTH RESEARCH FACILITIES

1. DESCRIPTION OF HEALTH RESEARCH FACILITIES

(a) *General Physical Characteristics*

Structure and equipment: Structures constructed under the health research facilities program, consist of modern, equipped research laboratories. Most of the laboratories contain laboratory work benches for the researchers, cabinets, tablets, outlets for gas, electricity, water and suction, the arrangement, spacing and equipment of which are suited to the particular discipline of research. For example, a laboratory for biomedical research will be structured quite differently from a laboratory designed for research in anatomy. While some movable laboratory equipment will be contained in each laboratory, larger, more expensive, highly specialized equipment such as spectrophotometers, recording and monitoring equipment, sterilizers, X-ray equipment, etc., will generally be located in a centralized area serving the core needs of several researchers, frequently of different disciplines.

In addition to these types of laboratories, there are those for highly specialized purposes which may bear little or no resemblance to the types just described. These would include biotrons in which tropical, arctic, or any intermediate atmospheric condition can be simulated; high altitude chambers for studies of man's reaction to the of flight in space; hyperbaric chambers, isolation systems, biomedical engineering laboratories, cold rooms, special purpose animal facilities, radioactive chemical and counting rooms, special electronic monitoring systems, specialized clinical research centers, laboratories for microscopy, etc. Health research facilities today must be constructed with many built-in features which were not done in of 20 years ago. Today, a facility must be readily adaptable to the swift changes of direction in research. Sufficient electrical must be provided; special air conditioning and environmental must be built into the facilities; core laboratory arrangements efficient research design must be arranged. With the trend for scale, complex laboratories, capable of serving not only several disciplines, but entire departments, the design of modern research facilities has become a new architectural and engineering speciality, in which the scientist and the architect are only beginning to constructively together and to understand each other's problems.

*Prepared by Dr. Francis L. Schmehl, Chief, Health Research Facilities Division of Research Facilities and Resources, National Institutes of Health with minor editing by committee staff.

(b) *Services Rendered*

As facilities for research and training in the health-related sciences, the *services*, must be expressed in terms of modern, efficient laboratory facilities. In turn, these facilities provide the basic undergirding for research and the quest for knowledge into the diseases of man by professional research workers and their technical assistants. Pursuit of this research provides the promise of scientific discoveries and medical and surgical techniques which will bring superior care and services to the sick of the future than what is possible today.

(c) *Standards of Performance*

Quantitatively, the health research facilities program today is providing an average of about 200 net square feet of laboratory space per professional research worker, postdoctoral research fellow and trainee, graduate student, technician, and ancillary assistant.

(d) *Qualitative Standards of Performance*

The facilities are designed not only for advanced research of today but for adaptation to the changes in direction of future research. It is estimated that the structures and fixed equipment will possess a lifespan (replacement cycle) of 50 years and require some type of remodeling about every 16 to 17 years, or twice during their existence. Movable equipment is given a lifespan of from 5 to 15 years, depending on the durability and obsolescence-ratio of the equipment.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

General: Definitive data on the capital plant in the United States is not available. Information supplied below relates only to that segment of the capital plant participated in under the Federal health research facilities construction program.

As of December 31, 1965, there were 760 facilities in existence that were financed under the health research facilities program. In addition, 186 facilities were under construction; financing for 99 other projects had been completed, but construction had not yet begun.

The following tables show the distribution of the federally aided facilities by States and by population size of city:

Number of completed health research facilities projects by region and State, as of Dec. 31, 1965

<i>Region and State</i>	<i>Number of projects</i>	<i>Region and State</i>	<i>Number of projects</i>
Total.....	760	East North Central.....	150
New England.....	102	Ohio.....	37
Maine.....	7	Indiana.....	22
New Hampshire.....	4	Illinois.....	51
Vermont.....	4	Michigan.....	19
Massachusetts.....	63	Wisconsin.....	21
Rhode Island.....	10		
Connecticut.....	14	West North Central.....	94
Middle Atlantic.....	153	Minnesota.....	30
New York.....	83	Iowa.....	20
New Jersey.....	20	Missouri.....	19
Pennsylvania.....	50	North Dakota.....	5
		South Dakota.....	1
		Nebraska.....	6
		Kansas.....	13

Number of completed health research facilities projects by region and State, as of Dec. 31, 1965—Continued

<i>Region and State</i>	<i>Number of projects</i>	<i>Region and State</i>	<i>Number of projects</i>
South Atlantic.....	78	West South Central—Con.	
Maryland.....	15	Oklahoma.....	8
District of Columbia.....	7	Texas.....	15
Virginia.....	6		
West Virginia.....	4	Mountain.....	38
North Carolina.....	17	Montana.....	4
South Carolina.....	2	Idaho.....	1
Georgia.....	11	Wyoming.....	1
Florida.....	16	Colorado.....	13
		New Mexico.....	5
East South Central.....	35	Arizona.....	9
Kentucky.....	7	Utah.....	4
Tennessee.....	16	Nevada.....	1
Alabama.....	9		
Mississippi.....	3	Pacific.....	78
		Washington.....	22
West South Central.....	31	Oregon.....	11
Arkansas.....	2	California.....	43
Louisiana.....	6	Hawaii.....	2
		Puerto Rico.....	1

Number of completed HRF projects as of Dec. 31, 1965, by population size of city (population data based on 1960 census)

	<i>projects</i>
Total.....	760
Under 2,500.....	30
2,500 to 9,999.....	38
10,000 to 49,999.....	169
50,000 to 99,999.....	45
100,000 to 499,999.....	207
500,000 or more.....	271

According to estimates of the Association of American Medical Colleges, more than half of the medical school basic science buildings in use were built before 1930 and almost one-fourth were constructed prior to 1905. Others have estimated that 40 percent of existing research facilities in institutions of higher education are more than 20 years old.

(e) Facilities now in operation owned by:

- (1) State government or State agency
- (2) City, county or public authority
- (3) Private, nonprofit organization

Total.....

(f) Estimated current value of facilities, December 31, 1965: \$460 million.

B. COSTS AND USER CHARGES

1. CONSTRUCTION AND OPERATING COSTS

Experience under the health research facilities construction program indicates the following costs:

(a) Standard unit of measure (as of 1965):

- New construction, approximately \$65 per net square foot.
- Renovation, approximately \$45 per net square foot.

(b) Current range of typical annual maintenance and operating expenses:

It is conjectured that the annual maintenance and operating expenses over the Nation may range between \$1 and \$1.50 per gross square foot. Factors which affect such costs are the research purposes and types of facilities constructed; the geographical location of the facilities and the climatic conditions affecting them; wage differentials in the areas containing the facilities.

2. USER CHARGES

It is conjectured that the grantees' user charge (utilities only) over the Nation may range between \$0.25 and \$0.50 per gross square foot. Factors which affect such costs are the research purposes and type of facilities constructed; the type of equipment contained therein; the geographical location of the facilities and seasonal climatic variations affecting them (e.g., air conditioning and heating); utility rate variations over the country; labor cost differentials from one area to the next. None of the facilities are rented or leased.

C. TREND OF CAPITAL OUTLAYS

The following capital outlays were made under the federally aided health research facilities program:

Trend of annual capital outlays, health research facilities program, fiscal years 1957-66

[Dollar amounts in millions]

Fiscal year	Number of awards	Cost of facility	Federal HRF portion
1957	106	\$68	\$28
1958	174	77	29
1959	199	75	30
1960	158	78	29
1961	138	79	31
1962	97	80	31
1963	172	115	47
1964	122	127	53
1965	115	115	50
1966 ¹	49	78	33
Total	1,330	892	361

¹ 6 months, through Dec. 31, 1965.

The following table shows the type of grantee during the years 1957-65:

Accounting of annual capital outlays under title VII A of HRF program

[In millions of dollars]

Type of grantee	Total	Grantee share	Federal HRF share
(a) State governments or State agencies	1 398	1 237	161
(b) Cities, counties, public authorities			
(c) Private, nonprofit organizations			
Total	892	531	361

¹ Estimated.

SOURCES OF FINANCING ANNUAL CAPITAL OUTLAYS

A sample of 50 health research facilities projects provided the following percentages of resources for meeting the grantees' construction costs. These percentages pertain to *total* construction costs of which the health-related research portion (Federal and non-Federal shares) represents approximately half.

	Percent
(a) State appropriations.....	31.2
(b) Gifts, bequests, donations, drives.....	14.9
(c) Federal-HRF program.....	25.1
(d) Other Federal programs.....	14.5
(e) State grants-in-aid.....	---
(f) Tax-exempt municipal bonds (public).....	---
(g) Capital flotations (private).....	.2
(h) Federal Government loans.....	---
(i) Grantees' funds.....	24.1
Total.....	100.0

¹ Not eligible for matching under the HRF program.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

Year-by-year estimates of 1966-75 capital requirements for health research facilities and structures are presented below. These estimates are based on related projections of research expenditures, graduate enrollment, Ph. D. output in sciences related to health, and postdoctoral training; they assume a backlog of needs amounting to \$500 million as of June 30, 1965. While primarily reflecting program needs of the health research facilities program, the projections assume some additional, though limited, non-Federal investments beyond those used for matching purposes under Federal programs.

Projections of health research facility needs, 1966-75¹

Year	Amount (millions)	Area (net square feet)
1966.....	\$170	3,200
1967.....	336	5,500
1968.....	326	5,300
1969.....	323	5,300
1970.....	334	5,300
1971.....	388	6,000
1972.....	461	6,700
1973.....	482	6,900
1974.....	496	7,000
1975.....	497	6,900
Total.....	3,813	58,000
Backlog, June 30, 1965.....	500	---
Grand total.....	4,313	---

¹ Limited to the public (non-Federal) and nonprofit sector.

The \$4.3 billion total reflects the research facilities of those public and nonprofit institutions presently eligible to participate in the health research facilities program.

The public (non-Federal) and nonprofit sector currently accounts for more than three-fifths of all professional workers engaged in research and health-related research. It is estimated that by 1975,

70 percent of the investigators in medical research will utilize the laboratory and clinical facilities of institutions of higher education, hospitals, research institutes. In addition, this sector is responsible for the training of postdoctoral fellows and graduate students. For this activity, the creation of expanded research facilities and the renovation of outmoded space will be necessary to accommodate an additional 50,000 persons to be trained in the 1966-75 decade.

This sector's needs for a \$4.3 billion program compares with a projected need for the next decade of about \$500 million for the enlargement of facilities for medical research owned and operated by agencies of the Federal Government and for facilities owned by industrial performers of medical and health-related research.

The Nation's total needs for the 1966-75 period are thus about \$4.8 billion.

(a) Factors taken into account in making projections for the public (non-Federal) and nonprofit sector:

The primary factors determining future requirements for health research facilities are (1) the space required to conduct health-related research; (2) the space requirements for research training; and (3) the requirements for renovation and replacement of existing space.

Estimates of additional space needs for the conduct of research have been derived from estimates of the future growth of health research and the research manpower required to man these future of research activity. The single most important determinant of the growth of medical and health-related research is that of national policy as reflected in the actions of the Federal Government. The impact of such policy decisions is well illustrated by the fact that Federal funds now account for almost two-thirds of the Nation's total expenditures for health research.

The estimated needs for housing the continuing expansion of research training programs are based upon NIH projections of graduate enrollment and Ph. D. output in the sciences related to health; M.D. output; increasing numbers of postdoctoral research fellows and trainees engaged in advanced research training.

In addition to new space to accommodate the growing programs of research and research training, provision must be made for replacement and renovation at levels which will maintain the usefulness and efficiency of existing space for the conduct of modern research and research training programs. In projecting requirements for this purpose an attempt has been made to assess realistically the high rate of obsolescence characteristic of health research facilities in the nonprofit sector because of the necessary accommodation to rapid advances in scientific technology, instrumentation, and architectural design.

In relating the year-by-year projections of required health research space to financial projections, careful attention has been given to the matter of leadtime between obligation of construction funds and the completion and availability of the space being constructed. Estimates of this timelag are derived from the health research facilities program experience, and from NIH analysis of institutional responses to the recent National Science Foundation facilities survey.

The basic projections rest on conservative assumptions that (a) currently used standards of research space per professional worker will

continue to be appropriate throughout the projection period, and (b) there will be no further change in the ratio of nonprofessional to professional research workers beyond the rise from 1.5:1 to 2:1 which is assumed to occur beginning in 1968.

However, the growth of medical research, particularly in the past 10 to 15 years, has been characterized by increasing complexity, dynamic change, and rapid advances in scientific technology; new requirements for complex utilities and laboratory design; new research equipment, instrumentation and other highly specialized research resources; and increasing demands for training and utilization of technical specialists and other nonprofessional supporting staff. Predictable acceleration of change in the years ahead may necessitate additional increases in both the amount of space needed per research worker, and the ratios of nonprofessional to professional staff.

(b) Estimated capital needs on a per year basis. See item D-1.

(c) Distribution of estimated needs by size of town or city:

Based on an assessment of the current distribution of health research facilities projects, and taking into account accelerating trends toward increased urbanization, it is estimated that in excess of 90 percent of the total estimated facility needs projected above will accrue to cities with populations of 50,000 or more. Cities and towns with populations of 2,500 to 50,000 will probably account for an additional 8 percent, with the remainder—2 percent—accruing to agricultural-rural areas and cities and towns with populations under 2,500. (For the purposes of this analysis, students enrolled at institutions of higher education are counted in the population of the cities where the educational institution is located.)

(d) The distribution of estimated capital expenditures (of the \$4.8 billion total) among public and private organizations is assumed, in general, to follow current allocations of funds for facilities in the public (non-Federal) and nonprofit sectors.

	Percent
1. State governments or State agencies.....	40
2. Cities, counties, and local public authorities.....	
3. Private, nonprofit organizations.....	50
4. & 5. Other.....	10

¹ See discussion under D-1.

CHAPTER 28

Medical and Other Health Schools*

This chapter consists of eight parts, each dealing with a type of school providing professional training in the health field. The eight cover (I) medical schools,^a (II) dental schools,^b (III) schools nursing,^c (IV) optometry schools,^d (V) osteopathic schools,^e (VI) pharmacy schools,^f (VII) podiatry schools,^g and (VIII) schools of health.^h As will be noted, a number of these "health" schools are part of, or attached to, institutions of higher education and thereby the capital plant of these schools may be regarded by institutions as part of their capital plant.

I. Medical Schools

A. NATURE AND COMPOSITION

1. DESCRIPTION OF FACILITIES

General Characteristics

Medical educational facilities provide space for three interrelated activities—teaching, patient service, and research. In general, during the first 2 years is centered in the medical sciences; during the third and fourth years, it is centered in the patient care facilities of the teaching hospitals. Research is an integral part of the activity of faculty and students in all 4 years and requires special facilities.

Great variation exists among schools in the nature and extent of each of these activities. Teaching may be limited almost entirely to the

*Each of the parts of the chapter was edited by committee staff as needed.

^a Prepared by the Division of Hospital and Medical Facilities, Public Health Service, Department of Health, Education, and Welfare.

^b Prepared by the Manpower and Education Branch, Division of Dental Services, Bureau of State Services, Public Health Service, Department of Health, Education, and Welfare.

^c Prepared by the Division of Nursing, Bureau of State Services, Public Health Service, Department of Health, Education, and Welfare.

^d Prepared by the Division of Hospital and Medical Facilities, Public Health Service, Department of Health, Education, and Welfare.

^e Prepared jointly by the Council on Federal Health Programs of the American Medical Association and the Division of Hospital and Medical Facilities, Public Health Service, Department of Health, Education, and Welfare.

^f Prepared jointly by the American Association of Colleges of Pharmacy and the Division of Hospital and Medical Facilities, Bureau of State Services, Public Health Service, Department of Health, Education, and Welfare.

^g Prepared jointly by the Council on Education of the American Podiatry Association and the Division of Hospital and Medical Facilities, Public Health Service, Department of Health, Education, and Welfare.

^h Prepared by the Division of Hospital and Medical Facilities, Public Health Service, Department of Health, Education, and Welfare.

instruction of medical students, perhaps only in the first 2 years, or may include graduate students in the basic sciences, postdoctoral fellows, hospital house staff, nursing and dental students, and others in related health professions. Research services may be at a minimal level consistent with adequate teaching or may be so extensive as to occupy a major portion of the school's effort and the physical plant. Increasingly, the teaching of medical students is carried on in close conjunction with graduate teaching programs in the basic sciences, with the training of hospital house staff in the clinical years, and with other educational activities of the medical school and its parent university.

(b) *Services Rendered*

Although there is variation from year to year in source of students, they come from all the States, most of the territories, and Canada, and a few come from each of many foreign countries. The accompanying table gives some idea of the magnitude of the educational effort. It can be stated that the graduates from these schools (augmented by graduates of foreign facilities) provide medical care for the people of the Nation. Some foreign students (although precise data are not available) return to their native land to practice their newly acquired medical skills.

*Schools, students, and graduates in the medical and basic medical science
1945-66*

Year	Schools	1st year	2d year	3d year	4th year
1945-46.....	77	6,060	5,750	5,751	5,655
1946-47.....	77	6,564	5,575	5,767	5,994
1947-48.....	77	6,487	5,758	5,154	5,340
1948-49.....	78	6,688	6,194	5,702	5,086
1949-50.....	79	7,042	6,344	6,079	5,638
1950-51.....	79	7,177	6,690	6,263	6,056
1951-52.....	79	7,436	6,864	6,577	6,195
1952-53.....	79	7,425	7,063	6,725	6,475
1953-54.....	80	7,449	7,068	6,983	6,727
1954-55.....	81	7,576	7,104	6,957	6,946
1955-56.....	82	7,696	7,174	6,893	6,856
1956-57.....	1 85	8,014	7,259	7,023	6,834
1957-58.....	1 85	8,030	7,504	7,051	6,888
1958-59.....	2 85	8,128	7,432	7,182	6,872
1959-60.....	85	8,173	7,563	7,134	7,134
1960-61.....	86	8,298	7,632	7,309	7,049
1961-62.....	2 87	8,483	7,823	7,528	7,244
1962-63.....	2 87	8,642	7,964	7,564	7,321
1963-64.....	2 87	8,772	8,176	7,629	7,424
1964-65.....	2 88	8,856	8,272	7,815	7,485

¹ Includes schools in development.

² Includes schools provisionally approved.

Source: *The Journal of the American Medical Association*, vol. 194, No. 7, p. 757, Nov. 15, 1965.

NOTE.—In some of the earlier years the number of graduates, as shown, exceeded the number of 4th-year students because of the requirement maintained by some schools that internships must be completed before graduation; this requirement is no longer in effect.

(c) *Standard of Performance*

During the school year 1964-65, the 88 schools in the United States had an enrollment of nearly 32,500 students and graduated 7,409 at the end of the year.

(d) *Qualitative Standards*

(1) Accreditation.—To be *accredited*, a medical school must be *approved* by the Council on Medical Education, by the Executive Council of the Association of American Medical Colleges, and by the Liaison Committee on Medical Education. The accrediting process serves to maintain and to promote improved standards of medical education.

(2) Professional Training Requirements of Licensing Boards.—The minimum requirements for admission to an approved medical school is 3 years of college preparatory study. The Council on Medical Education of the American Medical Association, in accepting this minimum, recommends for most students a full 4-year college course emphasizing humanities and scientific studies in order that a broader educational background may be obtained.

The curriculum of a medical school is of 4 years' duration. A school of basic medical sciences covers only the first 2 years of this curriculum. To complete the medical curriculum, the students of such a school shift to medical schools for the last 2 years. Schools of basic medical sciences are subject to the same accreditation procedures as are medical schools.

2. EXISTING CAPITAL PLANT

(a) *Number of Facilities*

There were 88 medical schools in operation in the United States during the 1964-65 academic year, including 3 schools of basic medical sciences, and 1 "developing medical school—operational." Another 14 are in the process of development.

(b) *Distribution by States*

The following table lists the existing schools by State and presents some of the most pertinent information regarding each school.

Approved medical schools and schools of basic medical sciences

State	No.	Medical schools	Ownership	Year organized	1st-year students	Total	Graduates, July 1, 1964, to June 30, 1965
APPROVED MEDICAL SCHOOLS							
Alabama.....	1	Medical College of Alabama, Birmingham.....	Public.....	1859	80	300	67
Arkansas.....	2	University of Arkansas School of Medicine, Little Rock.....	do.....	1879	105	361	80
California.....	3	Loma Linda University School of Medicine, Loma Linda, Los Angeles.....	Private.....	1909	83	352	78
	4	University of California, California College of Medicine, Los Angeles.....	Public.....	1962	96	371	88
	5	University of California School of Medicine, Los Angeles.....	do.....	1951	72	287	71
	6	University of Southern California School of Medicine, Los Angeles.....	Private.....	1885	68	274	65
	7	Stanford University School of Medicine, Palo Alto.....	do.....	1908	72	286	66
	8	University of California School of Medicine, San Francisco.....	Public.....	1864	129	436	100
Colorado.....	9	University of Colorado School of Medicine, Denver.....	do.....	1883	86	318	80
Connecticut.....	10	Yale University School of Medicine, New Haven.....	Private.....	1812	84	321	76
District of Columbia.....	11	Georgetown University School of Medicine.....	do.....	1851	117	430	95
	12	Howard Washington University School of Medicine.....	do.....	1825	115	388	89
	13	University of Washington College of Medicine.....	do.....	1868	105	392	87
Florida.....	14	University of Miami School of Medicine, Coral Gables.....	do.....	1952	83	302	73
	15	University of Florida College of Medicine, Gainesville.....	Public.....	1956	61	224	43
Georgia.....	16	Emory University School of Medicine, Atlanta.....	Public.....	1894	75	280	71
	17	Medical College of Georgia, Augusta.....	Private.....	1828	101	383	91
	18	Chicago Medical School, Chicago.....	do.....	1912	79	276	63
Illinois.....	19	Northwestern University Medical School, Chicago.....	do.....	1869	131	518	123
	20	Stritch School of Medicine of Loyola University, Chicago.....	do.....	1915	88	330	74
	21	University of Chicago School of Medicine, Chicago.....	do.....	1927	73	289	67
	22	University of Illinois College of Medicine, Chicago.....	Public.....	1881	200	746	173
Indiana.....	23	Indiana University School of Medicine, Indianapolis.....	do.....	1903	226	759	163
Iowa.....	24	University of Iowa College of Medicine, Iowa City.....	do.....	1850	123	454	100
Kansas.....	25	University of Kansas School of Medicine, Kansas City.....	do.....	1905	112	427	101
Kentucky.....	26	University of Louisville College of Medicine, Lexington.....	do.....	1954	78	263	46
	27	University of Louisville School of Medicine, Louisville.....	Private.....	1837	96	344	68
Louisiana.....	28	Louisiana State University School of Medicine, New Orleans.....	Public.....	1834	142	512	118
	29	Tulane University School of Medicine, New Orleans.....	Private.....	1834	134	509	126
Maryland.....	30	Johns Hopkins University School of Medicine, Baltimore.....	do.....	1893	88	342	91
	31	University of Maryland School of Medicine, Baltimore.....	Public.....	1807	131	457	83
Massachusetts.....	32	Boston University School of Medicine, Boston.....	Private.....	1873	77	291	68
	33	Harvard Medical School, Boston.....	do.....	1873	116	510	133
	34	Truitt University School of Medicine, Boston.....	do.....	1893	114	431	101
	35	University of Michigan Medical School, Ann Arbor.....	Public.....	1850	208	759	174
Michigan.....	36	Wayne State University School of Medicine, Detroit.....	do.....	1885	157	451	98

Minnesota.....	do.....	1883	158	611	148
Mississippi.....	do.....	1903	82	286	59
Missouri.....	Private.....	1840	86	324	80
.....	do.....	1903	127	430	89
.....	do.....	1899	88	335	83
Nebraska.....	do.....	1892	76	288	64
.....	Public.....	1881	89	328	77
New Jersey.....	do.....	1955	88	301	66
New York.....	Private.....	1839	66	249	58
.....	do.....	1846	100	360	71
.....	do.....	1767	122	453	114
.....	do.....	1898	85	334	83
.....	do.....	1955	95	369	89
.....	do.....	1860	128	509	125
.....	do.....	1841	124	488	122
.....	do.....	1860	208	685	14
.....	do.....	1920	71	281	73
.....	Public.....	1834	101	354	73
.....	do.....	1879	72	274	63
.....	Private.....	1930	82	333	85
.....	do.....	1902	58	206	49
Ohio.....	Public.....	1819	103	380	86
.....	Private.....	1843	90	343	84
.....	Public.....	1914	150	574	144
.....	do.....	1900	108	401	95
.....	do.....	1887	81	327	76
.....	Private.....	1898	176	653	157
.....	do.....	1825	176	653	157
.....	do.....	1901	139	530	124
.....	do.....	1765	131	510	124
.....	do.....	1880	60	217	46
.....	do.....	1883	102	370	84
.....	Public.....	1949	60	202	43
.....	do.....	1823	82	312	80
.....	do.....	1851	169	713	156
.....	Private.....	1876	68	229	47
.....	do.....	1873	54	206	46
.....	Public.....	1943	102	384	93
.....	do.....	1887	152	537	124
.....	Private.....	1900	84	330	77
.....	Public.....	1905	59	216	56
.....	do.....	1822	54	187	41
.....	do.....	1855	79	295	67
.....	do.....	1838	96	328	78
University of Minnesota Medical School, Minneapolis.....	do.....	1883	158	611	148
University of Mississippi School of Medicine, Jackson.....	do.....	1903	82	286	59
University of Missouri School of Medicine, Columbia.....	do.....	1840	86	324	80
St. Louis University School of Medicine, St. Louis.....	Private.....	1903	127	430	89
Washington University School of Medicine, St. Louis.....	do.....	1899	88	335	83
Cleveland University School of Medicine, Omaha.....	do.....	1892	76	288	64
University of Nebraska College of Medicine, Omaha.....	Public.....	1881	89	328	77
New Jersey College of Medicine & Dentistry, Jersey City.....	do.....	1955	88	301	66
Albany Medical College of Union University, Albany.....	Private.....	1839	66	249	58
State University of New York at Buffalo School of Medicine.....	Public.....	1846	100	360	71
Columbia University College of Physicians & Surgeons, New York.....	do.....	1767	122	453	114
Cornell University Medical College, New York.....	do.....	1898	85	334	83
Albert Einstein College of Medicine of Yeshiva University, New York.....	do.....	1955	95	369	89
New York Medical College, New York.....	do.....	1860	128	509	125
New York University School of Medicine, New York.....	do.....	1841	124	488	122
State University of New York Downstate Medical Center, Brooklyn.....	do.....	1860	208	685	14
University of Rochester School of Medicine & Dentistry, New York.....	Private.....	1920	71	281	73
State University of New York Upstate Medical Center, Syracuse.....	Public.....	1834	101	354	73
University of North Carolina School of Medicine, Chapel Hill.....	do.....	1879	72	274	63
Duke University School of Medicine, Durham.....	Private.....	1930	82	333	85
Boylan Gray School of Medicine of Wake Forest College, Winston-Salem.....	do.....	1902	58	206	49
University of Cincinnati College of Medicine, Cincinnati.....	Public.....	1819	103	380	86
Western Reserve University School of Medicine, Cleveland.....	Private.....	1843	90	343	84
Ohio State University College of Medicine, Columbus.....	Public.....	1914	150	574	144
University of Oklahoma School of Medicine, Oklahoma City.....	do.....	1900	108	401	95
University of Oregon Medical School, Portland.....	do.....	1887	81	327	76
Hahnemann Medical College of Philadelphia.....	Private.....	1898	176	653	157
Jefferson Medical College of Philadelphia.....	do.....	1825	176	653	157
Temple University School of Medicine, Philadelphia.....	do.....	1901	139	530	124
University of Pennsylvania School of Medicine, Philadelphia.....	do.....	1765	131	510	124
Woman's Medical College of Pennsylvania, Philadelphia.....	do.....	1880	60	217	46
University of Pittsburgh School of Medicine.....	do.....	1883	102	370	84
Medical College of Puerto Rico School of Medicine, San Juan.....	Public.....	1949	60	202	43
University of South Carolina, Charleston.....	do.....	1823	82	312	80
University of Tennessee College of Medicine, Memphis.....	do.....	1851	169	713	156
Meary Medical College, Nashville.....	Private.....	1876	68	229	47
Vanderbilt University School of Medicine, Nashville.....	do.....	1873	54	206	46
University of Texas Southwestern Medical School, Dallas.....	Public.....	1943	102	384	93
University of Texas Medical Branch, Galveston.....	do.....	1887	152	537	124
Baylor University College of Medicine, Houston.....	Private.....	1900	84	330	77
University of Utah College of Medicine, Salt Lake City.....	Public.....	1905	59	216	56
University of Vermont College of Medicine, Burlington.....	do.....	1822	54	187	41
University of Virginia School of Medicine, Charlottesville.....	do.....	1855	79	295	67
Medical College of Virginia, Richmond.....	do.....	1838	96	328	78

See footnotes at end of table, p. 488.

Approved medical schools and schools of basic medical sciences—Continued

State	No.	Medical schools	Ownership	Year organized	1st-year students	Total	Graduates, July 1, 1964, to June 30, 1965
APPROVED MEDICAL SCHOOLS—continued							
Washington.....	81	University of Washington School of Medicine, Seattle.....	Public.....	1945	77	302	65
West Virginia.....	82	West Virginia University School of Medicine, Morgantown.....	do.....	1902	61	238	53
Wisconsin.....	83	University of Wisconsin Medical School, Madison.....	do.....	1907	103	337	82
	84	Marquette University School of Medicine, Milwaukee.....	Private.....	1913	102	378	86
		Subtotal.....			8,693	32,141	7,409
APPROVED SCHOOLS OF BASIC MEDICAL SCIENCES							
New Hampshire.....	1	Dartmouth Medical School, Hanover.....	Private.....	1797	49	97	-----
North Dakota.....	2	University of North Dakota School of Medicine, Grand Forks.....	Public.....	1905	46	83	-----
South Dakota.....	3	State University of South Dakota School of Medicine, Vermillion.....	do.....	1907	44	83	-----
		Subtotal.....			139	263	-----
		Total.....			8,832	32,404	7,409
DEVELOPING MEDICAL SCHOOL—OPERATIONAL							
New Mexico.....	1	University of New Mexico School of Medicine, Albuquerque ² (not yet eligible for approval).	Public.....	1960	24	24	-----
		Total.....			8,856	32,428	7,409

¹ Biannual admission.² Admitted 1st students in September 1964.Source: *The Journal of the American Medical Association*, vol. 194, No. 7, Nov. 15, 1965.

(c) *Distribution of Medical Schools by Population Size of City*

	1960 population ¹	Number of schools
10,000,000 and over.....	-----	6
6,000,000 to 9,999,999.....	-----	9
5,000,000 to 5,999,999.....	-----	5
3,000,000 to 4,999,999.....	-----	5
2,000,000 to 2,999,999.....	-----	10
1,000,000 to 1,999,999.....	-----	12
500,000 to 999,999.....	-----	17
100,000 to 499,999.....	-----	² 18
50,000 to 99,000.....	-----	---
10,000 to 49,000.....	-----	³ 8
2,500 to 9,900.....	-----	⁴ 2
Under 2,500.....	-----	---
Total.....	-----	88

¹ Population used for the standard metropolitan statistical area where applicable in which the schools are located.

