

of construction, the area in which it is built and labor and material costs. Some buildings are lavish in decor and equipment, others are simple and yet functional.

To keep these buildings in operation, an estimated \$135 million is spent annually on repairs and remodeling.

2. USER CHARGES

Main income to these buildings is from rental fees. While there is a growing number who annually meet operating costs with their income, they are in the minority and only some 25 percent are able to accomplish this. Fewer are able to also contribute to capital costs.

Rental rates for auditorium-theaters and coliseum-arenas vary considerably from location to location. According to a recent survey, commercial rates range widely from \$125 to \$2,500 for an all-day rental. In many cases the building also received from 10 to 15 percent of the gross income of the event being held in the building. There is a "rule of thumb" for coliseum-arenas that is from 10 to 12 cents per seat. Religious, service, and nonprofit organizations usually get lower rates.

Exhibit hall rental rates range from 50 percent of the regular commercial rates to 100 percent. Some charge anywhere from 2 to 35 cents per square foot. To this, in most cases, is added extra charges for various equipment, labor, and services. In some cases, convention and exhibit halls are offered at no charge in order to bring certain conventions to the community.

C. TREND OF CAPITAL OUTLAYS

Annual capital outlays for buildings is huge and is growing. It is estimated that buildings costing some \$800 million will be opened to the public during 1966. This compares with \$667 million in 1965; \$498 million in 1964; \$125 million in 1963; and \$150 million in 1962. No figures are available prior to 1962.

Again, city governments account for most of this financing—72 percent. Counties are represented by 6 percent; State governments and State agencies by 4 percent; towns by 1 percent or less, with the balance divided among other public authorities, private capital, and nonprofit organizations.

Many buildings were constructed with help from Federal sources during the depression years. Works Progress Administration and Public Works Administration funds were allocated not only for construction but for modernization and repair. Today most buildings are financed by municipal bonds, either general obligation or revenue but there is an increase expected in participation of the Federal Government.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

It is estimated that somewhat over \$8 billion will be needed in the coming decade to provide the needed facilities. Basically, increased population will demand more buildings. Some of the present complexes, built during the depression years through WPA and PWA programs, will be replaced.

The vast expansion of entertainment, sports, and conventions will also demand bigger and more efficient facilities. Not to be overlooked is the growth in smaller cities and towns. People in these smaller communities have become more sophisticated, through television and travel, and want to see in person the best in entertainment and athletic events. As a result, and there are already indications of this trend, cities in the 100,000 and under class, will be planning buildings of many types. Commercial interests—hotels, motels, restaurants, retail stores, etc.—will also seek better facilities for meetings and conventions from which they benefit.

It is estimated that cities, counties, towns, special districts, public authorities, and other local public bodies will be instrumental in building 75 to 80 percent of the new buildings. Profitmaking organizations will probably account for 5 to 8 percent; State governments for less than 4 percent and nonprofit groups for less than 1 percent.

It is the opinion of observers that cities will provide about 55 percent of the financing; Federal Government, 20-30 percent; States, 8 percent; private capital, 3 percent; and gifts, bequests, donations, fundraising drives, 3 percent.

CHAPTER 34

Theaters and Community Arts Centers*

This chapter describes numbers of theaters, their seating capacities, methods of construction and financing, production costs, gross receipts, number of productions per year, and ticket prices in each of the following categories: Broadway, off-Broadway, national tour, regional and resident, summer and winter stock, musical, community and university theaters. It includes as much information as is available on community arts centers.

Where regional breakdowns are used, the *Northeast* includes 12 States and the District of Columbia with a total population of 51 million (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia); the *South* includes 13 States with a total population of 49 million (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia); the *Midwest* includes 12 States with a total population of 43 million (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin); the *West* includes 13 States with a total population of 28 million (Alaska, Arizona, Colorado, California, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.) The population figures are based on the 1960 census.

THEATERS

I. BROADWAY

In the 1965-66 season there were 35 Broadway theaters housing 67 productions which grossed a record \$53.9 million, although according to *Variety* they were lit only 65.5 percent of the time. Today there are half as many theaters as there were 30 years ago. Production costs are estimated to have risen from \$25,000 to as much as \$150,000 for a dramatic play and from \$60,000 to as much as \$600,000 for a musical since 1940. The number of productions per year has steadily declined from a high of 264 in 1928 to 67 in the 1965-66 season. By 1959 average maximum ticket prices had increased 105 percent for dramatic shows and 77 percent for musicals over 1944 prices.

The following information was obtained from *Variety*; *Stubs*; the League of New York Theatres, Inc.; "The Broadway Producer," a background paper by Stuart Little prepared for the Rockefeller Brothers Fund Panel on the performing arts; "Crisis in the Free World Theater" by John F. Wharton; and material from the New York City Department of Commerce and Industrial Development:

*Prepared by the National Council on the Arts, with minor editing by committee staff.

Number of theaters.—There are currently 35 Broadway theaters in New York City, only a little more than half the number that existed 30 years ago.

Legitimate (commercial) theaters in New York City, 1931-66

	Number		Number
1931.....	66.0	1951.....	31.0
1935.....	56.0	1955.....	31.0
1938.....	48.0	1958.....	32.0
Average number per decade (1931-40).....	54.0	Average number per decade (1951-60).....	31.5
1941.....	43.0	1961.....	33.0
1945.....	36.0	1963.....	36.0
1948.....	35.0	1965.....	36.0
Average number per decade (1941-50).....	37.0	1966.....	35.0

Source: 1931-60 figures from the League of New York Theatres, Inc., as they appear in "Crisis in the Free World Theatre" by John F. Wharton; 1961-66 figures from the New York City Department of Commerce and Industrial Development.

Seating capacity.—Broadway theaters seat from 781 to 1,788 persons. The average seating capacity is 1,211.

Construction and financing.—All Broadway theaters have been built and are maintained entirely with private capital. The last Broadway house was built in 1927. About 80 percent of the Broadway theaters have undergone major renovation within the past 5 years, all with private capital. The amount of capital involved in renovations is not available.

Production costs.—Production costs have risen steadily since 1940. Little estimates that the cost of mounting a dramatic play to have risen from \$25,000 in 1940, to \$60,000 in 1950, to \$125,000 in 1960; and the cost of mounting a musical to have risen from \$60,000 in 1940, to \$200,000 in 1950, to \$350,000 to \$400,000 in 1960. Estimates run even higher according to the following information compiled by John F. Wharton:

Increase in capital requirements in the New York theater, 1939-60

Capitalization	Show (dramas)	Year
\$25,000	Life With Father.....	1939
20,000	Voice of the Turtle.....	1943
40,000	Deep Are the Roots.....	1945
100,000	Mr. Roberts.....	1948
180,000	Auntie Mame.....	1956
125,000	Miracle Worker.....	1959
125,000	Toys in the Attic.....	1960
144,500	The Rape of the Belt.....	1960
150,000	Advise and Consent.....	1960

Source: League of New York Theatres, Inc. Stuart Little, "The Broadway Producer," a background paper prepared for the Rockefeller Brothers Fund Panel on the performing arts.

Capitalization	Show (musicals)	Year
\$225,000	South Pacific.....	1949
160,000	Gentlemen Prefer Blonds.....	1950
360,000	Bells Are Ringing.....	1956
400,000	My Fair Lady.....	1956
600,000	Camelot.....	1960

Source: League of New York Theatres, Inc., as it appears in "Crisis in the Free World Theatre," by John F. Wharton.

Gross receipts.—The total gross for the 1965-66 season reached a record \$53.8 million.

Broadway season total gross, 1947-66

Season	Total playing weeks	Total gross (thousands)	Season	Total playing weeks	Total gross (thousands)
1947-48.....	1,325	\$28,827	1957-58.....	1,081	\$37,515
1948-49.....	1,231	28,841	1958-59.....	1,157	40,151
1949-50.....	1,156	28,615	1959-60.....	1,156	45,666
1950-51.....	1,139	27,886	1960-61.....	1,210	43,830
1951-52.....	1,072	29,223	1961-62.....	1,166	44,251
1952-53.....	1,012	26,126	1962-63.....	1,134	43,525
1953-54.....	1,081	30,169	1963-64.....	1,112	39,149
1954-55.....	1,120	30,819	1964-65.....	1,250	50,463
1955-56.....	1,239	35,353	1965-66.....	1,295	53,862
1956-57.....	1,182	37,155			

Source: Variety, June 22, 1966.

Number of productions per year.—There were 67 Broadway productions in the 1965-66 season. There has been a steady decline in the number of productions each season since the record high of 264 in 1928. The annual average number of productions per decade has been 114 from 1901 to 1910; 138 from 1911 to 1920; 217 from 1921 to 1930; 142 from 1931 to 1940; 78 from 1941 to 1950; and 62 from 1951 to 1960. During the past 5 years annual productions were: 1961, 46; 1962, 53; 1963, 54; 1964, 63; and 1965, 67.³

Ticket prices.—Ticket prices for the 1965-66 season range from \$2.20 to \$7.50 for a dramatic play and from \$2 to \$12 for a musical. Earlier years were as follows:

Average maximum prices¹ of theater tickets, in New York City, 1944, 1953, 1955, and 1959

	1944 ²	1953 ²	1955	1959	Percent price increase, 1959 over 1953	Percent price increase, 1959 over 1944
Dramatic shows:						
Average maximum price.....	\$3.49	\$5.29	\$5.49	\$7.17	35.5	105.5
Admission taxes ³	.58	.88	.72	.85		
Federal.....	.58	.88	.48	.53		
New York City.....			.24	.32		
Price less admissions taxes.....	2.91	4.41	4.77	6.32	43.3	117.0
Musicals:						
Average maximum price.....	4.84	6.90	6.97	8.57	24.2	77.1
Admissions taxes.....	.81	1.15	.91	1.03		
Federal.....	.81	1.15	.61	.65		
New York City.....			.30	.38		
Price less admissions taxes.....	4.03	5.75	6.06	7.54	31.1	87.1

¹ Average maximum price is the sum of the maximum ticket price of all dramatic shows and all musicals playing in January of each year, divided by the number of dramatic shows and musicals, respectively.

² The statistics in this chart for the years 1944 and 1953 differ somewhat from those reported for these years by the same source in 1953, but are more comprehensive.

³ Admissions taxes: In 1944 and 1953, Federal, 20 percent of established price. In 1955, Federal, 10 percent of established price; New York City, 5 percent of established price. In 1959, Federal, 10 percent of established price less \$1; New York City, 5 percent of established price.

Source: National Association of the Legitimate Theatre as it appears in "Crisis in the Free World Theatre" by John F. Wharton.

³ 1901-60 figures from "Crisis in the Free World Theatre" by John F. Wharton; 1961-65 figures from the New York City Department of Commerce and Industrial Development.

II. OFF-BROADWAY

Professional theater productions in New York City performed in other than Broadway houses became known as "Off-Broadway Theater" about 15 years ago when Actors' Equity Association formally defined an off-Broadway house as one which seats no more than 300 persons. By 1966 there were 35 off-Broadway houses, production costs had soared from \$8,000 to \$25,000, ticket prices remained stable, and the number of productions declined from an estimated high of 120 in 1962 to 50 in the 1965-66 season.

The following information was obtained from the League of Off-Broadway Producers, the New York City Department of Commerce and Industrial Development, and "The American Theatre—Today and Tomorrow" by Norris Houghton, a background paper for the Rockefeller Brothers Fund Panel on the performing arts:

Number of theaters.—There are currently 35 off-Broadway theaters in New York City.

Seating capacity.—Off-Broadway theaters seat from 131 to 300 persons. Their average seating capacity is 200.

Construction and financing.—All off-Broadway theaters were built with private capital. Investments ranged from \$10,000 to \$50,000 and most involved the conversion of old ballrooms, movie theaters, and banquet rooms.

There were 24 off-Broadway theaters between 1956 and 1960; 29 in 1961 and 1962; 30 in 1963; a record high of 37 in 1964; 36 in 1965; and 35 in 1966.

Production costs.—In the early and middle 1950's an off-Broadway production could be mounted for \$8,000.⁴ Within 5 years the required capital expenditure had risen to \$15,000 and as much as \$25,000 is needed now to mount a current off-Broadway production.⁵

Number of productions per year.—There were 59 off-Broadway productions in 1958 and 1959, 85 in 1960 and 95 in 1961.⁶ Approximately 120 productions were mounted in 1962. There has been a steady decline in the number of productions since 1962 and it has been estimated that only 50 productions were mounted in the 1965-66 season.⁷

Ticket prices.—Ticket prices for the 1965-66 season range from \$2.25 to \$5.50, not appreciably higher since the off-Broadway movement began.⁸

III. NATIONAL TOUR THEATERS

Professional theater tours booked out of New York are currently grossing more money, playing fewer weeks and have fewer theaters available to them. The number of theaters available for professional touring productions fell from 560 in 1921 to 193 in 1960.⁹ The total number of playing weeks has decreased from 1,152 in the 1948-49 season to 699 in the 1965-66 season while gross receipts have risen from \$23 million to \$32 million over the same 18-year period.¹⁰

⁴ League of Off-Broadway Producers.

⁵ Rockefeller Brothers Fund Panel Study *op. cit.*

⁶ New York City Department of Commerce and Industrial Development.

⁷ League of Off-Broadway Producers.

⁸ *Ibid.*

⁹ John F. Wharton *op. cit.*

¹⁰ Variety.

The following information was obtained from Independent Booking Office, Inc., "Crisis in the Free World Theatre" by John F. Wharton, and *Variety*.

Number of theaters.—There were 155 theaters available in the 1965-66 season to Independent Booking Office, Inc. for national tours of productions which could be reached by plane or train (class A). New facilities are opening in every area of the country and are continually booked, according to Ernest M. Rawley.¹¹ Rawley submits that construction of new facilities is stimulating so many performances by local arts groups and such an influx of national opera, dance, and symphony tours, that time available for class A tours is extremely limited.

National Performing Arts, Inc., booked 860 performances into 171 cities in the 1964-65 season for tours traveling by bus or truck (class B).

Seating capacity.—Prime theaters in the United States seat from 798 to 9,297 persons. Most of these theaters seat approximately 1,700.

Construction and financing.—Five hundred and sixty theaters were available for professional touring productions in 1921. By 1953 there were 197 and by 1960 only 193. These theaters were constructed with funds from private, municipal, State or Federal sources.

Gross receipts.—The total gross for the 1965-66 season was \$32.2 million.

Seasonal grosses of national tours (class A and class B), 1948-66

Season	Total playing weeks	Total gross	Season	Total playing weeks	Total gross
1948-49	1,152	\$23,657,900	1957-58	728	\$22,645,000
1949-50	1,019	20,401,300	1958-59	687	23,352,200
1950-51	913	20,330,600	1959-60	728	27,268,000
1951-52	829	18,827,900	1960-61	829	33,995,600
1952-53	1,086	23,417,600	1961-62	963	39,914,100
1953-54	794	17,623,200	1962-63	822	31,553,500
1954-55	879	21,122,000	1963-64	¹ 846	33,968,600
1955-56	864	22,853,500	1964-65	² 643	25,929,115
1956-57	772	19,826,300	1965-66	³ 699	32,214,441

¹ An additional 119 weeks of split-week engagements were not reported.

² An additional 146 weeks of split-week engagements were not reported.

³ An additional 55 weeks, mostly split-weeks, were unreported.

Source: *Variety*, June 22, 1966.

Regional breakdown.—Data supplied by the Independent Booking Office, Inc., indicates that the 155 theaters available to the organization for national tours in the 1965-66 season were fairly evenly distributed throughout the country, serving 123 cities with a total population of 39 million. In the 48 cases in which local theater managers estimated their potential audience, 63 million people were involved.

In the Northeast there were 37 theaters in 30 cities with a total population of 8.1 million. Twenty local theater managers estimated their potential audience at 34.6 million.

In the South there were 31 theaters in 31 cities with a total population of 9 million. Nine local theater managers estimated their potential audience at 5.9 million.

¹¹ Executive Director of Independent Booking Office, Inc.

In the Midwest there were 45 theaters in 32 cities with a total population of 13.2 million. Twelve local theater managers estimated their potential audience at 8 million.

In the West there were 42 theaters in 30 cities with a total population of 8.9 million. Seven local theater managers estimated their potential audience at 14.6 million.

IV. REGIONAL AND RESIDENT THEATERS

Of the 35 resident professional theaters in the United States, 26 have been formed since 1960. The Rockefeller Bros. Fund Panel report, *The Performing Arts—Problems and Prospects*, concluded:

Of the nonprofit permanent professional theaters operating in the 1962-63 season, three—the Arena Stage in Washington, the Tyrone Guthrie Theater in Minneapolis, and the UCLA Theater Group in Los Angeles—reported operating surpluses. In 1963-64, only the Tyrone Guthrie Theater had a surplus. Other theaters reported losses ranging up to about \$500,000. With the usual wide variations, their box office accomplishments were shaped by the facts that seasons varied from 10½ to 50 weeks; the number of seats from 215 to 2,263; ticket prices from zero (free admission) to a top of \$6.50; and costs that would ordinarily have appeared on the ledger as operating expenses had been reduced in some cases by foundation grants and other contributions.

There is reason to expect that more of the nonprofit permanent professional theaters, as they become better known and better established in their communities, will be able to make ends meet some years with box office receipts and still fulfill their special artistic obligations.

The following information was obtained from the Department To Extend the Professional Theatre of Actors' Equity Foundation, Inc., and *The Performing Arts—Problems and Prospects*:

Number of theaters.—There are currently 35 resident professional theaters in the United States, 2 existed before 1950, 7 were formed in the 1950's, and 26 have been formed since 1960.

Seating capacity.—Resident professional theaters seat from 140 to 2,300 persons.