² Includes one developing medical school—operational, not yet eligible for approval.

³ Includes one approved school of basic medical sciences.

⁴ Includes two approved schools of basic medical sciences.

(e) *Ownership and Control*

Of the 88 medical schools now in operation, 43 are owned and controlled by States, 43 are owned and controlled by private non-profit organizations, one is owned and controlled by a city (Cincinnati, Ohio), and one is owned and controlled by a territory (Puerto Rico).

(f) *Estimate of Current Value.*

No estimates are available.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS

Costs of constructing a medical school vary greatly in relation to the functions for which the medical school is responsible. The diverse programs and responsibilities of medical schools make it impossible to set a narrow range of estimates for construction costs. At one extreme are schools built around a community hospital and remodeled college science building; at the other extreme are schools that required a capital investment of \$35 to \$50 million.

However, to indicate orders of magnitude, estimates have been developed for the cost of constructing two *hypothetical* schools, school A with an entering class of 64 students and a hospital of 500 beds and school B with an entering class of 96 students and a hospital of 700 beds. The central facilities of the small school, including classrooms and library and various other core services, were planned to permit future expansion of enrollment. In neither school A nor school B was space allowed for teaching students in other health professions such as dentistry or nursing. The numbers of medical students, graduate students, faculty, and fellows for which the two schools were designed were as follows:

Medical students	School A	School B
Entering class.....	64	96
Total.....	250	370
Basic science departments:		
Faculty, full time.....	35	50
Graduate students and postdoctoral fellows.....	40	55
Clinical science departments:		
Faculty, full time.....	60	85
Postdoctoral fellows.....	30	40

Illustrative cost figures should be considered only as a rough estimate. Regional location, differences in programing, the of the construction industry, and type of construction are some of the factors contributing to substantial variations. In recent years there has been an average increase of 4 percent in construction cost per year.

Average cost of construction of medical education facilities is about \$33 per gross square foot, with a range of from \$30 to \$45. This figure covers only construction costs. It does not include the the site or site improvements, architectural, engineering, and sultant fees, or costs of site surveying and soil testing. Fixed equipment (built in, such as sterilizers, counters, cabinets) is included the \$33 cost, but movable equipment and expendable items supplies are not included. The cost of movable equipment for medical schools is estimated to be approximately 15 percent of construction cost. The estimated average cost of movable equipment for a university teaching hospital is approximately per bed not including research equipment or consumable supplies. Both hospital and research activities are characterized by an in diversity and complexity of instrumentation which is a major in increasing equipment costs. Using the \$33 average, it is to arrive at an *order-of-magnitude* cost estimate for the *hyp* schools and staffing levels.

Summary of cost estimates for conventional basic science facilities, for clinical science facilities, for university teaching hospitals, auxiliary areas for hypothetical medical centers with entering of 64 and 96 students:

[In thousands of dollars]

Type of facility	School A (entering class of 64 students)	School B (entering class of 96 students)
Summary of cost at \$33 a square foot, 1963: ¹		
Basic science facility ²	5, 016	
Clinical science facility.....	2, 277	
General administration and supporting facilities.....	2, 805	
Hospital.....	19, 866	

¹ This cost covers construction only including fixed equipment and does not include costs for improvements, movable equipment, or fees. It is an average figure based on national costs and will vary considerably according to regional location, program differences, and type of c Recent medical school construction costs in different parts of the country have ranged from square foot.

² With conventional laboratories.

Source: U.S. Department of Health, Education, and Welfare, Public Health Service. *Medic Facilities Planning Considerations and Architectural Guide*, 1964, p. 174.

(b) *Operating Expenses*

For these two hypothetical schools the following annual operation and maintenance expenses are budgeted (in 1963 prices).

	Total	Personal services	Supplies and expenses	Travel
School A (64 entering students):				
Operation and maintenance of physical plant.....	\$485,940	\$161,980	\$323,960	-----
Equipment (all departments).....	60,000	-----	60,000	-----
Total budget ¹	3,354,400	2,500,280	831,820	\$22,300
School B (96 entering students):				
Operation and maintenance of physical plant.....	581,240	193,750	387,490	-----
Equipment (all departments).....	90,000	-----	90,000	-----
Total budget ¹	4,112,100	3,070,550	1,012,050	29,500

¹ Instruction, research, library, administrative, and supportive services.

Source: U.S. Department of Health, Education, and Welfare, Public Health Service, *Medical Education Facilities Planning Considerations and Architectural Guide*, 1964, p. 176.

2. USER CHARGES

In recent years, tuition and fees paid by medical students have amounted to less than 15 percent of the current expenditures for the operating programs of the schools. The portion of these same expenditures paid by teaching hospitals and clinics has amounted to less than 8 percent. Obviously, then, all of capital costs plus the greater part of current expenditures for the operating programs must be financed by funds received from other sources. Data currently available are inadequate for an analysis of capital financing.

C. TRENDS IN CAPITAL OUTLAY

1. ANNUAL CAPITAL OUTLAY

Available estimated construction and equipment costs for medical school projects completed during the academic years 1953-54—1964-65 are presented as follows:

[In millions of dollars]

Academic years	Total	Construction	Equipment
1953-54.....	59.7	59.7	(1)
1954-55.....	99.4	99.4	(1)
1955-56.....	65.0	65.0	(1)
1956-57.....	67.5	67.5	(1)
1957-58.....	42.0	37.5	4.5
1958-59.....	70.3	63.0	7.3
1959-60.....	94.7	82.3	12.4
1960-61.....	53.8	47.9	5.9
1961-62.....	49.1	42.4	6.7
1962-63.....	52.3	48.0	4.3
1963-64.....	101.1	89.9	11.2
1964-65.....	119.7	103.3	16.4

¹ Amounts for equipment may or may not be included with construction costs.

Source: *The Journal of the American Medical Association*, educational numbers.

2. DISTRIBUTION BY SPENDING UNITS

Proportions of the capital outlays provided by State governments, by cities, etc.: Not available.

3. SOURCES OF FINANCING

Percentage distribution of capital outlays by source of financing (appropriations, gifts, etc.): Not available.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

CAPITAL REQUIREMENTS

The capital requirements for medical school facilities for the decade 1966-75 are:

	<i>Millions</i>
Backlog of unmet needs as of June 30, 1965.....	\$1, 868. 1
Total additional requirements through June 30, 1975.....	2, 391. 0
Total estimated need.....	4, 259. 1

(a) Available trends in medical student-population ratios have been utilized in estimating the current backlog. Future needs have been estimated using the professional-population ratios plus economic growth factors in an effort to allow, somewhat, for increases in level of demand for these professional services. Deficits, current and future requirements were converted into first-year student places and then the number of places needed was converted into project costs. These methods of estimating do not imply a high degree of precision and must be viewed in proper context; however, the results are believed to be conservative in that per capita demand is increasing steadily and new health programs may be expected to accelerate this trend.

(b) The estimated capital needs for medical student teaching facilities are:

	<i>Millions</i>
Backlog as of June 30, 1965.....	\$1, 868. 1
Annual increments:	
1966.....	217. 8
1967.....	225. 9
1968.....	233. 1
1969.....	240. 6
1970.....	250. 2
1971.....	228. 9
1972.....	236. 7
1973.....	244. 5
1974.....	252. 6
1975.....	260. 7
Total.....	2, 391. 0
Total, backlog and annual increments.....	4, 259. 1

(c) Facilities for educating medical students always serve areas much broader than the immediate vicinity in which they are located. Although there is no precise way to forecast this element, it is believed that most, if not all, of the new facilities anticipated, will be placed in metropolitan areas of greater than 50,000 population.

(d) The proportion of the estimated capital outlays to be expended by non-Federal entities is 100 percent. There is no feasible method for breaking this down among the non-Federal entities.

II. Dental Schools

A. NATURE AND COMPOSITION OF PUBLIC WORK OR FACILITY

1. DESCRIPTION OF FACILITY

(a) *General Physical Characteristics—Structures and Equipment*

Physical characteristics of dental schools vary widely depending on the number of students and the demands for space developed by the training programs. To provide completely for the needs of a dental education, facilities are required for training in the basic and pre-clinical sciences, for instruction in clinical practice and for guidance and experience in developing research techniques. Schools vary in size from 70,000 square feet of net area to almost 200,000 square feet of such space. Depending upon program needs net space per entering class student will range from 1,000 square feet to more than 2,500 square feet.

Constructions systems used will depend largely upon the area in which the school is being erected. Any system that produces a fire resistant structure in keeping with national and local building codes is appropriate.¹ This includes steel frame structures, cast-in-place reinforced concrete, reinforced masonry or any of the prestressed, precast concrete systems available. The height of buildings for dental education ranges from low 2-story structures on 12 acres of ground in rural areas to 14-story edifices in densely populated urban neighborhoods slated for redevelopment.

In dental school buildings the proportional cost of built-in plus movable equipment as related to total construction costs will be similar to that found in research laboratory buildings.² This is about 45 percent of the total construction package. Dental clinical facilities require dental units, chairs, and X-ray equipment and provision for air, water, gas, and vacuum attachments. Cabinetry and laboratory benches of a specialized nature to meet the needs of preclinical and basic science instruction are required in abundance as well as expensive equipment such as electron microscopes, fume hoods, and data processing machines.

(b) *Services Rendered*

Dental schools, through didactic and clinical training produce new dentists who are:

- (1) Soundly educated in the biological and health sciences.
- (2) Specially prepared to render superior clinical dental care; and
- (3) Morally and ethically committed to serve society in a professional capacity.

(c) *Standards of Performance*

During the school year that ended in June 1965, U.S. dental schools had an enrollment of 13,876 undergraduate students, which was

¹ The national codes here mentioned are issued by professional and trade organizations. To some extent, the local codes make use of these same standards; but the local codes are, of course, established by local governments.

² A cost breakdown between built-in and movable equipment is not available.

maximum capacity. About 3,225 of the students graduated with D.D.S. or D.M.D. degrees.

(d) *Qualitative Standards of Performance*

The Council on Dental Education of the American Dental Association is the national accrediting agency for dental schools. One requirement for accreditation is that the physical facility of each school, including the teaching equipment, must meet the qualitative standards established by the Council. Failure to do so can be cause for withholding accreditation.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) *Number of Facilities*

As of mid-1965, 49 dental schools were in operation.

(b) *Distribution by States*

The 49 dental schools are distributed among 26 States, the District of Columbia, and 1 territory, as follows:

Alabama.....	1	Nebraska.....	2
California.....	5	New Jersey.....	2
District of Columbia.....	2	New York.....	3
Georgia.....	1	North Carolina.....	1
Illinois.....	3	Ohio.....	2
Indiana.....	1	Oregon.....	1
Iowa.....	1	Pennsylvania.....	3
Kentucky.....	2	Tennessee.....	2
Louisiana.....	1	Texas.....	2
Maryland.....	1	Virginia.....	1
Massachusetts.....	2	Washington.....	1
Michigan.....	2	West Virginia.....	1
Minnesota.....	1	Wisconsin.....	1
Missouri.....	3	Puerto Rico.....	1

(c) *Distribution by Size of City*

The distribution of dental schools by population size of city is:

Population:	Number of schools
500,000 or more.....	28
100,000 to 499,999.....	14
50,000 to 99,999.....	2
10,000 to 49,999.....	4
2,500 to 9,999.....	1
Under 2,500.....	0
Total.....	49

Dental schools serve areas in addition to the city in which they are located. They supply dentists to their State, and to other States, especially the 24 States without dental schools.

(d) *Age of Facilities*

The distribution of existing dental school facilities by the year periods in which they were built is:

Year period:	Number
(1) Before 1900.....	0
(2) 1901-20.....	9
(3) 1921-40.....	18
(4) 1941-60.....	20
(5) Since 1961.....	2
Total.....	49

(e) *Ownership*

Of the 49 dental school facilities:

Owned by the governments of 23 States and 1 territory	24
Owned by private, nonprofit organizations	25
Total	49

(f) *Current Value*

The estimated value of the 49 dental school facilities, including land, as of the end of 1965 was \$176.5 million.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

(a) *Construction Costs*

Recent experience indicates that the average current dental school tuition cost per entering (first year) class student is \$100,000. The actual cost of the entering class student in a specific school may range from \$50,000 to \$150,000. The range reflects local construction costs, the requirements of the school's educational service and research programs, and other factors.

(b) *Operating Costs*

The per student average annual operating cost of dental schools in the academic year 1963-64 was \$4,578.

Breakdown of the 1963-64 average

PUBLIC SCHOOLS		Cost
Category:		
200 and under		\$5, 253
201 to 300		6, 004
301 and over		4, 854
All public schools		5, 362
PRIVATE SCHOOLS		Cost
Category:		
200 and under		\$4, 917
201 to 300		3, 727
301 and over		3, 618
All private schools		4, 005
All schools		4, 578

2. USER CHARGES

(a) "User Charges" as applied to dental schools, has these two parts:

- (1) Tuition and fees; and
- (2) Patient clinic fees.

According to the latest available estimates, these two "user charges" supply the following percentages of operating costs:

- (1) Tuition and fees, 26 percent.
- (2) Patient clinic fees, 20 percent.

(b) It is apparent from the above, that the "user charges" meet only a small percent of operating costs. It follows that:

(1) They are not sufficient to meet any part of the annual debt service payments on the indebtedness incurred to finance the capital costs of the facilities; and

(2) There are no situations where "user charges" exceed the operating costs.

(c) The cost of existing (1965) publicly owned dental school facilities and structures usually had been met with the proceeds of State bond issues.

C. TREND OF CAPITAL OUTLAYS

A breakdown of new dental schools built and equipped during 1946-65—with pertinent information—is given below:

[Dollar amounts in millions]

	1st class accepted in—	1st year seats	Estimated combined construction- equipment cost
Publicly owned schools:			
University of Washington.....	1946	65	\$3.1
University of Alabama.....	1948	52	2.5
University of North Carolina.....	1950	50	4.4
New Jersey College of Dentistry.....	1956	49	1.3
University of Puerto Rico.....	1957	36	.5
West Virginia University.....	1957	54	5.0
University of Kentucky.....	1962	50	3.5
University of California at Los Angeles.....	1964	96	9.0
Total publicly owned.....		452	29.3
Privately owned schools:			
Loma Linda University.....	1953	61	1.5
Fairleigh Dickinson University.....	1956	50	1.5
Total privately owned.....		111	3.0
Grand total.....		563	32.3

No trend is apparent from the foregoing when considered by itself. However, when considered along with its contribution in behalf of meeting the expanding demand for dental services, there is a trend—it is that too few dental schools were built.

On the basis of available information, the estimated cost of the new dental schools listed in C. 1., above, was met by funds from:

	Millions
Bond issues of State governments.....	\$26.3
Private, nonprofitmaking organizations.....	3.0
The Federal Government, under the—	
Hill-Burton Act of 1946.....	1.8
Health Professions Educational Assistance Act of 1963.....	1.2
Total.....	32.3

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

CAPITAL REQUIREMENTS

The capital requirements for dental school facilities or structures during 1966-75 are:

	Millions
Backlog of unmet needs as of June 30, 1965.....	\$318.1
Total additional requirements through June 30, 1975.....	271.7
Total.....	589.8

(a) Existing dentist-population ratios were used as the basis for estimating the current and future needs for dentists. The dentist deficits which resulted were translated into estimates of annual

- s needed, and these estimates were converted to estimates of dental school places needed 4 years earlier. The number of places needed was then translated into project costs. These estimates of need, however, must be viewed as extremely conservative since the per capital demands for such service are steadily rising.
- (b) The estimated capital needs on a per year basis are:

	Millions
as of June 30, 1965.....	\$318.1
1966.....	25.0
1967.....	25.4
1968.....	26.0
1969.....	26.4
1970.....	26.9
1971.....	27.4
1972.....	27.9
1973.....	28.4
1974.....	28.9
1975.....	29.4
Total.....	271.7
Total, backlog and annual increments.....	589.8

- (c) There is no basis for making a division by population. However, the basis of the breakdown in A.2.(c), it would appear that the bulk of the projected dental school structures and facilities will be in cities of greater than 50,000 population.
- (d) The proportion of the estimated capital outlays to be expended by Federal entities is 100 percent. There is no feasible method of spreading this down among the non-Federal entities.

III. Schools of Nursing

A. NATURE AND COMPOSITION OF FACILITY

1. DESCRIPTION OF FACILITIES

There are 1,118 schools of nursing in the United States which program an educational program for students who are to become professional nurses. Seventy-five percent of the schools are hospital diploma programs usually 3 years in length; 16 percent are baccalaureate programs in senior colleges and universities; and 9 percent are associate degree programs in community junior colleges.

General Physical Characteristics

The existing structures depend to a great extent upon the type of program. For hospital programs, the majority of the educational facilities are combined in a building which is used also as a dormitory. Frequently, the educational facilities are located in the top and lower floor of the dormitory. Associate degree programs are new and are developing rapidly in existing cramped quarters wherever space is available in the community college. A number of associate degree programs are planning to build space for the program in buildings which will also provide space for science laboratories, other classrooms, and so forth.

For the baccalaureate and higher degree programs, facilities are generally in temporary makeshift headquarters such as

basements of old buildings, temporary barracks-type structures, old houses which have been converted for faculty offices, clinics and laboratories.

In general, the structures and equipment for the school of nursing should include teaching, administrative, and supporting space and equipment necessary for nursing instruction. The teaching includes lecture rooms, classrooms, conference rooms, multipurpose rooms, laboratories, and reading rooms. Faculty space includes offices, conference rooms, research space, lounges, toilets and restrooms. Administrative space requires lounge, locker and rest space in addition to offices. Supporting space includes restrooms, lockers, lounges and toilets as well as space for duplicating, keeping, maintenance and mechanical equipment. Space for continuing education is also provided in some colleges and universities.

Equipment needs of schools of nursing include the general classroom furnishings, such as tablet armchairs, tables, chairs, tack boards, chalk boards, and so forth. The usual faculty office furnishings include desk, chairs, lamp, bookcase, file, and so forth. Special equipment which is used includes: laboratory equipment for the biological sciences, (for diploma schools of nursing); laboratory equipment for nursing courses (beds, stretchers, crutches); slides, projectors, models, instructional television and other audiovisual materials; office equipment, such as typewriters, dictating and duplicating equipment, and so forth.

(b) *Services Rendered*

The service rendered by the school of nursing facility is to provide a setting in which instruction of the student in the art and science of nursing can be provided.

(c) *Standards of Performance*

The completion rate of students is about two-thirds of those who are admitted. Approximately 125,000 students were enrolled in undergraduate programs in the United States as of January 1, 1964.

Hospital space is used by students of nursing for selected clinical experiences. Also conference room space is used in the setting for pre- and post-clinical conferences. Library space is available for the nursing program. Generally, the college library is used by associate degree and baccalaureate students while diploma students may use the hospital library or they may have a library in the education facility.

(d) *Qualitative Standards*

All schools of nursing have minimum standards and must be approved by State boards of nursing in order to operate. In the United States a voluntary system of accreditation exists under the sponsorship of the National League for Nursing.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) *Number of Facilities*

In mid-1965 approximately 1,118 schools of nursing existed in the United States. Data on the number of educational buildings

¹ American Nurses Association. Facts About Nursing 1965, New York, N.Y. The Assoc.

are not available. Many of the facilities, as pointed out earlier, are located in buildings jointly used for education and residence of students.

(b) *Distribution by States*

Distribution of such facilities by State and ownership is shown in table 1.

(c) *Distribution by Size of City*

Population distribution of such facilities by population size of city will be seen in table 2.

TABLE 1.—*Distribution of facilities by State and ownership, schools of professional nursing*

State	Number of programs	Type of ownership		
		Public		Private ¹
		State	Local	
Total.....	1,118	117	218	783
Alabama.....	14	2	3	9
Alaska.....	0	0	0	0
Arizona.....	6	3	1	2
Arkansas.....	6	1	0	5
California.....	62	11	31	20
Colorado.....	11	3	1	7
Connecticut.....	20	1	2	17
Delaware.....	5	1	2	2
District of Columbia.....	6	-----	2	4
Florida.....	21	3	11	7
Georgia.....	19	4	7	8
Hawaii.....	4	2	0	2
Idaho.....	4	1	1	2
Illinois.....	68	3	7	58
Indiana.....	27	5	2	20
Iowa.....	24	0	3	21
Kansas.....	18	2	1	15
Kentucky.....	19	5	3	11
Louisiana.....	13	6	1	6
Maine.....	5	1	0	4
Maryland.....	20	1	1	18
Massachusetts.....	56	1	7	48
Michigan.....	32	3	7	22
Minnesota.....	27	3	4	20
Mississippi.....	11	2	5	4
Missouri.....	28	3	8	17
Montana.....	5	1	0	4
Nebraska.....	14	1	0	13
Nevada.....	1	1	0	0
New Hampshire.....	9	0	1	8
New Jersey.....	38	1	3	34
New Mexico.....	2	1	0	1
New York.....	123	19	28	76
North Carolina.....	32	4	9	19
North Dakota.....	9	1	0	8
Ohio.....	57	1	6	50
Oklahoma.....	11	1	0	10
Oregon.....	5	1	0	4
Pennsylvania.....	104	4	22	78
Puerto Rico.....	8	1	3	4
Rhode Island.....	7	1	0	6
South Carolina.....	11	2	2	7
South Dakota.....	10	2	0	8
Tennessee.....	17	3	3	11
Texas.....	33	2	9	22
Utah.....	7	2	0	5
Vermont.....	5	2	0	3
Virginia.....	28	3	3	22
Washington.....	19	1	5	13
West Virginia.....	14	3	3	8
Wisconsin.....	22	1	1	20
Wyoming.....	1	1	0	0

¹ Nonprofit.

TABLE 2.—*Distribution of facilities by population size of city in which located*
SCHOOLS OF PROFESSIONAL NURSING

Population size of city—	Number of schools
500,000 and over-----	263
100,000 to 499,999-----	306
50,000 to 99,999-----	173
10,000 to 49,999-----	285
2,500 to 9,999-----	
Under 2,500-----	14
No population listed-----	17
Total-----	1,118

(d) *Age of Facilities*

Age distribution of such facilities. No data available. Perhaps 10 percent may have been built before 1900. Probably most of the structures were built in the period of 1921-40. They are largely buildings which have been converted to educational use.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

(a) *Construction Costs*

Estimated construction cost per square foot for new construction of school of nursing is approximately \$24.

(b) *Operating Costs*

Current range of typical annual maintenance and operational expenses:

The cost analyses of 19 baccalaureate and 10 associate degree programs studied by the National League for Nursing¹ used as the basis of measurement the credits required to complete the program and cost per student. The cost per student per year has been selected the standard for this statement of costs, since it is more nearly comparable to the units reported in the study of 126 diploma programs. The studies were begun in 1958. Because of sampling limitations, it is not possible to state explicitly the degree to which the findings of these studies apply to all programs.

The appropriate size of the school facilities is determined by number of students enrolled. However, since most of the 10 associate degree programs studied were, at the time of the cost analysis, relatively new programs, planning for future growth, their costs have been reported by size of program.

For the baccalaureate and associate degree programs the actual operating costs reported by the National League for Nursing have been adjusted downward by deducting expenses for salaries, wages, staff benefits. For the diploma programs, the league reports costs in terms of educational functions and noneducational functions. Costs of noneducational functions in parent institutions only, are included here.

¹ National League for Nursing. Study on Cost of Nursing Education. Part II, cost of basic baccalaureate and associate degree programs. New York, N.Y.: The League, 1965, 96 pp.

² Ibid., pt. I, cost of basic diploma programs, 1964, 101 pp.

*Maintenance and operation expenses*¹

Size of school	Number of programs	Average annual cost per student ²	Range of annual cost per student
Baccalaureate programs:			
Large (120 or more students).....	9	\$459	\$222- \$723
Medium (75 to 119 students).....	8	497	323- 739
Small (under 75 students).....	2	514	460- 553
Total.....	19	471	222- 739
Associate degree programs: All (27 to 109 students).....	10	493	235- 1,311
Diploma programs:			
Large (120 or more students).....	50	1,400	813- 2,742
Medium (70 to 119 students).....	53	1,300	530- 2,192
Small (under 70 students).....	23	1,600	723- 2,373
Total.....	126	1,400	530- 2,742

¹ National League for Nursing, "Study on Cost of Nursing Education," pts. I and II, New York, N.Y. The League, 1965.

² For baccalaureate and associate degree programs unit cost was based on numbers of credits required. Approximately 135 credits are required for completion of a baccalaureate degree program, and approximately 77 credits are required for completion of an associate degree program. For diploma programs a year was considered 43 weeks, and costs included those for student nurse residence.

2. USER CHARGES

The baccalaureate and associate degree cost study does not indicate what portion of the tuition and fees paid by the students was allocated to maintenance and operation expenses. However, for 21 programs, the proportion of total cost of credits required for baccalaureate graduation which was met by tuition and fees ranged from 5.19 to 91.28 percent. The average percent of the cost of the program that was covered by income from tuition and fees was 35.1. In the 12 programs under private control, the proportion of cost covered by such income was approximately 53 percent; in 9 programs under public control, the proportion was 18 percent.

Of the 10 associate degree programs, one made no charges to students. The percent of cost met by tuition and fees in the other nine programs ranged from 7.76 to 51.17. The sum of the income from tuition and fees to the 10 programs was 21.4 percent of the combined gross costs of instruction.

In the diploma school study it was found that the average yearly income per student to defray the cost of the program amounted to \$100 for noneducational functions, or 7 percent of the average gross cost of these functions. Only half of the programs, however, had some income identified for noneducational functions.

C. TREND OF CAPITAL OUTLAYS

1. ANNUAL CAPITAL EXPENDITURES

There is an increasing trend of capital outlay for construction of nursing schools; but there is no information on such outlays, except those financed in part by Federal assistance. Public Law 88-129 provided matching grants to collegiate schools of nursing for educational facilities. Under this program, 16 schools received Federal grants totaling about \$9 million. These projects represent a total construction cost of \$15 million.

Under Public Law 88-581, five grants have been made to collegiate programs. The Federal share of these projects is \$4.2 million. The total cost is \$6.3 million.

2. DISTRIBUTION BY SPENDING UNITS

From the capital outlay of the 21 projects, the proportion provided by—

	<i>Millions</i>
(a) State governments was approximately.....	\$5.8
(b) Cities and other local public bodies.....	None
(c) Private, nonprofit organizations.....	6.7
(d) Proprietary or profitmaking organizations.....	None
(e) Federal dollar amount.....	13.2
Total.....	25.7

3. SOURCES OF FINANCING

Sources of finances for capital outlays of 21 nursing school projects—

	<i>Millions</i>
(a) Appropriations from tax resources.....	\$4.7
(b) Gifts, bequests, etc.....	6.7
(c) Federal Government grant assistance:	
(1) Public Law 88-129.....	4.2
(2) Public Law 88-581.....	9.0
(d) State grants-in-aid.....	None
(e) Tax-exempt-bond market.....	1.1
Total.....	25.7

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

CAPITAL REQUIREMENTS

The capital requirements for nurse training facilities for the decade 1966-75 are—

	<i>Millions</i>
Backlog of unmet needs as of June 30, 1965.....	\$283.5
Total additional requirements through June 30, 1975.....	1,357.5
Total estimated need.....	1,641.0

(a) The backlog has been estimated on the basis of a report of collegiate nursing applications under Public Law 88-129 in 1965 which represented less than 3 percent of the 1,148 nursing school programs in the country. Future needs have been estimated on the basis of the Surgeon General's consultant group report plus economic growth factors in an effort to allow, somewhat, for increases in level of demand for professional nursing services. Deficits, current and future requirements, were converted into first-year student places and then the number of places needed was converted into project costs. These methods of estimating do not imply a high degree of precision and must be viewed in proper context; however, the results are believed to be conservative in that their per capita demand is increasing steadily and new health programs may be expected to accelerate this trend.

(b) The estimated capital needs for student teaching facilities are—

	<i>Millions</i>
of June 30, 1965.....	\$283.5
ements:	
1966.....	37.5
1967.....	105.0
1968.....	120.0
1969.....	148.5
1970.....	153.0
1971.....	202.5
1972.....	123.0
1973.....	126.0
1974.....	171.0
1975.....	171.0
Total.....	1,357.5
Total, backlog and annual increments.....	1,641.0

(c) Facilities for educating nursing students always serve areas broader than the immediate vicinity in which they are located. There is no precise way to forecast this element, it is believed most, if not all, of the new facilities anticipated will be placed in metropolitan areas of greater than 50,000 population.

(d) The proportion of the estimated capital outlays to be expended by Federal entities is 100 percent. There is no feasible method of breaking this down among the non-Federal entities.

IV. Optometry Schools

A. NATURE AND COMPOSITION

1. DESCRIPTION OF FACILITIES

General Physical Characteristics—Structures and Equipment

The physical characteristics of the optometry school vary as widely as the areas in which the schools are located and the student body.

They provide the equipment and tools for the education of optometrists, who make a significant contribution to the eye care and health of the Nation. More specific information is unavailable.

Services Rendered

(1) The professional preparation of the optometry student covers the following typical courses: mathematics, physics, chemistry, psychology, general anatomy, cranial and neural anatomy, anatomy, physiology, pathology, bacteriology, geometric and physical optics, and physiologic optics. In addition to the usual material of optometry courses, such topics as contact and occupational vision, school vision problems, illumination, vision screening methods are presented from the theoretical and practical viewpoint.

(2) In addition to a sound education in the biological and clinical sciences the student is prepared to render a high standard of professional service to the public. Moral and ethical commitment receives emphasis throughout the curriculum.

(c) Standards of Performance

During the school year that ended in June 1963 the U.S. of schools had an enrollment of 1,566 undergraduate students. 400 graduated at the end of the school year with an O.D. (in some instances the degree of B.S. or M.S. in optometry is a

(d) Qualitative Standard of Performance

The laws of all States provide that no one shall be eligible licensing examination unless he is a graduate of a school or college optometry in the United States. All of these schools are a by the Council on Optometric Education, which is an institution the National Commission on Accrediting.

The curriculum and standards of these optometry schools colleges have been steadily augmented to keep pace with advancement. All colleges operate outpatient clinics, in students secure clinical experience.

Generally, graduates are awarded the degree of doctor of op As noted above, some of the accredited schools and colleges of tometry award the degree of bachelor of science in optometry master of science in optometry.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) Number of Facilities

As of mid-1965, 10 optometry schools were in operation.