Construction and financing.—Regional and resident theaters have received funds for programs and facilities from individuals, municipalities, foundations, universities, and the Federal Government.

The first Federal grants to assist the development of resident theaters since Federal assistance to the theater in the WPA projects during the 1930's were approved on a matching basis by the National Council on the Arts in June, 1966.

Ticket prices.—Ticket prices range from free admission to \$6.50.

Regional breakdown.—The 35 resident professional theaters serve 30 cities with a total population of 23 million. Of these 35, more are located in the Northeast than in the other three regions combined.

In the Northeast there are 20 resident professional theaters in 16 cities with a total population of 14 million (Hartford, New Haven, Stratford, Baltimore, Asbury Park, Moorestown, Morristown, Princeton, Buffalo, Philadelphia, Pittsburgh, Harrisburg, Providence, two in New York City and the District of Columbia and three in Boston).

In the South there are four resident professional theaters in four cities with a total population of 1.8 million (Louisville, Memphis, Houston, and Abingdon).

In the Midwest there are five resident professional theaters in four cities with a total population of 2.2 million (Ann Arbor, Milwaukee, Minneapolis, and two in Cleveland).

In the West there are six resident professional theaters in six cities with a total population of 4.9 million (Phoenix, Los Angeles, San Diego, San Francisco, Stanford, and Seattle).

V. SUMMER AND WINTER STOCK THEATERS

There are 150 professional summer stock theaters serving 126 cities with a total population of 18 million, and 56 professional winter stock theaters serving 48 cities with a total population of 15 million. The Rockefeller Panel report¹² indicates a "continuing postwar increase" in the number of professional summer stock companies from 130 in 1948 to 151 in 1964. There are 50 nonprofessional summer stock theaters serving 50 cities with a total population of 9 million.

The following information was obtained from Actors' Equity Association and "Summer Theaters," a directory published in 1966 by Leo Shull Publications:

Number of theaters.—There are currently 150 professional (operating with union contracts) and at least 50 nonprofessional (operating without union contracts) summer stock theaters and 56 professional winter stock theaters in the United States.

Seating capacity.—Professional summer stock theaters seat from 178 to 4,407 persons. Their average seating capacity is 450. Nonprofessional summer stock theaters seat from 100 to 750 persons. Their average seating capacity is 275.

Regional breakdown.—The Northeast has more summer stock theaters than the other three regions combined.

Professional summer stock.—The 150 professional summer stock theaters in the United States serve 126 cities with a total population of 18 million.

In the Northeast there were 83 theaters in 61 cities with a total population of 4.8 million.

In the South there were 14 theaters in 12 cities with a total population of 2.7 million.

In the Midwest there were 34 theaters in 30 cities with a total population of 4.7 million.

In the West there were 19 theaters in 17 cities with a total population of 5.7 million.

Nonprofessional summer stock.—The 50 nonprofessional summer stock theaters in the United States serve 50 cities with a total population of 9.3 million.

In the Northeast there are 27 theaters in 27 cities with a total population of 8 million.

In the South there are 5 theaters in 5 cities with a total population of 57,000.

In the Midwest there are 10 theaters in 10 cities with a total population of 650,000.

¹² Op cit.

In the West there are 8 theaters in 8 cities with a total population of 563,000.

Professional winter stock.—The 56 professional winter stock theaters in the United States serve 48 cities with a total population of 15 million.

In the Northeast there were 20 theaters in 18 cities with a total population of 6.4 million.

In the South there were 8 theaters in 8 cities with a total population of 2.8 million.

In the Midwest there were 12 theaters in 11 cities with a total population of 2.9 million.

In the West there were 16 theaters in 11 cities with a total population of 2.8 million.

VI. MUSICAL THEATERS

Only 30 of the 60 theaters in the country which have attempted over the past 19 years to devote themselves solely to the presentation of professional musicals have survived.¹³ All 30 are economically sound and likely to remain so, despite a 50 percent increase in operating expenses and a 20 percent rise in ticket prices over the past 10 years.

Number of theaters.—There are currently 30 theaters in the United States which present only professional musicals.¹⁴

Seating capacity.—Musical theaters seat from 1,000 to 3,600 persons. The median seating capacity is approximately 2,100.

Construction and financing.—The first musical theater was built in Lambertville, N.J., in 1947.

All 30 theaters were all built with private capital. Presently 14 are tent theaters and 16 are housed in permanent facilities. Eight operate on a year-round basis and the remainder function summer or winter stock theaters.

Production costs.—Operating expenses have increased 50 percent in the past 10 years. Three theaters have become nonprofit organizations.

Ticket prices.—Ticket prices have risen 20 percent in the past 10 years.

Regional breakdown.—Of the 29 musical theaters, 16 are located in the Northeast, 2 in the South, 4 in the Midwest, and 8 in the West.

VII. COMMUNITY THEATERS

Community theaters are essentially nonprofit amateur operations staffed by volunteers, although in some cases directors, business managers and technical staff members are paid. There is no exact figure on the number of community theaters, but they are known to exist in every State. The Rockefeller Panel report states that "in 1964, there were approximately 5,000 formal amateur theater groups having some continuity of organization, while other groups, performing on varied schedules, were estimated at about 35,000. Performances vary enormously in quality, but some are good enough to compete vigorously with professional theater."

¹³ Edward O. Lutz, executive director of the Musical Theaters Association.

¹⁴ Ibid.

The following information was obtained from 626 complete or partial responses to questionnaires sent to 1,270 community theaters over the past 4 years by the American Community Theater Association (ACTA), a division of the American Educational Theater Association:

Number of theaters.—The ACTA has compiled a list of 1,270 community theaters in the United States. The Rockefeller Panel report indicates there may be as many as 40,000.

Construction and financing.—Two hundred and seventy-nine community theaters have their own facilities, and all are privately funded; 181 use local school facilities; and 161 use leased or rented civic auditoriums, private halls, or movie houses.

Number of productions.—The number of annual major productions by community theaters ranges from 1 to 12.

Audiences.—The average audience per production (average house times number of performances) in community theaters ranges from 150 to 3,900 persons.

Regional breakdown.—The Northeast has as many community theaters as the Midwest and the West combined, and more than twice as many as the South. The largest number of these theaters was formed between 1951 and 1960.

Community theater development

Region	When formed					
	Pre-1921	1921-30	1931-40	1941-50	1951-60	1961-66
Northeast (249 respondents out of 534 theaters)	17	21	42	39	71	28
South (111 respondents out of 213 theaters)	6	15	13	31	26	12
Midwest (196 respondents out of 382 theaters)	9	26	30	38	61	15
West (70 respondents out of 141 theaters)	4	7	13	16	17	10
Total	36	69	98	124	175	65

Source: American Community Theater Association.

VIII. COLLEGE AND UNIVERSITY THEATERS

There are 1,420 college and university theater groups listed in the *Directory of American College Theaters* published in 1960 by the American Educational Theater Association. Three hundred and seventy-three are in the Northeast, 427 in the South, 396 in the Midwest, and 224 in the West.

In a 1957-58 U.S. Office of Education survey of colleges and university facilities, only 227 institutions were listed as having campus theater buildings. Most student theater groups were operating in lecture halls and auditoriums.

Regional breakdown.—The 227 theater buildings pinpointed by the U.S. Office of Education were located in 39 States and were fairly evenly distributed throughout the four regions. Only 44 institutions indicated that their theater facilities had been rehabilitated since the date of establishment.

University theater construction and rehabilitation

Region	Number of theater buildings	Construction				
		Pre-1921	1921-30	1931-40	1941-50	1951-58
Northeast.....	58	20	8	8	10	11
South.....	56	13	10	6	11	15
Midwest.....	65	28	7	5	10	15
West.....	48	8	8	7	9	16
Total.....	227	69	33	26	40	57

Latest rehabilitation

Region	Pre-1940	1941-50	1951-58
Northeast.....	6	1	5
South.....	2	1	5
Midwest.....	7	4	4
West.....	3	5	1
Total.....	18	11	15

COMMUNITY ARTS CENTERS

The Rockefeller Panel report, *The Performing Arts—Problems and Prospects*, concludes that “* * * more than 100 ‘cultural centers’ are being built or planned in communities throughout the country. Only about 30 of these are true arts centers, specifically designed to accommodate more than 1 performing art; many are merely sports arenas and convention halls that can house a cultural presentation only inadequately.”

No real list of community arts centers has been compiled or maintained because various organizations have defined centers in many different ways.

A 1962 survey of community arts centers located only 40 centers by polling 600 chambers of commerce. The 40 centers were evenly distributed throughout the country and were built and supported with funds from individuals, foundations, and public and private organizations.¹⁵

Some of the arts centers and their costs:¹⁶

Lynchburg Fine Arts Center, Lynchburg, Va., \$500,000. Includes theater, music rehearsal room, art gallery, and studios.

Lincoln Center, New York City, \$142 million. Includes opera hall, symphony hall, operetta and dance hall, repertory theater, music school, and library-museum of performing arts.

Arts and Science Center, St. Paul, Minn., \$2,500,000. Includes science museum, art gallery, classrooms, theater rehearsal space, and small auditorium.

Lakeview Center of Arts and Science, Peoria, Ill., \$600,000. Includes museum, art gallery, theater assembly room, planetarium, classrooms, and library.

¹⁵ Editor of Arts Management.

¹⁶ “Arts Council—A New Approach to Cultural Leadership,” an article by Arts Councils of America executive director Ralph Burgard appearing in the 1962-63 fall-winter issue of *Arts and Society*.

James G. Hanes Community Center, Winston-Salem, N.C., \$1 million. Includes offices for chamber of commerce, health and welfare agencies, and arts council. Latter includes theater; classrooms, exhibition gallery, and music rehearsal room.

Other community arts centers which have been built or are under construction are:

Saratoga Performing Arts Center, Saratoga Springs, N.Y. (Cost: \$4.1 million, of which \$960,000 came from the State, and the remainder from private sources.)

The Loretto-Hilton Center for the Performing Arts, Webster College, Webster Groves, Mo. (Cost: \$1.9 million, of which \$1.5 million came from a private donor.)

The Memorial Cultural Center, Atlanta, Ga. (Cost: \$12 million, of which \$6.5 million came from an anonymous foundation and the remainder from private sources.)

The following are examples of cultural centers which have been or are being constructed with public funds:

The *New Jersey State Cultural Center* in Trenton, opened in 1965, consisting of a State library, auditorium, museum, and planetarium, constructed for \$7,238,000.

The *Garden State Arts Center* in Holmdel Township, Monmouth County, presently under construction by the New Jersey Highway Authority to consist of an amphitheater, art museum, and theater. The amphitheater (phase 1) will cost \$3,600,000 and open in 1967.

The *St. Paul Arts and Science Center* in St. Paul, opened in 1964, consisting of a science museum, art gallery, classrooms, theater rehearsal space, and small auditorium, constructed on city-owned land for \$2,700,000 (of which \$1 million came from private contributions and \$1,700,000 from a bond issue; the city assumes maintenance costs, \$160,000 in 1966).

The *Mobile Cultural Arts Center* in Mobile, opened in 1964, consisting of a theater, an auditorium, two galleries, a museum, and a restored fire station, constructed for \$12 million, funded by a municipal bond issue.

The *Civic Arts Center* to be built in Huntsville, consists of an auditorium, theater, museum, galleries, and classroom, rehearsal, workshop, meeting, office and storage space; cost \$7 million (of which \$3 million will come from a civic liquor tax) and open in 1969.

The *Birmingham-Jefferson Civic Center Authority* to be built in Birmingham, consists of a coliseum, concert hall, theater, and exhibition hall; cost \$25 million and open in 1971.

The *Arkansas Art Center* in Little Rock, opened in 1959, consisting of a theater, studios, exhibit galleries, and storage and office space, constructed for \$931,745 (of which \$275,000 came from the city in the form of property, \$75,000 from a bond issue, and the remainder from private sources).

The *Pine Bluff Civic Center* to be built in Pine Bluff, Ark., consists of a theater, exhibit halls, galleries, and classrooms, cost \$6,700,000 (of which \$3 million will come from urban renewal funds, \$3 million from regular municipal money, and \$700,000 from a bond issue) and open in 1967.

The *Waterloo Recreation Center* in Waterloo, Iowa, opened in 1965, consisting of a theater, recital hall, art galleries, arts and crafts

workshops, and an outdoor band shell, constructed for \$650,000 (of which \$250,000 came from a bond issue, \$50,000 from the regular municipal budget, and the remainder from private sources; \$50,000 needed for additional work will come from municipal funds).

The *Cherokee Community Center* in Cherokee, Iowa, opened in 1965, consisting of a multiple-purpose theater plus workshop meeting room, and youth center facilities, constructed for \$250,000 (of which \$125,000 came from a bond issue and \$125,000 from a private source).

Arts Councils of America, a private organization, estimates that there are currently 250 community arts councils, more than half of which were formed in the past 12 months.

Managing editor of Stanford Research Institute's Long Range Planning Service, Arthur Mitchell, estimated in 1962 that roughly 1,000 theaters and multipurpose art buildings will be constructed in the United States and Canada by 1972 at a cost of \$4 billion.

CHAPTER 35

Museum Facilities*

A NATURE AND COMPOSITION

1. DESCRIPTION OF FACILITIES

(a) *Physical Characteristics*

A museum institution is a permanent establishment created to collect, preserve, exhibit, and interpret objects and specimens of cultural value, including artistic, historical, scientific, and technological collections.

At the present time museum facilities in the United States are undergoing rapid change and expansion to meet the growing public demand for their services, and to incorporate recent technological advances in environmental control which will aid in preserving the collections for use by future generations. The collections in American museums have been accumulated over the past 150 years; it is in the housing, and display of these objects and specimens that tremendous advances have been made in the last two decades.

Those buildings constructed in the last 20 years to serve the specific functions of a museum provide space not only for effective exhibition of the collections, but also for research and study related to the institution's field of specialization, and for educational and cultural activities. About 40 percent of the floor space is allocated to exhibit areas, 40 percent to *live* or readily accessible storage, and 20 percent to office and work space. Work areas include administrative offices, laboratories, classrooms, reference libraries, and studios for photographers, artisans, restorers, and preparators.

Permanent installations include extensive and flexible lighting arrangements and systems to provide complete temperature and humidity control of the interior environment to aid in the preservation of the collections. Equipment includes exhibit cases, which may be wall or table cases, or built-in recessed cases; exhibition screens and panels; picture racks; storage shelving; and laboratory equipment varying in kind as the type of museum varies.

The museum buildings described above, those designed and built within the last 20 years, have set the standard for the proper physical plant in which to exhibit and care for museum collections. Those museum institutions which are housed in older buildings, and those whose physical plant was originally designed for another use have been faced with the need to do extensive remodeling in both the mechanical plant and the visitor areas of the building, or to plan for new construction which will meet these new standards. In the major-

*Prepared by Elena Van Meter of the American Association of Museums, with minor editing by committee staff.

ity of cases, remodeling and/or the construction of new wings has been the solution chosen for a variety of reasons, including the difficulty of acquiring a suitable building site, particularly if the present site is in a good location; historical value inherent in the existing structure; or, in many cases, the apparently lesser cost of remodeling as opposed to building.

Certain institutions fall under the definition of museum as recognized by the International Council of Museums and by the American Association of Museums, but by their nature have specific needs differing from those of art, history, and science museums. These are historic houses, preservation projects, zoos, botanical gardens, arbore-tums, planetariums, and aquariums.

The historic house and the preservation project (defined as restoration and/or reconstruction of a building complex to recreate a particular period of history) have their own special requirements. Equipment and furnishings must be of the period, or else especially designed to fit into the existing structure without changing its essential character. Work space requirements are often met by an additional building conforming in style to the historic structure.

Projection planetariums, which first came into being about 40 years ago, are generally associated with science and children's museums. Basic planetarium equipment consists of an auditorium and a projector.

Aquariums are usually, but not always, part of a science museum complex. Physical requirements include specially designed tanks and equipment for pumping, filtering, and treating water.

Zoological gardens have as many different physical requirements as they have types of animals on display. The current trend is toward providing more space per capita for the zoo's population, carefully controlled specific environments within the buildings, and toward creating larger and more natural display areas, such as flight cages and pastures for hoofed stock, rather than small individual enclosures.

Botanical gardens and arboretums have one major requirement of their buildings, absolute temperature and humidity control, necessitating complex and expensive heating and ventilating systems.

(b) *Services Rendered*

Services rendered by museums fall into two general areas: services to the general public, and specialized services to the scholarly fields with which the institution is concerned.

The museum's prime contribution to the general public is in the field of education, with the exhibits serving to reinforce "book-learning" for schoolchildren, and providing new knowledge and new insights for adults. The basic educational tool of the museum is the exhibition. Lighting, case design, and informative labeling contribute to its effectiveness. Visitor flow and crowd pressure in museum halls is now undergoing study. It has been discovered that areas of constant crowd flow should have terse, repetitive exhibits. The circulation of visitors must be planned to fit the logical order of the exhibition. This order is governed by chronology, and by the nature of the materials on display, in order to present a connected sequence of information.

The museum may also serve as a focal point for the constructive use of leisure time. The shortened workweek and consequent increase in leisure time may well explain the increase in museum attendance during the last decade, which exceeds both the rate of establishment of museums and the rise in national population. Current annual attendance is estimated to be over 300 million a year.

Museums are responding to public interest in a number of ways. Many museums, particularly in urban centers, are extending their open hours to accommodate visitors whose leisure time is in the evenings, on weekends, and on holidays. They are also organizing and providing educational and cultural activities such as classes in subjects related to the work of the institution, lecture series, concert series, films, guided tours, and gallery talks, and in some case dramatic and dance presentations. In a survey of U.S. museums covering the year 1962, 80 percent of the respondents reported one or more such activities. Checkrooms, lounges, restaurants, information and sales desks are provided for the comfort and convenience of the visitor.