(b) Distribution by States

Two of the schools are located in California. In eight othe there is one school per State. The schools are as follows:

The Massachusetts School of Optometry.....	Boston.
The Ohio University College of Optometry.....	Columbus.
The Pacific University College of Optometry.....	Forest Grove, Oreg.
The Pennsylvania College of Optometry.....	Philadelphia.
The Southern College of Optometry.....	Memphis, Tenn.
University of California School of Optometry.....	Berkeley.
University of Houston College of Optometry.....	Houston, Tex.
The Illinois College of Optometry.....	Chicago.
Indiana University Division of Optometry.....	Bloomington.
The Los Angeles College of Optometry.....	Los Angeles.

(c) Distribution by Size of City

Distribution of schools by population size of city (standar politan statistical area where applicable)—

Population:	<i>schools</i>
500,000 or more.....	-----
100,000 to 499,999.....	-----
50,000 to 99,999.....	-----
10,000 to 49,000.....	-----
Total.....	-----

(d) Age of Facilities

Information is not available as to the age of structures. following table is a distribution of optometry schools by yea in which organized:

	<i>Number of schools</i>
Period:	
Before 1900.....	2
1901 to 1920.....	3
1921 to 1940.....	2
1941 to 1960.....	3
Since 1961.....	-----
Total.....	10
(e) <i>Ownership</i>	
Private, nonprofit organizations.....	6
.....	4
Total.....	10
<i>Current Value of Facilities</i>	
No reliable estimates are available.	

B. COST AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

(a) *Construction Costs*

Estimates not available.

(b) *Operating Costs*

Estimates not available.

2. USER CHARGES

(a) User charges as applied to optometry schools consist of student tuition and fees, and patient clinical fees. These charges are used to defray part of the operating costs.

(b) Extent to which these items of income are estimated to cover maintenance and operation expense, plus annual debt retirement, is not available.

(c) Extent of costs of such facilities and structures met out of general tax resources, etc., is not available.

C. TREND IN CAPITAL OUTLAY

No analytical studies have been performed that cover capital outlay for optometry schools, so far as the division preparing this chapter has been able to ascertain.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

CAPITAL REQUIREMENTS

The capital requirements for optometry school facilities for the decade 1966-75 are—

	<i>Millions</i>
Backlog of unmet needs as of June 30, 1965.....	\$25.2
Total additional requirements through June 30, 1975.....	32.3
Total estimated need.....	57.5

(a) Available trends in optometry student-population ratios been utilized in estimating the current backlog. Future needs been estimated, using the professional-population ratios plus nomic growth factors in an effort to allow, somewhat, for inc level of demand for these professional services. Deficits, cur future requirements, were converted into first-year student pl then the number of places needed was converted into project These methods of estimating do not imply a high degree of and must be viewed in proper context; however, the results are lieved to be conservative in that per capita demand is ir steadily and new health programs may be expected to accelerate trend.

(b) The estimated capital needs for optometry student facilities are:

	Millions
Backlog as of June 30, 1965.....	
Annual increments:	
1966.....	
1967.....	
1968.....	
1969.....	
1970.....	
1971.....	
1972.....	
1973.....	
1974.....	
1975.....	
Total.....	
Total, backlog and annual increments.....	

(c) Facilities for educating optometry students always serve much broader than the immediate vicinity in which they are Although there is no precise way to forecast this element, it is that most, if not all, of the new facilities anticipated, will be placed metropolitan areas of greater than 50,000 population.

(d) The proportion of the estimated capital outlays to be e by non-Federal entities, is 100 percent. There is no feasible for breaking this down among the non-Federal entities.

V. Osteopathic Schools

A. NATURE AND COMPOSITION

1. DESCRIPTION OF FACILITIES

(a) *General Physical Characteristics*

There are five colleges of osteopathic medicine and surgery, each comprising multiple units of buildings constructed of brick and steel reinforced concrete. In each college the building units consist of administration, general classrooms, science and laboratory, library, clinical and research facilities and teaching hospitals.

(b) *Services Rendered*

Osteopathic schools, through curriculums leading to a sound education in biological and health sciences and superior clinical training, produce graduates who are well equipped to serve the public in the professional capacity of a physician.

(c) *Standard of Performance*

During the school year 1964-65, the 5 schools of osteopathy had an enrollment of nearly 1,700 and graduated almost 400 students at the end of the year.

(d) *Qualitative Standard of Performance*

The American Osteopathic Association is the national accrediting agency for schools of osteopathy.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) *Number of Facilities*

As of mid-1965, there were five osteopathic schools in operation.

(b) *Distribution of Facilities by States*

Missouri.....	2
Iowa.....	1
Illinois.....	1
Pennsylvania.....	1
Total.....	5

(c) *Distribution of Facilities by Population Size of Cities* (standard metropolitan statistical area)

500,000 or more.....	3
100,000-499,999.....	1
50,000-99,999.....	-
10,000-49,999.....	1
Total.....	5

(d) *Age Distribution of Facilities*

Before 1900: No building units in existence.

1921-40: Four schools have had some building units constructed.

1941-60: Five schools have had one or more building units constructed.

Since 1961: Four schools have had one or more units constructed.

(e) *Ownership of Facilities*

All of the five osteopathic schools are privately owned and are non-profit.

(f) *Estimated Current Value*—\$20 million.

B. COSTS AND USER CHARGES

1. CONSTRUCTION AND OPERATING COSTS

(Additional data, including a breakdown of the data shown here, are unavailable.)

(a) *Construction Costs*

Costs per square foot for 1965 are estimated to range from \$26 to \$30, depending upon the area in which construction is undertaken.

(b) *Operating Costs*

Maintenance and operating costs per square foot are estimated to range from \$12 to \$15 for 1965.

2. USER CHARGES

(a) Tuition and fees from students and clinical fees are used to defray part of the operating costs.

(b) Tuition and fees are never adequate for all costs, and other sources must be utilized to cover deficits. Data are not currently available for detailed analysis.

(c) One college receives approximately 45 percent of its regular operating program expenses (exclusive of capital outlays) from general tax sources of the State. The other four schools receive no tax moneys for support. Data are not currently available for detailed analysis.

C. TREND IN CAPITAL OUTLAYS

1. ANNUAL CAPITAL EXPENDITURES

During the period 1946-65, 11 building units have been added at an estimated cost of \$16 million.

2. CAPITAL OUTLAY

On the basis of general information available capital outlays for osteopathic schools have been provided by gifts, bequests, donations, and fund drives. Information is not available as to the percentage distribution.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

CAPITAL REQUIREMENTS

The capital requirements for osteopathy school facilities for the decade 1966-75 are—

	<i>Millions</i>
Backlog of unmet needs as of June 30, 1965-----	\$84. 0
Total additional requirements through June 30, 1975-----	107. 4
Total estimated need-----	191. 4

(a) Available trends in osteopathy student-population ratios have been utilized in estimating the current backlog. Future needs have been estimated, using the professional-population ratios plus economic growth factors in an effort to allow, somewhat, for increases in level of demand for these professional services. Deficits, current and future requirements were converted into first-year student places and then the number of places needed was converted into project costs. These methods of estimating do not imply a high degree of precision and must be viewed in proper context; however, the results are believed to be conservative in that per capita demand is increasing steadily and new health programs may be expected to accelerate this trend.

(b) The estimated capital needs for student teaching facilities are—

	<i>Millions</i>
Backlog as of June 30, 1965.....	\$84. 0
Annual increments:	
1966.....	9. 6
1967.....	10. 2
1968.....	10. 5
1969.....	10. 8
1970.....	11. 4
1971.....	10. 2
1972.....	10. 5
1973.....	10. 8
1974.....	11. 4
1975.....	12. 0
Total.....	107. 4
Total, backlog and annual increments.....	191. 4

(c) Facilities for educating osteopathic students always serve areas much broader than the immediate vicinity in which they are located. Although there is no precise way to forecast this element, it is believed that most, if not all, of the new facilities anticipated, will be placed in metropolitan areas of greater than 50,000 population.

(d) The proportion of the estimated capital outlays to be expended by non-Federal entities, is 100 percent. There is no feasible method for breaking this down among the non-Federal entities.

VI. Pharmacy Schools

A. NATURE AND COMPOSITION

1. DESCRIPTION OF FACILITIES

(a) *General Physical Characteristics*

The physical characteristics of the schools of pharmacy vary as widely as the 43 States and 1 territory in which they are located. Variance is also determined by the number of students enrolled and space demands of the training program. To provide for the needs of the pharmacy students, equipment and facilities are required to fulfill a curriculum leading to the undergraduate professional degree. In the 5-year program, a minimum of 3 years of work in the professional subject is required in addition to a 2-year basic science program. In the 6-year program, at least 4 years are required beyond the 2 years of science. Type of construction depends largely upon the area in which the school is located and the school's affiliations. More specific information is unavailable.

(b) *Services Rendered*

The schools of pharmacy throughout the Nation are dedicated to a system of training and education in the art and science of pharmacy, planned to produce competent personnel through all phases of the practice of pharmacy and to the training of pharmacists as the means of providing the greatest protection for the public.

(c) *Standards of Performance—Capacity*

During the 1964-65 school year nearly 5,000 students were enrolled in the Nation's pharmacy schools; about 2,000 were graduated.

(d) *Standards of Performance—Qualitative*

The American Association of Colleges of Pharmacy is the national accrediting agency for pharmacy schools. To become accredited, a school must meet the qualitative standards established by the association with regard to physical plant and curriculum effectiveness.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) *Number of Facilities*

Seventy-three accredited schools of pharmacy, including 1 in Puerto Rico and 2 unaccredited schools (Ohio Northern University College of Pharmacy, Ada, Ohio, and Hampden College of Pharmacy, Williamansett, Mass.) were in operation at mid-1965.

(b) *Distribution by States*

Alabama.....	2	New York.....	6
Arizona.....	1	North Carolina.....	1
Arkansas.....	1	North Dakota.....	1
California.....	3	Ohio.....	3
Colorado.....	1	Oklahoma.....	2
Connecticut.....	1	Oregon.....	1
District of Columbia.....	1	Pennsylvania.....	4
Florida.....	2	Puerto Rico.....	1
Georgia.....	2	Rhode Island.....	1
Idaho.....	1	South Carolina.....	2
Illinois.....	1	South Dakota.....	1
Indiana.....	2	Tennessee.....	1
Iowa.....	2	Texas.....	3
Kansas.....	1	Utah.....	1
Kentucky.....	1	Virginia.....	1
Louisiana.....	2	Washington.....	2
Maryland.....	1	West Virginia.....	1
Massachusetts.....	2	Wisconsin.....	1
Michigan.....	3	Wyoming.....	1
Minnesota.....	1	Alaska.....	None
Mississippi.....	1	Delaware.....	None
Missouri.....	2	Hawaii.....	None
Montana.....	1	Maine.....	None
Nebraska.....	2	Nevada.....	None
New Jersey.....	1	New Hampshire.....	None
New Mexico.....	1	Vermont.....	None

(c) *Distribution by Population Size of Metropolitan Area*

Population:	Number of schools
500,000 or more.....	33
100,000-499,999.....	19
50,000-99,999.....	-----
10,000-49,999.....	17
2,500-9,999.....	6
Under 2,500.....	-----
Total.....	75

(d) *Age Distribution of Facilities*

For periods prior to 1947, no reliable information is available. From 1947 to 1960, 20 new buildings have been erected for use of the phar-

schools, many of which are shared with other schools within university complex; 2 additional research buildings were also constructed.

Since 1961, 13 new buildings (generally shared) and 1 new building have been erected.

Ownership

Of the 75 pharmacy schools, 50 are owned by the State government; 1 is owned by a territory; 2 are owned by cities (each of which soon be receiving some State support); 22 are privately owned.

Current Value

No reliable estimate of the current value of these facilities is considered feasible.

B. COST AND USER CHARGES

1. CONSTRUCTION COSTS AND OPERATING COSTS

Construction Costs

No reliable estimates of unit construction costs are available.

Operating Costs

The average cost of the regular operating program for pharmacy schools in the United States was estimated to be \$450,000 for a recent year.

Of this amount, 12.3 percent, \$55,350 is for operation and maintenance of the physical plant; 22.2 percent, \$95,400 is for general administration, student services, public services and information. The remainder, 66.5 percent, \$299,250, is for education and general operating costs.

2. USER CHARGES

- (a) "User charges" as applied to pharmacy schools are composed of tuition and fees and are levied to help pay for school operations.
- (b) Financial information pertaining to pharmacy schools is generally lacking; involvement with larger school complexes has discouraged detailed analysis. However, it is fairly certain that tuition and fees do not exceed the prorated operating and maintenance costs, salaries, and general expenses of the schools.
- (c) The State, city, and territory schools are principally supported by general revenue funds provided by the respective legislative bodies. The private schools are supported through the fund raising efforts of the schools and gifts of benevolent citizens. A detailed analysis by school is not currently available.

C. TREND IN CAPITAL OUTLAY

Not available.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

CAPITAL REQUIREMENTS

The capital requirements for pharmacy school facilities for the decade 1965-1975 are—

	<i>Millions</i>
Unmet need as of June 30, 1965.....	\$129. 6
Additional requirements through June 30, 1975.....	177. 3
Total estimated need.....	306. 9

(a) Available trends in pharmacy student-population ratios been utilized in estimating the current backlog. Future needs been estimated, using the professional-population ratios plus e growth factors in an effort to allow, somewhat, for increases in level demand for these professional services. Deficits, current and requirements were converted into first-year student places and the number of places needed was converted into project costs. methods of estimating do not imply a high degree of precision must be viewed in proper context; however, the results are to be conservative in that per capita demand is increasing and new health programs may be expected to accelerate this trend.

(b) The estimated capital needs for student teaching facilit

Backlog as of June 30, 1965-----

Annual increments:

1966-----
1967-----
1968-----
1969-----
1970-----
1971-----
1972-----
1973-----
1974-----
1975-----

Total-----

Total, backlog and annual increments-----

(c) Facilities for educating pharmacy students always serve much broader than the immediate vicinity in which they are. Although there is no precise way to forecast this element, it is that most, if not all, of the new facilities anticipated, will be 1 metropolitan areas of greater than 50,000 population.

(d) The proportion of the estimated capital outlays to be e by non-Federal entities, is 100 percent. There is no feasible for breaking this down among the non-Federal entities.

VII. Podiatry Schools

A. NATURE AND COMPOSITION OF FACILITY

1. DESCRIPTION OF FACILITIES

(a) *Physical Characteristics—Structures and Equipment*

The facilities consist of offices, waiting rooms, classrooms, co rooms, laboratories,¹ outpatient clinics, libraries and reading student lounges and locker rooms, surgical operating suites, and training aids, diagnostic and therapeutic devices and equ public and personnel lavatories, parking spaces, and in 1 case a 10 hospital.

¹ For anatomy (gross, microscopic and developmental), physiology, biochemistry, pharmacology, bacteriology and mycology, clinical medicine, and foot appliances and devices. Some disciplinary.

Each school has three to five classrooms and two to four conference or seminar rooms. Classroom capacity ranges from 90 to 363 students (average equals 214). Laboratory spaces range from 65 to 176 (average equals 125). Outpatient clinics service from 18,000 to over 50,000 patient visits annually and have from 30 to 100 student stations (average equals 63). Libraries accommodate from 12 to 32 students at 1 time (average equals 24). In the classrooms, the square footage per student ranges from 10 to 25 (average equals 16 square feet per student), in laboratories from 17 to 43 (average equals 30 square feet per space), in the clinics from 60 to 150 square feet (average equals 120 square feet per station) and in the library from 22 to 106 square feet (average equals 56 square feet per student seat). These facilities can accept from 45 to 60 first-year students per school and will graduate from 210 to 225 students 4 years later. The classroom, laboratory, and clinical facilities are made adequate only by careful scheduling in some cases.

(b) *Services Rendered*

Podiatry schools provide training for the doctorate degree in podiatry, refresher and more extended training for graduates including internships, training for podiatric assistants, clinical investigations, some limited research, and clinical and hospital service to patients. Each school serves the entire Nation, Canada, and other foreign countries. One serves primarily the Pacific Coast and Mountain States, two the Midwest, Southwest and South, one the Middle Atlantic States and Southeast, and one New York and the Northeast. The patients are from the metropolitan area of the school.

(c) *Standard of Performance*

The recommended standard for library space for podiatry schools of the sizes described in A. 1. (a) above is 6,000 square feet, three to four times the present average size, the average deficit being 4,000 square feet.

(d) *Qualitative Standard of Performance*

School performance is evaluated regularly by the Council on Education of the American Podiatry Association and when it is adjudged adequate, the school is accredited. All five schools are accredited, one initially, since it will not graduate its first class until 1967.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) *Number of Facilities*

There are five podiatry schools (mid-1965) in existence and operating;

(b) *Distribution by States*

There are one each in States of New York, Pennsylvania, Ohio, Illinois, and California; and

(c) *Distribution by Size of City*

All in cities over 500,000.

(d) *Age of Facilities*

Part of one school was built before 1900. In the other schools part of their facilities were constructed between 1921 and 1940.

Four schools made substantial additions between 1921 and 1940. One school made two additions between 1941 and 1960 and two schools each one addition. Three schools have made additions since 1961.

(e) *Ownership*

All of these facilities are private nonprofit organizations.

(f) *Current Value*

As of the end of 1965, the total estimated current value of these five facilities is \$3,520,000, ranging from \$590,000 to \$830,000.

B. COSTS AND USER CHARGES

1. CONSTRUCTION AND OPERATING COSTS

(a) *Construction Costs*

Construction costs for one new school (250 students) of podiatry have been estimated between \$6 and \$7 million at \$35 per square foot. This includes built-in equipment in the amount of \$1,250,000. Construction costs to build new or additional structures in cities where podiatry colleges operate range from \$25 to \$40 per square foot. Cost for renovation ranges from \$14 to \$28 per square foot. Movable equipment cost estimates range from \$450,000 to \$1,250,000 (\$755,000).

(b) *Operating Costs*

Present podiatry college student bodies range from 86 to 200 and total 713. One school has only three classes enrolled. Annual maintenance and operations expenses (including repairs and replacements) for the five podiatry colleges in 1965 ranged from \$132,065 to \$490,919, with an average of \$207,750.

2. USER CHARGES

(a) User charges are comprised of student tuition and fees and expenses paid by affiliated institutions. These charges are expressed in the following table as a percent of the regular operating program and maintenance cost (excluding capital financing):

School:	User charges as a percent of operating costs
No. 1.....	Less than 50.
No. 2.....	Less than 90.
No. 3.....	Less than 98½.
No. 4.....	Less than 109.
No. 5.....	Less than 123.

(b) Three of the five schools have no capital indebtedness. One school utilized approximately 1½ percent of user charges to reduce capital indebtedness. Two other schools set aside excess user charges (9 and 23 percent) to replenish resources.

(c) None of the costs of podiatry school facilities and structures have been met, as yet, from State or local government reserves. One school will have received approximately 15 percent of its operations and maintenance costs in 1965-66 from a State government.

C. TREND OF CAPITAL OUTLAY

1. ANNUAL CAPITAL EXPENDITURES

One new school was started and two major additions and four minor additions to existing schools have been made in the period 1946-65. Capital outlay for these totals \$1,302,000, an average of \$65,100 per annum. The new school anticipates additional outlay of more than \$2,250,000.

(a) The need for more podiatrists, the lack of space to accept many qualified applicants, the improvement in the quality of the education, the increasing amount of new knowledge, the demands for more and better service, and obsolescence and deterioration of facilities, dictate a more rapidly accelerating trend in rehabilitation and renovation, major expansion of present facilities, and construction of new ones. The present five schools all have plans for rehabilitation, renovation, and expansion in the next 2 to 5 years, totaling \$10 to \$12 million.

The lack of support from public funds and the inability to acquire sufficient support from private resources have delayed and prevented a much needed greater capital outlay prior to this time.

2. DISTRIBUTION BY SPENDING UNITS

To date, all capital outlay for podiatry schools has been by private nonprofit organizations.

3. SOURCES OF FINANCING

The source of these capital outlays has been from gifts, bequests, donations, fund raising drives, and borrowing. Information is not available as to the percentage distribution.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

CAPITAL REQUIREMENTS

The capital requirements for podiatry school facilities for the decade 1966-75 are—

	<i>Millions</i>
Backlog of unmet needs as of June 30, 1965.....	\$21. 0
Total additional requirements through June 30, 1975.....	27. 0
Total estimated need.....	48. 0

(a) Available trends in podiatry student-population ratios have been utilized in estimating the current backlog. Future needs have been estimated using the professional-population ratios plus economic growth factors in an effort to allow, somewhat, for increases in level of demand for these professional services. Deficits, current and future requirements were converted into first-year student places and then the number of places needed was converted into project costs. These methods of estimating do not imply a high degree of precision and must be viewed in proper context; however, the results are believed to be conservative in that per capita demand is increasing steadily and new health programs may be expected to accelerate this trend.

(b) The estimated capital needs for student teaching facilities are—

	<i>Millions</i>
Backlog as of June 30, 1965.....	\$21. 0
Annual increments:	
1966.....	2. 7
1967.....	2. 4
1968.....	2. 7
1969.....	2. 7
1970.....	3. 0
1971.....	2. 7
1972.....	2. 4
1973.....	2. 7
1974.....	2. 7
1975.....	3. 0
Total.....	27. 0
Total, backlog and annual increments.....	48. 0

(c) Facilities for educating podiatry students always serve areas much broader than the immediate vicinity in which they are located. Although there is no precise way to forecast this element, it is believed that most, if not all, of the new facilities anticipated, will be placed in metropolitan areas of greater than 50,000 population.

(d) The proportion of the estimated capital outlays to be expended by non-Federal entities is 100 percent. There is no feasible method for breaking this down among the non-Federal entities.

VIII. Schools of Public Health

A. NATURE AND COMPOSITION

1. DESCRIPTION OF FACILITY

(a) *General Physical Characteristics*

Public health schools are all integral parts of universities, either as independent units or as parts of the division of medical sciences or medical schools. The physical characteristics of these facilities are as varied as are the universities of which they are a part. More specific information is unavailable.

(b) *Services Rendered*

Schools of public health train doctors, nurses, engineers, and other professional health workers to identify diseases and health hazards affecting the community, to find their causes, and to develop control methods. The students in these schools are primarily public health workers who have already completed their basic professional training. Many of them are employees of State and local health departments, the U.S. Public Health Service, the Armed Forces, or other agencies, and are sent by the agencies which employ them to receive further training to enable them to discharge more effectively the responsibilities of their respective positions.

(c) *Standard of Performance*

Currently, about 1,200 students can be trained per year in the existing schools.

(d) *Qualitative Standard of Performance*

The American Public Health Association is the agency which accredits the graduate schools of public health.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) *Number of Facilities*

As of mid-1965, there were 13 schools of public health in operation.

(b) *Distribution of Schools by States*

California.....	2	Maryland.....	1	New York.....	1
Connecticut.....	1	Massachusetts.....	1	North Carolina.....	1
Hawaii.....	1	Michigan.....	1	Pennsylvania.....	1
Louisiana.....	1	Minnesota.....	1	Puerto Rico.....	1

(c) *Distribution of Public Health Schools by Population Size of City*

Population: *	Number of schools
500,000 and over.....	10
100,000 to 499,999.....	2
50,000 to 99,999.....	1
10,000 to 49,999.....	1
Total.....	13

*Standard metropolitan statistical area in which school is located.

(d) *Age of Facilities*

Information is not available as to the age of the structures. The following is a distribution of existing public health schools by year in which they were established:

Year:	Number
Before 1900.....	1
1901-1920.....	2
1921-1940.....	4
1941-1960.....	6
Since 1961.....	1
Total.....	13

(e) *Ownership of Facilities*

The United States has 13 public health schools currently in existence; 6 are private nonprofit and 7 are owned by State and territorial governments.

(f) *Estimated Current Value*

These 13 public health schools are each a part of a university which also operates a medical school. The complexity of the organizational arrangements is such that an estimate of current value would be unrealistic.

B. COSTS AND USER CHARGES

1. CONSTRUCTION AND OPERATING COSTS

(a) *Construction Costs*

Costs per square foot are estimated to range from \$25 to \$35 depending upon the area in which the construction is undertaken and the type of structure designed.

(b) *Operating Costs*

Basic operating costs for a recent year averaged about \$800,000 per school. Costs are constantly rising and this figure would probably be much higher on a current year. Maintenance costs are not currently available because of the complex organizational structure of the schools.

2. USER CHARGES

(a) Student tuition and fees provide a portion of the income used to defray operational costs.

(b) Tuition and fees are never adequate for all costs and other sources must be utilized to cover deficits; data are not currently available for detailed analysis.

(c) In a recent year, funds for total expenditures for these schools were derived from the following sources in the proportions shown:

[Dollar amounts in millions]

Source of funds	Amount	Percent
All sources.....	\$17.8	100.0
Nongovernment.....	5.1	28.6
Government:		
Federal.....	10.9	61.2
State and local.....	1.7	9.6
Other.....	.1	.6

The amounts have increased and the distribution has probably changed over the years; however, more current analyses are not available.

C. TREND OF CAPITAL OUTLAY

Not available.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

The capital requirements for public health school facilities for the decade 1966-75 are—

	<i>Millions</i>
Backlog of unmet needs as of June 30, 1965.....	\$49.0
Total additional requirements through June 30, 1975.....	63.0
Total estimated need.....	112.0

(a) Available trends in public health student-population ratios have been utilized in estimating the current backlog. Future needs have been estimated, using the professional-population ratios plus economic growth factors in an effort to allow, somewhat, for increases in level of demand for these professional services. Deficits, current and future requirements were converted into first-year student places and then the number of places needed was converted into project costs. These methods of estimating do not imply a high degree of precision and must be viewed in proper context; however, the results are believed to be conservative in that per capita demand is increasing steadily and new health programs may be expected to accelerate this trend.

(b) The estimated capital needs for public health student teaching facilities are—

	<i>Millions</i>
Backlog as of June 30, 1965.....	\$49.0
Annual increments:	
1966.....	5.8
1967.....	5.9
1968.....	6.2
1969.....	6.3
1970.....	6.6
1971.....	6.0
1972.....	6.2
1973.....	6.5
1974.....	6.7
1975.....	6.8
Total.....	63.0
Total, backlog and annual increments.....	112.0

(c) Facilities for educating public health students always serve areas much broader than the immediate vicinity in which they are located. Although there is no precise way to forecast this element, it is believed that most, if not all, of the new facilities anticipated, will be placed in metropolitan areas of greater than 50,000 population.

(d) The proportion of the estimated capital outlays to be expended by non-Federal entities, is 100 percent. There is no feasible method for breaking this down among the non-Federal entities.

CHAPTER 29

State and Federal Outdoor Recreation Facilities *

A. NATURE AND COMPOSITION OF PUBLIC WORK OR FACILITY

1. DESCRIPTION OF FACILITIES

Recreation facilities on Federal and State lands are of two types: Natural resources of land and water, and developed facilities.

Federal and State Governments have designated 312 million acres of land and water areas for public recreation in 20,822 areas with developed recreation facilities. Among the principal Federal recreation areas are all the units of the national park system; many areas in the national forests; shoreland around multiple-purpose reservoirs constructed by the Bureau of Reclamation, the Corps of Engineers, and the Tennessee Valley Authority; portions of the public domain; and selected areas in national wildlife refuges. State recreation areas include State parks, State forests, fishing and hunting areas constructed or operated by State fish and game commissions, State-administered areas along Federal reservoirs, and picnicking and rest areas provided by State highway departments. State lands comprise but 35 million acres just 11 percent of the total area in Federal and State ownership, but are more intensively developed and used than are Federal areas.

Outdoor recreation facilities serve people in all types of areas, residential, commercial, industrial, and agricultural. Participants come from all walks of life and from all sections of the Nation. In addition to direct recreation services, such areas also contribute to the economy of the communities near which they are located by attracting visitors who spend money on food, services, lodging, equipment, and souvenirs.

Standards of performance are usually measured by the number of visits to recreation areas for any portion of a day. In 1965, Federal areas reported 320.1 million visits and State areas 303.4 million visits. Many areas were seriously overcrowded on summer weekends. However, most are capable of handling additional numbers of visitors on summer weekdays and at other times of the year. Measures of daily capacity, then, are largely meaningless, for visitor-use patterns are generally beyond the control of the agencies providing the facilities.

Acceptable qualitative standards of performance for recreation facilities have not been developed. Usual methods of evaluation are not applicable because there are great differences in individual tastes, perceptions, and appreciation of enjoyment derived from recreation. Some persons prize solitude and escape from crowds. Others are insecure when alone in wooded areas and prefer the company of large

*Prepared by the Bureau of Outdoor Recreation, U.S. Department of Interior, with minor editing by committee staff.

numbers of people. However, recreation opportunities which provide nationally famous scenery in uncrowded conditions usually are rated of high quality while facilities of indifferent beauty which are heavily crowded are regarded as having low quality.

2. EXISTING CAPITAL PLANT

State and Federal agencies provided a wide range and variety of outdoor recreation facilities and structures in mid-1965. There were 83,118 acres of picnic lands containing 307,810 picnic tables. To serve swimmers, there were 18,164 acres of beach and 5,102,215 square feet of swimming pools. Boaters enjoyed 17,985 acres of boat access areas, 144,508 parking places, and 5,173 acres in marinas. Ski slopes covered 31,628 acres. Golfers could enjoy 3,372 holes of golf covering 34,899 acres.

Overnight accommodations also were extensive. For camping enthusiasts, there were 171,722 tent spaces on 61,776 acres; 32,538 trailer spaces on 13,319 acres, and 30,643 acres devoted to group camping. Cabins and motels provided 17,903 units.

Many facilities are not provided within the limits of an incorporated city. Limited data are available for those within corporate limits by size of city.

Most of the recreation facilities on State and Federal lands have been constructed since 1941. Approximately 1 percent of existing facilities were constructed between 1901 and 1920, 23 percent between 1921 and 1940, 50 percent between 1941 and 1960 and 26 percent between 1961 and 1965.

The proportion of State to Federal facilities varies widely among the types of facilities and from State to State. For example, States maintain 5,070,938 square feet of swimming pools, the Federal Government but 31,277 square feet. On the other hand, the Federal Government provides 25,471 acres of ski slopes, the States but 6,157 acres.

Federal outdoor recreation facilities are heavily concentrated in the public land States of the West. Thus, the 8 Mountain States have 133,615,959 acres of Federal recreation lands, but only 1,858,271 acres of State recreation lands. In the 8 Mountain States, the Federal Government provides 20,538 tent camping spaces; the 8 States but 1,083. On the other hand, in the three Middle Atlantic States where there is almost no Federal land, the Federal Government provides but 788,059 acres of recreation lands, the States 6,692,729. In that region there are 1,332 Federal tent spaces, 12,038 State.

No estimate has ever been made of the current value of Federal and State outdoor recreation lands and facilities. The compilation of such an estimate would be well-nigh impossible. Many of the land and water areas dedicated to outdoor recreation were acquired from Great Britain by the Treaty of Paris and the treaty of 1848; the Louisiana Purchase; the treaty of 1819; and the treaty with Mexico of 1845. The Louisiana Purchase, for example, cost 15 cents per acre. No one has ever attempted to set a value on Yellowstone National Park, which was a part of that transaction. Moreover, except for national parks, most of the Federal lands are managed for multiple purposes including timber, forage, watershed management, and mining.

Capital investments in outdoor recreation facilities have often been made with other purposes in mind. Thus, many improvements were

made by the Civilian Conservation Corps in the 1930's primarily to aid the enrollees. Current replacement costs have never been estimated.

The only Federal agency managing its lands primarily for outdoor recreation is the National Park Service. It reports assets of \$1.7 billion, of which 58 percent is in land. However, this prices our national park land at \$38 per acre. Current mean land acquisition price within existing parks is approximately \$4,500 per acre.

Total expenditures by Federal and State agencies for outdoor recreation purposes offer some indication of the volume of investment. Between 1951 and 1965, these agencies spent an estimated \$7.7 billion.

Ownership of facilities on Federal and State lands varies with the type of facility as well as with the agency. For example, the Federal and State governments retain the ownership of the land and water used for developing such facilities as picnic areas, campgrounds, and swimming beaches. However, facilities such as ski tows, cabins, stores, boat docks, hotels, and lodges, may be developed by private enterprise under various types of lease agreement and possessory interests. At the end of 1965, 2,471 individual concessionaries owned privately developed facilities on Federal lands valued at \$319.5 million. Current statistics of similar facilities on State lands are not available. However, State governments are tending to emphasize State construction and operation of such highly developed facilities.

B. COSTS AND USER CHARGES

1. CONSTRUCTION AND OPERATING COSTS

Construction costs for outdoor recreation facilities vary widely depending upon the remoteness of the location, terrain, soil conditions, and the design of the facility required. Estimated average construction costs for several typical recreation facilities are as follows: campgrounds (including water supply, sanitary facilities, parking space, table and fireplace)—\$2,405 per site; visitor information service center—\$30 to \$35 per square foot; parking spaces \$2,000 per site; picnic table and bench—\$100 per site; trails—\$5,000 per mile.

Annual maintenance and operating expenses for different recreation facilities also are quite variable depending upon the age of facility, design of the original construction, and intensity of use. Annual maintenance and operating expenses for campgrounds and picnic sites are estimated to be 5 to 10 percent of the original cost of construction. A similar estimate for roads is 10 to 15 percent per mile of the original construction cost.

2. USER CHARGES

Neither the States nor the Federal Government have depended, primarily, upon entrance fees or user charges to finance the acquisition of lands and waters or the construction of facilities for outdoor recreation. In 1960, the Outdoor Recreation Resources Review Commission found that the States and the Federal Government collected entrance and user charges totaling \$20.9 million, but that this sum represented only 5.4 percent of their total expenditures for outdoor recreation that year.

Many States have depended more heavily upon fees and charges than has the Federal Government. In 1960, the States collected \$15.9 million, 75 percent of the total, which provided on the average 52 percent of their operating and maintenance costs. However, some States, such as Nevada and Wyoming, have maintained a policy that all State-provided outdoor recreation areas should be free of charge.

A variety of patterns of fees and charges has developed in State and Federal outdoor recreation areas. Information on typical patterns of fees and charges at State recreation areas is available from a 1964 study by the Minnesota Outdoor Recreation Resources Commission.

The study included only States where the users of outdoor recreation facilities are expected to pay for some portion of the costs of operation of the facilities. The percent of costs covered by fees and charges varied from over 100 percent in Indiana to less than 20 percent in Pennsylvania.

Illustrations of variations and similarities for a few of the States are shown below, for camping fees and entrance charges. Data are for the year 1964.

Campground charges at State areas

Minnesota State parks: Tourist campground fees are \$1.50 per day per campsite, 25 cents for electricity hookup, where available, and 25 cents a bundle for firewood.

California: The camping charge is \$2.50 per automotive trailer. For automotive vehicles with or without trailer the charge is \$2 in type "A" campgrounds, \$1.50 in type "B," and \$1 in type "C."

Illinois: The tent camping charge is 50 cents per unit, and the cost of electricity hookup is 25 cents.

Indiana: The charge for campsite use in State parks is \$1, and the cost for electricity hookup is 50 cents.

New York: Charges are \$1.50 per unit and 25 cents for electricity if available.

Oregon: The charge on improved sites is \$1.50 for campers on trucks or trailers or \$1 for tents. On semi-improved sites the charge is 75 cents.

Pennsylvania: In State parks the usual charge is \$1 for the first day and 50 cents for each additional day. Three campgrounds charge \$1.25 the first day and 75 cents each additional day.

Entrance fees at State areas

Minnesota: \$2 for annual permit or 50 cents daily.

California: Charge of 50 cents per automotive vehicle per day for picnicking, use of parking areas, beach facilities, or other facilities provided.

Illinois: No admission charge.

Indiana: 20 cents per person admission fee (children under 12 free); 35 cents per automotive vehicle admission fee.

New York: 50 cents per vehicle entrance fee or parking charge. Up to \$5 for buses.

Oregon: None reported.

Pennsylvania: None reported.

For all outdoor recreation purposes, the States spent \$186.6 million in 1960. Thus, user charges in that year accounted for less than 10

percent of the combined expenditure for outdoor recreation areas and facilities and their operation and maintenance.

Federal user charges in 1960 amounted to only 4.9 percent of operating and maintenance costs. No Federal capital investments thus can be said to have been met from user charges.

Entrance fees at Federal areas

An annual permit, selling for \$7, admits the purchaser to all Federal recreation areas at which entrance or admission fees are charged. It also admits all persons who accompany the purchaser in a private, noncommercial vehicle to designated Federal areas commonly entered by motor vehicles.

A temporary permit is valid for 30 days at the Federal area indicated on the permit. The charge is in the range of \$3 to \$6 for an individual and those who accompany him in a private noncommercial vehicle, or from \$1.50 to \$3 for an individual. The exact fee is selected by the head of the agency or department administering the designated area in accordance with criteria set by the Secretary of the Interior.

A day-use permit is valid at all designated areas for the calendar day when it is purchased. The charge is 50 cents for an individual or \$1 for an individual and those who accompany him in a private noncommercial vehicle.

User fees at Federal areas

User fees are payable for the use of sites, facilities, equipment, or services provided by the Federal Government especially for recreationists in designated areas. These include well-developed campsites, picnic areas, bathhouses, lockers, boat launching facilities, boats, other marine equipment, guide services, firewood, and winter sport facilities.

Examples of the authorized fees are listed below:

Camp and trailer sites: \$1 to \$3 for overnight use.

Picnic sites: 50 to 75 cents per site per day.

Group camping and picnicking sites: Up to 50 persons in group, \$5 to \$10 per group per day; 51 to 100 persons in group, \$10 to \$20 per group per day.

Boat launching sites: 50 cents to \$1.50 daily fee.

Bathhouses: 25 to 50 cents per day per person 6 years and over.

The Land and Water Conservation Fund Act and the Federal Water Project Recreation Act marked a new Federal policy on fees. Henceforth, Federal agencies, managing recreation areas that are developed at Federal expense and meet other criteria, will charge entrance, admission and/or other user fees in the expectation that as much as \$25 million can be raised each year. Proceeds go into the land and water conservation fund. In fiscal year 1966, however, entrance and user fees are expected to yield only about \$8 million. Revenues from the sale of surplus Federal real property and from a tax on motorboat fuel will provide the bulk of approximately \$100 million expected to accumulate in the fund that year. In 1967, the Bureau of Outdoor Recreation estimates the fund will receive \$110 million, and larger sums in future years.

Except for the development of statewide outdoor recreation plans and administrative costs, moneys in the land and water conservation

fund will be used exclusively for capital investment. Forty percent of the fund ordinarily will be allocated among the National Park Service, the Forest Service, and the Bureau of Sport Fisheries and Wildlife for the acquisition of lands and waters for outdoor recreation and the preservation of endangered species of wildlife. Sixty percent will be allocated for equal matching grants to the States for the planning, acquisition, and development of outdoor recreation areas and facilities.

The Federal Water Projects Recreation Act encourages non-Federal public agencies to administer recreation areas at Federal multiple-purpose water resource projects. If a letter of intent is supplied by a non-Federal agency before project authorization and a contract signed before project construction, under which the non-Federal public agency agrees to repay half the separable costs attributable to outdoor recreation and to operate and maintain the facility at its expense, the Federal construction agency may incorporate into project complete land and facilities to meet the full public demand for outdoor recreation. The Federal Government will then pay the remaining separable costs and all joint costs from general tax revenues as nonreimbursable costs. The land and water conservation fund cannot be charged to repay such costs.

Non-Federal public bodies may elect several ways to repay their share of project recreation costs. They may provide the sum outright from taxes, borrowing, other available sources; they may provide land or other property; or they may agree to repay the amount with interest over a 50-year period from tax revenues or by pledging the proceeds entrance and user charges for the area. The authority now available to pledge revenues from user charges may become the most popular method among non-Federal public agencies for repayment of capital costs at Federal water projects.

Private entrepreneurs operating facilities as concessions on State and Federal recreation lands impose user charges intended to recover costs of operation, depreciation, debt service, and a profit.

Until the advent of the land and water conservation fund, most expenditures both for capital investment in land, water, and facilities, and for operation and maintenance of recreation areas must out of general tax resources. Unless subsequent legislation provided, future Federal investments in facilities and all operating maintenance costs of Federal recreation areas will continue to be in general tax resources. By the end of fiscal year 1966, the Government had not issued any general obligation bonds to specific recreation projects.

Most States have heretofore depended upon general tax resources for funding of capital investments. In the past 5 years, general obligation bonds have become more popular as a source of capital for recreation purposes. In the future, the States are expected to rely heavily on three sources: Grants-in-aid from the land and water conservation fund, the open space program, and the Greenspan program of the U.S. Department of Agriculture; bond issues, and both general and special.

The less populous States seem likely to depend upon Federal Grants-in-aid for half of their capital investments. The equalization

factors Congress established in the allocation formula for the land and water conservation fund assures them funds which may be adequate to meet their needs.

The more populous States, however, have already enacted bond issues which greatly exceed the revenues which they can expect to receive from all Federal grant programs combined. Thus, these States will depend heavily upon bonded indebtedness for capital investment and upon general taxation for operation and maintenance costs.

C. TREND OF CAPITAL OUTLAYS

1. TREND AND FEDERAL-STATE PROPORTIONS

Annual capital outlays for outdoor recreation have been increasing at a rapidly accelerating pace since 1946 (see table 2). Between 1951 and 1960, Federal capital investments increased over two and one-half times. State expenditures increased 59 percent during the period. The actual change of Federal expenses was from \$69.8 million in 1951 to \$194.2 million in 1960. For State expenditure, actual change was from \$117.4 million in 1951 to \$186.6 million in 1960. From 1960 to 1964, Federal expenditures escalated million, an increase of 45 percent in 4 years.

The rapid increase in expenditures for outdoor recreation was related primarily by a greatly increased public demand for recreation opportunities. Attendance figures at State and Federal recreation areas jumped from 419.9 million in 1960 to 623.5 million in 1964. Other contributing factors were the backlog of maintenance which had accumulated during the Second World War and the increasing land, labor, and materials.

2. SOURCES OF FINANCING

Financing of capital outlays for recreation facilities on Federal State lands traditionally has been primarily by appropriations and taxes. However, there is a strong trend toward financing outlays from special funds at the Federal level and from grants and bond issues at the State level.

The Federal Government also receives special gifts of land and money for recreation from States and other governmental individuals and organizations. The major recipient, the National Park Service, has received \$14.5 million in such gifts since 1946. Figures on gifts to other agencies are not available.

In September 1964, Congress created the land and water conservation fund. Three Federal outdoor recreation agencies, the National Park Service, the Forest Service, and the Bureau of Sport Fisheries and Wildlife, have since been dependent upon the fund for acquisition of land for outdoor recreation purposes and to protect and preserve species of wildlife.

The land and water conservation fund also makes grants available to the States and their political subdivisions for the purchase, acquisition, and development of outdoor recreation areas. However, no outdoor recreation acquisition or development projects

financed through the grant-in-aid program by the close of fiscal year 1965.

The open space program of the Department of Housing and Urban Development also has been made available grants-in-aid to States as well as their political subdivisions for the acquisition of land and the development of facilities. Aimed primarily at cities, however, the program has been little used by States agencies.

During the past 6 years, 10 States have issued bonds with a value of \$430.8 million to finance outdoor recreation facilities. In 1960, New York led the parade of recent major efforts by enacting a \$75 million bond issue. In 1961, New Jersey followed with \$60 million and Wisconsin with \$50 million. In 1963, Connecticut issued \$3 million in recreation bonds; Pennsylvania \$70 million. In 1964, California topped the list with a \$150 million issue followed by Washington with \$10 million, Rhode Island with \$5 million, and Massachusetts with \$3.3 million. In 1965, Kentucky floated a \$4.5 million bond issue.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

1. CAPITAL REQUIREMENTS

Federal and State Governments expect to invest approximately \$11 billion for outdoor recreation during the decade 1966 through 1975. The States will spend \$3.4 billion of their own funds and \$1 billion in land and water conservation fund grants. See table 3 for the annual estimated expenditures.

Investments are needed to improve existing State and Federal recreation areas to accommodate more intensive use and to develop new areas.

Expanding public demand for outdoor recreation, growth of the Nation's population, the rising standard of living, and increasing amounts of leisure time are the principal factors creating pressures for additional recreation facilities. During the period 1960 through 1976, the U.S. population is expected to increase by 50 percent. The demand for camping will increase between 89 and 149 percent; the demand for swimming will grow between 76 and 90 percent; and the demand for picnicking will expand from 50 to 67 percent.

2. SOURCES OF FINANCING

The Federal Government will fund its capital outlays from the land and water conservation fund and from general taxation.

Acquisition of recreation lands and water by the National Park Service and the Forest Service and by the Bureau of Sport Fisheries and Wildlife, including acquisitions to protect endangered species of wildlife, are expected to be financed from the land and water conservation fund. In any one year, 40 percent of the proceeds ordinarily would be devoted to Federal acquisition programs. However, the fund act authorizes the President to recommend that the Federal portion be as much as 55 percent or as little as 25 percent in any one year during the first 5 years of the program, which began January 1, 1965. Because the act also authorizes Congress to advance a total of \$480 million

for Federal acquisition and State grants-in-aid during the 8-year period beginning in fiscal year 1968, substantial funds during the next few years could be made available for such Federal land acquisition if Congress wishes. Rapidly escalating price of recreation lands during the last few years suggests that such advances of funds at an early date may be wise and prudent investments. The schedule indicated by table 3 includes accelerated advance appropriations.

Acquisition of recreation lands around multiple-purpose reservoirs built by the Corps of Engineers, the Bureau of Reclamation, and the Tennessee Valley Authority are generally financed from general appropriations. Under the terms of the Federal Water Projects Recreation Act, enacted in 1965, full recreation development will be provided on most reservoirs only if non-Federal public bodies agree to operate and maintain the facilities and to repay to the Federal Government one-half the separable costs attributable to outdoor recreation.

Payments to the Treasury from the land and water conservation fund under provisions of section 6(a)(2) of the Conservation Fund Act may be made to help offset Federal costs allocated to recreation and fish and wildlife enhancement at projects which are not cost-shared by local public bodies.

Because State or local government bodies may elect to pledge revenues from entrance fees and other user charges to pay their share of the costs of recreation features, half of the directly identifiable costs attributable to outdoor recreation on many Federal multiple-purpose water projects are expected to be paid in the future by the visitors to such projects.

Construction of recreation facilities for Federal agencies generally will be financed from general taxation. However, facilities constructed at multiple-purpose reservoirs will be subject to the same cost-sharing requirements as will recreation land acquisitions.

The States generally are expected to finance most of their land and water acquisition from direct tax funds, matched by Federal grants-in-aid from the land and water conservation fund, from the open space program, and from the Greenspan program. Federal grant programs are expected to provide only 10 to 15 percent of the estimated annual investment needed to develop the necessary non-Federal public facilities. Many States will issue bonds to acquire the initial capital necessary, then repay the funds from tax revenues.

TABLE 1.—Inventory of Federal and State recreation areas and selected facilities by census divisions

	U.S. totals	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Number of Federal areas.....	1,746	59	69	98	153	249	85	139	404	490
Number of State areas.....	19,076	1,977	936	5,526	2,507	1,650	1,766	1,127	1,297	2,270
Total areas.....	20,822	2,036	1,005	5,624	2,660	1,899	1,851	1,266	1,701	2,760
Number of Federal acres (thousands).....	276,960	1,119	788	6,080	15,346	10,450	3,740	8,173	133,616	97,648
Number of State acres (thousands).....	35,359	999	6,693	6,775	4,700	4,589	2,561	2,728	1,858	4,456
Total acres (thousands).....	312,319	2,118	7,481	12,855	20,046	15,039	6,301	10,901	135,474	102,104
Number picnic tables—Federal.....	78,158	1,777	2,531	5,323	8,670	9,569	2,799	12,056	19,043	16,390
Number picnic tables—State.....	229,652	24,998	59,870	65,650	19,472	22,686	8,087	8,589	3,862	16,168
Total number picnic tables.....	307,810	26,775	62,401	70,973	28,142	32,255	10,886	20,915	22,905	32,558
Acres, swimming beach—Federal.....	9,377	84	286	152	5,313	1,945	164	624	188	621
Acres, swimming beach—State.....	8,787	1,998	370	740	547	1,062	540	612	144	2,774
Total acres, swimming beach.....	18,164	2,082	656	892	5,860	3,007	704	1,236	332	3,395
Acres, boat access—Federal.....	10,668	239	82	454	5,795	1,318	1,393	261	420	706
Acres, boat access—State.....	7,317	487	499	1,095	1,512	934	1,087	641	355	707
Total acres, boat access.....	17,985	726	581	1,549	7,307	2,252	2,480	902	775	1,413
Acres, ski slopes—Federal.....	25,471	1,492	36	365	117	-----	-----	-----	14,471	8,990
Acres, ski slopes—State.....	6,517	2,735	146	729	9	-----	-----	-----	-----	2,515
Total acres, ski slopes.....	31,988	4,227	182	1,094	126	23	-----	-----	14,471	11,505
Spaces, camping tent and trailer—Federal.....	102,661	2,118	1,496	3,662	9,128	6,580	3,219	12,991	25,793	37,674
Spaces, camping tent and trailer—State.....	101,049	8,492	13,875	32,757	9,476	9,583	3,107	7,595	1,721	15,068
Total spaces, camping tent and trailer.....	204,310	10,610	15,371	36,419	18,604	16,163	6,326	20,586	27,514	52,742
Acres, golf courses—Federal.....	28,388	2,746	1,301	1,647	2,999	5,876	2,046	4,457	2,639	4,677
Acres, golf courses—State.....	6,511	490	336	593	351	2,565	1,011	727	251	187
Total acres, golf courses.....	34,899	3,236	1,637	2,240	3,350	8,441	3,057	5,184	2,890	4,864

TABLE 2.—*Total Federal and State annual direct outlay for outdoor recreation expenditures,^{1,2} 1951-65*

[In millions of 1965 dollars]

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	Total
Federal.....	87.3	95.5	97.9	102.2	110.5	122.1	102.9	243.6	257.9	242.8	287.5	337.5	375.0	330.0	430.0	3,282
State.....	146.8	155.9	168.5	175.6	187.9	186.1	192.4	214.4	222.9	233.2	250.0	282.5	287.5	300.0	312.5	3,316
Total.....																6,599

¹ Expenditures include operation and maintenance, land acquisition, development, and construction.² Expenditures for the ORRRC data 1951-60 were: 5.03 percent land acquisition; 48.07 percent development and construction; 23.74 percent operation and maintenance; 15.05 percent grants-in-aid; 3.11 percent other.

Source: 1951-60 data from table B, p. 6, Outdoor Recreation Resources Review Commission Study Report 25; 1964 and 1965 Federal data from Bureau of Outdoor Recreation Budget Review Studies; 1962 State data from Bureau of Outdoor Recreation Publication No. 2, State Outdoor Recreation Statistics 1962; 1961, 1962, 1963 Federal data and 1961, 1963, 1964, and 1965 State data were interpolated.

TABLE 3.—*Estimated annual expenditures for outdoor recreation on Federal and State lands, 1966-75*

[In millions of dollars]

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	Total
Federal:											
Land and water conservation fund ¹	239.2	241.7	122.0	122.0	122.0	92.0	57.0	66.8	61.6	61.6	785.9
Other, appropriations, taxes ²	493.0	535.5	570.5	608.5	639.5	682.5	719.0	755.0	790.0	823.5	6,622.0
Total, Federal	532.2	577.2	692.5	730.5	761.5	774.5	776.0	821.8	851.6	890.1	7,407.9
State:											
Land and water conservation fund ⁴	284.4	265.7	100.0	100.0	100.0	135.0	95.0	100.2	92.4	92.4	965.1
Other, appropriations, taxes ³	268.0	272.0	290.0	313.0	331.0	350.0	370.0	390.0	410.0	435.0	3,431.0
Total, State	352.4	337.7	390.0	415.0	431.0	485.0	465.0	490.2	502.4	527.4	4,396.1
Total, Federal and State	884.6	914.9	1,082.5	1,145.5	1,192.5	1,259.5	1,241.0	1,312.0	1,354.0	1,417.5	11,804.0

¹ Land acquisition only.² As appropriated by the Congress; all other years estimated.³ Estimates based on projections of needs reported by Outdoor Recreation Resources Review Commission studies, 1961.⁴ Planning, land acquisition, and development; Federal portion only.

CHAPTER 30

Urban Local Outdoor Recreation Facilities*

A. NATURE AND COMPOSITION OF FACILITY

1. DESCRIPTION

(a) *Physical Characteristics*

This chapter covers local, publicly owned facilities having value for outdoor recreation and park purposes. It includes lands and outdoor recreation equipment and structures administered by regional, county, city, or special district bodies. It excludes State and Federal facilities, and agricultural recreation areas which are covered in other chapters. It also excludes large county-owned forests and lands of special non-recreation districts which are not used primarily for recreation purposes.

Among the recreation facilities considered in the study are public parks and recreation areas, playgrounds, ball diamonds, bathing beaches, outdoor swimming pools, tennis courts, recreation buildings, and indoor recreation centers. Among those buildings specifically designed for community recreation are arts and crafts centers, cultural centers, centers for older adults, sports buildings, and teen centers.

(b) *Services Rendered*

County and city parks serve the outdoor recreation needs of city and county residential areas within from one-half to 2 hours drive from home. The specific service area of a park will depend on its character and location. Playgrounds and neighborhood recreation parks may serve an area within a radius of one-eighth to one-fourth mile, or generally the equivalent of an elementary school district. District parks serve several neighborhoods, or an area comparable to junior or senior high school districts. Large urban and suburban parks serve the whole community, as do special facilities, such as golf courses and bathing beaches. Some county and large metropolitan parks are of sufficient size and quality to serve interurban or regional needs.

In addition to serving as facilities for outdoor recreation, local parks have a broader value to the community. They may serve to preserve scenic, historic, and natural resources. They may also be used to promote the formation of distinct cohesive communities, provide relief from extensive urbanization, or open up congested city centers so that buildings or landmarks can be viewed.

*Prepared by Jack A. Underhill, Land and Facilities Development Administration, Department of Housing and Urban Development, with minor editing by committee staff.

(c) Standards

There is no single approved standard for measuring need for park and recreation areas. However, general guidelines have been developed by national organizations, recreation planners, and local and State planning departments throughout the country. Most commonly, these guidelines are based on projected recreation uses, but they also embrace other open space purposes, such as conservation, and the preservation of scenic and historic resources. All of these sources are useful in an attempt to assess the rough dimension of national need for local park and recreation facilities.

A review of available State outdoor recreation plans prepared in 1964 and 1965, as well as pertinent literature, reveals that common standards for adequate local parkland range from 15 to 35 acres per 1,000 population. These are presented in table I. Local plans have an even greater range: from 14 to 60 acres per 1,000. The range in standards is due to the variation in local conditions, density of population, degree of urbanization, availability of private recreation, climate, terrain, and other factors.

A standard close to the national average is 10 acres for small and large urban parks and 15 acres for metropolitan, county, or "extra-urban" parks per 1,000 served.

Standards also may be expressed for specific recreation facilities such as swimming pools and golf courses. Swimming pools should be able to accommodate anywhere from 1 to 3 percent of the total city population, at a given time, with from 15 to 30 square feet of water per swimmer. A 9-hole golf course should have a minimum acreage of 50 acres; an 18-hole course, 100 acres—and it is estimated that there should be 1 hole for every 3,000 population. In addition, commonly accepted standards provide for 1 baseball diamond per 6,000, 1 softball diamond per 3,000, and 1 tennis court per 2,000.

The adequacy of parkland is more than a question of acres, however. It is a question of the right number of acres in the right place. As noted by Thomas Hoving, New York Commissioner of Parks, New York had some 37,000 acres of parks. However, only 14,500 acres are in parkland located in the "immediate environment." He added that more than "half our recreation space is peripheral, under-utilized and relatively inaccessible."¹

Acreage standards provide a useful guideline, or test of adequacy, even though they vary considerably from place to place. High acreage standards are based primarily on the simple fact that demand for outdoor recreation opportunities is increasing at a faster rate than the population growth. Growing mobility, disposal income, and leisure time should continue this trend. Marion Clawson, a leading recreation planner, estimates that the use of municipal and county parks will expand from roughly 1 billion visits in 1955 to over 3 billion visits in 1985 and to 3.7 billion visits in the year 2000. Land preserved in permanent open spaces for recreation purposes will also help preserve the quality of urban life. While simple standards cannot define quality, they help dramatize the urgency of the problem.

¹ New York Times magazine, Apr. 10, 1966, p. 12.

TABLE I.—*Selected standards for local recreation areas*

[Acres per 1,000 population]

Agency	Play-grounds or neighborhood parks	Playfields or district parks	Large urban parks	Total urban	County or "extra-urban"	Total local
National Recreation Association ¹	2.5	2.5	5	-----	15	25
Indiana.....	-----	-----	-----	10	15	25
Maryland.....	-----	-----	-----	10	15	25
Missouri.....	-----	-----	-----	-----	-----	25
New Jersey.....	-----	-----	-----	8	12	20
New Mexico.....	-----	-----	-----	-----	-----	16
Ohio ²	-----	-----	-----	-----	-----	30
Oklahoma.....	2.8	3	10	-----	20	35.8
Pennsylvania.....	-----	-----	-----	-----	-----	15
Washington.....	-----	-----	-----	-----	-----	30
West Virginia.....	4	3	10	-----	20	37
Wisconsin.....	-----	-----	-----	10	15	25

¹ "Outdoor Recreation Space Standards," National Recreation and Park Association, January 1966. This publication revised standards is for discussion purposes, and is not yet an "official" standard.

² Ohio is one of the few States that has a standard which varies with the year, taking into consideration increased use of outdoor recreation areas per capita. The 30 acres per 1,000 is for 1971, the 1964 standard is 24 acres per 1,000, while the 1930 standards is 35 acres. The Northern Illinois Metropolitan Planning Commission also has a variable standard increasing with the target year.

(d) *Qualitative Standards*

Since parks serve a wide variety of functions, there can be no single set of qualitative standards. In this sense, parks are not like roads which can be engineered to national specifications to carry given volumes of traffic. However, certain general criteria can be applied to judge park quality. A park or recreation facility can be said to be of adequate quality if it is safe, attractive, accessible, easy to maintain, and continues to meet the demands placed upon it.

The application of these criteria would depend on the judgment of the group reviewing park adequacy; and the relative weights of the criteria would vary with the purpose of the facility. In fact, there might be a disagreement over which criteria to select, since little attention has been given to quality standards. Most of the planning and professional literature is devoted to standards of quantitative adequacy, not quality.

(1) *Safety*—In considering the safety of parks, a number of factors might be noted: adequacy of lighting, visibility from the street or roads, existence of fencing where it is needed, condition of equipment and facilities, protection from major hazards, provisions for traffic safety, and separation of different age groups and incompatible functions.

(2) *Attractiveness*—Attractiveness is a subjective judgment, but an important one. The National Recreation and Park Association recommends that playgrounds be combined with parks wherever possible so that play spaces can be integrated into the neighborhood and made as attractive as possible. And obviously, a rundown or neglected park cannot serve its primary function well.

(3) *Accessibility*—Accessibility is a key element. A park which cannot be easily reached is not serving its proper function. For this reason, small parks scattered throughout the city are often more valuable, acre for acre, than larger areas which are difficult to reach. In turn, larger regional parks must have adequate access roads or trails and be developed to the point of usefulness for the particular purposes to be served.

(4) *Maintenance*—An important factor in park quality is cost and difficulty of maintenance. This is one of the reasons that the NRPA recommends that playground and school recreation facilities be jointly operated wherever possible, so that maintenance efforts can be combined. Once a park is built, a key to its continued quality is how well it is maintained.

(5) *Adequacy to meet demand*—Most local parks are user rather than resource oriented. Therefore, a key index as to their quality is their ability to meet the needs of the people they are supposed to serve. Lands acquired, but not developed with facilities are not yet very useful to the park user. And those existing parks which have facilities which do not meet the current and changing needs of the population are not fulfilling their function. Changing ethnic or age characteristics of a neighborhood or city require a periodic re-examination of the adequacy of facilities to meet emerging needs of the new population groups.

Another approach to quality was provided in the Outdoor Recreation Resources Review Commission Study Report 5, "The Quality of Outdoor Recreation: As evidenced by User Satisfaction." This study was a report of user opinion surveys to determine the degree of satisfaction with the facilities being evaluated. In addition, forms were developed for professional evaluation of the quality of the facility. Among the factors graded by the examiner according to a scale ranging from excellent to poor were: quality of access roads, quality of the main attraction of the park, quality of the specific activities occurring in the park, site quality, design quality, and quality of maintenance or operation.

2. EXISTING CAPITAL PLANT

(a) *National Estimates for 1965*

There are no authoritative figures for the total number of local recreation facilities for the years since 1960, when the last detailed survey was undertaken by the National Recreation Association. Such surveys by the NRA have been the primary source of statistics on the subject since early in the 1900's. The Bureau of Census provides overall government expenditures on local park and recreation, but relies upon the NRA for detailed park and recreation figures. Even the NRA surveys are limited in that they do not cover every city and county. In 1961, the survey covered 2,762 cities and counties.

To supplement the 1960 survey material, a number of sources have been used, including the following: an International City Managers Association survey conducted in 1965 with the cooperation of the Urban Renewal Administration; a sample survey conducted by the Bureau of Outdoor Recreation, Department of Interior; a review of the 35 State outdoor recreation plans prepared in 1964 and 1965; and statistics on the number of acres acquired from 1961 to 1965 with assistance from the open-space land program.

Acreage estimates—Based on these sources, it is estimated that there were over 1,730,000 acres in county, city and special district parks, and other recreation lands in 1965. In some State plans local acreage was not specifically identified as county or city. Of those areas designated, 781,000 acres were city or special district, and 538,000 were county. By contrast, the total acreage listed for 1960 in the 1961 NRA yearbook was 1,015,461, with 584,754 acres in municipal

parks, 430,707 in county parks, and 86,152 in county and municipal school recreation areas.