The museum's primary service to its specialized field is in preserving and documenting the materials in its collections for use by scholars in the field. The museum has the twofold responsibility of housing and maintaining research collections and of encouraging scholars to study the material. Museum research can be divided into two classes, technical research concerned with preserving and displaying the objects and artifacts, and subject field research, concerned with identifying, documenting, and interpreting the museum's collections. In addition, museums, particularly natural science and archaeology museums, send field trips to distant parts of the world to add to our knowledge of other areas and other people.

While intended primarily to add to the knowledge of the subject field, research sponsored by museum institutions may have immediate practical value as well. Archeological studies in the Middle East have been used by local governments to aid in planning irrigation systems; field studies of natural history museums have discovered plants of medicinal value; studies in invertebrate paleontology are important to the petroleum industry; the records preserved by the historical society may prove the citizen's right to a pension or solve a legal problem.

In a fully developed museum institution, the research function carried on behind the scenes is as important as the exhibit program apparent to all.

(c) *Standards of Performance*

Research on and exhibition of museum collections presumes the existence of such collections, which brings us to a third area of museum responsibility, that of maintaining adequate levels of protection against theft, fire and water damage, and deterioration from atmospheric exposure.

Security against theft and vandalism requires that secure locks and detection devices be placed on all exterior openings, and preferably that such entrances and exits be limited in number. High frequency sound or ultrasonic equipment is being used for area protection, and contactor devices and impact detectors protect the actual objects

involved. All such devices must of course continue to have the supervision of museum guards, although their numbers may be reduced.

Protection against fire involves responsibility to the museum's visitors as well as to its collections, and security measures must conform to the regulations governing public safety. Fire detection devices to give early warning of fire problems are often installed in air-conditioning and ventilating systems.

Also a factor in public safety is the flooring, generally of reinforced concrete in the newer fireproof construction. Floors and their supporting walls should be designed to carry a weight of at least a half ton per square yard, allowing for the weight of the largest foreseeable number of visitors and for the assembly of a number of heavy objects (as, for example, in a museum of industry and technology).

In new construction, security is planned for in advance, by the use of fireproof building materials, and built-in, concealed protection and warning devices against theft, fire, and breakdowns in mechanical equipment.

Museum collections must be protected against gradual deterioration as well as against theft and fire. In addition to temperature, humidity, and dust control in the exhibit and storage areas, museum laboratories are equipped to use the newest technical and scientific processes in the study and preservation of museum materials.

2. EXISTING MUSEUM FACILITIES

As of mid-1965, there were 4,595 museum institutions listed with the American Association of Museums, distributed by city population and State, as follows:

<i>Distribution by city population</i>		<i>Number</i>
Population:		
Over 500,000.....	-----	547
100,000 to 499,999.....	-----	614
50,000 to 99,999.....	-----	372
10,000 to 49,999.....	-----	1, 059
2,500 to 9,999.....	-----	909
Under 2,500.....	-----	1, 094

<i>Distribution by State</i>					
<i>State</i>	<i>Number</i>	<i>State</i>	<i>Number</i>	<i>State</i>	<i>Number</i>
New York.....	443	Maine.....	93	Oklahoma.....	43
Massachusetts.....	373	Indiana.....	91	Utah.....	43
California.....	337	Maryland.....	90	Louisiana.....	41
Pennsylvania.....	243	District of Columbia.....	73	New Mexico.....	40
Ohio.....	203	New Hampshire.....	73	Arkansas.....	38
Connecticut.....	153	Colorado.....	72	Montana.....	34
Texas.....	147	Tennessee.....	64	South Dakota.....	33
Illinois.....	131	Georgia.....	62	Mississippi.....	30
Michigan.....	125	Arizona.....	61	West Virginia.....	27
Virginia.....	118	Washington.....	60	Alabama.....	26
Florida.....	115	Oregon.....	59	Wyoming.....	21
Kansas.....	109	Rhode Island.....	59	Hawaii.....	18
Wisconsin.....	106	Kentucky.....	58	Idaho.....	18
Missouri.....	104	Vermont.....	58	North Dakota.....	17
North Carolina.....	104	South Carolina.....	48	Alaska.....	14
New Jersey.....	103	Nebraska.....	46	Delaware.....	14
Minnesota.....	101	Iowa.....	45	Nevada.....	11

Any discussion of the age distribution of buildings housing museum institutions must take into account the fact that for 30 percent of these buildings, historic houses and preservation projects, a part of their value exists because they are old. Of the remaining 70 percent, four-fifths, or 57 percent of the total number of museum institutions, are currently housed in buildings not originally planned for museum use, or share quarters with another institution which owns the physical plant. Of the museum institutions housed in physical plants designed specifically for their use, 49 have buildings constructed before 1900; 75 are in buildings completed during the period 1901-20; 223 institutional plants date from 1921 to 1940; 174 from 1941 to 1960; and 68 have been built since 1961.

Private, nonprofit organizations own the majority of all museum operations, 57 percent; followed by local public bodies with 19 percent; State governments, 12 percent; the Federal Government, 7 percent; and proprietary organizations, 5 percent.

The estimated value of the physical plant facilities of museum institutions as of the end of 1965 is in excess of \$490 million.

B. COSTS AND USER CHARGES

1. CAPITAL AND OPERATING COSTS

The average cost of construction for museums in 1965 was \$1.41 per cubic foot, including electrical, heating, plumbing, air-conditioning, and elevator installations, but excluding the cost of the land, specific museum installations such as exhibit cases, and interior decoration. This average figure was found to hold true for both small museums such as park museums, specialized museums, and local historical museums, and for larger museums of all types in small cities. Only in the very large museums, with total construction costs over \$750,000, was there found to be a variation in this pattern, with the average cost rising to \$1.89 per cubic foot.

Operational costs (guards, maintenance, repairs, and utilities) can be broken down as follows:

Small museum: \$4,700 to \$35,727.

Intermediate: \$45,000 to \$127,000.

Large: \$165,000 to \$1,500,000.

The great variation in cost within the size groupings can largely be assigned to the cost of guards in art museums. History and science museums of all sizes have operating costs ranging from a low of \$4,700 to a high of \$230,000, but in art museums the figure changes radically with several of them paying out over \$1 million a year for maintenance and guards.

2. USER CHARGES

Approximately 19 percent of museum institutions (other than proprietary, which form 5 percent of the total 4,595) charge admissions, but only 3 percent have admissions which account for more than half of their operating income, and which might cover the cost of operating the institution. Specific museum taxes to cover the cost of operating a municipal or county museum are fairly rare, and an outside estimate

of the number of museums supported by a specific tax would be between 1 and 2 percent.

A fairly important source of income for museums with auditoriums is rental fees for use of the auditorium. However, these fees are usually set at a rate to cover the cost of operation of the auditorium, and do not go to general maintenance and operation of the institution.

Another source of income is class fees for classes organized by the institution, but again these fees are designed to assist in meeting the cost of the educational activities, and do not ordinarily go to the general operating budget.

Approximately 25 percent of the cost of maintaining and operating American museums is met out of the general tax resources of State and local governments.

C. TREND OF CAPITAL OUTLAYS

Following World War II, new museum construction did not have any real impact until 1948 when seven new buildings were completed at a cost of \$2.2 million. The following year saw a slight increase in construction put in place.

From 1950 to 1956 an average of eight new buildings and eight new units (wings or other building additions), were completed each year, with an average annual capital outlay of \$7.5 million per year for construction purposes. The only significant variation in this period occurred in 1952, with construction slowed down due to manpower and material shortages stemming from the Korean war. This deficit was made up in the following year.

Beginning in 1957, a new period of capital construction was introduced, with more than twice as many new buildings being completed each year (average of 16.3 new buildings per year, 1957-1965). New units continued to be completed at about the same rate, averaging nine per year during the period. The average annual capital outlay tripled, amounting to \$21.54 million per year during the 9-year period.

Prior to 1957, construction put in place tended to be simple replacement and extension of existing facilities, or, prior to 1954, completion of buildings planned or begun before World War II. Indeed, the last of the buildings designed during the 1930's was not completed until 1960.

The 100-percent increase in museum development since 1957 can be explained in terms of increased public interest in museums and of increasing recognition of the role of museums in public education. A museum is coming to be considered as necessary to the cultural life of a city or town as is a public library. This is borne out in statistics on museum attendance (122-percent increase in the decade between 1952 and 1962), and in the rate of establishment of new museums (one every 10 days, 1940-49; one every 5 days, 1950-59; one every 3 days since 1960).

The following table indicates the annual amount of capital construction funds expended by private, nonprofit organizations, local public bodies, State agencies, and the Federal Government during the years 1948-65.

Annual museum construction funds expended

[In millions of dollars]

Year ¹	Private institutions	Local government	State agencies	Federal Government	Total
1948	1.54	0.59		0.07	2.20
1949	2.72	.54		.10	3.30
1950	1.79	1.48	4.53		7.80
1951	5.97	.94	.22	.07	7.20
1952	2.73	.29		.16	3.175
1953	8.91	1.10	.99		11.00
1954	4.37	.72	2.01	.07	7.17
1955	5.32	1.69	1.35	.08	8.44
1956	4.22	.98	.27		5.47
1957	12.20	2.81	.66	.83	16.50
1958	11.32	.66	.79	.39	13.16
1959	5.34	2.42	3.39	.97	12.12
1960	12.03	2.44	.81	.98	16.26
1961	11.61		.75	.12	12.48
1962	12.51	7.91	2.64	9.89	32.95
1963	13.24	1.20	4.41	1.20	20.05
1964	19.66	5.51	17.30	36.18	78.65
1965	9.96	13.21	1.00	.75	24.92

¹ The year given is the year in which the construction was completed, and not necessarily the year in which the major part of the funds was expended.

The major source of financing for capital outlay has been gifts, bequests, donations, and fundraising drives, amounting to 63 percent of the total in the period 1950-56; and 70 percent of the total from 1957 to 1965. The next largest source is appropriations from tax resources, being 29 percent of the total from 1950-56; and 24.7 percent of the total from 1957-65. Federal Government grant assistance has put in a fairly recent appearance, and accounts for only 0.3 percent of the capital outlay in the period 1957-65, all under grants from the National Science Foundation. The remainder is accounted for by municipal bond issues, amounting to 8 percent of total financing from 1950-56, and 5 percent of the total outlay from 1957-65. No capital development funds have been obtained through State grants-in-aid for construction now in place, borrowing from the Federal Government, or capital flotations in security markets other than the municipal bonds mentioned above.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

In estimating new construction needs for museum physical plants over the next 10 years, it is necessary to take into account a number of factors, including the rate of establishment of new museums, and the existing backlog of inadequate facilities.

New museum institutions are currently being established at the rate of 2 a week, or about 100 per year. A number of these institutions are historic houses, and will not require capital construction, and another large group will not develop sufficiently to support a new building designed especially for their use within the 10-year period. Therefore, we may assume that only one-fifth of these institutions will attempt to finance new construction for their use, making a total of 200 new buildings during the 10-year period.

Currently, 15 percent of the museum institutions listed with the association, or 689, are sharing quarters with other organizations. Again, assuming a 20 percent maturation rate, 138 of them will need new quarters during the period 1966-75.

There are now slightly over 1,000 (1,053) museum institutions housed in buildings which were not constructed for museum use. In most cases these are former residences, or public buildings originally designed for quite a different purpose. In the majority of cases, conversion to museum use could only be partially successful in terms of adequately meeting the standards set by new construction. Approximately 60 percent, or 630, of these institutions should undertake new construction within the next 10 years in order to house and display their collections adequately.

Assuming that the effective life of a public building is about 50 years, another 124 buildings will need either replacement or extensive remodeling by 1970.

A factor which will not be taken into account in the cost estimates, but is included here for consideration is the increasing inclusion by schools of visits to museum institutions as necessary parts of the school curriculum. If this trend continues to develop, many new museum institutions may be required to serve sparsely settled areas of the country where a trip to the nearest museum is now out of the question because of the great distances involved.

Assuming a cost of \$0.87 million per unit or new building (based on actual average construction costs, 1957-65, plus allowance for increase in construction costs over the next 10 years), total capital outlay required during the period 1966-75 will be \$950 million. This would amount to an average of \$95 million per year, or about four times the current rate of expenditure.

Since no major changes are foreseen in museum ownership patterns, it is expected that future capital outlays will be expended by the Federal Government, State agencies, local public bodies, and private non-profit organizations in roughly the same proportion as in the past. This would mean percentages of expenditure by governing authority as follows:

Private, nonprofit organizations, 65 percent.

Local public bodies, 16 percent.

State agencies, 12 percent.

Federal Government, 7 percent.

Recent trends in financing capital outlay, hardly yet reflected in construction put in place but evident in obligations for future construction, indicate that the "matching grant" from State or Federal Government may play a much larger role in museum construction in the future. Several States have authorized or appropriated funds under grant provisions, and others appear to be moving in that direction. The Federal Government has authorized such a grant to a municipality for museum construction under the Public Works Acceleration Act, and there are other possibilities, including urban renewal legislation. Taking this trend into account, it is estimated that approximately half of the financing for museum construction will come from the public sector and half from the private sector. Combining past precedents in the financing of museum construction with this emerg-

ing trend, sources for future capital for this purpose may be broken down as follows:

Gifts, bequests, donations, 50 percent.

Appropriations from tax resources, 25 percent.

Municipal bond issues, 10 percent.

State grants-in-aid, 7.5 percent.

Federal grants-in-aid, 7.5 percent.

Although the estimated capital requirements for the next decade greatly exceed past capital inputs for museum construction, the increasing public demand for museum services is expected to be reflected in increased willingness on the part of the public to pay for these services, both through direct giving and through indications to legislators at all levels of government that museum construction would be an appropriate use of public funds. We have already noted that the more than 100-percent rise in museum attendance from 1952 to 1962 was accompanied by a 100-percent rise in museum construction, and a 150-percent increase in funds expended for this construction. At present, we see no reason to expect a reversal of this trend.

NOTE.—The information in this report was taken from Laurence Vail Coleman's *Museum Buildings* (American Association of Museums, 1950), *Museum Report 1*, a survey of museum construction conducted in 1961, *Museum News*, 1948-65, and Annual Reports and other information on individual museums in the files of the American Association of Museums.

CHAPTER 36

Public Libraries*

A. NATURE AND COMPOSITION

1. DESCRIPTION OF FACILITIES

(a) *General Characteristics and Services Rendered*

The growing complexity of our modern world, rapidly changing occupational structure, and increased leisure in our affluent society have greatly increased the importance of our library resources as an integral part of our educational system. Public libraries of the United States provide knowledge and inspiration to all who use them. In 1966, it is estimated that total circulation from these libraries will approximate 1 billion books loaned to some 55 million citizens. In addition to these borrowers, millions use public libraries to study, do research, listen to music records, watch films, or simply for recreational reading. Public library users include businessmen, workers, researchers, professionals, housewives, children and teenagers, farmers, members of the Armed Forces—in fact, all segments of the population.

Public libraries have a number of common elements, including physical space, shelves with books, tables and chairs for readers, a circulation desk, and work areas and equipment for staff. However, the extent and variety of facilities and services depend in large part on the size of the community which the library serves. Thus, for a very small community, the library may be housed in a single room in a village hall or community center, which provides a couple dozen bookshelves with a few hundred books, four or five chairs, and possibly one table for readers. The library, probably staffed by an untrained librarian, may be open 4 to 6 hours per week.

*This chapter prepared by Nathan M. Cohen, Chief, Reports Unit, Library Services and Construction Section, Library Services Branch, U.S. Office of Education, Department of Health, Education, and Welfare, with minor editing by committee staff.

A library in a community of 25,000 may have 11,000 square feet, with studying or reading space for 150 people, a meeting room for a group of approximately 100, shelving for 65,000 volumes, periodical racks, facilities for listening to records, pamphlet files, circulation desk with book charger and other equipment, a children's room, staff workroom with special equipment, and restrooms.

A library system serving 300,000 people probably will be based on a central library seating about 300. This central library may have a number of special departments, including science and technology, reference, fine arts, history and biography, and special collections and reading space for children and young adults. Other units in this library are: a technical processing area with special equipment, a separate record listening room, an audiovisual room and equipment, and auditorium and multipurpose room seating 200, staff and restrooms. The extension department will include about five branch libraries and one or more bookmobiles, each with a complement of shelves, books, and other facilities. Total floor area of the system will be about 120,000 square feet.

(b) *Standards for Public Library Construction*

A number of general standards or suggestions for public library buildings appear in the American Library Association's *Public Library Service* . . . and *Interim Standards for Small Public Libraries*.¹ Table 1 presents suggested specific criteria developed for the association for smaller communities of various sizes. Data in table 2, which are for a wider range of community size, are labeled "experience formulas" because these were developed by the authors on the basis of data collected from an actual sample of libraries.

In 1965, local public libraries occupied an estimated 55 million square feet of space and State library extension agencies about 1.5 million square feet. Local public libraries, however, reported needs for the addition of about 40 million square feet at an estimated cost of approximately \$1 billion.

¹ American Library Association. *Public Library Service, A Guide to Evaluation, with Minimum Standards*. Chicago, The Association, 1956. *Interim Standards for Small Public Libraries: Guidelines Toward Achieving the Goals of Public Library Service*. Chicago, The Association, 1962.