The new figures are subject to the following qualifications:

1. They exclude certain nonurban county or municipal forests or recreation areas which perform a function more closely related to State parks. There are probably at least 3 million acres under county or special district control which have some value for recreation purposes, but are not within easy reach of urban areas. This total includes 229,133 acres reported in county and municipal parks and recreation areas in Georgia; 64,599 acres of "local recreation lands" and 164,866 acres of parish (county) recreation lands in Louisiana; some portion of a total of 333,087 acres reported by the California State Recreation Office to be in "lands designated for recreation purposes under local, county, or special district control"; and the 2.2 million acres in county forests in northern Wisconsin. In these cases, 1960 NRA figures were used, supplemented by information concerning lands acquired with assistance under the open-space land program.

2. They include some park acreage not reported in the previous NRA surveys because of nonreporting or underreporting of counties and cities.

3. They probably include some acreage figures which the NRA survey excluded as not being in the category of parks or recreation areas.

4. The increase in park acreage from 1960 to 1965 is probably due primarily to the increased coverage in the sources used for this study, rather than a large acquisition program. It is doubtful if more than 130,000 acres have been acquired during the period by local agencies, with 75,000 acres acquired with assistance under the open-space land program. The State-by-State increase is shown in table III.

Special Facilities—There are no official current figures for most of the special recreation facilities. The last fairly complete figures are for 1960. An estimate for 1965 was made by extrapolating limited surveys undertaken by the NRA for the year 1964.

TABLE II.—*Selected special facilities (1960 and 1965)*

Special facilities	1960			1965 total (estimate)
	Municipal	County	Total	
1. Playgrounds under leadership.....	18,403	1,704	20,107	20,932
2. Recreation buildings.....	3,502	326	3,828	4,978
3. Indoor recreation centers.....	12,049	1,093	13,142	(¹)
4. Baseball diamonds.....	11,952	1,642	13,594	(¹)
5. Bathing beaches.....	679	272	951	976
6. Golf courses.....	502	83	585	685
7. Ice skating rinks.....	3,739	250	3,988	4,013
8. Softball diamonds.....	13,725	1,107	14,832	(¹)
9. Swimming pools.....	2,669	177	2,846	3,181
10. Tennis courts.....	14,721	955	15,676	16,616

¹ Unknown.

Source: *Park and Recreation Yearbook*—1961 per 1960 figures.

To fill the gap in data between 1960 and 1965, use was made of the results of a sample NRA survey for new public recreation activity during 1964. Since this survey is a smaller sample than the regular 5-year effort, these 1964 figures are a conservative base for estimating total activity during the 5-year period. The 5-year estimates were added to the 1960 figures to arrive at a total 1965 figure for selected facilities.

TABLE III.—*Estimated construction of recreation facilities (1960-65)*

Facility	1964 activity	Estimated, 1961-65
Buildings and indoor centers	165	825
Including baseball, soccer, football)	230	1,150
Fields	109	845
Swimming pools	5	25
Restrooms	25	125
Shower rooms	23	115
Locker rooms	67	335
	188	940

Source: Special NRA Survey for 1964.

Even if the estimate for 1961-65 activity were correct, there is no doubt that the 1960 figures are complete. In fact, there is some evidence that the NRA figures are somewhat underreported. In 1964 a special survey was undertaken of all swimming pools in the con- United States, excluding the small above-ground pools com- seen in backyards. Over 490,000 of these pools were defined as, most of them enjoyed by single families on private home- The remaining 110,000 pools were listed as "public facilities," fewer than 20,000 of these are publicly owned, tax-supported

The balance of the pools were privately owned, but open to the public for a fee. Those listed as private were individually or open only to dues-paying members.² The 20,000 publicly owned pools listed in this survey is contrasted with the 2,846 listed in the 1960 NRA survey.

While there are no independent figures of the number of publicly owned golf courses, the total number of courses is available. There are 7,477 golf courses in play in the United States in January 1964. The total acreage of these courses is 703,700.³

Distribution by States

Table IV contains a breakdown of (a) selected recreation facilities in 1960, and (b) total estimated local recreation area acreage for 1960.

The sources of these estimates are as follows:

(1) Where acreage figures were obtained from the State outdoor recreation plans undertaken in 1964 and 1965, they are designated by the letter "S."

(2) Where no State plan data existed, information was obtained from the 1961 Park and Recreation Yearbook. These figures are designated by the letters "NRA" and are for the years up to 1960.

(3) If no State figures were obtained from the State plan, but the State has received assistance under the open space land program, the figures are designated with "OS." This reflects the 1960 NRA figure, plus the acreage acquired in county and city parks with title VII assistance.

(4) In a few cases, the Bureau of Outdoor Recreation survey revealed additional acreage not reflected in other sources. These figures are designated by "BOR."

(5) If data was uncovered on local parks which appeared to fall outside of the scope of the survey, the figure is marked with a footnote, with the total acreage appearing in the footnote.

(6) The data on the special recreation facilities was obtained from the 1961 NRA Yearbook.

² Hubbard, "Feasibility Studies Relative to Public Swimming Pools," Illinois Parks (January-February 1964), p. 13.

³ C. F. Fehrer, "Guidelines for Planning a Golf Course."

TABLE IV.—Selected recreation statistics by State, 1960 and 1964-65

State	1960				1964-65			
	Park acreage			Total recreation buildings and indoor centers	Total local acreage, 1964-65 (estimate)	Source of data	Acreage acquired with title VII assistance	
	City	County	Total				Local	State
1. Alabama.....	4,990	131	5,121	212	97	NRA.....	0	0
2. Alaska.....	23,850	—	23,850	4	1	NRA.....	0	0
3. Arizona.....	3,487	32,777	36,264	275	256	NRA.....	0	0
4. Arkansas.....	56,945	78,575	135,520	11	21	BOR.....	57	13,582
5. California.....	28,417	3,606	32,023	2,997	5,128	OS ¹	5,360	216
6. Colorado.....	14,410	—	14,410	157	228	OS ¹	52,520	315
7. Connecticut.....	1,066	226	1,292	432	315	S.....	30,000	0
8. Delaware.....	39,478	—	39,478	36	19	NRA.....	1,292	0
9. District of Columbia.....	8,545	8,850	17,395	110	117	NRA.....	39,478	0
10. Florida.....	5,000	929	5,929	454	311	OS.....	17,541	146
11. Georgia.....	2,656	3,358	6,014	236	140	OS ¹	6,953	1,024
12. Hawaii.....	26,755	53,074	80,829	155	93	S.....	4,168	751
13. Idaho.....	14,550	—	14,550	59	55	NRA.....	2,656	0
14. Illinois.....	9,323	4,103	13,426	888	820	S.....	90,553	13,411
15. Indiana.....	7,824	—	7,824	484	329	S.....	23,892	145
16. Iowa.....	5,370	2,805	8,175	263	128	S.....	54,955	991
17. Kansas.....	3,007	1,747	4,754	191	94	S.....	14,500	165
18. Kentucky.....	1,243	—	1,243	213	234	S.....	16,693	761
19. Louisiana.....	6,708	5,806	12,514	306	43	NRA ²	4,754	0
20. Maine.....	14,732	16,082	30,814	415	83	OS.....	1,293	50
21. Massachusetts.....	21,211	25,338	46,549	415	475	S.....	62,812	7,813
22. Michigan.....	17,828	321	18,149	836	296	OS.....	31,490	647
23. Minnesota.....	2,118	4,356	6,474	1,130	847	S ¹	93,318	2,020
24. Missouri.....	—	—	—	438	438	S ¹	41,536	2,881
25. Montana.....	—	—	—	134	70	NRA.....	6,474	358

26. Missouri.....	17,729	1,603	19,332	297	127	100,000	S.....	227
27. Montana.....	3,434	11,000	14,434	58	91	14,434	NRA.....	24
28. Nebraska.....	6,232	105	6,232	105	30	14,418	S.....	1,087
29. Nevada.....	2,235	887	1,122	13	14	1,122	NRA.....	0
30. New Hampshire.....	2,111	1,000	3,111	73	45	5,671	S.....	0
31. New Jersey.....	5,977	19,300	25,277	821	568	41,956	S.....	6,410
32. New Mexico.....	1,674	80	1,674	67	80	19,033	S.....	0
33. New York.....	54,323	20,646	74,969	2,020	1,339	117,094	S.....	9,147
34. North Carolina.....	10,054	206	10,260	345	206	10,260	NRA.....	1,446
35. North Dakota.....	2,662	938	3,600	42	51	3,600	NRA.....	0
36. Ohio.....	32,731	80,540	113,271	1,083	642	194,438	S.....	6,405
37. Oklahoma.....	10,650	152	10,802	1,114	144	121,750	S.....	584
38. Oregon.....	9,228	4,400	13,628	130	79	35,077	S.....	801
39. Pennsylvania.....	19,886	7,114	27,000	1,600	776	43,140	S.....	5,480
40. Rhode Island.....	1,120	1,120	1,120	126	71	1,798	OS-BOR.....	71
41. South Carolina.....	1,962	1,564	1,962	120	84	1,968	OS.....	6
42. South Dakota.....	10,991	1,564	12,555	49	26	1,578	OS.....	14
43. Tennessee.....	40,671	1,145	12,136	306	201	12,886	OS.....	780
44. Texas.....	40,891	2,858	43,749	602	505	78,480	S.....	437
45. Utah.....	1,691	3,190	4,121	150	149	1,256	OS.....	135
46. Vermont.....	7,093	2,062	1,691	51	82	1,691	NRA.....	0
47. Virginia.....	11,375	2,599	9,155	482	298	12,236	NS.....	3,081
48. Washington.....	2,867	530	13,974	264	296	13,906	S.....	1,021
49. West Virginia.....	7,820	20,764	3,397	248	381	12,953	S.....	26
50. Wisconsin.....	7,454	6,920	28,584	445	388	45,173	S.....	1,673
51. Wyoming.....	583,754	430,707	7,374	16	19	7,374	NRA.....	0
Total.....	583,754	430,707	1,015,461	20,10	16,970	1,730,403		75,345
								69,688

¹ Reflects only part of 1965 total estimated by California State Recreation Office of 333,087 acres in "lands designated for recreation purposes under local, county, or special district control."

² Reflects only part of 229,133 acres reported in Georgia State plan in county and municipal parks.

³ Reflects only part of 64,599 acres in local ownership and 164,866 in parish (county) control reported in Louisiana State plan.

⁴ Does not reflect 68,742 in school forests and 107,263 in community forests.

⁵ Total may not all be under local control. Ohio State plan lists acreage by class. Total includes classes I and II, which covers intensively used recreation lands or general use recreation lands within 20 miles of population center of 50,000 or more.

⁶ Total acreage excludes 55,000 in water which is locally owned.

⁷ Total does not reflect 2,200,000 acres in county forests in the northern part of the State.

Source: See text, sec. A2(a).

(c) *Distribution of Facilities by City Size*

Information on the distribution of recreation facilities by the size of cities can be obtained by a review of (1) the population-facility ratios for selected cities, (2) the distribution of expenditures on local park and recreation by size of city.

Table V was prepared by the National Recreation Association in 1963, based on the 1961 Park and Recreation Yearbook data. (*Recreation*, January 1963, p. 21). This table reflects the difficulty of meeting recreation standards by larger cities. Only the smaller cities seem able to meet accepted recreation standards.

TABLE V.—Population per facility in top quartile cities, 1960, by population groups

Population group	Baseball diamonds			Holes of golf			Softball diamonds			Tennis courts		
	Number of cities	Median	Average	Number of cities	Median	Average	Number of cities	Median	Average	Number of cities	Median	Average
5,000 to 9,999	87	2,727	2,571	5	469	416	70	1,807	1,817	71	1,463	1,379
10,000 to 24,999	128	4,534	4,354	12	750	735	118	2,617	2,622	114	1,910	1,886
25,000 to 49,999	73	6,322	5,910	16	1,492	1,471	73	3,000	3,057	71	2,475	2,464
50,000 to 99,999	38	6,914	7,053	15	2,280	2,255	38	3,556	3,434	39	3,017	2,833
100,000 to 249,999	17	8,847	8,109	12	2,953	2,952	17	3,200	3,611	17	3,085	3,031
250,000 to 499,999	7	8,682	10,300	4	4,066	4,094	7	3,147	3,146	7	4,164	3,692
500,000 to 999,999	4	15,113	14,994	3	8,611	8,253	4	5,293	6,034	4	5,706	6,786
1,000,000 and over	1	16,348	-----	1	16,014	-----	1	1,994	-----	1	5,912	-----
Total	363	-----	-----	70	-----	-----	328	-----	-----	324	-----	-----

Source: National Recreation Association.

TABLE VI.—*Expenditure for park and recreation by size of city for selected years*
IN MILLIONS OF DOLLARS

Year	Total	Over 1,000,000	500,000 to 1,000,000	300,000 to 500,000	200,000 to 300,000	100,000 to 200,000	50,000 to 100,000	Under 50,000
1963-64.....	732	161	125	72	43	67	79	185

Year	Total	Over 1,000,000	500,000 to 1,000,000	250,000 to 500,000	100,000 to 250,000	50,000 to 100,000	25,000 to 50,000
1955.....	322.5	89.0	55.6	53.6	52.1	40.6	31.4
1953.....	259.0	68.2	52.1	42.9	38.1	29.0	34.1

PER CAPITA, IN DOLLARS							
1955.....	5.20	5.11	6.06	6.51	5.50	4.55	3.61
1953.....	4.19	3.92	5.68	5.21	4.02	3.28	3.29

Source: City government finances, 1955 and 1953-64, U.S. Document, Bureau of Census.

(d) *Age Distribution of Facilities*

Table VII covers general age distribution of parks for cities over 100,000 and selected recreation facilities for all counties and cities included in the various NRA surveys. The table is incomplete in that it shows many facilities as having been constructed from 1921-40, when they were actually constructed during previous periods. This is due to the fact that the NRA surveys had not been undertaken for previous periods for certain of the facilities. The table is also deceptive in that no information is provided on which facilities have been renovated or completely rebuilt during the timespan under consideration.

It should be noted that the total park acreage does not include the more complete 1965 figures listed in a previous section.

TABLE VII.—*Age distribution of selected local public recreation facilities, 1880-1966*

Facility ¹	Before 1900	1901-20	1921-40	1941-60	1961 ²
Parks, number.....	1,054	1,762	5,283	13,997	-----
Parks, acres.....	32,880	60,360	174,513	317,001	100,000+
Tennis courts.....	(3)	(3)	12,075	3,601	825+
Softball diamond.....	(3)	(3)	1,042	4,790	(3)
Baseball diamond.....	(3)	(3)	3,904	9,690	(3)
Swimming pools.....	(3)	359	841+	1,646+	335+
Ice skating rinks and areas.....	(3)	(3)	2,912	1,077	115+
Golf courses.....	(3)	(3)	387	198	125+
Beaches.....	(3)	260	312	379	25+
Playgrounds under leadership.....	(3)	4,293	5,628	10,186	825+
Recreation buildings and indoor centers.....	(3)	1,197	4,539	18,199	1,150+

¹ Parks for cities over 100,000. Other facilities for all county and municipal areas covered in National Recreation Association Surveys.

² Estimated.

³ Not available.

Source: Marion Clawson, "Statistics on Outdoor Recreation," Resources for the Future, 1958. Table 28 Municipal and County Parks: Number, Acreage Facilities, Workers, and Expenditures, 1910-55; table 31 Municipal Parks: Number and Acreage of Parks—Cities of 100,000 and over (in 1950) by regions, and for selected years, 1880 to 1955. 1960 Data from the Yearbook of Parks and Recreation, 1961. The yearbooks of previous years are the source of the tables in Clawson's book.

Ownership

This study has excluded facilities owned by private groups, cooperative and Federal and State Governments. The breakdown as to county and municipal government ownership is provided in previous

Estimated Current Value

It would be difficult to place a value on all of the local public recreation facilities. The market value of the land in Central Park, State Park and the Cook County Forest Preserve might equal the total value of a million acres in the total local system. However, the mechanical task of multiplying estimated unit cost figures by the number of recreation facilities would at least put a floor on the value of the existing capital plant. This has been done in table VIII below.

TABLE VIII.—*Estimated minimum value of local recreation facilities, 1965*

Facility	Unit	Cost per unit	Number of units	Total estimated value
				<i>In millions</i>
City park acreage (cities over 100,000)	Acre	\$75,000	180,000	\$13,575
City parks	do	24,000	600,000	2,400
City streets	do	23,000	538,000	1,614
City sidewalks	do	3,000	420,000	120
City diamonds	Diamond	10,000	14,000	140
City holes	Acre	5,000	6100	25
City pools	Hole	15,000	6,587	98
City courts	Pool	75,000	3,200	240
City buildings	Court	1,500	17,000	225
City improvements	Building	(9)	(9)	(9)
	Acre	3,000	1,730,000	5,190
Total				23,600

¹ Estimated.

² Acquisition cost.

³ Development cost.

⁴ At 2 acres each.

⁵ In 1960.

⁶ At 5 acres each.

⁷ Number of holes estimated in 1960.

⁸ Variable.

⁹ Unknown.

The rationale for most of the costs for table VIII appear in a later

The number of facilities are based on estimates of current plant which appear in table II.

The estimates on the value of land deserve special mention. Lack of any precise breakdown of the number of parks within the various property value zones of our cities and counties, all that can be done is to apply some educated guesses. Experience with the acquisition of small parks in downtown areas of large cities has indicated that the average cost per acre might run about \$75,000. This is conservative, considering as of December 1964, the average cost per acre of all lands under the urban renewal program was \$2.23 a square foot or over \$97,000 an acre. It is estimated that roughly one-half of the 360,000 acres in parks of cities over 100,000 reported in 1960 fell into this "premium park" category with an average value of \$75,000 an acre. The balance of the acreage estimated for 1965 might fall into a \$4,000 an acre category. Ordinarily, this land would be closer to residential areas and have more value than that acquired with title VII assistance from 1961 to 1965. Falling into a third category would be county or metropolitan parks which might run an average of \$3,000 an acre.

B. COSTS AND USER CHARGES

1. CONSTRUCTION COSTS

(a) *Land Acquisition and Development Costs*

In the context of this study, construction costs are useful in mining the current value of the capital plant of local recreation and in projecting needs for the next decade. A major part of both these determinations is the value of the land in current park and the projected value of land during the acquisition period.

Based on experience to date with the open-space land program, following current costs are estimated for various types of land depending on location:

[Dollar cost per acre]

Facility	Cities over 50,000	Cities under 50,000	Urban fringe
State parks.....			
Regional parks.....		\$1,895	
Town or community parks.....	\$2,465	1,840	
Neighborhood parks.....	13,000	4,200	
Park lots (under 2 acres).....	75,000	15,000	

By comparison, the State of Pennsylvania has estimated an average cost per acre in local parks for the eastern portion of the State; a cost of \$400 for the rest of the State and an average whole State of \$700 per acre. On the other hand, Oklahoma has an average cost per acre for local playground and playfields to \$1,000 in the northeast, \$1,000 in the southwest, \$800 in the east, and \$1,400 in the northwest section of the State.

Based on continued escalation of land costs in urbanized areas, an average cost of \$4,000 per acre is projected for closer-in parks out the Nation in the coming decade. For the county and metropolitan parks further out, a figure of \$3,000 is a reasonable projected cost. The actual costs will depend on the portion acquired near metropolitan centers, the degree of urbanization, how soon the land is acquired during the decade.

A \$3,500 average development cost is assumed for the type urban-fringe land acquired with title VII assistance during the years of its operation. Similarly, \$3,000 per acre is assumed to be the average current value of development on the parks—in the specific facilities covered in table VIII.

(b) *Specific Development Costs*

The actual cost of a given facility will vary greatly according to terrain, cost of labor, and other factors. The development costs in table VIII require certain qualifications. In general, they are "normal" situations. For example, the average of \$3,000 per acre for playground development would not apply to New York City. Thomas Hoving, the New York Park Commissioner, has estimated that 200 vest-pocket parks, totaling only 28 acres would cost \$7.2 million, spread out over the next 4 years.

Among the qualifications for the figures for special facilities in table VIII are the following:

1. Ball diamond development of \$10,000 is without ball field.

2. Bathing beach development of \$5,000 per acre includes parking facilities.

3. The \$15,000 per hole estimate for golf course development falls within the general estimates by the National Golfing Association. Col. Harry Eckhoff, of the eastern division of the association has estimated that a 9-hole course should cost anywhere from \$40,000 to \$150,000; and an 18-hole course, from \$75,000 to \$350,000. Both of these figures exclude the cost of land and large structures, such as clubhouses.

4. Tennis court costs vary from \$500 to \$1,500, depending on the subsurface. This cost does not include drainage systems.

5. The \$75,000 cost for a fully equipped outdoor swimming pool can be compared with another estimate of cost by square foot: \$10 per square foot for water area, \$2 per square foot for deck, and \$18 for bathhouse area.

2. MAINTENANCE AND OPERATING COSTS

Ordinarily, separate maintenance and operating costs are not for the specific facilities listed in this chapter. A typical budget has a total maintenance and operating budget for all ed recreation areas and programs. However, some sources nation are available on the general level of maintenance costs city park departments. A recent survey conducted by the Inter-City Manager's Association dealt in part with maintenance for the previous year, and projected maintenance costs for the years.

From nearly 200 responses to the survey, 106 were selected as having data. These 106 communities were located in 33 States. population ranged from under 10,000 to 1.9 million, with a total on of over 12 million (1960 population figures). The pro- 5-year maintenance costs in the sample totaled \$151 million. three times the \$45 million in projected acquisition costs, and double the \$79 million in project development costs for the This 5-year maintenance projection for the sample was \$12 per capita. Applying this per capita figure to the 1960 population, a reasonable estimate of projected municipal ure for maintenance over the next 5 years might be \$1.3 billion.

3. USER CHARGES

Degree of Use

The Outdoor Recreation Resources Review Commission indicated than 30 percent of public outdoor recreation areas report any

However, those that do collect fees at the local level for the of special facilities have raised substantial sums of money. The

Recreation Association reported that in 1960, over \$51 was collected in fees and charges by cities and counties for use recreation facilities. Of this amount, over \$20 million was turned to city and county treasuries. The balance of over \$31 million used for operating expenses. An additional \$5 million was from refectories and concessions and \$7 million from private

(b) *Extent of Coverage Costs*

User charges cover only a fraction of total operating and maintenance costs for local recreation areas. Total operating and maintenance costs for cities were \$407 million in 1960. Added to this was about \$138 million of county operating expenses and maintenance. Thus, the \$51 million received from fees and charges was less than 10 percent of this total.

(c) *Tax and Borrowings*

It appears that the bulk of income for local park and recreation expenditure comes from current Government revenues. Table IX, based on a survey by the International City Managers Association, shows revenue sources, as reported by nearly 200 cities, in terms of sources actually used or explored.

TABLE IX.—*Sources of funds for city park and recreation expenditures (1965)*

Source of funding	Number of cities	
	Actually used	Explored
Special mileage levy.....	25	5
Local improvement districts for park purposes.....	8	17
Special revenue bonds.....	33	20
Bonds redeemed by future revenues.....	13	14
State assistance.....	26	46
Current general revenues.....	131	
Title VII assistance (Federal).....	58	52
Small Watershed Act (Federal).....	3	
Land and water conservation fund (Federal).....	5	
Direct entrance fees and charges.....	47	10
Private donations.....	89	6

Source: Survey conducted by the International City Managers Association of cities.

C. TREND OF CAPITAL OUTLAYS

1. LOCAL EXPENDITURES

Table X indicates the trend of capital and other expenditures local park and recreation for selected years from 1942 to 1964-65. The table also provides the following information for selected years: (1) total expenditures for local park and recreation; (2) total itures for construction of local park and recreation facilities; (3) capital outlay, expenditure on operations and maintenance, and expenditures for local park and recreation; and (4) total per expenditures for local park and recreation for selected years.

This same material is shown in chart form on chart I.

The chart and table show the dramatic increases in total itures and capital outlays during the 20-year period. Among highlights of this increase are—

Total capital outlay increased over five times from 1963, at an average rate of over \$20 million a year.

Total local expenditures increased over five times from to 1963.

Nonmunicipal (primarily county) capital outlay and expenditures increased significantly during the period.

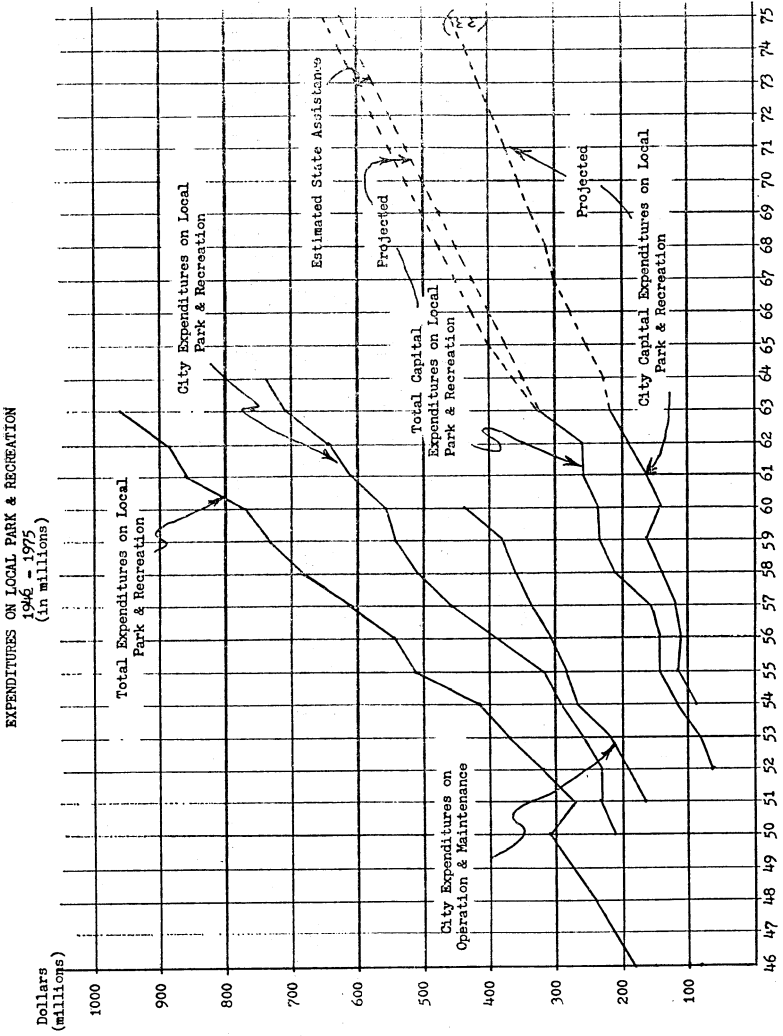
The per capita expenditure more than doubled from 1950 1963.

TABLE X.—*Outlays for local park and recreation, 1942 and 1946-65*
[In million of dollars]

Local park and recreation	1964-65	1963	1962	1961	1960	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1942
Total expenditure.....	1,104	978	886	857	770	729	685	608	541	509	424	374	324	270	304	(1)	243	(1)	179	128
Total capital expenditure.....	360	317	269	254	235	229	205	156	144	142	112	74	63	---	---	---	---	---	---	---
Expenditures on construction.....	266	234	208	189	183	176	152	110	111	108	91	67	52	---	---	---	---	---	---	---
Total city expenditures.....	775	711	640	604	551	540	501	459	420	408	370	324	277	231	222	---	---	---	---	---
Capital outlay.....	224	221	186	157	144	161	140	123	115	118	98	---	---	---	---	---	---	---	---	---
Operations and maintenance.....	551	490	454	446	407	379	361	336	---	---	---	---	---	---	---	---	---	---	---	---
Total per capita (in dollars).....	5.69	5.19	4.77	4.68	4.28	4.13	3.95	3.23	3.08	3.08	2.61	2.34	2.06	---	2.00	---	---	---	---	.95

¹ Not available.

Sources: 1, Census of Governments, 1962, "Historical Statistics on Governmental Finances and Employment"; 2, Statistical Abstract of the United States, 1965; 3, Compendium of City Finances, in 1963, U.S. Department of Commerce.



2. SOURCE OF CAPITAL OUTLAYS

(a) *State Assistance*

Available information indicates that there has been some State assistance for local parks and recreation, at least from 1962 to the present time. Table XI shows the current State assistance programs. Of those programs listed below, New York, New Jersey, and Pennsylvania have expended, obligated, or programed their local assistance funds from 1962 to 1965. Other State programs have obligated part of their funds, but have a balance for future acquisitions. It is noted that New York is preparing a new bond issue which would provide a new source of funds for local assistance.

TABLE XI.—*List of larger State open-space land programs*¹ (November 1964)

[Dollar amounts in millions]

State	Type of program	Total	Local grants	Local grant, percent of land cost
New York.....	Local grant-in-aid, State park acquisition.	² \$100.0	\$45.0	75 percent of non-Federal share.
New Jersey.....	do.....	² 60.0	20.0	50 percent of acquisition cost.
Pennsylvania.....	Local grant-in-aid, State park acquisition; wildlife area acquisition.	² 70.0	20.0	Do.
Connecticut.....	Local grant-in-aid, State park acquisition.	5.0	5.0	50 percent of the non-Federal share.
Massachusetts.....	Local grants-in-aid to communities with conservation commission.	3.2	3.2	Up to 50 percent of total cost.
Rhode Island.....	Local grant-in-aid, State park acquisition: State conservation areas.	² 5.0	(³)	50 to 75 percent of non-Federal share.
California.....	State park acquisition, local grant-in-aid, wildlife area acquisition.	² 150.0	40.0	Up to 100 percent of total cost.
Washington.....	(1) Bond issue program: State park acquisition.	² 10.0	None	
	(2) Motorboat fuel tax: State water oriented facilities and local assistance.	⁴ 15.0	(⁵)	40 percent.
Wisconsin.....	State park acquisition, State conservation areas.	⁴ 50.0	(⁷)	
Florida.....	State park acquisition.....	⁴ 50.0	None	
Minnesota.....	State park and forest acquisition.....	43.0	None	
Ohio.....	State park and recreation.....	² 25.0	None	

¹ "Preserving Urban Open-Space Land—The First Three Years" (mimeo) Urban Renewal Administration, HHFA, 1964, as updated.

² Financed by State bonds.

³ One-third total.

⁴ Estimate.

⁵ One-half total.

⁶ Financed by 1-cent cigarette tax increase.

⁷ 1 grant.

⁸ Financed by excise tax on recreation equipment.

Source: Ann Louise Strong, "Open-Space for Urban America, 1936."

(b) *Federal Assistance*

There are two primary sources of Federal financial assistance for acquisition and development of local parks and open-space land: the land and water conservation fund of the Department of the Interior and the open-space land program of the Department of Housing and Urban Development. Assistance for creating and developing parks in redevelopment areas is also provided by the urban renewal program, administered by the Department of Housing and Urban Development. Other agencies also provide assistance. The Office of Economic Opportunity may pay for part of the cost of labor to redevelop parks under the Nelson amendment, which is designed to train low-skill personnel for useful jobs. The Department of Agriculture has a new

"greenspan" element of the cropland adjustment program which will provide assistance to localities to acquire and conserve farmlands which have been taken out of production in urban areas. Also the Department of Agriculture's Public Law 566 program provides assistance for the purchase of lands around small watershed lakes.

Of these programs, the largest contributor to urban open-space acquisition has been the open-space land program. From 1962 to December 1965, it helped acquire over 75,000 acres of city, county, and special district open-space land. Grants totaled \$33 million, or about 30 percent of total acquisition cost.

As of March 1966, the Land and Water Conservation Fund had made grants of \$896,000, through the States, to localities. Of this total, \$506,000 was for development, and the balance for acquisition cost. The first grant under this program was made in November 1965.

(c) County and Special Districts

County and special district outlays for total park and recreation expenditures and for capital outlays has been increasing at a rapid rate. In 1955 the noncity local expenditure for park and recreation was \$101 million, roughly one quarter of city expenditure. During the same year the noncity capital outlay was only \$24 million, also less than one-fourth of city capital expenditure. By contrast, in 1963, noncity total park and recreation expenditure was \$267 million, about 35 percent of total city expenditure; and noncity capital outlay was \$96 million or 43 percent of city capital outlay. The bulk of this increased activity was accounted for by counties. (See chart I.)

This increase in county activity was reflected in pending applications for open-space land program grants. As of the end of February 1966, pending applications were: \$31 million for cities, \$20 million for counties, and \$9 million for special districts.

(d) Private

Table IX indicates that 89 of 200 communities sending back responses to the International City Manager's survey reported the use of private donations for park and recreation. However, there is some evidence that the value of private donations does not play a large part in local capital development for parks and recreation. A 1960 NRA survey showed only \$7 million in private funds out of a total income of \$505 million reported.

Perhaps the main role of the private sector is in the donation or dedication of land for park and recreation purposes. The Regional Plan Association reported that roughly one-third of the land in the New York metropolitan area had been donated by private groups. In addition, organizations like the Nature Conservancy acquire land and resell at cost to the government.

Another source of local recreation land is by subdivision dedication. Counties have assembled considerable amounts of local parkland by the use of variable density zoning. This permits the developer of a subdivision to place certain dwelling units in greater density on part of the subdivision site on the condition that a certain percent of the land be devoted to park purposes. Ordinarily, this land is of primary use to the residents of the subdivision and is not a substitute for true public parkland open to all regardless of race, color, or place of residence.

3. SOURCE OF FINANCING FOR LOCAL GOVERNMENTS

There has been little borrowing from the Federal Government for public outdoor recreation facilities. However, limited funds have been made available for planning public works under the "Advances for public works planning program," administered by the Department of Housing and Urban Development.

The primary source of local funding has been from taxes, with some use of revenue bonds. (See table IX.) However, the use of bonds seems to be increasing. The NRA reported in June 1965 that the amount of money voted on and approved for bond issues and tax levies in 1964 more than doubled over the previous years: 148 local referendum elections were reported; 124 of these were bond issues, 81 passed, 41 failed and the outcome of 2 was not reported. A total of \$58 million was approved in 75 of the bond issues. Thirty-three of the bonds that failed total over \$40 million.⁴

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

1. ESTIMATED NEEDS

To meet the quantitative standards for the year 1975 outlined previously and the qualitative standards set forth above, would require a total capital outlay of \$17.6 billion for the next decade. This would include the following elements:

Purchase of 1 million acres of urban parks at an average projected cost of \$4,000 per acre.....	\$4, 000, 000, 000
Purchase of 1,000 acres of small neighborhood "vest pocket" parks at \$75,000 an acre.....	75, 000, 000
Purchase of 3 million acres of extraurban county or metropolitan parks and open space at \$3,000 per acre.....	9, 000, 000, 000
Development of 1 million of existing and newly acquired land at \$3,500 an acre. (Includes selected recreation facilities).....	3, 500, 000, 000
Redevelopment and modification of 250,000 acres existing urban parks, recreation areas and facilities to bring them up to quality standards.....	1, 000, 000, 000
Total.....	17, 575, 000, 000

(a) *Basis of Projected Need*

Basic to the first three categories of need listed above are the following factors: Increase in disposable income, mobility, and leisure time should continue to accelerate the growth in demand for outdoor recreation opportunities near urban areas at double the rate of population growth. The 1975 urban population is expected to be 71 percent of the projected national population of 230 million. (This would be 163.3 million.) As demand for recreation is growing, so is urbanization at about 1 million acres a year. It is consuming lands having value for recreation as well as scenic, historic, and conservation purposes at rapidly increasing rates.

Of the existing inventory of city owned parkland of 781,000 acres, a substantial portion is not "user-oriented." The BOR survey and State plans indicate that a large amount of locally owned parkland is actually resource-based and far from major urban concentrations. This acreage is nontransferrable. That is, local parkland in northern

⁴ Arthur Todd, "Highlights of Public Recreation 1964" *Recreation* (June 1965, p. 283).

Michigan cannot meet the requirement for urban parks in Detroit. For this reason, only a portion of 781,000 acres in city and district parks should be counted as meeting the 10 acre national standard. If 150,000 acres in remote portions of Texas, Missouri, and the Mountain States were excluded from the total, the current inventory of user-oriented local parkland would be about 630,000 acres. It is probably even less. Projecting a 1975 need of 1,630,000 acres based on a 10 acre per 1,000 standard for the 163 million 1975 urban population, would produce a deficit of 1 million acres. At \$4,000 per acre, this land would cost \$4 billion during the next decade.

Very few studies have been done on the adequacy of neighborhood and downtown park acreages. However, based on experience to date with the "small parks program" of the Department of Housing and Urban Development, a minimum need of 1,000 acres of small parks is "projected" for congested neighborhood and downtown areas of large cities. Further experience with this program might indicate a larger need. At an average cost of \$75,000 an acre for this premium land, the total cost would be \$75 million for the decade.

The extraurban or metropolitan open space need of 15 acres per 1,000 population is met only in part by the 538,000 acres in county owned parkland.

Much of this land is remote, accessible only for long drives and vacations. Excluding roughly 100,000 acres in nonuser oriented county parks, current extraurban lands would be short roughly 3 million acres to meet the standard of 15 acres per 1,000, based on the national 1975 population of 230 million. At an estimated projected cost of \$3,000 per acre, this acreage would cost roughly \$9 billion.

It is assumed that during the next decade only a portion of total existing and newly acquired parks must be developed to meet priority needs. Once the land is acquired, then it can be developed at a more leisurely pace. If a million acres were developed during the next decade, it might meet at least the most pressing recreation needs. At \$3,500 per acre this would cost \$3.5 billion.

A substantial portion of city parks constructed before 1940 need considerable upgrading. While there is no precise estimate of the condition of these parks, a reasonable estimate might be that 250,000 acres of city parkland may need redevelopment. At \$4,000 an acre, this would cost \$1 billion.

No category of need is indicated here for specific recreation facilities, such as swimming pools and golf courses. There is not enough information about the location, cost and accessibility of private facilities to determine the need for publicly owned facilities.

(b) Capital Needs per Year

The capital needs estimated above would gradually increase each year during the next decade, with an emphasis of land acquisition, minor development, and redevelopment during the early part of the decade, and major land development toward the end of the decade. Early land purchase would reduce the unit cost of land because of escalating prices.

(c) Need According to Size of Community

Probably 75 percent of the need is for communities over 50,000, if the trends indicated in table VI continue. The exception to this

should be small communities which are in large metropolitan complexes. To preserve the quality of their environment, land should be preserved as soon as possible.

(d) *Source of Capital Outlay*

(1) *State*.—It would be reasonable to expect the more populous States to follow the leadership of New York, New Jersey, and California and provide expanded assistance for local park and recreation capital expenditure. This trend should accelerate as reapportionment begins to have a real impact and greater attention is given to the needs of urban areas. It is assumed that the States will provide at least \$200 million during the 10-year period.

(2) *Cities, counties, and special districts*.—Assuming that the capital outlay trend from 1952 to 1962 continues to 1975, a total local outlay of \$5.5 billion from 1966 to 1975 could be expected. This trend is projected on chart I. Thus, by 1975 total local capital expenditures should be \$625 million.

The county and special district capital outlay should assume a constantly larger proportion of this total, consistent with the trend from 1952 to 1962. Thus, by 1975, the county and special district expenditure might be \$170 million.

City outlay should continue to rise at a slower rate than total capital outlay, totaling \$455 by 1975.

It is believed that total projected capital outlay would bear a consistent relationship with total local expenditure for local park and recreation, assuming the continued upward trend of per capita expenditure for local park and recreation of the last decade. From 1950 to 1963 per capita expenditure increased from \$2 to over \$5. A reasonable extension of this growth would be to \$7 by 1975. Based on the expected 230 million population by 1975, the total local park and recreation expenditure for that year would be around \$1.6 billion. The \$625 million capital outlay projected for that year would be 38 percent of the total projected expenditure. This ratio of capital to total outlay is consistent with the earlier trends. In 1952, it was only 20 percent of the total; in 1962 it was 33 percent of the total.

TABLE XII.—*Projected local capital outlays for local park and recreation, 1966–75*

[In millions]

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Total, local ..	\$400	\$425	\$450	\$475	\$500	\$525	\$550	\$575	\$600	\$625
City	275	290	305	330	355	375	390	415	430	455
Other	125	135	145	145	145	150	160	160	170	170

(3) *Profitmaking organizations*.—Profitmaking groups are expected to continue to meet a major part of the demand for golf courses, beach facilities, and swimming pools. However, they would continue to serve users with high mobility and ability to pay.

(e) *Sources of Financing for Local Government*

It is assumed that appropriations from tax resources will continue to play a key role in meeting the local part of the total capital outlay during the decade. However, bond issues should play a more impor-

tant role than they have in the past. Currently, there are no major programs available to provide loans from the Federal Government for park land. The only program is the recently enacted advance acquisition of public facilities program. To date there has been no experience with it. Loans are available to private recreation businesses under various programs and to farmers for providing income-bearing recreation facilities. But they are beyond the scope of the program.

Gifts and bequests could play a role in acquisition of land, particularly with the use of tax incentives.

CHAPTER 31

Rural Outdoor Recreational Facilities*

A. NATURE AND COMPOSITION OF FACILITIES

1. THE PRIVATE RECREATION BUSINESS: DESCRIPTION OF FACILITIES

Physical characteristics of privately owned recreation facilities vary from rustic to contemporary; from rundown and outdated to new and ultramodern. Observations show that the present surge of demand is causing revolutionary changes in the physical plant. In northern Wisconsin, for example, the changing pattern of demand is creating problems for the older, small resorts designed to serve families vacationing there for 1 or 2 weeks. Vacationers are now more mobile. They stay for shorter periods and they want more luxuries. As a result, motels, and facilities designed to serve a very transient trade are needed to fit the new demands.

Another general change is demonstrated by the growth of facilities designed to serve the recreation needs of all ages in the family. Thus, a family may stay in a campground, a resort, or a motel which offers certain types of facilities but which depends on other off-property facilities for the variety of recreation desired by families of mixed ages, sexes, and recreational interests.

While the growth or even the overall importance of recreation enterprises has not yet been measured, it is evident that private enterprise is more directly involved in providing some kinds of recreational opportunities than others. For example, farm vacation and sky diving opportunities are generated almost entirely within the private sector.

Interests of the private sector in providing recreation facilities generally fall into four categories depending upon the motives involved. First and probably foremost is the profit motive. It is estimated that about two-thirds of all recreation facilities provided by private interests are profit-oriented business ventures. The second most important motive is to provide recreation for groups such as members of private clubs. Another is social welfare, educational, youth or religion oriented which relates outdoor living experiences with particular group programs. The fourth is reflected by private industries which provide recreational facilities as added fringe benefits to their employees or for public use as part of goodwill and public relations programs.

Demand for outdoor recreation is growing. It will continue to grow. The ORRRC report, *Outdoor Recreation for America, 1962*, predicts an estimated threefold increase in demand for recreation during the 40 years between 1960 and 2000.¹ Increased efforts by

*Prepared within the Economic Research Service, U.S. Department of Agriculture with minor editing by committee staff. The authors were Judith M. Huff, Hugh A. Johnson, Gary C. Taylor, and J. Patrick Madden.

¹ Outdoor Recreation Resources Review Commission (ORRRC). *Outdoor Recreation for America*. Government Printing Office, January 1962. P. 5.

private and public sectors will be required to meet the surging demand for a widening variety of recreational opportunities. Neither sector will be able to supply the needed facilities by itself. But between them, they can provide sufficient quantities and satisfactory qualities of recreation opportunities for the American people. Private investment and private enterprise can complement public efforts as public efforts can complement private ones. On the other hand, it is equally possible for the two sectors to be in competitive positions. It is precisely this magnitude, diversity and quality of recreation needs which require that public and private sectors act cooperatively. Projects planned by each sector can be closely related and interdependent. Cooperation between the two sectors will help to insure that recreation developments are complementary, not competitive, and may result in a more concentrated supply and a wider range of recreational opportunities.

Private Land Resources for Recreation—More than 70 percent of the land area within the contiguous 48 States is in private ownership.² Private land ownership is prevalent in regions where population, and consequently demand for outdoor recreation, is greatest. Federal and State lands account for only 8 percent of the land area in the Northeast and 2 percent in the Corn Belt. These data contrast sharply with the 48 percent of Federal and State ownership in the Pacific States and 57 percent in the Mountain States. These proportions reflect the suitability of lands for varying purposes which help explain why western areas are renowned for providing certain wilderness and other extensive recreation experiences at National Parks and Forests and, conversely, why pressures for private development of new recreation facilities are occurring in eastern areas.

Many privately owned forest lands and farms, idle or of declining agricultural importance, are located near densely populated regions of the Nation. Technological changes now permit conversion or even multiple-use of these lands for recreation. The fortuitous location of some of these lands relative to population centers provides unique opportunities for developing private land resources to satisfy recreation needs.

A study of potential new sites in 10 Northeastern States showed a substantial number of holdings physically suited for outdoor recreation.³ Within a 25-mile zone outside of suburban developments, the land was about 55 percent forest, 9 percent idle, 7 percent pasture, and 29 percent cropland and other uses.

Five types of recreation sites were defined. These five types were headwater or ridgetop; gorge and ravine; stream, river, lake or pond frontage; small stream or brook; and potential pond site.

One or another of these sites occurred within the 25-mile zone once per 129 acres of forest land, once per 258 acres of idle land, and once per 320 acres of pasture. The frequency with which these sites occurred in the outer zone was once per 132 acres of forest, once per 303 acres of idle land, and once per 645 acres of pasture.

This study emphasizes the existence of potential resources for outdoor recreation near urban concentrations where the demand for

² ORRRC, "Hunting in the United States—Its Present and Future Role." ORRRC Study Report 6. Government Printing Office, 1962, table D-26.

³ ORRRC, "Potential New Sites for Outdoor Recreation in the Northeast." ORRRC Study Report 8. Government Printing Office, 1962, pp. 33-35.

recreation is greatest. It suggests that the major problem revolves around the utilization of this potential, rather than its existence.

2. EXISTING CAPITAL PLANT

(a) *Sources of Data.*—Two unpublished manuscripts provided much of the data used in this chapter. The older report, entitled "The Role of the Private Sector in Outdoor Recreation," was developed by a six-man study group of Federal employees appointed by the Recreation Advisory Council (RAC) to develop data and source material as background for a RAC policy statement. This draft manuscript, hereafter called the "RAC study report" was dated December 14, 1964. The second manuscript, entitled "Private Sector Study of Outdoor Recreation Enterprises," is a report of a nationwide survey prepared by a private firm, Chilton Research Services, under contract with the Bureau of Outdoor Recreation (BOR), U.S. Department of the Interior. This source is hereafter called the "Chilton report." No other analysis or inventory of the private recreation sector on a nationwide basis is available.

(b) *Private Outdoor Recreation Enterprises.*—The sample survey conducted for the Bureau of Outdoor Recreation indicates that there are about 132,000 outdoor recreation enterprises in the private sector. The regional distribution of these enterprises, by Census Division, is shown in table 1.

The regional enterprise percentage distribution, when compared with the 1960 regional population distribution, is considerably lower in the middle Atlantic and east south central regions and considerably higher in the west south central and mountain regions. The proportion of enterprises in the west south central is high, partly because many ranches offering deer hunting were reported there.

TABLE 1.—Comparison of regional distribution of outdoor recreation enterprises in 1965 with 1960 population

[In percent]

Region	Regional distribution	
	Recreation enterprises	Population
New England.....	5.0	5.9
Middle Atlantic.....	13.0	19.0
East north central.....	19.9	20.2
West north central.....	10.6	8.6
South Atlantic.....	15.8	14.5
East south central.....	3.0	6.7
West south central.....	14.5	9.5
Mountain.....	8.3	3.8
Pacific.....	9.9	11.8
U.S. total.....	100.0	100.0

Source: Chilton Research Services, Private Sector Study of Outdoor Recreation Enterprises, text table A, ch. II, p. 2, 1966.

In about one out of every three recreation enterprises less than \$5,000 had been invested. Between \$5,000 and \$24,999 was invested in about 46 percent of the enterprises; \$25,000 to \$99,999 was invested in about 23 percent; more than \$100,000 was invested in about 14

percent of the enterprises. The estimated value of capital investment in outdoor recreation enterprises is shown below: ⁴

Value of investment:	Percentage of recrea- tion enterprises
Under \$500.....	14.8
\$500 to \$999.....	6.2
\$1,000 to \$4,999.....	13.8
\$5,000 to \$9,999.....	11.0
\$10,000 to \$24,999.....	15.2
\$25,000 to \$99,999.....	22.8
\$100,000 to \$500,000.....	10.3
Over \$500,000.....	3.5
Uncertain.....	2.4

About 44 percent of the enterprises offered multiple activities, at least one of which was water based.⁵ Fourteen percent offered only a single water-based activity. About 21 percent of the enterprises offered multiple activities, all of which were land based, and about 16 percent offered a single land-based activity.

The 15 types of recreation enterprises, classified on the basis of their "dominant" activity or facility, are listed below.⁶ These 15 types accounted for about three-fourths of all recreation enterprises. The remaining 25 percent was scattered among 48 other categories of enterprises.

Recreation enterprise:	Percent of all recreation enterprises
Swimming pool.....	14.8
Hunting—big game.....	8.5
Land-based facilities.....	6.2
Water-based facilities (multiple facilities).....	5.9
Golf course, golf and country club.....	5.5
Fishing, warm water.....	5.1
Resorts and hotels.....	4.9
Playfield.....	3.9
School fields (other than stadiums).....	3.8
Cabins, cottages.....	3.7
Picnicking.....	3.1
Motels.....	2.9
Fishing, cold water.....	2.4
Swimming beach.....	2.1
Horseback riding (including pony rides).....	2.0
Other.....	25.2
Total.....	100.0

The forms of ownership of these enterprises were reported as follows: ⁷

Form of ownership:	Percent
Sole owner.....	33.2
Co-owner or partnership.....	26.3
Corporation.....	21.6
Cooperative association.....	7.0
Voluntary—quasi public.....	11.8
Miscellaneous.....	.1
Total.....	100.0

⁴ Chilton report. Table 42, p. 52.

⁵ Chilton report. Table 5. P. 9.

⁶ Source: Derived from the Chilton report. Table 3. Pp. 3-5.

⁷ Source: Derived from the Chilton report. Table 2. P. 2.

Relative to urban proximity, the greatest concentration of facilities such as swimming pools, bicycling, golf courses, drive-in movies, playfields, and sports stadiums, was reported in "primary county in a metro area."⁸ However, the majority of the facilities were located in "nonmetro counties contiguous to a metro area" or in "counties with one county separation from a metro area." This was particularly noticeable for activities generally located in rural areas such as swimming beaches, boating, fishing, horseback riding, camping, picnicking, hunting, and hiking.

Resident organized youth camps and adult camps tended to be located in "nonmetro counties contiguous to a metro area," although the second most frequent locations were within the "primary counties in a metro area." Cabins, cottages, motels, hotels and other lodgings used as recreation enterprises tended to be located further away from the metro areas. Vacation farms are definitely of rural character.

(c) *Recreational Facilities of Nonprofit Groups and Individuals.*—Civic, church, and youth groups commonly provide recreation facilities at or below cost. Membership in or affiliation with such groups afford opportunities for many people to participate in recreation activities. These groups usually sponsor programs of an educational nature which encourage appreciation of the natural environment, stress the need for conservation, and emphasize the importance of sound resource management.

Individuals and private nonprofit organizations have long been engaged in acquiring and maintaining land to preserve and conserve natural areas and recreation resources. Substantial amounts of land have been donated by individuals to government and private nonprofit conservation organizations. Approximately 15 percent of the acreage in our national park system was donated by individuals.⁹ Donations of individuals and organizations represent contributions in excess of \$50 million.

The efforts of conservation groups and foundations and nonprofit recreation programs of numerous industries should also be considered in this framework. Well-known groups such as the Nature Conservancy, the Izaak Walton League, the National Wildlife Federation, Ducks Unlimited, and others directly or indirectly affect the conservation and development of recreation resources.

Most of the major commercial forest-owning corporations allow free use of their forests and waters for suitable recreation purposes. Arrangements are sometimes made for public agencies to regulate and supervise recreation use of these lands. Some timber owners welcome recreation uses, such as hunting, which help to control destruction caused by wild game. These positive values are weighed by the owners against the constant dangers of recreationist-caused fires, damage to facilities, vandalism, and other possible risks from allowing free recreational use of their properties.

⁸ Derived from the Chilton report. Table 78. Pp. 92-97.

⁹ Recreation Advisory Council Study Group No. 3. The Role of the Private Sector in Outdoor Recreation. December 1964. P. 61.

An unpublished survey made in 1964 by the Soil Conservation Service showed that private rural-urban groups, primarily nonprofit types, owned or leased more than 39 million acres of land and water for recreational purposes.¹⁰ More than 51,000 groups were involved, and their memberships totaled nearly 9 million people. The lands leased by these groups belonged to more than 47,000 owners, more than half of whom received income for the leases.

Information about real estate investment in these lands is unavailable. But assuming that the average acre is worth \$100, the value of these 39 million acres would approximate \$4 billion. No information is available about the value or capacity of recreation facilities provided on these 39 million acres.

Neither is information available about the number, value, or services provided by other private, nonprofit facilities such as cooperative swimming associations, tennis and golf clubs, hunt clubs, and many others.

B. COSTS AND USER CHARGES

1. CAPITAL AND OPERATING COSTS

Construction costs for recreation facilities vary according to the size, shape, and quality of the structures utilized. Generally, construction costs for recreation facilities need not be more expensive than those for comparable commercial, industrial, or residential uses. A minor exception might arise from the need for safety features required by regulation due to public use of specific facilities.

Similarly, a great range exists in capital invested in various enterprises. It is easier, financially, to enter some types of recreation businesses than others. Some require little capital outlay. For example, a farmer can start a vacation farm enterprise using resources already available, whereas a shooting preserve requires investment in specialized equipment and facilities. Capital investment for recreation increases as the size of the operation increases and as specialized services are provided.

The range in value of capital investments for certain types of recreation enterprises in selected States is shown in table 2.¹¹ Income, expenses, and net returns are also shown.

Only about 60 percent of the enterprises showed a positive return to family labor and management after allowing a 5-percent return on capital investment. Guide services, hunting areas, and youth camps most often showed a positive return to family labor and management. The first two yielded supplementary income with small capital investment. The latter required considerable capital investments and management ability. Most of these enterprises had been in operation for 5 years or more. During this period, the successful operators had expanded demand for their ventures through satisfactory services and advertising.

¹⁰ RAC study report, p. 65.

¹¹ Bird, Ronald, and Inman, B. T., "Income Opportunities for Rural Families from Outdoor Recreation Enterprises," U.S. Department of Agriculture, AER No. 68, March 1965, pp. 7-8.

TABLE 2.—*Investment, income, and expenses for recreational enterprises in Arkansas, Missouri, New England, Ohio, Oregon, and South Carolina, 1962*

Enterprise	Number reported	Capital investment		Annual cash income		Annual cash expenses ¹		Net cash income		Return to management and family labor ²	
		Average	Range	Average	Range	Average	Range	Average	Range	Average	Range
Fishing lake (warm water).....	35	\$14,379	\$3,250-\$48,320	\$1,254	\$55-\$7,000	\$716	\$20-\$5,049	\$538	-\$260-\$2,200	\$181	-\$1,160-\$1,426
Fishing lake (trout water).....	10	39,267	1,626-105,100	9,953	450-30,000	6,426	52-26,021	3,527	28-7,665	1,564	-1,740-4,830
Guide service.....	8	1,750	0-7,500	2,301	500-3,450	8,807	4-4,660	1,404	238-2,740	1,406	-1,106-3,469
Vacation farm or dude ranch ³	12	50,277	9,365-130,000	7,034	400-35,500	5,322	54-27,936	1,712	-600-2,564	-302	-1,100-1,757
Vacation farm ⁴	7	206	0-960	7,757	42-2,650	413	54-1,325	1,344	-12-1,325	334	-75-2,322
Hunting area.....	22	3,250	0-23,000	2,170	75-11,000	1,261	0-6,950	909	75-3,850	746	75-2,557
Shooting preserve.....	10	62,728	11,750-152,850	20,877	2,500-50,600	17,386	4,953-45,000	3,401	-3,440-14,800	355	-8,050-11,023
Campground.....	19	12,262	1,205-\$4,800	2,184	125-5,600	17,575	0-2,502	1,809	-445-7,859	-508	-1,216-7,184
Picnic area.....	8	15,047	700-\$3,150	446	50-1,468	292	6-857	214	150-192	508	-3,955-692
Riding stable.....	15	17,644	5,115-40,000	4,369	400-21,000	2,353	368-6,200	2,016	-2,200-13,210	1,134	-3,985-13,210
Youth camp.....	6	69,147	7,460-140,000	25,472	6,300-55,000	17,124	3,270-44,280	8,048	3,080-23,090	4,891	1,215-16,880
Minnow farm.....	11	67,316	2,490-503,000	19,000	500-10,000	10,448	34-31,400	8,061	-265-68,000	4,063	-378-43,430
Boat rental.....	9	32,719	3,300-51,500	10,350	325-37,000	7,681	210-52,705	2,059	115-5,464	1,053	-835-3,460
Real estate development.....	4	13,386	4,850-21,240	9,569	3,500-14,700	1,385	345-2,682	8,174	2,255-13,286	7,505	1,193-12,676
Recreational complex.....	4	90,180	28,850-223,500	27,025	2,530-87,500	18,770	1,045-61,400	8,255	1,505-26,100	3,746	-1,670-14,925

¹ Includes annual cash expenses including property taxes. No depreciation expense is included.² Annual income less annual expenses and a 5-percent charge for invested capital.³ Major use of farm or ranch.⁴ Secondary use of farm.

Most of the businesses returned less than \$10 a day to management and family labor. Part-time enterprises provided supplementary incomes for many farmers on an investment of less than \$15,000. But the full-time efforts of at least one worker and an investment of over \$50,000 were required for an income sufficient to support a family. This investment is comparable to that required in many types of farming.

Experience with enterprises.—Six types of recreation enterprises are briefly discussed to demonstrate the variety of situations represented.¹²

Fishing waters include streams, lakes, ponds, reservoirs, and tidal waters. There are wide variations in the type of services offered by fishing enterprises. Some operators merely place a money receptacle at the entrance of their farm pond or stream where the user deposits a fee. There is no regular attendant, and the cost of operation is small, as are the returns. At the other extreme is the specialist who has separate ponds or lakes for trout and for warm-water fish. Ponds are stocked regularly. The operator may also rent boats and sell bait, cold drinks, sandwiches, and tackle. A picnic area may also be provided.

Capital required for building a farm pond or lake varies from a few thousand dollars to more than \$50,000, depending on the size, the value of the land, and the facilities developed to accommodate the fishermen. In the Arkansas study, cost of construction averaged \$175 per surface acre of water.

A fishing guide service consists of guiding individuals or parties over large bodies of water. The customer is provided with a guide, boat, motor, tackle, and necessary supplies. The capital requirements for guide services are not large. Many camps that cater to fishermen and hunters provide guides as an added service. The usual fee for guide services is about \$1 an hour.

Commercial shooting preserves provide facilities where domestically bred gamebirds are released for fee hunting. An analysis of 10 shooting preserves in 4 States showed that those having net returns to family labor and management of more than \$4,000 had capital investments of over \$40,000.

Nineteen private campgrounds in three States showed that receipts from camping fees alone did not cover operating costs and depreciation. These operators sold food and camping supplies or provided other services for a fee to their customers. They usually had a few cabins for rent. Some campgrounds cater to the transient trade, and fees are usually higher than those charged at vacation grounds because special facilities such as showers, laundries, and snack bars have been added.

Riding stables in six States were analyzed. The most successful businesses were located near population centers or large recreation complexes. Stables near public riding trails had the highest intensity of use and the lowest capital investment. When stables were located near a suburb and the operator used his own land for trails, his major investment was in land. To cover the high fixed cost on this type of enterprise the facility had to be intensively used. Riding school

¹² Bird and Inman, pp. 9-16.

operators often supplemented their incomes by training and boarding horses.

Children's camps commonly have a 4-week program, and 2 sessions are usually offered during the summer. The average fee in 1961 for privately operated camps was \$300 for a 4-week session. The average camp reporting handled 120 children per session. An operation of this size requires a capital outlay of \$100,000 to \$200,000 to insure adequate facilities. Well-managed camps may be operated at a profit.

Other studies by the Economic Research Service, the Forest Service, and other research groups in various parts of the United States tend to bear out and expand upon results of the research reported above by Bird and Inman. Many enterprises have been unprofitable; relatively few have been profitable. Operators of unprofitable enterprises were usually inexperienced and often had misjudged demand for their facilities. Recreation enterprises, to be successful, must be well managed, provide adequate facilities, be reasonably close to population centers, and be well advertised.¹³

2. USER CHARGES

The growing pressures for land and the resulting trends toward a more widespread application of fees for recreational use of land are discussed below.

Traditionally, private entrepreneurs have provided many of the facilities and services to those seeking outdoor recreation. Many outdoor recreation opportunities have been associated with a wide range of personal needs that have traditionally been provided through the private market. These have included facilities for a variety of outdoor sports and activities that have changed and varied with personal tastes.

Historically, individuals have made free use of the extensive private wild lands, including those of farmers and timber companies. Now with our increasing population, growth of urban regions, and proliferation of commercial development over the countryside, these opportunities are rapidly diminishing. Former recreation areas, pastoral countryside and wild lands are being preempted by other uses. Much of our remaining private lands are becoming posted and the public denied access. This later trend is due, in part, to the development of vacation homes and private clubs, and to the sheer numbers threatening the interests of the private landowner. At the very time that demands by the public for outdoor recreation opportunities are soaring, the opportunities are becoming more and more restricted.¹⁴

Fees for services rendered are necessary for private recreation enterprises to operate at a profit. Nonprofit groups and corporations may operate recreation facilities without direct charges for their use, but the operating costs still must be met from contributions, donations, or levies on funds from other departments. Several industrial corporations charge their free recreation services to public relations and advertising.