TABLE 1.—Guidelines for determining minimum library space requirements

Population served	Shelving space ¹		Reader space	Staff work space	Estimated additional space needed ² (square feet)	Total floor space
	Size of book collection	Linear feet of shelving ²	Amount of floor space			
Under 2,499	10,000 volumes	1,300 linear feet	1,000 square feet	300 square feet	300	2,000 square feet.
2,500 to 4,999	10,000 volumes plus 3 books per capita for population over 3,500.	1,300 linear feet. Add 1 foot of shelving for every 8 books over 10,000.	1,000 square feet. Add 1 square foot for every 10 books over 10,000.	300 square feet.	700	2,500 square feet or 0.7 square foot per capita, whichever is greater.
5,000 to 9,999	15,000 volumes plus 2 books per capita for population over 5,000.	1,875 linear feet. Add 1 foot of shelving for every 8 books over 15,000.	1,500 square feet. Add 1 square foot for every 10 books over 15,000.	500 square feet. Add 150 square feet for each full-time staff member over 3.	1,000	3,500 square feet or 0.7 square foot per capita, whichever is greater.
10,000 to 24,999	20,000 volumes plus 2 books per capita for population over 10,000.	2,500 linear feet. Add 1 foot of shelving for every 8 books over 20,000.	2,000 square feet. Add 1 square foot for every 10 books over 20,000.	1,000 square feet. Add 150 square feet for each full-time staff member over 7.	1,800	7,000 square feet or 0.7 square foot per capita, whichever is greater.
25,000 to 49,999	50,000 volumes plus 2 books per capita for population over 25,000.	6,300 linear feet. Add 1 foot of shelving for every 8 books over 50,000.	5,000 square feet. Add 1 square foot for every 10 books over 50,000.	1,500 square feet. Add 150 square feet for each full-time staff member over 13.	5,250	15,000 square feet or 0.6 square foot per capita, whichever is greater.

¹ Libraries in systems need only to provide shelving for basic collection plus number of books on loan from resource center at any one time.

² A standard library shelf equals 3 linear feet.

³ Space for circulation desk, heating and cooling equipment, multipurpose room, stairways, janitors' supplies, toilets, etc., as required by community needs and the program of library services.

Source: American Library Association. *Interim Standards for Small Public Libraries: Guidelines Toward Achieving the Goals of "Public Library Service."* Chicago, the Association, 1962.

TABLE 2.—*Experience formulas for library size and costs*

Population size	Book stock, volumes per capita	No. of seats per 1,000 population	Circulation volumes per capita	Total square feet per capita	Desirable 1st floor square feet per capita	1961 fair estimated cost per capita ¹
Under 10,000.....	3½-5	10	10	0.7-0.8	0.5-0.7	\$15
10,000 to 35,000.....	2¾-3	5	9.5	.6-.65	.4-.45	12
35,000 to 100,000.....	2½-2¾	3	9	.5-.6	.25-.3	10
100,000 to 200,000.....	1¾-2	2	8	.4-.5	.15-.2	9
200,000 to 500,000.....	1½	1¼	7	.35-.4	.1-.125	7
500,000 and up.....	1-1¼	1	6.5	.3	.06-.08	6

¹ Without furnishings (add 15 percent) or air conditioning (add 10 percent). These figures were originally based on 1940 conditions and have now been increased to reflect larger present book stocks. Floorspace has been reduced because of economies.

Source: Wheeler, Joseph L., and Herbert Goldhor. *Practical Administration of Public Libraries*. New York, Harper and Row, 1962, p. 554.

The data above and other data presented in this chapter are derived primarily from unpublished Office of Education sources. Data on public libraries for 1962, the latest year for which detailed State figures are available, are from a forthcoming Office of Education publication, *Public Library Statistics, 1962*. The total public library universe was surveyed for this study. Data for 1965 represent extrapolations and projections from a more recent survey by the U.S. Office of Education, to be published under the title, *Survey of Public Library Building Facilities, 1963-64*. From the latter survey, data have been analyzed for a library sample estimated to represent 61 percent of the population served by public libraries.

2. EXISTING CAPITAL PLANT OF PUBLIC LIBRARIES

In 1962, there were an estimated 7,257 community, county, regional, district or other local public library agencies in the United States. Of these, 6,264 responded to the survey which provides the most recent fully analyzed data available. Information on the number of library units is summarized in the first column of table 3, which also gives comparable information for selected earlier years. A State-by-State breakdown of the 1962 data, excluding bookmobiles, is shown in table 4.

TABLE 3.—*Number of public library units,¹ by type, 1945-62*

	1962	1956	1950	1945
Total.....	24,301	19,560	11,738	8,073
Central libraries.....	² 6,264	6,263	6,028	6,026
Branches and subbranches.....	5,725	5,285	5,107	2,047
Stations ³	11,031	7,132	(4)	(4)
Bookmobiles.....	1,281	880	603	(4)

¹ Data are derived from reports submitted to U.S. Office of Education for various surveys. Since only reported units are included, data are not for entire universe.

² Change in status of hundreds of libraries from separate agencies to members of systems between 1956 and 1962 accounts for the lack of change in number of central libraries between the 2 periods.

³ Stations are distribution points which may be located in a rural store, post office, or other community facility. They have no permanent book collections and no library staff.

⁴ Data not reported for these years.

TABLE 4.—*Distribution of public library units (excluding bookmobiles), 1962*

	Total	Central libraries	Branches	Stations
Total	23, 020	6, 264	5, 725	11, 031
Alabama.....	528	75	89	364
Alaska.....	24	23	1	1
Arizona.....	121	35	11	75
Arkansas.....	355	53	130	172
California.....	1, 419	179	627	613
Colorado.....	199	91	38	70
Connecticut.....	311	188	91	32
Delaware.....	25	18	3	4
District of Columbia.....	18	1	17	—
Florida.....	214	115	84	15
Georgia.....	890	87	187	625
Hawaii.....	41	4	20	17
Idaho.....	75	66	3	6
Illinois.....	718	395	114	209
Indiana.....	551	239	128	184
Iowa.....	497	330	92	75
Kansas.....	225	192	22	11
Kentucky.....	588	73	76	439
Louisiana.....	381	55	292	34
Maine.....	196	177	7	12
Maryland.....	132	23	95	14
Massachusetts.....	937	351	228	358
Michigan.....	1, 041	264	222	555
Minnesota.....	665	183	103	379
Mississippi.....	305	57	129	119
Missouri.....	863	147	126	590
Montana.....	111	47	36	28
Nebraska.....	219	184	24	11
Nevada.....	25	17	7	1
New Hampshire.....	240	202	22	16
New Jersey.....	614	296	122	196
New Mexico.....	39	35	4	—
New York.....	1, 078	95	879	104
North Carolina.....	1, 039	97	203	739
North Dakota.....	62	48	8	6
Ohio.....	2, 685	249	403	2, 033
Oklahoma.....	93	63	15	15
Oregon.....	256	94	76	86
Pennsylvania.....	1, 201	297	126	778
Rhode Island.....	84	60	11	13
South Carolina.....	547	50	102	395
South Dakota.....	119	79	12	28
Tennessee.....	1, 276	22	189	1, 065
Texas.....	426	205	137	84
Utah.....	89	50	36	3
Vermont.....	164	145	11	8
Virginia.....	135	64	47	24
Washington.....	334	93	169	72
West Virginia.....	280	37	26	217
Wisconsin.....	452	283	65	104
Wyoming.....	89	21	43	25
Canal Zone.....	11	1	3	7
Guam.....	1	1	—	—
Puerto Rico.....	19	7	12	—
Virgin Islands.....	4	1	3	—

Source: Unpublished data in files of U.S. Office of Education for forthcoming publication, *Public Library Statistics, 1962*. Part 2. Data are for libraries reporting in this survey and not for entire universe.

It is noteworthy that, despite the recent steady growth in the number of public library units in the United States, the aggregate number of separate library agencies and library systems has remained relatively constant, as indicated by table 3. This is the result of a trend for small independent libraries to join library systems in order to broaden their tax base and improve service. Despite this trend toward consolidation, however, many small communities and library districts continue to operate independently. As a result, approximately one-half of the public library agencies in 1962 were located in places of less than 5,000 population. This is reflected in the data summarized in table 5. In this table a village library in a

single room counts as heavily as a city library system with a central library and many branches. Hence, the data provide only an indication of the distribution of library agencies (and not facilities) by size of community.

Based on extrapolations of data from the 1964 library survey,² the approximate distribution of publicly owned library buildings by date of construction is shown below:

Construction period:	Proportion of all buildings (percent)
Before 1905-----	16
1905 to 1924-----	22
1925 to 1960-----	48
1961 or later-----	14
	100

TABLE 5.—Distribution of public library agencies by population of area served

Population category:	Number of libraries
500,000 and over-----	36
100 to 499,999-----	228
50,000 to 99,999-----	333
10,000 to 49,999-----	1,575
5,000 to 9,999-----	910
Below 5,000-----	3,182
Total-----	6,264

Source: Unpublished data in files of U.S. Office of Education for forthcoming publication, *Statistics of Public Libraries, 1962*. Part 2. Data are for libraries reporting for this survey and not for entire universe.

The fact that so many libraries built during the "Carnegie era" are still in use and that some 38 percent of existing library buildings are more than 40 years old is evidence of a substantial backlog of needed construction for replacement. These needs, of course, must be added to needs for expansion of existing plant, which have been mentioned earlier.

Almost all of the public libraries are owned by public bodies. Of the estimated 56.5 million square feet of space occupied for public library purposes in 1965, approximately 49 million square feet (or 86.7 percent) were owned by cities, counties, towns, special districts, public authorities, or local public bodies. About 6 million square feet (or 10.6 percent) were leased from private owners for library uses. As already noted, approximately 1.5 million square feet (or 2.7 percent) were owned by State governments.

Estimated current replacement value of State and locally owned facilities and structures in 1965 is \$1,262.5 million.³ Estimated current replacement value of furniture and equipment in rented quarters is \$22.5 million.

B. COSTS AND USER CHARGES

1. COSTS

In 1965 new public library buildings cost about \$25 per square foot. Additions to existing buildings cost about \$20 per square foot, and remodeling and alterations about \$8 per square foot.³ Costs varied

² Unpublished data in files of U.S. Office of Education for publication, *Survey of Public Library Building Facilities, 1963-64*.

³ These figures include costs of land, site development, architects' fees, construction, and initial equipment.

in different size communities. Table 6 gives some examples of recent construction project costs.

The 1963 operating budgets for three libraries are summarized in table 7. These budgets, believed to be typical, indicate that about 10 percent is spent for maintenance purposes. This includes janitorial service and salaries, building repairs and maintenance, repair and replacement of furniture and equipment, and utilities.

TABLE 6.—*Cost of 4 public library construction projects, 1965*

Name of project, location, and type	Population served	Cost of project	Square feet	Cost per square foot
DEER PARK PUBLIC LIBRARY, DEER PARK, N.Y.				
New central building serving the city.....	16,726	\$271,300	11,600	\$23.38
AKRON PUBLIC LIBRARY, AKRON, OHIO				
New central building serving the city of Akron and the remainder of Summit County not served by other libraries.....	513,569	4,651,863	144,000	32.30
HOUSTON MEMORIAL LIBRARY, DOTHAN, ALA.				
Remodeling of headquarters building for county library.....	50,718	128,784	26,425	4.87
YUMA CITY-COUNTY LIBRARY, YUMA, ARIZ.				
Addition to main library serving the city and county of Yuma.....	46,235	335,000	13,400	25.00

TABLE 7.—*Operating expenditures, 3 library systems, 1963*

	Total amount	Percent	Operating expenditures		Maintenance	
			Amount	Percent	Amount	Percent
Total.....	\$2,066,449	100	\$1,858,599	90	\$207,850	10
1. City library serving 83,254 population in compact area near Los Angeles.....	415,178	100	365,079	88	50,099	12
2. County library serving 153,401 population in urban area.....	565,111	100	491,752	87	73,359	13
3. City library serving 300,000 in metropolitan area of 513,870 population in Midwest.....	1,086,160	100	1,001,768	92	84,392	8

Source: American Library Association. *Costs of Public Library Service, 1963*. A supplement to *Public Library Service, a Guide to Evaluation, With Minimum Standards*. Chicago, the Association, 1964, pp. 9, 11, 13.

2. USER CHARGES

Public libraries, by definition, do not have user charges. Fines for overdue books (or similar fees) are punitive measures designed to stimulate return of books so that others may borrow them. Fines and other fees are a very small percentage of library income; they are usually credited to the community general fund and not to the public library account.

C. TREND OF CAPITAL OUTLAYS AND SOURCES OF FUNDS

Capital outlay for public libraries has shown a huge increase in the past 20 years, rising from an estimated \$1.8 million in 1946 to \$103 million in 1965, as shown in table 8. This increase is accounted for by

the large increase in local funding from \$1.6 to \$70.9 million, and the introduction of \$29.9 million in Federal funds for the first time in 1965.

Local funds have been the greatest source of support for public library construction in recent years. In 1946 about 88 percent of such support was local, while in 1965 the local portion was 69 percent. In 1965 the Federal Library Services and Construction Act contributed 29 percent of public library construction funds.

Endowments and other private sources amounted to about 12 percent in 1946 and 1.6 percent in 1965. State funds for local public library construction first became available in 1965 when Maryland and Rhode Island appropriated \$275,000 and \$100,000 respectively. It is estimated that State governments contributed about 0.4 percent of total funds for public library construction in 1965. State governments have appropriated funds for State library agency construction on occasion, but data on an annual basis are not available.

TABLE 8.—*Capital outlay, public libraries, by source, for selected years 1945-65¹*

[In millions of dollars]

	Total ²	Local-State			Federal	Endowment and other private source
		Total	Local	State		
1965.....	103.0	71.4	70.9	0.5	29.9	1.7
1964.....	61.3	60.1	60.1	-----	-----	1.2
1962.....	27.7	26.8	26.8	-----	-----	.9
1956.....	12.3	11.7	11.7	-----	-----	.6
1950.....	4.4	4.1	4.1	-----	-----	.3
1946.....	1.8	1.6	1.6	-----	-----	.2
1945.....	1.2	1.0	1.0	-----	-----	.2

¹ Data for local funds for 1945-62 are derived from reports of local libraries submitted to the U.S. Office of Education in various nationwide surveys of public libraries, with the exception of data for 1946 which are estimated. Data for 1964-65 local expenditures are based on extrapolations from partial returns from the Office of Education's *Survey of Public Library Facilities, 1963-64*. Data for endowment and other private sources are estimated except for 1965.

² Includes outlay for land, site development, architects' fees, construction and initial equipment.

Of the \$70.9 million local funds for capital outlay in 1965, approximately \$15.2 million (or 21 percent) was derived from bond issues passed in local elections. The balance of local funds came from other local bonds and local appropriations from tax sources. Federal funds of \$29.9 million were expended as grants to local and State libraries under the Library Services and Construction Act.

Endowment and other private sources in the amount of \$1.7 million in 1965 came from individuals and organizations. Estimated State funds of \$0.5 million were mostly expended in the form of grants to local libraries.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

(a) *Capital Requirements*

Capital outlay requirement for public library construction in the decade 1966-75 are estimated to total about \$1.9 billion. This is the amount estimated as necessary to construct nearly 68 million gross square feet of library space, assuming a schedule of expenditures as shown in table 9.

Estimated needs may be accounted for as follows:

Backlog—39.8 million square feet.—This estimate reflects needs reported by public library officials in unpublished data from the U.S. Office of Education's Survey of Public Library Building Facilities, 1963-64. Reports are generally based on American Library Association standards and suggested criteria described earlier in this chapter.

Population growth—15.8 million square feet.—The estimate is based on an allowance of 0.5 square foot per capita and an assumed population increase of 1.5 percent per year.

Obsolescence—12 million square feet.—Because such a large proportion of existing library facilities were built before 1925 this is a conservative allowance, but in view of the large backlog of unmet needs, it seems prudent to assume that no larger proportion of the present buildings will be replaced during this decade.

TABLE 9.—*Capital outlay of public libraries estimated as required to meet needs during the decade 1966-75*

Fiscal year	Estimated construction cost per square foot ¹	Capital outlay (millions)	Estimated square feet to be built (millions)
1966.....	\$25.50	\$140	5.5
1967.....	26.00	145	5.6
1968.....	26.50	166	6.2
1969.....	27.05	177	6.5
1970.....	27.60	188	6.8
1971.....	28.15	200	7.1
1972.....	28.70	207	7.2
1973.....	29.30	220	7.5
1974.....	29.90	228	7.6
1975.....	30.50	236	7.7
Total.....		1,907	67.7

¹ Includes land, site preparation, architects fees, construction and initial equipment. The assumed annual increase in construction costs is 2 percent, which may be unduly optimistic based on recent general trends in the construction industry.

(b) *Distribution of Needs by Population Size of Community*

No reliable estimate of this distribution can be made.

(c) *Spending Agencies for Capital Outlays*

It is anticipated that the great majority of the projected capital outlays will be expended by cities, counties, towns, special library districts, etc. A small proportion, probably not exceeding 2 percent, is expected to be expended by State governments or State library agencies.

CHAPTER 37

Residential Group Care Facilities for Children*

This chapter deals with three types of facilities—detention homes, institutions for juvenile delinquents, and other child welfare facilities. Included in the last type are the following:

- (i) Institutions for care of dependent and neglected children;
- (ii) Residential treatment centers for emotionally disturbed children which are not part of a psychiatric hospital;
- (iii) Maternity homes for provision of social and health services for unmarried mothers; and
- (iv) Group homes owned or operated by a social agency for about 4 to 12 children, with house parents who are full-time employees of the agency.

A. NATURE AND COMPOSITION OF PUBLIC WORK OR FACILITY

1. DESCRIPTION OF FACILITIES

(a) *General Physical Characteristics*

1. Detention for the juvenile court is the temporary care of children in physically restricted facilities pending court disposition or transfer to another jurisdiction or agency. Facilities used by the court for the detention of children generally are referred to as detention homes. Since they must offer a full program for meeting children's needs within secure custody, detention requires special planning in construction. They tend to be found in the more heavily populated areas of the United States, but they vary considerably in size (see table 1).

2. Institutions for delinquent children are defined in this report to include those specialized facilities which are designed primarily for the care and treatment of delinquent children committed to them by the courts. These institutions have the legal responsibility to provide food, clothing, shelter, education, ordinary medical care; and the duty to protect, to train, and to discipline the child. Typically, these institutions must include physical facilities such as cottages or dorms for housing, school buildings, chapels, dining and recreation halls, administrative buildings, etc. There is great variation in the number and number and size of the physical facility needs for these institutions. Two important factors related to these variations in need include the number of children to be served and the type of institutional treatment which is to be provided. Tables 2 and 3 show the ranges in size and type among these institutions.

3. The other facilities included under child welfare institutions serve populations from about 12 up to 900 children. The smallest institu-

*Prepared by Miss Hannah Adams, Dr. Leonard Hippchen, Mr. Martin Gula, under editorship of Mr. Bernard Greenblatt, all of the Children's Bureau, U.S. Department of Health, Education, and Welfare, with minor editing by committee staff.

tions and maternity homes may be housed in one congregate building with administrative offices, kitchen, dining room, and dormitory space. There may be one or more residential cottages housing from about 8 to 15 children. Playground space is included in the total "campus."

TABLE 1.—*Capacity of detention homes in the United States, 1964*

Capacity	Number	Percent
Total.....	200	100
Under 10.....	10	5
10 to 24.....	80	39
25 to 49.....	48	24
50 to 99.....	40	20
100 to 199.....	12	6
200 to 299.....	5	3
300 or more.....	5	3

Source: Children's Bureau, Welfare Administration, 1966. (Capacities of 81 detention homes unknown.)

TABLE 2.—*Capacity of public institutions for delinquent children, 1964*

Capacity	Number	Percent
Total.....	233	100
Less than 50 children.....	40	17
50 to 99.....	60	26
100 to 149.....	36	15
150 to 199.....	23	10
200 to 249.....	16	7
250 to 299.....	21	9
300 to 399.....	18	8
400 or more.....	19	8

Source: Children's Bureau, Welfare Administration, 1966. (Capacity for 43 institutions is unknown.)

TABLE 3.—*Public institutions serving delinquent children in the United States, by type, 1964*

Type of institution	Number	Percent
Total.....	274	100
Training schools.....	198	72
Forestry camps.....	63	23
Reception-diagnostic centers.....	13	5

Source: Children's Bureau, Welfare Administration, 1966. (Type for 2 institutions is unknown.)

The larger institutions serve several hundred children or more and include administrative buildings, school buildings, vocational training and shop buildings, farm buildings, hospital and nursing facilities, gymnasium, and individual residential cottages. A few of these institutions are large congregate-type structures with two or more levels which include a variety of the facilities usually housed in separate buildings.

(b) *Services Rendered*

1. Detention homes serve primarily juveniles referred to them by local juvenile courts, although some States include detention homes which are designed to serve a group of juvenile courts within a given region.

2. The majority (82 percent) of the 276 public institutions serving delinquent children are statewide in coverage and receive commitments from courts throughout the State;¹ a minority (18 percent) are locally operated institutions, and receive commitments from courts of only a single county or municipality. Private institutions more frequently serve wards received from a region rather than statewide.

3. The home addresses of children or adolescents accepted for care in the other child welfare institutions would generally reflect the general distribution of population nationally.

4. On this basis, it is estimated that about 70 percent ² of the children come from urban and suburban areas; 30 percent from predominantly rural areas. More children in these welfare institutions come from low income sections of urban and rural communities.

(c) *Standards of Performance*

1. No quantitative standards of performance for detention homes appear to exist. However, it is known that in 1964, 686,000 juvenile delinquency cases, exclusive of traffic cases, were disposed of by juvenile courts in the United States.³ These involved about 2 percent of the U.S. child population, ages 10 to 17. The exact number of children who were detained is not known, but it is estimated that possibly as many as 300,000 children from 7 to 17 inclusive are held in jails and jail-like places of detention each year.⁴ They also state that many of these children did not need to be detained in a secure facility.

2. No quantitative standards of performance for institutions serving delinquent children have been established. However, these institutions in 1964 served an average of 172 per 100,000 child population (10 to 17 years of age) in the United States. Regionally, the rate ranged from 95 per 100,000 in the Middle Atlantic region to 296 per 100,000 in the Pacific region.⁵

3. There are no recognized standards for amount of child welfare residential facilities needed per given unit of child population. However in 1965 the rate for children being cared for in institutions for dependent and neglected children was 10 children per 10,000 child population under 21 years of age.⁶

(d) *Qualitative Standards of Performance*

1. Qualitative standards for detention homes recommended by juvenile delinquency specialists include: (1) Rate of detaining—it is recommended that no more than 10 percent of the total number of apprehended juveniles in any community need to be detained in a place of secure custody; (2) Detention homes should be made entirely secure; (3) All sleeping rooms should be individual rooms, approximately 8 feet by 10 feet in size when equipped with toilet and wash-basins; (4) The capacity of a detention home should be not less than 20 nor more than 60 for greatest efficiency and program effectiveness; (5) The child-staff ratio should be 3:4 or 4:4; (6) The temporary stay

¹ In this report, data referring to the two federally operated juvenile institutions in the United States will be included with the State data.

² U.S. Bureau of the Census, *Census of Population, 1960, U.S. Summary General Social and Economic Characteristic*, PC (1), 1 C, table 65.

³ *Juvenile Court Statistics, 1964*, Children's Bureau Statistical Series No. 83, Department of Health, Education, and Welfare, 1965.

⁴ Estimated by detention consultants, Children's Bureau.

⁵ *Statistics on Public Institutions for Delinquent Children, 1964*, Children's Bureau Statistical Series No. 81, Department of Health, Education, and Welfare, 1965.

⁶ Annual reports of State departments of public welfare to the Children's Bureau, 1965 and estimated population under 21 years of age, July 1, 1965, Bureau of the Census.

of a child in detention should be planned for from 10 days to 2 weeks; (7) In order to support an adequate detention home program, consultants recommend building detention facilities in areas of 250,000 or more population.

2. Qualitative standards⁷ for juvenile delinquent institutions include such factors as: forestry camps should be built to accommodate no more than 50 children, training schools for no more than 150 children; institutions should be located near enough to a university or an urban center to make available the specialists who can provide the staff with consultation and stimulation as well as special services for children, such as hospitals; living units should be single-story cottages, including both single rooms and small dormitories, and dormitories should allow a minimum of 500 cubic feet of air space per child, with at least 3 feet between the sides of beds and a wall; separate housing should be provided for cottage personnel, rather than having them live with the children. Additional elements of performance, based upon reported data from institutions for 1964,⁸ include: (a) Average length of stay, 9.3 months; (b) Occupancy rate, 40 percent of all institutions were housing more than their stated capacity; (c) Per capita operating expenditures, \$3,020 annually per child; and (d) child-staff ratio, 2.2 children for every full-time staff member.

3. Qualitative standards for other child caring institutions have been developed in terms of such factors as: administration and organization; income needed for operation; board qualifications and responsibilities; location of institutional property; adequacy of physical space, facilities and staff; quality and adequacy of services to parent and child; nature of diagnosis, treatment, planning, and evaluation; etc. Such standards have been developed by most public State licensing agencies and by voluntary national organizations.⁹

Institutions are grouped on three levels of quality: (1) custodial, (2) casework oriented, and (3) clinically oriented. The custodial institutions provide basic shelter, food, clothing, recreation—but provide little if any educational, casework, psychological, or psychiatric services. A “mass” approach is generally used in providing this custodial care. Staff ratio in such institutions is usually one full-time staff member for three children in residence.

A smaller number of institutions and maternity homes have developed more individualized care for children and youth with the addition of some casework services, some remedial education, and some psychological and psychiatric consultation. These can be classified as casework oriented institutions. Staff-child ratio is one full-time staff member for two children in residence. The smallest number represents residential treatment centers which are clinically-oriented. These institutions have most highly individualized treatment programs for children, utilizing a full corps of casework, educational, psychological, and psychiatric services. Staff-child ratio is usually one full-time staff member for each child in residence.

⁷ *Institutions Serving Delinquent Children: Guides and Goals*, Children's Bureau publication No. 360, revised, 1962, Department of Health, Education, and Welfare.

⁸ *Statistics on Public Institutions for Delinquent Children, 1964*, Children's Bureau Statistical Series No. 81, Department of Health, Education, and Welfare, 1965.

⁹ *Standards for Services of Child Welfare Institutions* (Child Welfare League of America, 44 East 23d Street, New York, N.Y. 1963), and the Florence Crittenton Association of America: *Standards for Florence Crittenton Association Maternity Home Services* (Florence Crittenton Association Maternity Home Services, Florence Crittenton Association, 608 South Dearborn Street, Chicago, Ill., 1965).

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) *Number of Facilities.*

As of 1965:

1. There are an estimated number of 281 detention homes in the United States, its territories and possessions.

2. An estimated number of 400 institutions serving primarily juvenile delinquent children were in operation in the United States, its territories, and possessions (276 public, 103 voluntary, 21 proprietary).

TABLE 4.—*Distribution by State of detention homes (1965), public, voluntary, and proprietary juvenile delinquency institutions (1964), and public and voluntary child welfare institutions (1965)*

State	Detention homes ¹	Juvenile delinquency institutions			Public and voluntary child welfare institutions ³
		Public ¹	Voluntary ²	Proprietary ²	
Total.....	281	276	103	21	1,580
Alabama.....	5	3	0	0	21
Alaska.....	3	1	0	0	19
Arizona.....	2	1	3	0	15
Arkansas.....	3	4	1	0	12
California.....	39	51	8	2	70
Colorado.....	2	3	2	0	23
Connecticut.....	3	2	2	0	16
Delaware.....	1	2	0	0	6
District of Columbia.....	1	1	0	0	12
Florida.....	14	7	0	0	27
Georgia.....	6	3	0	0	36
Guam.....	0	0	0	0	0
Hawaii.....	2	2	0	0	4
Idaho.....	0	1	0	0	4
Illinois.....	10	16	5	0	95
Indiana.....	6	4	3	0	50
Iowa.....	3	2	0	0	17
Kansas.....	6	2	2	0	18
Kentucky.....	4	5	4	0	50
Louisiana.....	4	4	1	0	40
Maine.....	0	2	0	0	15
Maryland.....	2	7	1	0	20
Massachusetts.....	4	11	0	0	32
Michigan.....	17	6	9	0	48
Minnesota.....	2	8	1	0	15
Mississippi.....	0	2	1	0	13
Missouri.....	4	9	0	0	50
Montana.....	1	2	1	0	9
Nebraska.....	2	2	1	0	17
Nevada.....	0	2	0	0	1
New Hampshire.....	10	6	3	0	44
New Jersey.....	1	3	0	0	6
New Mexico.....	5	9	12	0	109
New York.....	13	7	0	0	34
North Carolina.....	1	1	1	0	7
North Dakota.....	1	1	6	0	109
Ohio.....	23	4	3	0	31
Oklahoma.....	2	4	4	0	9
Oregon.....	4	4	16	0	134
Pennsylvania.....	22	11	0	1	14
Puerto Rico.....	2	4	0	0	6
Rhode Island.....	0	2	0	0	22
South Carolina.....	3	4	1	0	7
South Dakota.....	0	1	3	0	45
Tennessee.....	4	5	1	0	101
Texas.....	9	8	1	0	0
Utah.....	6	1	0	0	8
Vermont.....	0	1	0	0	2
Virgin Islands.....	0	1	0	0	37
Virginia.....	7	6	1	0	35
Washington.....	14	10	0	0	23
West Virginia.....	3	3	1	0	28
Wisconsin.....	4	4	3	18	4
Wyoming.....	0	2	0	0	

¹ Children's Bureau, Welfare Administration, 1966 (unpublished).

² Project on physical facilities for group care of children, Report No. 1, Center for Urban Studies, University of Chicago, December 1965.

³ Children's Bureau, Welfare Administration, 1965 (unpublished). Includes institutions for dependent and neglected children, residential treatment centers for emotionally disturbed children in a nonmedical setting, and maternity homes for unmarried mothers.

⁴ Excludes 2 Federal institutions

⁵ Includes 5 detention homes under voluntary auspices.

3. There were in operation in the United States approximately 1,580 other child welfare institutions¹⁰ under tax-supported or voluntary nonprofit auspices, *exclusive* of group homes (of which there are several hundred though the exact number is not known). These institutions *and* group homes as of March 31, 1965, were serving about 86,000 children.¹¹

(b) *Geographic Distribution*

Distribution of such facilities or structures by State: State by State distributions of detention homes, of institutions for juvenile delinquents, and of other child welfare institutions are presented, respectively, in table 4. The data presented are those most recently available.

(c) *Distribution by City Size*

The distribution of detention homes, by population and size of city in which located, is shown in table 5. Ninety-three percent of all detention homes are located in areas of 50,000 population or more.

TABLE 5.—*Population of area in which detention homes are located in United States, 1965*

Population	Number	Percent
Total.....	281	100
500,000 or more.....	64	23
100,000 to 499,999.....	154	55
50,000 to 99,999.....	42	15
10,000 to 49,999.....	18	8
2,500 to 9,999.....	2	
Under 2,500.....	1	(¹)

¹ Less than 0.05 percent.

Source: Children's Bureau, Welfare Administration, 1966.

The distribution of public institutions for delinquent children by population size of city in which located, is shown in table 6. Half of all institutions are located in or near cities of 75,000 or more: 21 percent are in or near cities of 20,000 to 74,999; and 20 percent are in towns of less than 20,000 population or in rural areas.

TABLE 6.—*Distribution of public institutions for delinquent children, by population size of city, 1965.*

Urban-rural areas	Number	Percent
Total.....	276	100
In metropolitan area (more than 250,000).....	35	13
Near metropolitan area (within 25 miles).....	44	16
In metro-intermediate area (75,000 to 250,000).....	28	10
Near metro-intermediate area (within 25 miles).....	29	11
In or near small town (in or within 25 miles of town 20,000 to 74,999).....	59	21
Rural (under 20,000).....	81	29

Source: Children's Bureau, Welfare Administration, 1966.

Child welfare institutions are widely scattered through urban, suburban, and to some extent rural areas. In the census of institu-

¹⁰ Unpublished list compiled by Children's Bureau from information furnished by State departments of public welfare.

¹¹ Annual reports of State departments of public welfare to the Children's Bureau, 1965.

tions conducted by the Bureau of the Census in 1960, 75 percent of the population of institutions for dependent and neglected children and homes for unmarried mothers was found in institutions located in standard metropolitan statistical areas of all sizes, and 52 percent of the population of these institutions was in institutions located in standard metropolitan statistical areas of 500,000 or more in population.¹²

(d) *Age Distribution*

(1) The distribution of detention homes in the United States by age is estimated by the detention consultants of the Children's Bureau as follows: 15 percent built prior to 1941; about 60 percent built between 1941-60; and about 25 percent were built since 1961.

(2) The distribution of public institutions for juvenile delinquents by age is shown in table 7. Twenty-two percent were built before 1900; 26 percent were built between 1901-40; and 52 percent were built since 1941.

TABLE 7.—*Distribution of age of public institutions for delinquent children, 1965.*

When built	Number	Percent
Total.....	266	100
Before 1900.....	58	22
1901 to 1920.....	44	17
1921 to 1940.....	25	9
1941 to 1960.....	102	38
1961 or later.....	37	14

Source: Children's Bureau, Welfare Administration, 1966. (Age of 10 institutions is unknown.)

The following represent estimates of the age distribution of other child welfare institutions made by specialists in the Children's Bureau.

Original or new construction:	Percent
Before 1900.....	40
During 1901-20.....	40
1921-40.....	10
1941-60.....	8
1961-present.....	2

(e) *Ownership Patterns*

1. Auspices of the 281 detention homes is as follows: city-county, 268; State, 8; voluntary, 5 (all in New York); and proprietary, none.

2. The ownership distribution of the institutions for juvenile delinquents is: State, 49 percent; city-county, 20 percent; voluntary, 26 percent; proprietary, 5 percent.

3. Of the 1,580 other child welfare institutions now in operation, 1,422 or 90 percent are under the auspices of private nonprofit organizations, and 158 or 10 percent are operated by governmental agencies, of which an estimated four-fifths are county or city agencies and one-fifth are State agencies.¹³ Although precise information is not available, the proportion of proprietary or profitmaking institutions is believed too slight to be significant.

¹² Derived from Bureau of the Census, *Inmates of Institutions*, 1960, tables 10, 31, and 42.

¹³ Unpublished list compiled by Children's Bureau from information furnished by State departments of public welfare.

(f) *Estimated Current Value*

1. The estimated capacity of the 281 detention homes in 1964 is approximately 12,000 (based on data in table 1). Since the average replacement cost is estimated at \$15,000 per bed,¹⁴ the estimated total replacement value of these homes is \$180 million.

2. In 1965, the 400 institutions primarily caring for juvenile delinquents had an estimated total bed capacity of 60,000 (table 2 projected). Based upon a replacement value of \$15,000 per bed (the average construction cost in 1965 estimated by the National Council on Crime and Delinquency), these facilities and structures would have a current value of \$1,050 million.

3. Based on an estimated average replacement cost per institution of \$700,000, the current value of the 1,580 other child welfare facilities is estimated at \$1,106 million. (The average replacement estimate is based on studies of plant evaluation of 43 institutions by the Duke Endowment.¹⁵ This replacement estimate is similar to that obtained by the Child Welfare League of America in its study of 16 residential treatment centers.¹⁶ The replacement value of these 16 facilities was calculated at \$11.8 million, or an average of \$750,000 per institution.)