¹³ Selected research reports reflecting these results include:

Davis, Jeanne M. *Farm Vacation Enterprises in Ohio*. U.S. Dept. Agr., ERS-164. May 1964.
Johnson, Hugh A. *The Role of Recreation Enterprises in Rural Areas*. In *The Outdoor Recreation Phenomenon*. N.Y. State College of Agriculture, Cornell U., Ithaca. 1964.
McCurdy, Dwight R. and Michon, Raymond M. *A Survey of Ohio's Forest Picnic Businesses*. U.S. Forest Serv. Res. Note CS-37. 6 pp. illus. July 1965.

McCurdy, Dwight R. *The Forest Recreation Provider—Who Is He?* J. Soil and Water Cons. 20 (3) May-June 1965.

¹⁴ RAC study report, p. 2.

Whether or not charges should be made for recreation on public lands has been argued pro and con for many years. Growing pressures on all recreation resources and growing realization of the economic interrelationships between public and private recreational facilities and services have been factors tending to predispose public recreation agencies toward more widespread use of fees for the use of recreation facilities. Recent legislation, such as the Land and Water Conservation Fund Act of 1964, is indicative of the growing acceptance of this practice.

Complaints from private investors about competition from free public facilities have added impetus to public policy decisions to require fees for an increasing array of services and facilities. Judging from current trends, fees for the use of public facilities will become increasingly important in the future. These, in turn, can encourage profit-motivated private investors to develop recreation enterprises. However, it should be emphasized that the proper or desirable roles of private and public recreation developments are poorly defined. Studies are needed to determine the multiplier effect of public investments in various recreation facilities, how they encourage complementary private development, the role of concessionaires in the desired composite pattern of development, and related economic problems.

The level of fees and charges for various kinds of recreation varies widely depending on the quality of the specific services offered, as well as the general location of the recreation enterprises, the degree of competition, and whether the firm is profit or nonprofit oriented.

Fully one-third of the firms operating recreational enterprises, covered in a survey, made no charges for recreational use of their facilities.¹⁵ In addition, an unknown number of nonprofit, quasi-public, and cooperative groups may have assessed only nominal charges for services, but have operated essentially on a nonprofit basis.

In two out of three enterprises, charges were made for recreational opportunities. Average dollar charges for 14 separate kinds of services and for situations where a single charge was made covering many types of services are shown in table 3. These are nationwide averages and may bear little relationship to fees charged in a single region or by a single firm.

¹⁵ Chilton report, table 34, p. 40.

TABLE 3.—Average user charges for specific recreation facilities or services

Specific service or method of charging fees	Number of enterprises reporting	User charge per person per—			User charge per party per—				User charge per car per—		
		Hour	Day	Visit	Hour	Visit	Day	Week	Visit	Day	Hour
Boating.....	10,746				\$1.22		\$4.47	\$45.50			\$1.14
Lodging.....	7,855		\$3.02	\$9.16			7.70	12.11			
Camping.....	6,899		1.25				2.58			\$1.00	
Fishing.....	5,851		2.37	6.61	.84		2.91				
Picnicking.....	4,102		.65	.53			4.42			.85	
Swimming.....	3,877		.69	.54			3.09				
Horseback riding.....	2,098	\$1.75	6.00	.99							
Golfing.....	2,022					\$1.66	2.36				
Entrance.....	1,371		.55	.69			1.00			.62	
Hunting.....	1,049		11.50	120.00			7.48	33.84	\$0.52	.67	
Parking.....	941				1.00						
Hayride.....	117	1.01									
Playfields.....	106			.50							
Skiing.....	74		1.00								
Single fee for all services.....	71,864	3.49		1.85		7.34					

Source: Adapted from table 35, "Private sector study of outdoor recreation enterprises," Chilton Research Services, manuscript for Bureau of Outdoor Recreation, 1966.

C. TRENDS IN CAPITAL OUTLAY

Total capital investment in recreation facilities and related services has been increasing rapidly for several years. Several indexes may be used: Sales of boats and motors, trailers, camping equipment; sales of licenses; attendance data; construction of motels, ski facilities, second homes; gasoline sales, and others.

Data indicative of the recreation pattern of specific types of recreation activities are given below.¹⁶ The estimated number of recreational boats in use grew from 2.4 million in 1947 to 7.8 million in 1965. Total retail sales income from boat sales, motors, equipment, club memberships, and services for 1965 was approximately \$2.7 billion. There are 4,000 private marinas in the country, providing slips for 3 million boats. These marinas grossed approximately \$300 million in 1965. Private yacht clubs, numbering 1,300, grossed approximately \$180 million for the same period.

It is estimated that the number of travel trailers in use in 1968 will be 1 million—2½ times as many as in 1964.¹⁷ Increases in pickup coaches and tent trailers will be substantial too. In 1964, there were 120,000 pickup coaches in use and 45,000 tent trailers, almost all acquired since 1960.

The rental of small, rural cabins or cottages for family vacations is becoming very prevalent. Vacation farms and dude ranches are growing in numbers. This kind of vacation opportunity has always been and still is almost wholly provided by the private sector.

The 1960 National Survey of Fishing and Hunting found that the number of hunters has increased 19 percent from 1955 to 1960, with the largest increase in big game hunting.¹⁸ More women are hunting than ever before; their numbers more than doubled during the same period. Economic data on hunting equipment also demonstrates the increased interest in hunting. Sales of shotguns increased 7 percent from 1954 to 1958 and of rifles 38 percent.¹⁹ A 40-percent increase in gross receipts of all sporting goods stores occurred between 1954 and 1958. While gross expenditures for hunting in 1960 were up 14 percent over 1955, the number of recreation days per hunter was slightly lower, as were the number of trips, but the length of trips increased.

Private land now produces 80 percent of the game and includes 85 percent of the habitat that can be economically improved and managed for hunting.²⁰ The potential for hunting on private lands is great; however, the lack of fees to compensate for economic losses may restrict the amount of private land made available to hunters.

In 1964 the National Golf Foundation reported 6,804 regulation golf courses and 673 par-3 courses.²¹ Fifty percent of these were private country clubs where 20 percent of the Nation's golfers played. Private commercial courses accounted for 35 percent of the golfing facilities which accommodated 35 percent of the golfers. Public facilities

¹⁶ Unpublished 6-page information sheet prepared by the National Association of State Parks Directors, Dec. 10, 1965, p. 4.

¹⁷ RAC study report, p. 78.

¹⁸ 1960 National Survey of Fishing and Hunting. U.S. Department of the Interior, circular 120. Sep-tember 1961.

¹⁹ RAC study report, p. 89.

²⁰ RAC study report, p. 85.

²¹ RAC study report, p. 86.

represented only 15 percent of the courses, yet handled 45 percent of the golfers. These data indicate the importance of private commercial ventures and the significant role played by municipal areas in supplying golfing facilities. At present, more than half of the 7 million golfers are being served by the private sector. Over 750,000 persons took up the game for the first time in 1963. There are now 40 golfers per thousand population as compared with 16 in 1936. Thus, the growth of golf participation is far greater than the population growth. In this same period the sales of golfing equipment went from \$11 million to \$130 million per year. This growth will be strengthened by the broader market for variants of the game such as par-3 courses, driving ranges, and miniature golf courses, as well as for standard golfing facilities.

Financing.—Generally, 1 out of 3 operators had borrowed to finance the development of the outdoor recreation enterprise.²² A sample survey representing approximately 45,000 operators reported the sources from which money was borrowed to finance development. The following sources of all loans were utilized:²³

Source of loans	Percent ¹
Banks.....	69.9
Friends or relatives.....	15.6
Private lending agency.....	15.7
Federal Government agency.....	4.1
Other governmental agencies.....	.2
Other private or nongovernmental.....	4.0
Don't know.....	.4

¹ Note: Adds to more than 100 percent because some operators used more than one source of credit.

The most frequent size of loans for recreation enterprises was between \$25,000 and \$99,999.²⁴ Only 4.1 percent of the loans were obtained from Federal agencies. Of these, loans from the Small Business Administration tended to be in higher amounts (62.2 percent being \$25,000 or more), while Farmers Home Administration loans were concentrated in the \$10,000 to \$24,999 range (60.2 percent). Federal Land Bank loans were concentrated in small loans ranging from \$1,000 to \$4,000.

The Farmers Home Administration reported that as of May 1, 1966, it had made 794 loans for recreation purposes totaling \$30,188,599. This was broken down into 546 loans to individual farmers, totaling \$3,419,359, and 248 loans to nonprofit associations and public bodies totaling \$26,769,240. The money for the greater part of these loans was put up by private investors and insured by the Federal Government.

These loans covered a broad range of recreation facilities, including vacation farms, cabins and cottages, picnicking, sports and camping areas, swimming facilities, golf courses, winter sports, horseback riding, fishing, boating, travel trailer parks, hunting preserves, pack services for big game hunting, youth camps, trap shooting, nature trails, bait farms, marinas, ball fields, fairgrounds, and one rodeo grounds. The average loan to an individual was \$6,262; the average loan to an association was \$107,940.

²² Chilton report. Table 43, p. 53.

²³ Source: Derived from the Chilton report. Table 44, p. 54.

²⁴ Chilton report. Table 46, p. 57.

The Area Redevelopment Administration (ARA) had, as of June 30, 1964, extended \$27 million in loans to retail and service businesses related to recreation and to recreation enterprises.

The Rural Electrification Administration approved two loans totaling \$133,000 for electric cooperatives to relend to their consumers to help finance electrical equipment for commercial winter recreation resorts.

Concessionnaires have been asked by the National Park Service to invest around \$70 million over a 10-year period.²⁵ There are over 1,000 public service businesses owned by concessionaires operating under special-use permits in the national forests.²⁶ These businesses have annual net sales of about \$60 million and represent a total of \$100 million in capital investment. In 1960 the National Planning Association conducted a thorough examination of the concession system and concluded that the private sector is by far the most promising potential source of new funds for recreation facilities. State and local agencies have tended to rely much less than Federal agencies on the private sector in financing and managing facilities. However, State and local agencies may increase their efforts to interest private investors as the pressures for recreation facilities increase and additional capital outlay is required.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

The potential for the private sector in providing outdoor recreation to the public is, in general, high.²⁷ However, this potential varies greatly, with the kind of recreation provided, the area involved, and will depend to a considerable extent upon what public policies are followed, especially by State and local governments.

About half of the private outdoor recreation enterprises surveyed reported a capital investment of less than \$13,000.²⁸ Also, about 23 percent of the enterprises planned to expand their facilities within the next 5 years.²⁹ The types of facilities mentioned most frequently were lodging, picnicking, swimming, and camping. Eleven percent of the enterprises with decreased patronage planned additions or expansions of facilities in the next 5 years compared to almost 30 percent of those with increased patronage.³⁰

One should be cautioned against overoptimistic projections. Nineteenth of the enterprises reported on the relationship between capacity and number of visitors. Of these, 62 percent reported underuse of facilities on weekends, other than holiday weekends, during the 1964 season.³¹ Average underuse was about 52 percent. Fourteen percent of the enterprises reported overuse of facilities, and 24 percent operated at capacity. Of the enterprises that could not have handled more people, about 64 percent reported that they did not lose or turn away people.³²

²⁵ RAC study report, p. 68.

²⁶ "Outdoor Recreation in the National Forests." Forest Service, USDA, Agriculture Information Bulletin 301. September 1965, p. 71.

²⁷ RAC study report, p. 113.

²⁸ Chilton report, p. 8.

²⁹ Chilton report. Table 29, p. 34.

³⁰ Chilton report. Tables 27 and 28, pp. 32-33.

³¹ Chilton report. Table 19, p. 24.

³² Chilton report. Table 21, p. 26.

No single published statistic of the capital investment in rural outdoor recreation facilities is known to exist. A rough approximation, based on estimates derived from calculating midpoint values for data from which the text table on page 561 was derived, was utilized to develop a basis for estimated capital investment in 1966 and 1975.³³ Considerable range for error existed, due to the way the basic data for the frequency distribution were collected. From these calculations, \$9 billion was derived as the approximate private capital investment in outdoor recreation enterprises in 1965.

Discussion with informed personnel indicated that the survey data probably had a statistical standard error of about 10 percent. For projecting estimated capital investment to 1975, a range of ± 2 standard errors (± 20 percent) was suggested. Thus, a low level estimate of \$7.2 billion and a high level of \$10.8 billion were used as parameters.

Among basic assumptions provided by the staff of the Joint Economic Committee for making projections were that gross national product would grow at a rate of 5.5 percent and gross private domestic fixed investment at 4.5 percent from 1966 to 1975. Consultation with knowledgeable persons provided agreement that an average annual private capital investment in outdoor recreation facilities at about 5 percent was reasonable. Among factors considered were: that private capital investment in recreation facilities probably is growing slightly faster than the average of all fixed investments; much of the significant capital investment will be in large-scale corporate, multi-use types of recreation facilities as contrasted to the larger numbers of small facilities; facilities for recreation need not grow as rapidly as GNP because a general tendency to overbuild with a resultant underutilization of facilities will be less likely to occur under large-scale corporate management.

Using the above assumptions for the low-level estimate of \$7.2 billion capital investment in 1965 and the assumed 5-percent average annual rate of increase produced estimated investments of \$7.5 billion in 1966 and \$11.7 billion in 1975.

Using the high-level estimate of \$10.8 billion in 1965 produced estimated capital investments of \$11.3 billion in 1966 and \$16.6 billion by 1975.

The increase from 1966 to 1975 based on the low-level estimates would be \$4.2 billion and based on the high-level estimate would be \$5.3 billion.

³³ Chilton report. Table 42, p. 52.

CHAPTER 32

Neighborhood Centers for Recreation, Health, and Social Services*

INTRODUCTION

This chapter is a summarization of the material gathered by the National Social Welfare Assembly from the following affiliated agencies: Boy Scouts of America, National Council; Boys' Clubs of America; Girl Scouts of the U.S.A.; National Federation of Settlements and Neighborhood Centers; National Jewish Welfare Board; Young Men's Christian Associations of the United States of America (National Council of); and Young Women's Christian Association of the United States of America.

The material is presented with certain qualifying information and remarks which have seemed necessary to provide a comprehensive picture of the subject matter.

It should be noted that each national agency's figures are based on its knowledge of its local membership agencies, and do not include such independent centers as may exist of which they have no knowledge.

A. NATURE AND COMPOSITION OF PUBLIC WORK OR FACILITY

1. DESCRIPTION OF THE PARTICULAR PUBLIC WORK OR FACILITY

- (a) *General Physical Characteristics*
- (b) *Services Rendered*
- (c) *Standards of Performance*
- (d) *Qualitative Standards of Performance*

Individual Agency Statements

Boy Scouts of America

(a) Physical facilities include camp properties, camp facilities, training facilities, and office buildings.

(b) Boy Scout camps are year-round training centers for the use of chartered Boy Scout troops and explorer Posts coming to camp under their own home leadership (adult volunteer leaders) to practice Scouting skills and ideals. They serve all areas, as boys come from all areas. Council-owned Boy Scout offices also serve all areas, as volunteer leaders work or live in all types of areas.

(c) A typical camp serving 200 Scouts requires 200 acres of usable land. Terrain and environmental factors increase total need to about 500 acres for a 200-boy camp. Offices are built to business standards.

(d) Sanitary treatment of wastes is consistent with the local health

*Prepared by the National Study Service of the National Social Welfare Assembly, Inc., with minor editing by committee staff.

codes. Road improvements are consistent with program needs. Structures are permanent and built to standards which maintain the esthetic qualities of the property. Regular maintenance procedures are carried out. Replacement cycle is normally 25 years.

Boys' Clubs of America

(a) The purposes of Boys' Clubs of America are to promote the health, social, educational, vocational, and character development of boys throughout the United States. These purposes are achieved through a building-centered program with professionally trained staff who work in a single building in a community or a central building and several branch buildings, depending on the size of the community, the areas to be served, and the number of boys to be served. Boys' Club buildings include a gymnasium, one or more games rooms, several shop rooms for woodworking, metalwork, and other crafts of various kinds, a library, several rooms for meetings of group clubs, administrative office, and in many instances a swimming pool with locker rooms, a health examination room, and a multipurpose use auditorium. Appropriate equipment is in each of these facilities. In addition, a large number of the clubs have playgrounds of varying sizes. Some 215 clubs conduct summer camps on which there are buildings or day-camp programs.

(b) Boys' Clubs are located for the most part in low-income residential areas and primarily serve boys from low-income families living in such areas.

(c) Club buildings are constructed to care for a membership of 500 up to 5,000 boys; the average facility for a membership of 1,000 to 1,500 boys.

(d) Qualitative standards for building maintenance, personnel, and work are required of the member clubs in Boys' Clubs of America. Much is done through the regional field staff to see that quality programs and facilities are maintained to provide quality service to the 700,000-boy members, most of whom come from low-income families.

Girl Scouts of the U.S.A.

(a) Local Girl Scout Councils own, lease, and borrow property and provide buildings and/or tent shelters and equipment including service vehicles, for activities, living, and operation, in order to offer camping.

(b) Camping is offered to the Council's girl membership, 7 to 17 years of age, by the day (5- to 6-day sessions); overnights by troops; and resident (generally in 2-week session).

(c) Standards of performance, for a camp housing 100 to 150 campers, include:

i. Several living units with 1 shelter each and containing 6 to 8 tents or cabins, 12 by 14 foot, housing 4 campers each;

ii. Sleeping area, 40 square feet per person, minimum 6 feet (resident camps) between heads of campers;

iii. Structures for administration are simple, and conform to building codes. A garage and utility shop are maintained. Also provided are a health center, office, living quarters for staff, director's cabin, shelter for staff recreation, central lodge, including dining hall and kitchen. Hot showers: one head for 8 campers. Toilets: 1 per 10 persons for resident camps, 1 to 20 for day camps;

iv. Water consumption is 50 gallons per person per day, if flush toilets are used, 30 gallons per person per day, if pit privy is used.

National Federation of Settlements and Neighborhood Centers

(a) The majority of buildings used by neighborhood centers are constructed of brick or concrete block. Most facilities are built to use two stories and basement. The spaces are designed for lobbies, offices, clubrooms, auditoriums, arts and crafts rooms, music, kitchens, gymnasiums, general multipurpose meeting rooms, health clinics, day-care facilities, playgrounds, day camps, resident camps. In a few facilities residence for staff is included.

(b) Multifunction social services are rendered to families living in low- and low-middle-income areas. Although generally located in the downtown areas of the city, in some instances facilities are in suburban areas. People of all ethnic groups receive service. The facilities, except camps, are located where the people who use them live.

(c) In general, space accommodations are:

Offices, for 1 or 2 persons at most.

Clubrooms, for 15 to 20 persons.

Auditoriums for 200 persons.

Multipurpose rooms, 75 to 100 persons.

Gymnasiums, standard high school size.

Arts and crafts rooms, 12 to 15 persons.

Music rooms, 15 persons.

Health clinics, 50 persons per period.

Day care, 45 to 60 children.

Resident camp, 60 to 100 children.

(d) The average life of the facility is 40 years.

National Jewish Welfare Board

(a) Facilities and equipment are provided for cultural, educational, social service, and health activities including, generally, clubrooms, meeting rooms, auditorium, arts and crafts rooms, gamerooms, lounge, gymnasium or gymnasium-auditorium, swimming pools, snack bar, and kitchen facilities.

(b) Leisure-time activities are conducted for members and participants in areas of Jewish and general culture, in education, social service, and health education.

(c) Facilities are designed to serve specific age groups and special interest needs of people to be served in their leisure time. The amount of space planned for different areas of structure is limited by total funds which can be obtained.

(d) Structures are "permanent" in character. Their frequency of repairs is minimal. The ordinary replacement cycle is from 30 to 35 years (due to mobility of clientele and, to a lesser degree, to obsolescence).

Young Men's Christian Associations of the United States of America

(a) The National Council of Young Men's Christian Associations of the United States of America is composed of 1,857 autonomous local YMCA's which are separately incorporated under the States in which

they exist. : Approximately one-third of the YMCA's can be classed as nonequipment, or working out of offices.

(b) These YMCA's render service to residential, commercial, and industrial areas. They include armed services YMCA's, student YMCA's, city YMCA's, town and country YMCA's, where several small towns get together in a district, and transportation YMCA's. In 1965, local YMCA's also operated 406 residence camps and 782 day camps.

(c) In 1965 the number of YMCA members per 1,000 population ranged from 22 in cities over 500,000 to 43 in cities under 50,000—the ratio being 28 per 1,000 for the Nation as a whole.

(d) No information provided.

Young Women's Christian Association of the United States of America

(a) With respect to structures and equipment, the range is from small functional buildings for YWCA's in small communities or for decentralized program in larger cities to large multifunction central buildings in cities. The following types of properties are in use: Converted residential properties; converted small business buildings; buildings designed specifically for YWCA use; and buildings designed or converted for joint use with another agency. Characteristics of space provided, in order of complexity, beginning with basic areas in small facilities, are as follows:

i. Administrative and program offices; small meeting rooms; large meeting room ranging in size from 100 to 200 seating capacity; kitchen facilities primarily for serving catered meals or for light food service; and lounge and/or lobby.

ii. Item i, but with more offices and meeting rooms; large multipurpose room with 200 to 500 seating capacity, stage and storage; shower and locker complex for physical activities participants; and kitchen for serving maximum number in largest room and kitchenettes for light food service in other areas.

iii. Items i and ii plus swimming pool and additional physical activity space and shower and locker complex to serve both pool and other physical activity space.

iv. Items i, ii, and iii plus residence with sleeping rooms, lounges, kitchenettes, and laundry. These range in size from 50 beds or under to 250 beds. Some older buildings have residences but not pools. Some YWCA's have separate residence buildings.

v. Public food service. The number of these units is decreasing and is being retained or constructed only in large buildings, usually cafeteria style serving for general public and group food services in other meeting rooms as needed.

All buildings designed for YWCA use provide for a maximum amount of space for multipurpose use. Supporting areas vary in size and complexity, depending on the size and type of administrative and program areas.

(b) Services rendered include informal education and recreation including clubs for teenagers and young adults, interest groups and classes for all ages, social recreation activities for young people and families, and summer day camps or similar programs. Often resi-

dence service for young women, individual counseling, and food service are also provided. Many YWCA's also operate resident and trip camping programs, but these are not carried on in the facilities described in this outline. Program focuses on service to women and girls, although a number of men and boys are also served in coed and family activities. In medium sized cities, the primary facility is usually centrally located and serves the entire community, although additional program is usually carried in other facilities than the association's headquarters. In large metropolitan areas smaller branch buildings may be located in residential or subsidiary commercial areas. In small towns YWCA services are provided in other public facilities rather than YWCA owned buildings.

(c), (d) Information not available.

SUMMARY OF SECTION A-1

The facilities reported upon above by the eight cooperating national agencies include (a) urban centers where recreation, health and social services are provided, (b) camps, (c) residences, and (d) administrative and training headquarters. The services provided include opportunities for learning, recreation, physical improvement, social adjustment, constructive self-expression and growth, and in some instances residential care.

The urban neighborhood and community centers vary in the scope and adequacy of their equipment and provisions for the program. Usually they are housed in permanent (brick or stone) structures in low income neighborhoods. The typical center contains administrative offices, club rooms, recreation facilities, and perhaps a gymnasium and swimming pool. Boys' clubs, in addition to providing most of the above facilities, frequently have adjoining outdoor playgrounds. Attention is called to the space accommodations reported by the National Federation of Settlements and Neighborhood Centers as existing in general among its member houses. Attention is also called to the graded schedule of space provisions reported by the YWCA. The YMCA and YWCA usually provide residence space and frequently some accommodations for serving food. Many of the agencies whose programs are primarily urban, operate summer camps for children, youth, families, and for older people. A recent trend has been the extension of the centers' services to wider areas through use of school, church, and public housing facilities. Urban redevelopment, population mobility, and changing ethnic patterns within the community have caused some centers to shift their locations in order better to serve their clientele.

Camp facilities are extensively used by the Boy Scouts and Girl Scouts where they are a central element in the program. They are also used to some extent by the multiprogram urban agencies such as centers and settlements, the YMCA and YWCA. Camps require relatively large tracts of land which have been improved in the interests of safety and sanitation. Well constructed buildings are essential to serve the campers' needs for housing, food, and recreational activities, and to accommodate staff. Tents are used to a certain extent, according to program emphasis. Attention is called particularly to

the detailed reporting of camp standards found in the Girl Scout statement above.

Residences for selected clientele are provided by some of the agencies, the YWCA's primarily serving girls and women, the YMCA's boys and men. They are generally housed in urban structures of a more or less permanent character.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

- (a) *As of mid-1965 (or 1962?) how many of these facilities or structures were in existence or operation?*
- (b) *What was the distribution of such facilities or structures by States?*
- (c) *What was the distribution of such facilities or structures by population size of city?*
- (d) *What is the age distribution of such facilities or structures?*
- (e) *Of these facilities and structures now in operation, what is the ownership pattern?*
- (f) *What is the estimated current value (as of end of 1965) of these facilities and structures?*

Individual Agency Statements

Boy Scouts of America

- (a) and (b) As of mid-1965, the following facilities were in operation:

Region	Number of camps	Number of offices
I.....	62	14
II.....	100	27
III.....	72	13
IV.....	56	13
V.....	46	15
VI.....	76	12
VII.....	153	29
VIII.....	62	5
IX.....	70	21
X.....	34	6
XI.....	53	13
XII.....	86	39
Total.....	870	¹ 207

¹ This does not include rented space.

- (c) No information provided.

(d) The estimated age distribution of camps and offices is as follows:

	Percent
(1) Camps built before 1900.....	None
Offices built before 1900.....	None
(2) Camps during 1901-20.....	10
Offices during 1901-20.....	None
(3) Camps during 1921-40.....	35
Offices during 1921-40.....	4
(4) Camps during 1941-60.....	40
Offices during 1941-60.....	60
(5) Camps since 1960.....	15
Offices since 1960.....	36

(e) All of these facilities are owned by the Boy Scouts of America—a nonprofit organization.

(f) The estimated current value of these structures and facilities is approximately \$140 million.

Boys' Clubs of America

(a) There are 687 boys' clubs and branch buildings in operation throughout the United States.

(b) The 687 clubs are located as follows:

Alabama.....	16	Missouri.....	10
Arizona.....	9	Nebraska.....	2
Arkansas.....	25	Nevada.....	1
California.....	72	New Hampshire.....	3
Colorado.....	5	New Jersey.....	23
Connecticut.....	20	New Mexico.....	11
Delaware.....	2	New York.....	73
District of Columbia.....	4	North Carolina.....	16
Florida.....	19	Ohio.....	19
Georgia.....	20	Oklahoma.....	8
Hawaii.....	1	Oregon.....	2
Idaho.....	2	Pennsylvania.....	35
Illinois.....	36	Rhode Island.....	13
Indiana.....	36	South Carolina.....	8
Iowa.....	2	South Dakota.....	3
Kansas.....	3	Tennessee.....	15
Kentucky.....	12	Texas.....	53
Louisiana.....	3	Utah.....	2
Maine.....	2	Vermont.....	1
Maryland.....	5	Virginia.....	10
Massachusetts.....	35	Washington.....	13
Michigan.....	24	Wisconsin.....	4
Minnesota.....	3	West Virginia.....	4
Mississippi.....	2		

(c) The distribution of the 687 facilities by size of city is as follows:

Size of city:	Number of facilities
500,000 and over.....	120
100,000 to 499,999.....	168
50,000 to 99,999.....	123
10,000 to 49,999.....	219
2,500 to 9,999.....	46
Under 2,500.....	11

(d) The age distribution of the buildings is as follows:

When built:	Number of buildings
Before 1900.....	40
1901 to 1920.....	60
1921 to 1940.....	74
1941 to 1960.....	350
Since 1961.....	163

(e) Boys' club buildings are owned by private nonprofit charitable organizations.

(f) As of 1965, the estimated current value of boys' club buildings and branches was \$80,710,000. Value of camp buildings was \$20,100,000.

Girl Scouts of the U.S.A.

(a) At the end of 1964 there were 548 resident camps, 3,517 day camps, and 44,393 overnight camps (by troops using or furnishing their own).

(b) The distribution of 462 of the facilities or structures, by States, was as follows:

Alabama.....	10	Montana.....	4
Arizona.....	5	Nebraska.....	1
Alaska.....	2	Nevada.....	1
Arkansas.....	6	New Hampshire.....	1
California.....	47	New Jersey.....	17
Colorado.....	6	New Mexico.....	3
Connecticut.....	14	New York.....	42
Delaware.....	1	North Carolina.....	14
District of Columbia.....	4	North Dakota.....	2
Florida.....	11	Ohio.....	24
Georgia.....	10	Oklahoma.....	4
Hawaii.....	2	Oregon.....	6
Idaho.....	3	Pennsylvania.....	30
Illinois.....	17	Rhode Island.....	1
Indiana.....	13	Puerto Rico.....	1
Iowa.....	10	South Carolina.....	3
Kansas.....	4	South Dakota.....	3
Kentucky.....	7	Tennessee.....	9
Louisiana.....	4	Texas.....	23
Maine.....	5	Utah.....	3
Maryland.....	5	Vermont.....	2
Massachusetts.....	20	Virginia.....	5
Michigan.....	12	Washington.....	8
Minnesota.....	13	Wisconsin.....	8
Mississippi.....	5	West Virginia.....	4
Missouri.....	8	Wyoming.....	1

(c) Figures as to distribution by population size of city are not available.

(d) Figures are not available as to age distribution of facilities and structures.

(e) Fifty-seven percent of the camp facilities and structures are owned by nonprofit organizations. Forty-three percent are leased or loaned (23 percent located on public property, 20 percent on private).

(f) The estimated current value of facilities and structures as of December 31, 1964, was \$70 million.

National Federation of Settlements and Neighborhood Centers

(a) The National Federation of Settlements and Neighborhood Centers has just under 300 local affiliates, with between 400 and 500 separate facilities in which they operate program (including camps). In addition there were some 500 other similar organizations in the United States prior to 1964. Since the OEO program, our organization knows of some 700 to 800 more such centers, either operating or in process of organizing. This report is limited, however, to agencies in the membership of National Federation of Settlements.

(b) NFS members are located in 31 of the 50 States. The organization is in touch with similar agencies in six additional States. The largest concentration of agencies is in the industrial sections.