B. COSTS AND USER CHARGES

1. CONSTRUCTION AND OPERATING COSTS

(a) *Construction Costs*

1. The National Council on Crime and Delinquency has estimated that the current range of construction costs for detention homes is from \$10,000 to \$20,000 per bed of planned capacity.

2. Construction costs vary considerably depending upon such factors as size of institution, region of construction, and type of institution. The National Council on Crime and Delinquency has estimated the 1965 range of construction costs of institutions similar in nature to those for delinquent children are between \$10,000 and \$20,000 per bed of planned capacity.

3. Building costs per square foot (including equipment) vary geographically according to labor costs. The range for other child welfare institutions would be \$15 to \$25 per square foot, according to estimates of specialists in the Children's Bureau and the American Institute of Architects. These estimates include costs of built-in equipment, but the percentage of the total costs which equipment constitutes is not known. Excluded are costs of land acquisition, site development, movable equipment, and furnishings; the specialists estimate the costs per square foot would increase by 10 to 20 percent if these were included.

(b) *Operating Expenses*

(These estimates are for costs of all salaries and expenses, other than for capital improvements.)

1. Detention home consultants estimate that the operational and maintenance costs of child care in detention homes currently range between \$7 to \$35 per day per child (\$5,475 average annually).

¹⁴ Estimate by the National Council on Crime and Delinquency.

¹⁵ Duke Endowment: *Annual Reports of the Hospital and Orphan Sections*. New York: Duke Endowment, December 1962.

¹⁶ Hylton, Ly'l: *The Residential Treatment Center—Children, Programs, and Costs*. New York: Child Welfare League of America, 1964.

2. The average annual per capita operating and maintenance expense for all public institutions serving delinquent children in 1964 was \$3,020 (\$8.27 per day per child). The range of average per capita operating expenses was from \$1,563 in the East South Central region to \$4,808 in the Middle Atlantic region, and from \$2,934 for training schools to \$4,468 for reception-diagnostic centers. (See table 8.)

TABLE 8.—*Annual per capita operating expenditure of public institutions for delinquent children, by type of institution, and region, 1964*

	<i>Annual per capita operating expenditures</i>
Regions and type of institution:	
All institutions.....	\$3, 020
Regions:	
New England.....	3, 606
Middle Atlantic.....	4, 808
South Atlantic.....	2, 237
East South Central.....	1, 563
East North Central.....	3, 380
West North Central.....	3, 023
West South Central.....	1, 965
Mountain.....	3, 174
Pacific.....	3, 994
Type of institutions:	
State training schools.....	2, 934
Local training schools.....	3, 184
Forestry camps.....	3, 120
Reception and diagnostic centers.....	4, 468

Source: *Statistics on Institutions for Delinquent Children*, Children's Bureau Statistical Series, No. 81 1965.

3. Available information on operating expenses of other child welfare facilities generally include minor repairs, replacements, salaries, and other expenses exclusive of capital improvements. However, there is currently no central source for data on the separate costs of annual maintenance which has been prepared in any standard way.

The best estimate of specialists in this area is that the total cost of operating institutions for dependent children range from \$7 to about \$15 per child day. The median cost is estimated at the low end of the range—perhaps as low as \$7.50. At the high end of the range are clustered the institutions providing more comprehensive clinical services, that is, the residential treatment centers. Studies have indicated that as the number of children under care increases, the fixed costs decreases.¹⁷ While this is generally true, there are many exceptions. High costs of maintenance reportedly are many times associated with age of building. In many of the antiquated buildings still being used, maintenance costs tend to be high.

2. USER CHARGES

(a) *User Charges*

1. Since detention homes principally are Government operated, user charges would be negligible.

2. User charges among public institutions serving delinquent children are negligible, estimated at less than 4 percent. A report of the United Community Funds and Councils of America, Inc.,¹⁸ in

¹⁷ Health and Welfare Council of Metropolitan St. Louis: *Costs and Income in Children's Institutions*. St. Louis: Health and Welfare Council, October 1962, *op. cit.*

¹⁸ *Summary Report, Expenditures 1960*, United Community Funds and Councils of America, Inc., New York, p. 18.

1960, estimated that related types of institutions under voluntary auspices received about 22 percent of their operating revenues from public funds and about 50 percent from contributions or united funds. Of the remaining 28 percent revenue, it is estimated that user charges accounted for an average of approximately 10 percent with a range of from 2 to 35 percent.

Among the other child welfare institutions, the general pattern of fee charging nationally is to charge for the total service; therefore no special charges are recorded for occupancy or use of facilities or structures.

Fees received in institutions for dependent children in 23 cities in 1960 amounted to 6.5 percent of total receipts. Sources of all income for governmental and voluntary institutions is summarized below:¹⁹

	Percent
Public funds:	
Local.....	33.6
State.....	16.0
Federal.....	1.2
Contributions:	
United fund or chest.....	13.3
Other.....	19.9
Other receipts:	
Fees.....	6.5
Investments.....	7.4
Other.....	2.2

Payments from public funds make up the largest source of income. Governmental institutions were financed about 96 percent from public payments. Institutions under voluntary auspices received about 22 percent from public funds and about 50 percent from contributions or united funds.

(b) *Extent of User Charges*

1. User charges are too negligible to be considered as a source of funds for meeting current operational or planned capital needs for detention facilities.

2. User charges typically contribute only a small proportion of operational and maintenance charges for public and voluntary institutions serving delinquent children. There are no known instances of institutions which set aside operating income to finance capital costs; this is specifically excluded in most united fund agreements with voluntary institutions.

3. Also in regard to other child welfare facilities, there are no known instances of institutions which set aside operating income to finance capital costs. (Again, this is specifically excluded in most united fund agreements.)

There is a wide range in the extent to which public payments to voluntary institutions meet total operating costs. In some areas a flat grant is made which has little relationship to actual costs. In New York City, a complex formula pays up to 90 percent of costs.

(c) *Use of Tax Resources, Public Borrowing*

1. For the construction of large detention homes, government financing probably is supported by sale of bonds; smaller homes may be financed by the government from general tax funds.

¹⁹ *Ibid.*

2. The general pattern nationally in financing capital costs for these institutions for juveniles and related types of other child welfare institutions is for some kind of special funding.

Regarding the voluntary institutions, a capital fund drive is generally conducted whereas for the government, bonds are usually issued. There are reportedly only a few States or local governments which use the general fund for capital costs of public institutions.

C. TREND OF CAPITAL OUTLAYS

1. TREND

Capital expenditure data for detention homes are not available on a national basis and consequently trends cannot be accurately determined. However, some indication of construction costs and capacities of detention homes built during 1949-56 can be gained from the selected data shown in table 9. This table shows the average cost of construction per bed during that period to be \$8,153. Since it is estimated that about 85 percent of the 281 detention homes (total capacity 12,000) were built since 1941, then on the basis of the cost of construction of \$8,153 per bed, it is roughly estimated that 239 detention homes (total capacity of 10,200) were built since 1941 at a total capital outlay of about \$83.2 million or an average of \$5.5 yearly.

(The source documents for the cost data do not specify whether they include components of costs such as land acquisition, site development-in and movable equipment and furnishings.)

TABLE 9.—*Costs of construction for selected detention homes, 1949-56*

Location	Year of construction	Cost of construction	Capacity	Cost per bed
Calif. ¹	1955	\$4,850,000	585	\$8,290
y, Wash. ¹	1952	1,250,000	80	15,625
.....	1950	600,000	35	17,142
y, Fla. ¹	1950	500,000	124	4,032
.....	1955	180,000	16	11,250
y, Ohio ¹	1955	150,000	22	6,818
Va. ¹	1953	125,000	30	4,167
ounty, Ind. ¹	1953	185,000	14	13,214
nty, Pa. ¹	1950	50,000	10	5,000
.....	1955	128,000	35	3,657
County, Kans. ¹	1954	170,000	33	5,152
y, Ariz. ¹	1955	175,000	38	4,605
y, Utah ¹	1952	125,000	16	7,813
nty, Calif.	1952	327,230	95	3,444
y, Calif.	1951	466,000	60	7,766
Calif.	1947	250,000	41	6,098
a County, Calif.	1950	659,000	84	7,845
ty, Calif.	1956	450,000	55	8,182
y, Calif.	1955	142,000	20	7,100
ty, Calif.	1955	100,000	15	6,667
ounty, Calif.	1954	1,250,000	160	7,812
o County, Calif.	1950	4,500,000	190	23,684
County, Calif.	1949	400,500	66	6,068
County, Calif.	1949	53,000	10	5,300
y, Ind.	1952	325,000	19	17,105
Average, 25 detention homes.....				8,153

¹ 12 States from various regions of the United States (1950-55) detention homes construction—average per bed.

Source: Children's Bureau, Welfare Administration, 1966.

Table 10 presents capital expenditure data for 6 selected years of the period 1953-64 for public institutions serving delinquent children who reported data to the Children's Bureau. It is estimated that institutions during the period had capital expenditures averaging \$66,830 annually per institution. Based upon an average number of institutions for that period, the average annual capital outlay for these institutions is estimated to be \$13,967,470; for the 1953-64 period, total capital outlays is estimated to be \$167,609,640. It is estimated that the major proportion of these expenditures were for additions to existing structures, rather than for construction of entirely new and complete facilities. However, there has been a trend toward development of more diversified institutional approaches to the treatment of juvenile delinquents during the 1953-64 period. The newer facilities which have been built have tended to be more of the forestry camp and reception-diagnostic center type of institution, rather than the training school type. Training schools tended more to build additions to existing institutional complexes. Information concerning capital expenditures of voluntary institutions is not available.

TABLE 10.—*Annual expenditure, per capita operating¹ and capital expenditures of public institutions for delinquent children, 1953-64. (Selected years)*

Year	Total number of institutions	Number reporting institutions	All expenditures ²	Operating-maintenance expenditures	Capital expenditures	Average daily population	Average per capita operating expenditures	Average per institution capital expenditure ³
1953	129	107	\$46,958,524	\$36,565,690	\$10,393,834	18,421	\$1,985	\$97,130
1956	175	139	59,150,000	51,460,500	7,689,500	27,184	1,893	55,320
1958	213	162	75,718,600	63,698,400	12,020,200	29,561	2,155	74,190
1962	230	226	119,083,472	101,629,074	17,454,398	38,722	2,625	77,230
1963	235	230	119,663,892	108,272,905	11,390,987	39,231	2,760	49,520
1964	274	245	128,633,130	117,566,659	11,066,471	38,924	3,020	47,610

¹ Per capita operating expenditure for each institution was computed by dividing the total of operating-maintenance expenditures by the average daily population.

² Based only on expenditures of reporting institutions for each year.

³ 1953-64 average annual capital expenditure per institution is \$66,830.

Source: *Statistics on Public Institutions Serving Delinquent Children*, Children's Bureau Statistical Series, 1953-64.

The only national data available on the extent of capital outlays for other child-caring institutions are preliminary estimates, prepared in advance of the report of a national survey, and, therefore, subject to subsequent revision.²⁰ These estimates pertain primarily to institutions for seven or more children in these categories: Maternity homes for unmarried girls; institutions for dependent and neglected children, institutions for (pre-)delinquents, including detention homes; and institutions for emotionally disturbed children. Data on which the estimates are based were reported by public, voluntary, and proprietary institutions.

Data on capital expenditures during the 1960's for new construction and for remodeling from a sample of 181 places were projected to the

²⁰ The survey is being conducted by the Center for Urban Studies, University of Chicago, *Project on Physical Facilities for Group Care of Children*. Indebtedness to Dr. Donnell M. Pappenfort, project director, for providing the advance estimates is hereby acknowledged.

national total of 1,972 institutions in the categories mentioned above. During the 1960's the national estimate of capital outlays for remodeling of such institutions is \$71.5 million, and for new construction, \$319.4 million. The estimated total of capital outlays, rounded off, is \$390.8 million. (The survey data do not specify components of cost such as land acquisition, site development, built-in and movable equipment and furnishings.)

2. OWNERSHIP PATTERN OF CAPITAL OUTLAYS

(i) Auspices of capital expenditures for detention are estimated by detention consultants to have been as follows: 15 percent, State; 85 percent, city-county.

(ii) It is estimated²¹ that about 90 percent of the capital expenditures for juvenile delinquents during the years 1953-64 were made by State governments and that about 10 percent were made by cities and/or counties. The proportionate amounts of capital expenditures by voluntary and proprietary institutions serving delinquent children are not available.

(iii) National statistics for the other child welfare institutions are not available. It is estimated by the Children's Bureau specialist that the largest proportion of capital outlays have been made by private nonprofit organizations. State and local governments have made a smaller outlay. Proprietary organizations have made the smallest capital outlay.

3. SOURCES OF FINANCING

(i) Large detention homes probably were financed by the issuance of bonds by local governmental bodies or States; small homes probably were financed from general tax sources.

(ii) The general pattern nationally in financing capital expenditures by States for institutions such as those for delinquent children is through the issuance of bonds. There are reportedly only a few States or local governments which use the general fund for capital costs of public institutions.

(iii) Statistics on other child welfare institutions are not available on sources for financing.

The largest sources of financing for voluntary institutions have been bequests, donations, and fundraising drives. The largest source of financing for public institutions has been bond issues, according to Children's Bureau information. There are no Federal grants or loans available for financing construction of these institutions.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

1. DETENTION HOMES

(a) *Factors used in estimating and projecting detention home requirements.*—Unmet needs, need for rebuilding or remodeling existing homes, projection of number of juvenile court cases and child popula-

²¹ Estimates based upon reported capital expenditures by institutions for 6 selected years for the period 1953-64.

tion, ages 10 to 17, in the United States, 1966-75, and increases in construction costs.

Factors considered in estimating current and projected needs for juvenile institutions include obsolescence, overcrowding, quantitative standards, experience factor of previous rate of capital expenditures, number of juvenile court cases, number of children, ages 10 to 17, in the U.S. population, and construction costs.

Benchmark data are not available at present for estimating capital requirements for other child welfare institutions.

According to the Children's Bureau specialists, the estimates of per unit cost and of projected needs are not sufficiently reliable for preparing estimates on a per-year basis.

(b) *Needs.*—Detention consultants of the Children's Bureau estimate that 15 detention homes now are needed in States where none exist. They recommend that homes be built in the range of capacity of 20 to 60, or an average capacity of 40. Fifteen detention homes, each with capacities of 40, would include a total of 600 beds; and at an average construction cost of \$15,000 per bed would total \$9 million.

Detention consultants of the Children's Bureau estimate that 60 detention facilities exist in the United States today which need to be rebuilt or expanded for a variety of reasons (that is, inadequacy, unsafe, nonfunctional, need to be consolidated, and so forth). Sixty detention homes, each with capacities of 40, would include 2,400 beds; and at an average construction cost of \$15,000 per bed would total \$36 million.

The data in table 11 show projections for the 1966-75 period for both the number of juvenile court cases (excluding traffic) and the U.S. child population, ages 10-17. Projections of the child population are estimates of the Census Bureau. The projections of juvenile court cases are based upon the assumption that the relationship of cases to child population (about 2 percent for the 1962-64 period) will remain constant for the 1966-75 period. Over the next 10 years, an increase of about 11 percent in both child population and number of juvenile court cases is expected. On the assumption that input to juvenile courts will increase by about 11 percent over the 1966-75 period, additional capital needs are estimated to be \$4,950,000. Also, an estimated 1966-75 increase in construction costs (based on the Boeckh Construction Cost Index) would require an additional \$4,995,000.

Total current and projected capital needs for detention homes, as a minimum estimate which accounts for only a few of the many factors involved, is estimated to be \$54,945,000.

2. INSTITUTIONS FOR DELINQUENT CHILDREN

A summary of the estimated current and projected capital expenditure needs for public and private institutions for delinquent children appears in table 12. The estimated current and projected capital need of approximately \$503 million represents a reasonable estimate of need made on the basis of available data. Many additional factors which might have been taken into account could not be included

because of the unavailability of information. Also, projections assume certain constancies for the factors which are used as the basis for the projections.

(a) *Obsolescence*.—Table 9 shows that 58 of the total of 276 public institutions for delinquent children were built before 1900. On the assumption that these institutions be declared obsolete and new institutions with capacities of 150 each be built in 1965, a total of 8,700 new beds would need to be provided. Multiplying 8,700 beds by the average construction costs of \$15,000 per bed gives a total of \$130,500,000 which would be needed.

(b) *Overcrowding*.—In 1964, about 40 percent of the 276 public institutions reported that they were overcrowded (average populations exceeded capacity); this represents 180 institutions which were overcrowded. The degree of overcrowding in these 180 institutions was calculated to average 15 percent, which affected an estimated 2,600 children. To build 2,600 new beds at an average construction cost of \$15,000 per bed would cost \$39 million.

(c) *Qualitative standard*.—A standard recommended by the Children's Bureau is that institutions serving delinquent children should be built to accommodate not more than 150 children. In order to meet this standard, a minimum of 294 institutions would be needed to house the estimated 44,100 children who were in public institutions for delinquent children in 1964. This is 20 institutions more than were in operation. Twenty institutions, each with capacities of 150, would include a total of 3,000 beds; and 3,000 beds at an average construction cost of \$15,000 would cost \$45 million.

(d) *Projection of capital expenditures*.—From the data in table 12 the 1953-64 average annual capital expenditures for institutions reporting to the Children's Bureau is computed to be \$66,830. Assuming that this average expenditure is appropriate for the 276 operating public institutions for delinquent children in 1965, an annual capital need for \$18,445,080 would exist for the 10-year period 1966-75. Total capital needs for these institutions, assuming no change in number of institutions, would be \$184,450,800. If the 103 private institutions were to have capital needs estimated at \$33,415 each annually (50 percent of public needs), the total annual capital needs of private institutions would be \$3,441,745; the 1966-75 total need would be \$34,417,450.

The data in table 11 show projections for the 1966-75 period for both the number of juvenile court cases (excluding traffic) and the U.S. child population, ages 10-17. The projections of child population in the table are based upon Bureau of Census reports, and the projections of juvenile court cases are based upon the assumption that the relationship of cases to child population (about 2 percent for the 1962-64 period) will remain constant. During the 1966-75 period, an increase of about 11 percent both in child population and in number of juvenile court cases is expected. On the assumption that input to institutions will be increased by about 11 percent over the 1966-75 period, additional capital needs are estimated to be \$20,289,588 for public institutions, and \$3,785,920 for private institu-

tions. Finally, an estimated \$45,744,376 will be needed during the period for increased construction costs. (Boeckh Construction Cost Index.)

3. NEEDS: BY SIZE OF COMMUNITY

(i) All of the estimated needs for detention homes pertain to cities in excess of 50,000 population. (Consultants recommend that detention homes be built in areas of 250,000 population or more.)

(ii) The Children's Bureau has recommended that institutions for delinquent children be built near cities large enough to supply the medical, personnel, and other types of needs deemed necessary for effective operation of the institution. To the extent that these standards are followed, capital needs will be greatest in cities with populations of 50,000 or more.

4. NEEDS: ACCORDING TO OWNERSHIP PATTERN

(i) Although the past trend has been for city-county governmental units to build detention homes, there is a new and increasing trend toward State planning and development of statewide regional detention facilities. During the next 10 years, therefore, we would expect a large proportion of the capital expenditures for these institutions to be by State governments.

(ii) Proportions of estimated capital need for juvenile delinquency institutions by auspices, are: State, 50 percent; city-county, 20 percent; voluntary, 25 percent; and proprietary, 5 percent.

TABLE 11.—*Projection of juvenile court cases and child population (10 to 17 years of age), 1965-75*

Year	Juvenile court cases ¹ (excluding traffic)	U.S. child population ² (ages 10 to 17)	Percent case of population
1957	440,000	22,351,000	0.0197
1958	433,000	23,496,000	.0201
1959	483,000	24,531,000	.0197
1960	510,000	25,364,000	.0201
1961	503,000	26,023,000	.0193
1962	555,000	26,936,000	.0206
1963	601,000	27,983,000	.0214
1964	686,000	29,119,000	.0236
1965	643,225	29,371,000	.0219
1966	655,379	29,926,000	.0219
1967	667,534	30,481,000	.0219
1968	679,688	31,036,000	.0219
1969	691,843	31,591,000	.0219
1970	704,019	32,147,000	.0219
1971	708,925	32,371,000	.0219
1972	713,831	32,595,000	.0219
1973	718,736	32,819,000	.0219
1974	723,642	33,043,000	.0219
1975	728,504	33,265,000	.0219

¹ *Juvenile Court Statistics—1964*, Children's Bureau Statistical Series No. 79, Department of Health, Education, and Welfare, 1965.

² *Population Estimates, Current Population Reports*, series P-25, Nos. 286, 326, Bureau of Census, U.S. Department of Commerce.

³ 1962-64 average, projected to 1965-75.

TABLE 12.—*Summary of estimated capital needs for public and private institutions for delinquent children*

Public institutions:

Current needs (1965):

1. To rebuild because of obsolescence.....	\$130, 500, 000
2. To relieve overcrowding.....	39, 000, 000
3. To meet capacity standard.....	45, 000, 000

Total for current needs.....	214, 500, 000
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Projected needs (1966-75):

1. Based on 1953-64 capital expenditures.....	184, 450, 080
2. Based on expected increased input.....	20, 289, 588

Total projected needs.....	204, 740, 388
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Total public capital needs.....	419, 240, 388
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Private institutions:

Current needs (1965).....	(¹)
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Projected needs (1966-75):

1. Based on estimated prior capital expenditures.....	34, 417, 450
2. Based on expected increased input.....	3, 785, 920

Total projected needs.....	38, 203, 370
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Total private capital needs.....	38, 203, 370
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Total of public and private capital needs.....	457, 443, 758
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Additional allowance of 10 percent for estimated average increase in construction costs.....	45, 744, 376
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Grand total.....	503, 188, 134
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¹ Unknown.

CHAPTER 38

Armories*

A. NATURE AND COMPOSITION OF ARMORIES

1. DESCRIPTION OF FACILITIES

Armories are described in following terms:

(a) *General Physical Characteristics*

An "armory" is a primary structure that houses one or more units and equipment of the Reserve components and is used for training and administration of such units. It includes a structure that is appurtenant to such primary facility and houses equipment used for the training and administration of the units assigned. It is restricted to a facility designed for home station training. These facilities are called "armories" by common usage when used by the Army National Guard. A similar-type structure is used by the U.S. Army Reserve and is referred to as a "Reserve center." An armory facility normally includes the following essential functional areas under existing criteria: (1) assembly hall, (2) rifle range, (3) classrooms, (4) training aid storage room, (5) library and classroom, (6) unit storage, (7) arms vault, (8) locker room, (9) administrative offices, (10) kitchen, (11) toilet and showers, (12) maintenance and custodial, (13) mechanical equipment room, (14) minimal parking facilities for military and civilian parking.

(b) *Services*

An armory structure is often used for many varied functions and activities other than the normal training of the Army National Guard units stationed therein. Armories are managed and controlled by the State military authorities. Under such rules and regulations as prescribed by such authorities, the armories may be utilized as community buildings for athletic events, social functions, civic use, and assembly areas in support of civil authorities in event of national disaster. The primary service these buildings provide the communities in which they are located is to house and train the Reserve component units and provide a means by which the young men of military age may fulfill their military obligations at home.

(c) *Standard of Performance by Capacity and Quantity*

Prior to the enactment of the National Defense Facilities Act of 1950, the States provided armory facilities at their own cost and

*Prepared by Control Branch, Installations Division, National Guard Bureau, Lt. Col. Morris E. Foist, Chief, NG-ARIC, Department of the Army, Department of Defense, with minor editing by committee staff.

used their individual criteria for armory construction. Federal funds have been available for construction of armories since 1952. The Federal space criteria and construction standards for construction of armory facilities for the Army National Guard have been modified several times since the program was initiated. In January 1966, the Department of Defense approved new revised space criteria for Army National Guard armories. These criteria indicate the maximum space allowances for specific functional areas for which Federal contributions may be made in the support of new armory construction. Federal funds may be contributed to a State toward construction of Army National Guard armories in amounts up to 75 percent of the cost of construction, calculated according to approved Federal space criteria and construction standards. The space requirements for functional areas within an armory and the total armory space to be allowed for Federal contributions are based upon the type and composition of the unit and/or units to be supported in the facility. Armory criteria as approved by Department of Defense are determined primarily on a unit rather than a per capita basis.

(d) *Qualitative Standards of Performance*

Armories are designed to have a degree of structural adequacy, durability, and serviceability to assure a useful life of 25 years or more under low maintenance and expenditures. New armory facilities provided under Federal criteria will be of permanent-type construction. Standardized plans, specifications, space criteria and construction standards in accordance with Federal regulations shall be devised and used to the maximum extent practicable in the acquisition of such facilities with Federal funds.

Each armory project toward which a contribution is granted by the Federal Government shall be covered by an appropriate agreement between the United States and the State. The State and Federal agreement for each armory constructed covers a period of 25 years. This use agreement provides that the State must maintain and preserve the facility for the life of the agreement, and likewise provides specific protective use and disposition of the facility for the needs of the Federal Government as dictated by training needs of Reserve components, national emergency, or any other use deemed a requirement by the Federal Government.

In order to qualify for construction, the State must provide the land and the required matching funds equal to 25 percent of the federally supported items for proposed construction. Each armory or facility has a prescribed authorized strength and actual construction will not be started until the actual strength is a minimum of 75 percent of authorized strength or design capacity of the proposed armory. Likewise, armories will not be provided at Federal expense at a location which has a unilateral actual strength of less than 55, or a combined (joint) actual strength of less than 100.

A time frame for a proposed ordinary replacement cycle is not appropriate for armory construction as the federally supported program has not been in existence for a sufficient number of years to provide data upon which to base an appropriate comment.

2. EXISTING CAPITAL PLANT IN THE UNITED STATES

(a) *Number of Facilities*

As of February 28, 1966, the Army National Guard (ARNG) had a total of 2,786 armory facilities in existence or operation throughout the 50 States, Puerto Rico, and District of Columbia.

(b) *Distribution by States*

A distribution of all Army (ARNG) facilities for the 50 States, Puerto Rico, and District of Columbia is shown below:

State and number

Alabama.....	139	Louisiana.....	46	Ohio.....	99
Alaska.....	73	Maine.....	25	Oklahoma.....	81
Arizona.....	23	Maryland.....	39	Oregon.....	42
Arkansas.....	76	Massachusetts.....	74	Pennsylvania.....	107
California.....	128	Michigan.....	55	Puerto Rico.....	25
Colorado.....	24	Minnesota.....	68	Rhode Island.....	13
Connecticut.....	33	Mississippi.....	106	South Carolina.....	77
Delaware.....	14	Missouri.....	58	South Dakota.....	43
District of Columbia.....	2	Montana.....	25	Tennessee.....	75
Florida.....	51	Nebraska.....	30	Texas.....	152
Georgia.....	70	Nevada.....	10	Utah.....	28
Hawaii.....	22	New Hampshire.....	22	Vermont.....	27
Idaho.....	32	New Jersey.....	51	Virginia.....	48
Illinois.....	48	New Mexico.....	28	Washington.....	31
Indiana.....	72	New York.....	87	West Virginia.....	30
Iowa.....	56	North Carolina.....	98	Wisconsin.....	72
Kansas.....	64	North Dakota.....	29	Wyoming.....	21
Kentucky.....	37				

(c) *Distribution by Size of City*

The distribution of armory facilities by population size of city follows:

500,000 or more.....	80
100,000-499,999.....	186
50,000-99,999.....	157
10,000-49,999.....	836
2,500-9,999.....	1,067
Under 2,500.....	460
Total.....	2,786

(d) *Age of Facilities*

The age distribution of armory facilities is identified below:

Built before 1900.....	57
During 1901-20.....	237
During 1921-40.....	553
During 1941-60.....	1,419
Since 1961.....	420
Age unknown.....	100
Total.....	2,786

(e) *Ownership*

Of the 2,786 armory facilities in operation by the Army National Guard the ownership is shown by following categories:

(1) State governments or State agencies.....	2,584
(2) Cities, counties, towns, special districts, public authorities, or other local public bodies.....	(1)
(3) Private, nonprofit organizations and cooperatives.....	(1)
(4) Proprietary or profitmaking organizations.....	143
(5) Federal Government (licensed facilities).....	59
Total.....	² 2,786

¹ Not applicable.

² Armory facilities are normally classified by ownership or source as follows:

(1) Public Law 783 (State-owned structures—contracted under provisions of title 10, United States Code).....	1,392
(2) State owned.....	1,192
(3) Leased.....	143
(4) Licensed.....	59
Total.....	2,786

(f) *Current Value*

The estimated current value of these facilities and structures is not available.

B. COSTS AND USER CHARGES

1. CONSTRUCTION AND OPERATING COSTS

(a) *Construction Costs*

Experience of construction costs for the Army National Guard Armory Complex, based on gross square footage, of projects contracted during fiscal years 1963, 1964, and 1965 are as shown:

Size of armory:	Gross square footage cost range
1-unit armory.....	\$7 to \$20.
2-unit armory.....	\$9 to \$16.
3-unit armory and larger.....	\$8 to \$17.

(b) *Operating Costs*

The current range per net square foot of typical annual maintenance and operation expenses for Army National Guard (ARNG) armory facilities is shown below:

Low.....	\$0.14
High.....	1.20
Average.....	0.47

2. USER CHARGES

(a) The extent to which user charges are employed to support the use of occupancy of these facilities is impossible to determine because of the many diverse methods employed in this respect.

(b) Information is not available due to the many diversified methods of accounting employed by the various States and individual armory boards throughout the Nation. It is extremely unlikely that any user charges would be used to cover payment on the indebtedness incurred to finance the capital costs of the facilities or structures as the States must certify that adequate State "matching funds" are available to support construction prior to programming of new facilities.

(c) Costs of construction, operation, and maintenance of armory facilities are normally provided under specific appropriations by the

State legislature and revenue is normally obtained from general tax resources. An exception to this rule may incur in a few isolated instances but detailed information is not available.

C. TREND OF CAPITAL OUTLAYS

1. ANNUAL CAPITAL EXPENDITURES

The trend of annual capital outlays in terms of contract awards for State controlled armory complexes during the 20-year period 1946-65 in terms of numbers of units and dollar value (in millions of dollars) indicates extreme lows in the first 2 years (1946-47) with only one start in 1946 at \$400,000 and no starts in 1947, and a return to an extreme low at the end of the 20-year period in fiscal year 1965 by having only three armory starts at a total cost of \$1.3 million. There was a gradual increase during the first 5 years (1946-51) both in numbers of projects and in dollars. The project starts increased from 1 project in 1946 to 32 in 1950 and 31 in 1951. The cost of all projects placed under contract increased from the low of \$400,000 in 1946 to a high of \$4.5 million in 1951. There was a dip in construction in 1952 to only 14 projects with a total cost of \$2.3 million. All armory projects constructed during the period 1946 through 1952 were constructed at 100 percent State cost with the exception of one facility purchased at Sitka, Alaska, in 1952 with \$9,000 Federal and \$3,000 State funds.

The period of greatest progress in providing new facilities for the Army National Guard began in 1953 and extended into fiscal year 1957. The number of new starts increased from 73 in 1953 to a peak of 252 in 1956 which slipped to 199 in 1957. The cost of new starts for armory construction jumped from \$11.5 million in fiscal year 1953 to a peak of \$39.1 million in fiscal year 1957.

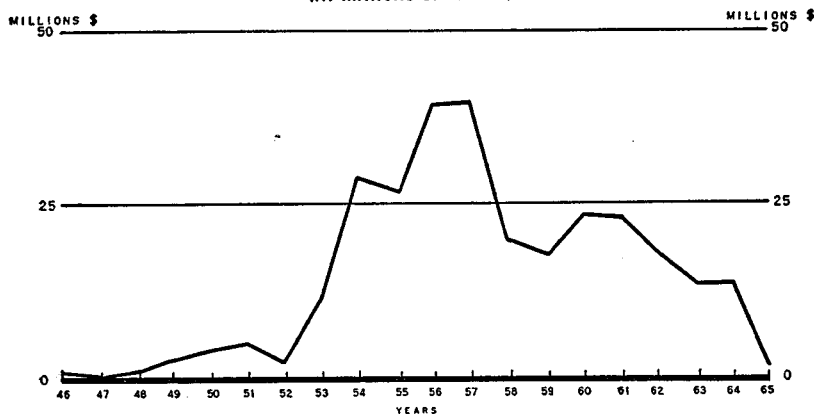
The years 1958-65 show a continual decline in providing new facilities. In fiscal years 1958-59, there was a sharp reduction in new armory starts to a 1959 low of 74 projects and \$17.1 million. There was a slight increase in 1960 to a level of \$23 million for both fiscal years 1960 and 1961. A drop of approximately \$5 million per year for next 2 years (1962 and 1963) and a leveling off for 1964 with a drop to a low of \$1.3 million in fiscal year 1965.

(a) The gradual increase in providing new armory facilities with State funding has been shown for the years 1948 through 1951, which was followed by a drop in construction for 1952. The decline in 1952 was a result of initiating the new federally financed program that was to get underway in 1953. The new Federal program that provides 75 percent of the qualifying financing for armory construction began in 1953 and this caused an increase in projects and dollars for the armory program. The program was extremely active during the first 5 years, 1953 through 1957, and each year had shown an increase in dollars and projects being placed into the armory assets throughout the Nation. The program reached its peak in fiscal year 1957 and has declined continuously since then to a deferral of all construction in 1966.

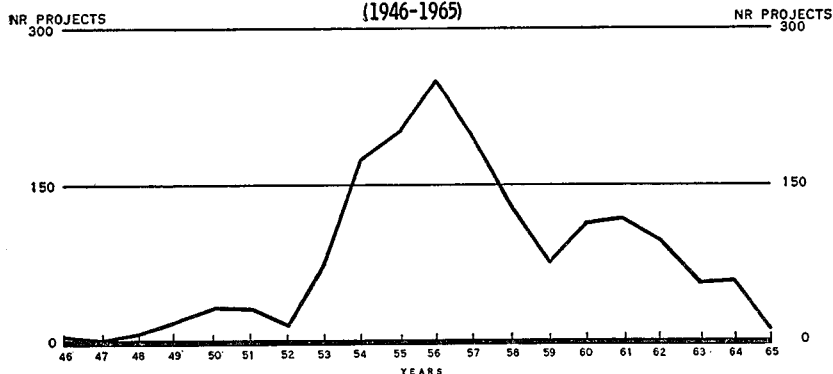
The increase of construction from 1953 to 1957 was a result of congressional authorizations and appropriations being provided to

ARMY NATIONAL GUARD

TREND of ANNUAL CAPITAL OUTLAYS
for
ARMORY CONTRACT AWARDS by DOLLAR VALUE
(1946-1965)
(in millions of dollars)



TREND of ARMORY CONSTRUCTION
BY NUMBERS of PROJECTS
(1946-1965)



assist in the construction programs of the various States. The decrease in the program from 1957 through 1965 was a result of a reduction of congressional appropriations and authorizations being provided for this purpose.

2. DISTRIBUTION BY SPENDING UNITS

Of the total annual capital outlays for contract awards for State controlled Armory Complexes during the 20-year period 1946-65, the following proportions of capital outlays were accounted for as shown below:

(a) State governments or State agencies: 33 percent.