(c) The distribution by population size of city (252 member agencies only) is as follows:

Size of city:	Number of agencies
500,000 or more.....	138
100,000 to 499,999.....	70
50,000 to 99,999.....	28
Less than 50,000.....	16

(d) The age distribution of the 252 buildings is as follows:

When built:	[In percent]	Distribution
Before 1900.....		15. 3
During 1901-20.....		21. 3
During 1921-40.....		16. 4
During 1941-60.....		30. 0
Since 1961.....		17. 0

(e) The proportion owned by private, nonprofit organizations was 79 percent. The remainder are in low-rent public housing; some in National and State parks; and in a few instances, public schools are used.

(f) Information not provided.

National Jewish Welfare Board

(a) As of mid-1965, 262 of these facilities or structures were in existence.

(b) The distribution by States of these 262 facilities or structures was as follows:

Alabama.....	1	Minnesota.....	5
Arizona.....	2	Missouri.....	3
California.....	17	Nebraska.....	1
Colorado.....	2	New Hampshire.....	1
Connecticut.....	12	New Jersey.....	23
Delaware.....	1	New York.....	62
District of Columbia.....	3	Ohio.....	11
Florida.....	5	Oregon.....	2
Georgia.....	5	Pennsylvania.....	29
Illinois.....	10	Rhode Island.....	2
Indiana.....	1	South Carolina.....	3
Iowa.....	2	Tennessee.....	5
Kentucky.....	2	Texas.....	4
Louisiana.....	1	Utah.....	1
Maine.....	7	Virginia.....	4
Maryland.....	1	Washington.....	2
Massachusetts.....	25	Wisconsin.....	2
Michigan.....	5		

(c) The distribution of these 262 facilities by size of city was as follows:

Size of city:	Number of facilities
500,000 and over.....	63
100,000 to 499,999.....	56
50,000 to 99,999.....	35
10,000 to 49,999.....	31
2,500 to 9,999.....	25
Less than 2,500.....	52

(d) The age distribution of the 262 facilities was as follows:

When built:	Number of facilities
Before 1901.....	1
During 1901-20.....	8
During 1921-40.....	63
During 1941-60.....	147
During 1961-65.....	43

(e) All of these facilities and structures now in operation are owned by private nonprofit organizations and cooperatives.

(f) No information provided.

Young Men's Christian Associations of the United States of America

(a) As of mid-1965 there were 1,088 YMCA's in existence in the United States.

(b) The distribution of such facilities by States is not available without a special study and there is not time to make it.

(c) The distribution of such facilities is primarily in cities of 50,000 or over. It is estimated that only about 5 percent of the facilities are located in cities of from 10,000 to 50,000.

(d) The average distribution of such facilities indicates that 50 percent were built before 1920.

(e) All of the facilities are owned and operated by YMCA's.

(f) The present estimated value as of 1965 is \$650,071,500.

Young Women's Christian Associations of the United States of America

(a) YWCA structures (exclusive of camp structures) in existence in 1965 numbered 670.

(b) The distribution of these 670 structures by States was as follows:

Alabama.....	6	New Hampshire.....	3
Arizona.....	5	New Jersey.....	22
Arkansas.....	8	New Mexico.....	1
California.....	63	New York.....	34
Colorado.....	6	North Carolina.....	17
Connecticut.....	15	North Dakota.....	3
Delaware.....	5	Ohio.....	56
District of Columbia.....	7	Oklahoma.....	9
Florida.....	17	Oregon.....	5
Georgia.....	11	Pennsylvania.....	58
Hawaii.....	8	Rhode Island.....	2
Louisiana.....	10	South Carolina.....	9
Maine.....	6	South Dakota.....	4
Maryland.....	11	Tennessee.....	11
Massachusetts.....	14	Texas.....	33
Michigan.....	21	Utah.....	2
Minnesota.....	9	Vermont.....	3
Mississippi.....	5	Virginia.....	16
Missouri.....	16	Washington.....	17
Montana.....	3	West Virginia.....	8
Nebraska.....	11	Wisconsin.....	13
Nevada.....	1	Wyoming.....	2

(c) Distribution of the 670 structures by population size of city was:

Size of city:	Number of facilities
500,000 and over.....	135
100,000 to 499,999.....	194
50,000 to 99,999.....	124
10,000 to 49,999.....	185
2,500 to 9,999.....	9
Under 2,500.....	1
Unknown.....	22

(d) Complete information is not available as to the distribution of structures. Forty-six new YWCA structures have been built or purchased since 1961.

(e) Ownership of facilities is as follows: Private, nonprofit organizations, 91 percent; cities, counties, towns, special districts, public authorities, or other local public bodies, approximately 3 percent; unknown, 6 percent.

(f) Information not available.

SUMMARY OF SECTION A-2

The above material shows that there were more than 8,564 facilities or structures in existence or operation in mid-1965 or thereabouts, not including overnight camps which made use of resident or day camp facilities. They were distributed by States pretty generally in accordance with the distribution of population. The urban facilities of the agencies reporting showed 1,833 of them distributed as follows with respect to size of the cities in which they are located:

500,000 and over	456
100,000 to 499,999	488
50,000 to 99,999	310
10,000 to 49,999	435
2,500 to 9,999	80
Under 2,500	64

Many of the structures and facilities had been in existence for some time, as the following table shows for 2,274 of them:

Built before 1900	78
Built during 1901-20	209
Built during 1921-40	490
Built during 1941-60	1,044
Built since 1961	453

Practically all of the structures were owned by private non-profit-making organizations.

The estimated current value of the structures of four of the agencies was \$960,881,500. No figures were available for the other four.

B. COSTS AND USER CHARGES

1. CONSTRUCTION AND OPERATING COSTS

- (a) *On the basis of some standard unit of measure indicate the current (as of 1965) range of typical construction costs for different size facilities or structures of longtime durability.*
- (b) *On the same basis, indicate the current range of typical annual maintenance and operation expenses for different size facilities or structures.*

2. USER CHARGES

- (a) *To what extent are user charges employed to pay for all or part of the services, occupancy, or use of the facilities or structures?*
- (b) *To what extent are such user charges sufficient to cover annual maintenance and operation expenses plus annual debt service payments?*
- (c) *To what extent are the costs of such facilities and structures met out of the general tax resources and general obligation borrowings of State and local government units?*

Individual Agency Statements

Boy Scouts of America

1. (a) On the basis of cost per square foot, the current typical construction costs for camp buildings varies from \$10 to \$15. Office building costs vary from \$16 to \$22 per square foot.

(b) The current range of typical annual maintenance expenses is approximately 5 percent. Operation expenses are not available.

2. (a) It is the responsibility of the local Boy Scout council to provide outdoor training facilities and central staff. Leaders of units (troops, posts) are volunteers who contribute their time without charge. Boys are required to pay for food and food preparation, medical care, transportation, and for expendable program equipment.

(b) See (a).

We do not incur indebtedness to finance capital costs. There are no instances where user charges exceed operating and capital costs.

(c) None.

Boys' Clubs of America

1. (a) It costs on an average between \$15 and \$24 per square foot to construct a boys' club building. Area of country is the basic determinant in this variation.

(b) The annual maintenance cost of an average size boys' club is \$5,300 including janitor supplies. This average will have to increase in the years ahead.

2. (a) The main emphasis of boys' clubs is to keep club buildings free at all times for service to boys. However, during certain hours, in the mornings, they may make their facilities available to nonprofit community groups. As such groups come mainly from low-income areas and are usually of a community service nature, the charges made are absolutely minimum. The total is negligible in offsetting the cost of maintenance of facilities and services.

All charges to boy members, including dues, are minimal and are kept low enough so that the poorest boy will not be excluded from membership in the program. A number of items such as soap, swim and gym trunks, towels, craft materials are provided at no cost. Dues range from 75 cents to \$4 per year. (Many youngsters from large families work them off.)

(b) As indicated in (a) charges for services or use of facilities are minimal. Generally not more than a maximum of 10 percent of the operating costs of a boys' club are absorbed by such charges. This amount will not be higher because of the nature of the work of boys' clubs and the clientele they serve.

(c) The costs of maintaining and operating boys' club buildings and camps are borne by contributions from individuals, corporations, and foundations, or from Community Chests and United Funds which contribute substantially.

Girl Scouts of the U.S.A.

1. (a) Camp construction costs range from \$8 to \$15 per square foot. In each of 548 resident camps, costs have ranged as follows:

Living unit structures (5 to 8 units per camp)-----	\$18,000 to \$24,000
Health center-----	\$7,000 to \$10,000
Office-----	\$7,000 to \$10,000
Administrative staff living quarters-----	\$2,000 to \$4,000
Cook house-----	\$4,000 to \$5,000
Director's cabin-----	\$2,500 to \$3,000
Shelter for staff recreation (multipurpose)-----	\$7,000 to \$10,000
Central lodge (including hall and kitchen)-----	\$50,000 to \$70,000
Central hot shower-----	\$2,000 to \$6,000
Caretaker's house-----	\$9,000 to \$17,000
Maintenance garage and utility shop-----	\$4,000 to \$5,000

Buildings of above structures are often combined for multipurpose service.

(b) Information not available.

2. (a) User charges (camper fees) cover direct cost only. These include in-season cost of utilities, food, supplies, and program staff.

(b) United Funds are requested to provide Girl Scout councils with funds for year-round total administration and maintenance costs of camps. These range from 15 to 25 percent above income from camper fees.

(c) None.

National Federation of Settlements and Neighborhood Centers

1. (a) Construction costs since 1961 have ranged from \$14 to \$17 per square foot exclusive of land and equipment.

(b) Operating costs have represented 9.09 percent of total expenditures for services rendered.

2. (a) (b) (c) Occasional fees are charged if rooms are used for weddings, parties, or special meetings. Fees are set in relation to extra labor costs for the event, not in relation to maintenance or operating costs. This is viewed as a service of the agency.

National Jewish Welfare Board

1. (a) Construction costs vary with geographic location rather than in relation to size of facility. As of 1965 the general average cost per square foot was in the range from \$16.50 to \$20.

(b) Maintenance and administrative costs per square foot are more closely related to community-size than to building area. In 1964, the average cost per square foot was \$1.04 for maintenance and \$1.33 for administration.

2. (a) User charges are employed to pay for 61 percent of the services.

(b) Such user charges are sufficient to cover 39 percent of annual maintenance and operation expenses plus annual debt service payments. There are no situations where user charges exceed the sum of prorated operating and capital costs.

(c) Information not available.

Young Men's Christian Association of the United States of America

1. (a) The present construction cost varies from city to city. On an average it runs around \$1.60 to \$1.70 per cubic foot. Costs of furnishings run to 10 percent of the cost of building, excluding land.

(b) The current expenditure for property and maintenance for 1965 was \$30,244,900.

2. (a) Participants provided 68 percent of the total operating costs, 3 percent came from invested income, and 7 percent from miscellaneous. Only 22 percent came from contributed support. Most of this subsidy and contributed support is in the program for youth.

(b) Information not available.

(c) Information not available.

Young Women's Christian Association of the United States of America

1. (a) Construction and operating costs will vary, depending on climate (kind and amount of heating equipment needed, and whether air conditioning is required), on materials used in construction, and on characteristics of sites used. The figures given below correspond to facilities listed by number in section A(1)(a) above.

i and ii. Range of \$15 to \$17 per square foot.

iii, iv, and v. Range of \$18 to \$23. Ranges will be somewhat higher in facilities for joint use which include standard gyms and other features requiring high-ceiling construction for large areas, health clubs, and other facilities requiring high-cost construction and equipment.

(b) Information as to annual maintenance and operation expenses not available by size of facility. Expenses reported range from zero to \$91,000, the last figure representing a metropolitan association with seven branches with the large central building showing \$46,000 of these costs. (Maintenance salaries are not included in these figures.)

2. (a) and (b) The percentage of self support varies, depending on the amount of space which is income-producing and on the sources of income other than user charges listed in this statement, such as dues of nonuser members, income from invested capital funds, and other sources. We have percentages on subsidy in relation to gross expense budgets, which range from 25 to 85 percent, with the higher percentages applying to YWCA's with limited activity space to bring in fees from users and without other significant income sources and the lower percentages applying to buildings with large recreational and institutional features. We have not isolated user charges except for specific activities and for direct costs. So far as possible, construction is limited to available funds to avoid interest on borrowed capital.

(c) None of the costs of facilities are met out of tax resources and obligation borrowings of State and local government units.

SUMMARY OF SECTION B

Construction costs of the above facilities range from \$8 to \$15 per square foot for camp structures to \$14 to \$24 per square foot for urban structures. Such information as is available on maintenance and operation (but not program) expenses indicates that they average less than \$1 per square foot per year.

The extent to which user charges are employed to pay for all or part of the services varies with the agencies' program objectives. Those organizations serving youth in disadvantaged urban areas endeavor to keep user charges quite low. The Y's and the Scouting organizations, whose activities are available to a broader spectrum of citizens, more fully utilize memberships, campers fees, etc. as a legitimate source of income. The range is apparent in the contrasting statements of the Boy's Clubs and the YMCA in "2. User Charges" above.

Very little governmental subvention is reported for the meeting of construction and user costs.

C. TREND OF CAPITAL OUTLAYS

1. *What has been the trend of annual capital outlays for these facilities or structures during the 20-year period 1946-65?*

(a) *Explain the trend.*

2. Of these annual capital outlays, how much or what proportions were accounted for by the ownership patterns indicated above?
3. What have been the sources of financing for these capital outlays?

Individual Agency Statements

Boy Scouts of America

1. Forty percent of camp construction occurred during the 1941-60 period; 15 percent during 1961-65. Acreage acquired during this period increased at a rate of approximately 10,000 acres per year. The valuation increased at a rate of approximately \$4¼ million per year. Acreage and valuation increased at a generally steady rate.

2. All capital outlays were accounted for by a nonprofit organization.

3. The source of financing of all capital outlays is from gifts, bequests, donations, and fund-raising drives.

Boys' Clubs of America

1. During the period 1946-1965 the annual capital outlay for construction of Boys' Club units ran from an early low of \$1,838,000 to a high in 1965 of \$6,002,000. The annual number of units constructed ran from an early low of 10 to a high of 36 in 1965. During this period there has been great growth in the Boys' Club movement and a great stepping up in the construction of new buildings as new Boys' Clubs were organized. Also many of the older clubs have undertaken replacement programs for their obsolete facilities. In the next decade and beyond, this trend will continue at a heightened pace due to need for additional service to boys in less privileged areas and the population growth.

2. Building construction is paid for by the Boys' Club, a private, nonprofit charitable organization.

3. The funds have been contributed by gifts from foundations, individuals, corporations, through public fund drives, and from bequests.

Girl Scouts of the U.S.A.

1. Expenditures for structures and facilities during 1946-65 were:

	<i>Million</i>
1945-50	\$4
1950-55	5
1955-60	7
1960-65	9

During this period, cost of labor and materials has increased out of proportion to cost of land for camping purposes.

Though the basic and very simple requirements for Girl Scout camps have remained the same, the trend is away from the purely rustic use of materials toward the economical use of modern materials and building methods.

Expansion of camping facilities has been consistent with the community's growing awareness that camping is an excellent way to accomplish three major objectives:

To stimulate enjoyment and appreciation of the out of doors through progressively adventurous experiences.

To provide training in citizenship through the give-and-take of community living in which each girl has a part in the planning and carrying out of the camping program.

To contribute to the physical, mental, and spiritual well-being of each camper and to help develop in her such qualities as resourcefulness, initiative, and self-reliance.

The Girl Scout organization strives to make camping available to all members. The girl membership grew from 906,885 in 1945 to 2,995,000 in 1965, tripling the responsibility.

2. Of these annual capital outlays, all were accounted for by private, nonprofit organizations.

3. The sources of financing for these capital outlays were gifts, bequests, donations, and fund-raising drives.

National Federation of Settlements and Neighborhood Centers

1. Nearly half of all units used have been built in the period 1946-65. This is to say that about 18 units are built annually. The cost of the 18 units is probably in the range of \$5½ million per year. However, since 1961 the pace of building has just about doubled, and the capital expenditures accordingly.

2. In addition, it is likely that another \$1 to \$2 million annually has been invested by public housing in facilities operated by neighborhood centers.

3. Financing has been by capital fund drives, bequests, and foundation grants. Public housing and public schools sometimes have made space available.

National Jewish Welfare Board

1. There has not been any regular annual trend in capital outlays for the 20-year period 1946-65. The period of construction of new buildings started in 1948. From 1948 through 1953 the average annual expenditures for new buildings and additions was about \$1,500,000. It spurted to about \$6,500,000 for the following 2 years, declined to about \$3,500,000 per year for the 3 years 1956-58, then increased to \$6,500,000 annually for 1959 and 1960. In the latest 5 years, the expenditures have been fluctuating. The highest amount (\$7 million) was for buildings completed in 1964, and the lowest (\$2,900,000) for buildings completed in 1965.

2. Of these annual capital outlays, 100 percent was accounted for by private nonprofit organizations.

3. The sources of financing for these capital outlays have been gifts, bequests, donations, and fund-raising drives.

Young Men's Christian Associations of the United States of America

1. From 1955-62 a special study on new facilities constructed indicated the erection of 160 new buildings, 54 city associations, 89 neighborhood or suburban branches of metropolitan YMCA's, and 17 downtown or central branches.

2. The exact dollar value of these units is not available. However, the increase in capital assets in land, building, and equipment since 1950 has been \$384,171,600 (from \$265,900,000 in 1950 to \$650,071,500 in 1965).

3. The sources of financing have been fund-raising drives.

Young Women's Christian Associations of the United States of America

1. The major capital outlays for new YWCA buildings have been made in the last 10 years, when buildings erected 40 to 50 years before that time reached about the same stage of obsolescence. A few were built between 1946 and 1955. There have been two phases of the trend. One has been replacement of old or inadequate buildings and the other has been erection of smaller branch or center buildings in expanding metropolitan areas.

An estimate would be that upward of \$25 to \$30 million has been spent on new YWCA buildings, including cost of construction of structures but not investment in sites, furnishings, and equipment not attached to the buildings. This also does not cover purchase and major remodeling of existing structures, nor joint YMCA-YWCA buildings.

2. The source of capital outlays is virtually 100-percent private nonprofit organizations. In 1965 one YWCA undertook operation of a Women's Job Corps Center which involved capital outlay from Federal Government funds.

3. The primary sources of financing capital outlays are gifts, bequests, donations, and fund-raising drives.

SUMMARY OF SECTION C

The trend of annual capital outlays for facilities and structures over the 20-year period 1945-65 has generally been sharply upward. The Boy Scouts of America report a 40-percent increase in camp facilities during this period. The Boys' Clubs of America report an increase in the annual role of construction from an early low of \$1.8 million to a high of \$6 million in 1965. The Girl Scouts show an increase from \$4 million in 1945-50 to \$9 million in 1960-65. The other agencies reporting show a similar trend in capital expenditures. The reasons given are an increase of program acceptance by the public, growth in population, extension of services through branches, necessity to replace obsolete structures, and high construction costs.

All capital outlays were accounted for by nonprofit organizations, using funds derived from gifts, bequests, donations, and fund-raising drives. Some program expansion, however, has occurred in space made available by public housing authorities, schools, and parks and playgrounds.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

1. *In terms of the "Great Society," what are the capital requirements (in millions of dollars) for these facilities or structures during the decade 1966-75?*
 - (a) *Describe the factors taken into account in making this projection.*
 - (b) *If possible, show these estimated capital needs on a per year basis.*
 - (c) *To the extent feasible, indicate the proportions of these estimated needs that you would ascribe to communities of various sizes.*
 - (d) *To the extent feasible, indicate the proportions of these estimated capital outlays that you would expect to be expended by the ownership patterns indicated above.*

2. *What are the expected sources of financing for these prospective capital outlays?*
3. *If your estimated capital requirements exceed the amounts you estimate will be supplied by the above identified sources of funds, how would you bridge the gap?*

Individual Agency Statements

Boy Scouts of America

1. (a)-(b) The capital requirements projected for the decade 1966-75 are approximately 430,000 acres to meet the estimated needs. The capital requirements would be \$157 million.

(d) All of the estimated capital outlays would be expended by non-profit organization.

2. Expected sources of financing for the prospective capital outlays is entirely from gifts, bequests, donations, and fund-raising drives.

3. Capital requirements are fulfilled through gifts, bequests, and fund-raising campaigns only.

Boys' Clubs of America

1. We anticipate a total need for capital outlay of \$97,500,000 by 1975. Of this, \$60 million will be for the construction of some 400 new Boys' Clubs and branches averaged at \$150,000 per unit that will have been organized during this period, and \$37,500,000 for the replacement of existing obsolete Boys' Club buildings.

(a) Factors in making this projection are as follows. Two years ago a detailed study of the needs of Boys' Club service throughout the United States was made by Boys' Clubs of America and a 10-year blueprint for development of Boys' Clubs was laid out and is being followed today. As a result of the study, which was based on the needs of the number of boys primarily in low income areas in towns of 25,000 and over, it was determined that the 600 club units existing at that time should be brought up to a minimum of 1,000 and the number of boys served to 1 million. Population growth over the decade will undoubtedly increase this need. The anticipated outlays for replacement of obsolete existing facilities is conservatively estimated on our knowledge of existing facilities and their condition.

(b) We estimate approximately \$9,750,000 or 10 percent of total needs will be spent annually on average over the next decade.

(c) We estimate that these construction needs would be taking place in an amount of \$5,800,000 in cities of 50,000 or more and \$2,700,000 in cities with a population of 25,000 to 50,000.

(d) Such capital outlays would be spent by Boys' Clubs, private, nonprofit charitable organizations.

2. The construction programs would be financed through gifts from individuals, corporations, foundations, fund-raising drives, and bequests.

3. Only that amount of construction would be undertaken for which funds would be available. Should insufficient funds be on hand, the construction of individual units would be postponed.

Girl Scouts of the United States of America

1. An estimate based on known value of owned land, structure, and equipment indicates that \$36 million will be needed for capital requirements during the decade 1966-75.

(a) Factors taken into account in making projection of need are:

Increase in membership estimated on 49 percent increase in prior 10 year period:

1965-----	2, 995, 000
1975-----	4, 400, 000

Increased interest in camping program:

1965, 1,647,305 campers-----	55
1975, 3,300,000 campers-----	75

Percent of
membership

Additional facilities required.

Replacement of obsolete facilities.

Development of presently owned, underdeveloped campsites.

(b) An estimate of needs on a per year basis, 1966-75, totals \$23 million.

	Millions		Millions
1967-----	3	1972-----	2
1968-----	3	1973-----	2
1969-----	2½	1974-----	2
1970-----	2½	1975-----	2
1971-----	2		

(c) Facts are not available for population areas.

(d) All of these estimated capital outlays to be expended by private, nonprofit organizations and cooperatives.

2. Expected sources of financing for these prospective capital outlays are from gifts, bequests, donations, and fund-raising drives.

National Federation of Settlements and Neighborhood Centers

1. The capital requirements for the decade 1966-75 are estimated at from \$100 to \$120 million.

(a) Factors considered in this projection are: age of facilities, present overcrowding of many facilities, population growth, expanded public money for services and facilities, expanding services, mobility of persons from rural areas into cities, city rebuilding including highway program.

(b) The capital needs will probably be about \$10 to \$12 million per year. This includes replacements, major renovations, and new facilities.

(c) Cities with population of 50,000 or more will require 138 facilities; cities under 50,000, 8 facilities.

(d) These capital outlays will probably come from the following sources: One-third from funds on hand; one-third from capital fund drives; one-third from public funds, largely Federal (neighborhood facility program, sec. 703, Housing Act of 1965).

National Jewish Welfare Board

1. It is estimated that the capital requirements for these facilities or structures during the decade 1966-75 will be around \$77,500,000.

(a) Of 72 new facilities projected for construction during the coming decade, 1 of every 2 will be replacements for existing structures which have become obsolete because facilities now being used are inadequate for providing service in terms of newer standards and concepts or because a significant segment of the clientele has moved away. Approximately one of every 10 of the projections will be additions to existing structures to provide more rounded services as well as to take care of a larger clientele.

The remaining fraction, around four-tenths of the projections, will represent new units of operations which will be either extension operations of some already in existence, or new operations in communities not previously served. They are being projected to take care of shifting population as well as of existing communities which have not been served.

(b) It is not possible to show these estimated capital needs on a per year basis.

(c) It is estimated that 77 percent of the needed facilities would be located in cities with populations of 50,000 or more; 14 percent in cities of 2,500 to 50,000; and 9 percent in cities of under 2,500 population.

(d) All of these estimated capital outlays would be made by private nonprofit organizations.

2. All funds would be derived from gifts, bequests, donations, and fund-raising drives.

3. Expenditures would be held within receipts.

Young Men's Christian Associations of the United States of America

1. In the next 10 years it is expected that capital outlays for facilities and equipment will run to \$256,114,000. It is expected that in this period 230 new buildings will be constructed, with an average of \$25,600,000 per year. It is expected that 90 percent of the building will be in communities of 50,000 or more and 5 percent in cities under 50,000.

2. It is expected that these funds will be raised from capital fund campaigns. However, for short periods of time there will be a capital indebtedness, particularly from buildings that are self-supporting, such as residences. YMCA buildings include 566 residences with 58,884 beds.

Young Women's Christian Association of the United States of America

1. Estimated requirements for the decade 1966-75 are \$35 to \$40 million.

(a) These are based on obsolescence of central facilities, need for decentralized functional buildings in expanding metropolitan areas, need for replacement or additions to adapt to changing programs.

(b) Information not available.

(c) The major proportion in dollar costs and also in number of buildings will be in cities and towns of 50,000 or more. A few will be in cities and towns of 2,500 to 50,000, none in communities under 2,500 population.

(d) Practically 100 percent will be financed by private, non-profit organizations.

2. Expected sources of financing.

(i) Limited amount will come from the Federal Government unless the YWCA has more Job Corps Centers.

(ii) Practically 100 percent will be derived from gifts, bequests, donations, and fund-raising drives.

3. A limited amount will be from mortgages although this will be discouraged.

SUMMARY OF SECTION D

In terms of the "Great Society" the capital requirements of the reporting agencies during the decade 1966-75 will reach nearly \$800 million, as is apparent from the following recapitulation:

Boy Scouts.....	\$157, 000, 000
Boys' Clubs.....	97, 500, 000
Girl Scouts.....	36, 000, 000
National Federation of Settlements and Neighborhood Centers...	120, 000, 000
National Jewish Welfare Board.....	77, 500, 000
YMCA.....	256, 114, 000
YWCA.....	40, 000, 000
Total.....	784, 114, 000

The factors taken into account in making this projection are those suggested in the outline above.

It has not been found feasible to show these estimated needs on a per-year basis, or to indicate their distribution by size of city. Practically all of the estimated outlays would be by private nonprofit organizations.

CHAPTER 33

Arenas, Auditoriums, Exhibition Halls*

A. NATURE AND COMPOSITION OF FACILITIES

1. DESCRIPTION OF FACILITIES

Expansion in the field of public assembly buildings reached historic highs during the period 1946-65. This growth, however, is expected to be dwarfed during the next 10 years based on current (1966) indications.

The term "public assembly buildings" covers a number of different type structures. Specific descriptive names have been loosely applied to many. In general terms, those most used in the field, the buildings break down into the following categories:

1. *Auditorium-theaters*.—Theater-type structure generally with fixed seating and a stage. Seating ranges from a hundred or less to 5,000 and in some few cases more than this latter figure.

2. *Coliseums-arenas*.—Buildings with large seating capacities grouped around an open center area or arena. Most of the seats are fixed although temporary seating can usually be added to enlarge the capacity. These range in size from those with a few hundred seats to those with a capacity in the neighborhood of 20,000.

3. *Exhibition halls*.—Flat-floor structures of various sizes with no fixed or permanent seating capacity. These are used for public or trade exhibitions where manufacturers, dealers, etc., display their wares to potential buyers.

In actual practice, many buildings combine two or more of the above features and there has been a trend in recent years to all-purpose complexes that are flexible enough to be adapted to all three of the above outlined purposes.

Servicewise, these buildings play important roles in the communities and areas in which they are located.

The auditorium-theaters provide recreation in the forms of entertainment of professional and amateur types. The coliseum-arenas provide facilities for sports events, large meetings and conventions, pageants, and a wide variety of entertainment needing large areas in which to perform.

The exhibition halls are most commercial. They, when combined with large meeting facilities such as coliseums or auditoriums, are in actual practice, convention centers. Conventions are held with the meetings in the coliseum or auditorium and exhibits of products located in usually adjacent flat-floor exhibit halls. The convention business in the United States has grown to become "big business" and competi-

*Prepared by Charles R. Byrnes, executive director, International Association of Auditorium Managers, with minor editing by committee staff.

tion between cities has become stiff for the millions of dollars spent annually at these gatherings.

Millions of dollars are expended each year to keep these buildings in repair. There is no method of arriving at an average life of such buildings, but it generally is from 30 to 40 years.

2. EXISTING CAPITAL PLANT

As of mid-1965, some 1,200 of these buildings were in use throughout the United States.

Their location, as to States, was as follows:

Alabama.....	12	Missouri.....	24
Alaska.....	3	Montana.....	6
Arizona.....	6	Nebraska.....	17
Arkansas.....	12	Nevada.....	5
California.....	92	New Hampshire.....	29
Colorado.....	15	New Mexico.....	9
Connecticut.....	9	New York.....	61
Delaware.....	3	North Carolina.....	23
District of Columbia.....	7	North Dakota.....	29
Florida.....	34	Ohio.....	59
Georgia.....	30	Oklahoma.....	23
Hawaii.....	4	Oregon.....	14
Idaho.....	6	Pennsylvania.....	44
Illinois.....	56	Rhode Island.....	8
Indiana.....	37	South Carolina.....	12
Iowa.....	24	South Dakota.....	12
Kansas.....	20	Tennessee.....	19
Kentucky.....	16	Texas.....	63
Louisiana.....	18	Utah.....	11
Maine.....	14	Vermont.....	7
Maryland.....	7	Virginia.....	20
Massachusetts.....	27	Washington.....	15
Michigan.....	44	West Virginia.....	18
Minnesota.....	34	Wisconsin.....	24
Mississippi.....	14	Wyoming.....	5

By population, 13 percent were located in cities of 500,000 or more; 57 percent in those between 100,000 and 499,999; 21 percent in centers with 50,000 to 99,999; 8.7 percent in cities of 10,000 to 49,999 and few or none in those under 10,000 population.

Percentagewise, the buildings vary in age as follows: 1-5 years, 16 percent; 6-10, 14 percent; 11-15, 16 percent; 16-20, 18 percent; 21-25, 8 percent; 26-30, 9 percent; 31-35, 2 percent; 36-40, 13 percent; and over 40 years, 4 percent.

The majority of these buildings are owned by cities—approximately 72 percent. The State government or State agencies operate 4 percent with counties accounting for 6 percent and towns for 1 percent. The balance are privately owned by non-profit-making or profitmaking organizations.

Total value of these buildings is difficult to arrive at but, according to trade estimates, it was \$2,505 million at the end of 1965.

B. COSTS AND USER CHARGES

1. CAPITAL AND OPERATING COSTS

There is no rule of thumb available on the basis of some standard unit of measure in the construction of auditoriums, coliseums, and exhibition halls. This is due to a high variation in types and methods