(1) The State governments provided 100 percent of the cost of armory construction from 1946 through 1952 except for the purchase

of an armory at Sitka, Alaska, in 1952 at \$9,000 Federal and \$3,000 State cost.

(2) From 1952 through 1965 the State governments have provided 33 percent of the capital outlay for armory construction.

(b) Cities, counties, towns, special districts, public authorities, or other public bodies: Unknown. Detailed information on amounts of funds provided for armory construction by these agencies is not available. In general, these public bodies contribute land for construction of armory facilities and do not normally provide funds for actual construction. In a few isolated instances, exact number not available, the cities have contributed to the State a portion of the construction cost.

(c) Private, nonprofit organizations and cooperatives: Unknown.

(1) These groups do provide funds for furnishing dayrooms and library facilities within the armory structures. Normally, funds for construction are provided by the State legislature and not by private subscription.

(2) Information on those isolated cases where funds may have been contributed for construction purposes is not available.

(d) Federal Government: 67 percent. The Federal Government has contributed approximately 67 percent of the capital outlays for armory construction from 1952 through 1965. This percentage is an average participation by the Federal Government in all new armory starts since the beginning of the construction program in 1952. For individual armory construction, the Federal funding support may vary from a maximum of 75 percent to less than 50 percent in those cases where the State may have constructed in excess of the space or standards provided for under Federal regulations.

3. SOURCES OF FINANCING

The sources of financing for capital outlays are identified as follows:

(a) Appropriations from State tax resources (average): 33 percent.

(b) Gifts, bequests, donations, fund-raising drives: Percent unknown.

(1) Funds from these sources are occasionally obtained for possible purchasing of land and used in purchasing recreational items and furnishings for the new armory buildings.

(2) Such funds are normally not considered as being made available for cost of construction.

(c) Federal Government grant assistance (average): 67 percent.

(1) The National Defense Facilities Act of 1950 (Public Law 783, 81st Cong.), provides that the Secretary of Defense may contribute 100 percent (75 percent in the case of an armory constructed pursuant to certain regulations) of the cost of constructing, expanding or rehabilitating a facility for the Reserve components. In situations where Federal contribution is limited to 75 percent, funds in support of the remaining costs are the responsibility of the State. Under this program of contribution, the facility is located on State-owned or State-controlled land; thus the title to the facility is vested in the

State. Prior to the contribution of any Federal funds, an agreement delineating the conditions under which the contribution is made, is entered into between the Federal Government and the State.

(2) The 67 percent capital outlay shown is the average amount actually contributed by the Federal Government in the overall cost of armories provided under this program. Many items are often included in State construction contracts that are not provided by Federal criteria and are paid for at 100 percent State cost. A few States are continually providing armories at 100 percent State cost. Many States construct facilities in the proportions of 25 percent State and 75 percent Federal funds as provided for under the law.

(d) Tax-exempt municipal bond market (for public bodies): Percent unknown.

(1) As a general rule, the States provide funds for construction from State tax revenue and therefore the tax exempt municipal bond market would not apply. The States certify that State "matching funds" are available to support construction prior to the programing of new construction.

(2) In special cases State armories may be provided from funds made available from such sources but such data is not a matter of record and is not available.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

1. CAPITAL REQUIREMENTS

The capital requirements (in millions of dollars) for these armory facilities or structures during the decade 1965-75 would amount to \$144.5 million, which based upon planned application of normal yearly authorized programs would require \$108.4 million Federal funds. (75 percent) and \$36.1 million State "matching funds" (25 percent).

(a) Based upon a total foreseeable requirement study of armory facilities as of June 30, 1964, the Federal cost of providing new armory facilities was estimated at \$148.7 million. In consideration of the States' providing "matching funds" (25 percent) in the amount of \$49.6 million, the total capital requirement would be \$198.3 million. This construction program contemplated the need for the construction of a total of 996 armory projects to include 745 new armories, and 251 alterations, expansions, additions, rehabilitation and conversion projects. Approximately 36 percent of the units are now housed in facilities that are substandard or will become substandard in the foreseeable future due to the anticipated deterioration and obsolescence of existing facilities. At the anticipated level of budgeting, as shown in the yearly increments below, it will require approximately 13 years to complete the armory program based upon the above specified requirements. This projection of capital requirements for the decade 1965-75 is based on anticipation of authorizations and appropriations to be provided by congressional authorities.

(b) The capital requirements (in millions of dollars) that are anticipated to be provided for armory construction on a per year basis during the decade 1966-75 are shown below:

[In millions of dollars]

Year	Federal cost	State cost	Total
1966.....	11.5	3.8	15.3
1967.....	5.7	1.9	7.6
1968.....	11.4	3.8	15.2
1969.....	11.4	3.8	15.2
1970.....	11.4	3.8	15.2
1971.....	11.4	3.8	15.2
1972.....	11.4	3.8	15.2
1973.....	11.4	3.8	15.2
1974.....	11.4	3.8	15.2
1975.....	11.4	3.8	15.2
Total.....	108.4	36.1	144.5
Percentage.....	75	25	100

(c) The percentage or proportion of these estimated needs may be ascribed to the following population categories:

- (1) Cities with population of 50,000 or more: 14 percent.
- (2) Cities and towns with population 2,500 to 49,999: 71 percent.

(3) Agricultural rural areas, cities, and towns with population under 2,500: 15 percent.

(d) The proportions of the estimated capital outlays expected to be expended by source are as shown:

- (1) State governments or State agencies: 25 percent.
- (2) Federal Government: 75 percent.

2. EXPECTED SOURCES OF FINANCING

The expected sources of financing for these prospective capital outlays by percentage distribution based upon projected trends and emerging developments are indicated below:

(a) Federal Government grant assistance (new program): 75 percent.

(b) Appropriations from tax resources: 25 percent.

The total foreseeable armory requirements amount to \$198.3 million and the projected armory requirements for the decade 1966-75 amount to \$144.5 million. This would produce a shortfall in the entire program of approximately \$40 million, which would require the extension of the program for a 3-to-4-year period at the same level as the projected decade. Under an extension of the program for an additional number of years, the funds would be supplied on the same basis as the projected program which allowed for 75 percent Federal and 25 percent State funding.

In consideration that the capital requirements for the decade 1966-75 exceed the funds provided for such purpose, then such shortfalls or gaps would be bridged by increasing Federal appropriations in the year or years following the shortfall. In the event Federal appropriations and authorizations are not available to bridge the gap or shortfall then the older, dilapidated, obsolete, inadequate facilities would be continued in use.

CHAPTER 39

Jails and Prisons*

PART I. JAILS

INTRODUCTION

There are few reports of any kind on a statewide basis prepared on jails. The lack of information in this area is due in large part to the difficulty in collecting it. There are only 13 States which have a State jail inspection service, a large percentage of these providing service in name only. In some States even the number and location of jails is unknown. With the exception of one Bureau of the Census report providing an age, sex, and race breakdown on jail inmates on April 1, 1960, there are little or no data available on the numbers or kinds of people confined in jails. Accurate statistical data can be tabulated for the most part only on an institution by institution basis and there are almost no resources available to accomplish this. If these difficulties were not enough, the tremendous variations in administration between jails makes it impossible to develop much data with valid comparability from jail to jail or State to State.

Because of the general limitations listed above, this study is based on questionnaires submitted by the Federal jail inspectors of the Federal Bureau of Prisons who are each responsible for geographic areas from 4 to 11 States, and from the few pieces of State-published data which was made available to us.

A. NATURE AND COMPOSITION OF JAILS

Jails are facilities for housing prisoners serving short sentences of usually less than a year, prisoners awaiting trial, hearing or grand jury action, and convicted offenders awaiting transfer to State correctional institutions. According to the 1960 census report mentioned above, there were on April 1, 1960, 119,992 inmates of local jails and workhouses. Of this total, 7,805 were female. With regard to age, approximately 600 were under 15 years old; about 12,500 were age 15 through 19; 21,000 were age 20 to 24; almost 17,000 were 25 through 29; over 42,000 were 30 through 44; and 26,000 were over 45 years old. As to racial breakdown, 74,000 were white and 46,000 nonwhite.

On an average day there are 3,000 to 3,500 pretrial Federal offenders held in local jails in the United States.

In one Midwestern State for which figures were available, almost 40 percent of those persons held in jails were for minor offenses such as vagrancy, drunkenness, disturbing the peace, and traffic offenses. In some cities in this State 96 percent of those held were for these

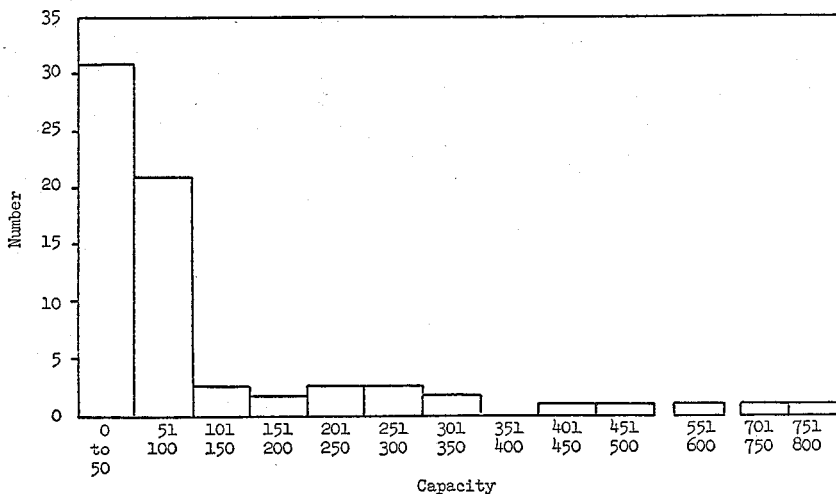
*Prepared by Federal Bureau of Prisons, Research and Statistics Branch, Department of Justice, with minor editing by committee staff.

offenses. The largest single-offense group in the jails of this State was being held for drunkenness. Average time served in jail on any particular admission is estimated as 5 to 60 days and will vary this much from jurisdiction to jurisdiction.

1. CHARACTERISTICS OF JAIL FACILITIES

Jails range in size from 1-cell units to a 4,000-man institution in Log Angeles, Calif. A variety of living arrangements are possible, depending primarily on security requirements. The extremes range from single-man cells providing the closest possible security for potentially dangerous inmates to open dormitories housing 40 to 80 men serving short sentences for misdemeanors. The Federal jail inspector survey of jail construction, which provided data on 73 new jails built during the past 5 years, showed that they range in size from small institutions constructed to handle as few as 2 men, to institutions as large as 3,300. The average capacity of these institutions is 56 (see fig. 1 for a graphic presentation of this distribution). Most jails with a capacity of over 25 have both close security quarters arrangements and multiman quarters of lesser security.

FIGURE 1 - CAPACITY DISTRIBUTION OF 73 JAILS CONSTRUCTED 1961-1965



Almost all jails have kitchen facilities. In very small jails the wife of the sheriff may prepare meals in her own kitchen, whereas a very few small jails may receive food from local restaurants.

Virtually all jails have modern toilet facilities, usually located in the living quarters; however, in some older jails they are located outside the quarters themselves. Although shower facilities are usually available in jails, not infrequently these facilities are very inadequate to the demands made on them. Federal standards require 1 shower head for 14 men; most jails fail to meet this standard. In

addition, very few jails provide infirmaries, chapels, recreation or educational facilities.

FIGURE 2.—Percentage of jails constructed during various periods for geographical area reported

Region or State	Number of jails	Period of construction				
		Percent before 1900	Percent 1901-20	Percent 1921-40	Percent 1941-60	Percent since 1961
All.....	622	23.1	19.1	22.3	22.3	13.0
North Carolina, Ohio, Michigan, Virginia..	108	12.0	15.7	24.0	32.4	15.7
Arkansas, Texas, Oklahoma.....	98	6.1	25.5	33.6	23.4	11.2
Missouri, Kentucky, Indiana, Illinois.....	94	18.0	27.6	27.6	20.2	6.3
Wisconsin.....	71	11.2	14.0	18.3	33.8	22.5
Pennsylvania.....	70	74.2	7.1	5.7	5.7	7.1
California, Nevada, Utah.....	69	2.8	21.7	20.2	31.8	23.1
New York.....	32	3.1	25.0	37.5	15.6	18.7
New Jersey.....	16	18.7	25.0	25.0	18.7	12.5
Maryland.....	14	57.1	7.1	7.1	21.4	7.1
Massachusetts.....	14	78.5	7.1	14.2		
Connecticut.....	9	88.8			11.1	
New Hampshire.....	8	37.5	50.0	12.5		
Vermont.....	8	50.0	25.0	12.5		
Maine.....	7	85.7				14.2
Delaware.....	3		33.3	66.7		
Rhode Island.....	1	100.0				

The Federal jail inspectors report covering 622 institutions in 27 States showed that 23 percent of these jails were built before 1900; 19 percent were built between 1901 and 1920; 22 percent were built between 1921 and 1940 and another 22 percent between 1941 and 1960. Thirteen percent of these 622 jails have been built during the past 5 years.

2. EXISTING JAILS

There are approximately 3,050 county jails owned and operated by the county government. The county sheriff ordinarily is in charge of these jails. They are frequently a part of the courthouse structure—often occupying the top floor. There are also 20 to 25 city jails that are part of a civic center and are operated under a metropolitan system of government; examples of these would include Los Angeles, Miami, and Nashville. In a few States, legislatures have authorized regional jails operated jointly by two or more counties. The Minnesota Legislature recently authorized this type of system. Connecticut and Alaska have State-owned and operated jail systems.

Jails offer limited work opportunities for their inmates. For the most part, work is limited to janitorial and maintenance service provided to the jail and courthouse.

There are no data available on staffing patterns of jails but it is well known that jails are generally understaffed and that jail personnel receive very low salaries. Many small jails may be staffed only by the sheriff with some assistance from his wife who does the cooking.

Current Value.—Because some jails are actually a small part of the sheriff's residence at one extreme and at the other extreme a part of a multi-million-dollar civic center, and because almost all jails

everywhere are a part of a structure used for other purposes, there is no adequate way to estimate their dollar value. What price can you place on a 30-man jail in New England built over 150 years ago or any of the other 20 to 25 percent of jails built before 1900? Replacement costs on a per bed basis would give one crude estimate of value.

B. COSTS AND USER CHARGES

1. CAPITAL COSTS

The costs of new jails vary greatly with size, location, custody requirements and on the basis of its being a free-standing structure or part of a government complex (i.e., civic center, courthouse or sheriff's office). We were told by one company specializing in jail construction that it is possible to build a jail for as little as \$1,000 a bed. Federal jail inspectors were able to secure cost figures for 37 jails in 10 States. The average per bed cost of these 37 institutions was \$8,930. Per bed costs ranged from \$888 for a 250-man addition to the county jail in Oklahoma City to \$17,000 for a 38-man jail in Manitowoc County, Wis. (see fig. 3 for cost distribution by capacity). In some instances these cost figures included the total cost of the structure which served other government functions in addition to the jail. Although this greatly limits the quality of these cost figures, it is estimated by the only experts in this area—the Federal jail inspectors—that real per bed construction costs for jails probably average from \$6,000 to \$9,000.

FIGURE 3.—Average per bed cost for 37 jails of varying capacity built 1961-65

Capacity	Number of jails	Average cost per bed
Total.....	37	\$8,931
0 to 50.....	19	9,793
51 to 100.....	6	8,842
101 to 150.....	2	6,541
151 to 200.....	2	13,381
201 to 250.....	2	2,118
251 to 300.....	1	6,836
301 to 350.....	2	8,698
351 to 400.....	1	6,696
401 to 450.....	1	8,312
451 to 500.....	1	8,000

2. USER CHARGES

During fiscal year 1965, the Federal Government paid an overall daily rate of \$3.80 for the care of U.S. prisoners confined in jails and other non-Federal institutions. U.S. prisoners were held in jails in every State in the Union, Guam, Puerto Rico, Virgin Islands, and the District of Columbia during 1965. A total of 1,207,024 days of care was provided at a cost to the Federal Government of \$4,582,812. Housing and subsistence alone amounted to \$4,208,722, or \$3.48 per man-day. For medical, dental, and hospital expenses incurred by U.S. prisoners, \$374,090 was spent. The per day rates the Federal Government pays for U.S. prisoners confined in jails and other non-Federal institutions are determined by negotiation between the Government and the jail authorities involved. The operating costs

of the jail in large measure determine the rates the Government pays and are therefore a fairly good index of the operating and maintenance costs. A better index is not available because jail operation and maintenance is usually not separated out in county budgets. It is apparent that maintenance costs run very low because wages are low and the inmates perform many of the maintenance functions.

C. TREND OF CAPITAL OUTLAYS

There are indications that expenditures for jail construction are increasing at an accelerating rate. Of the 622 jails on which the Federal jail inspectors reported the year constructed, 13 percent were erected in the past 5 years. The Federal Jail Inspection Service of the Bureau of Prisons provides a consultation service to communities planning new jail construction. The numbers of requests for this service have gone up significantly during the past 3 years. In 1963, there were 92 such requests; in 1964 there were 184; and in 1965 there were 250. Although no specific inferences can be drawn from the increased use of this consultation service, it is seen by the Jail Inspection Service as support for their belief that jails are being built in increasing numbers at this time.

Most jails are built by county governments which use tax-exempt municipal bonds as the usual source of financing jail construction. Appropriations from tax resources finance jail construction only in a very few instances.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

The need for new jail construction is great. It is indicated that approximately half of the jails in the United States are over 50 years old; 25 to 50 years is the usual lifespan of a jail. The Federal Jail Inspection Service conservatively estimates that one-third of the jails in the United States do not meet the minimum standards set by this service for housing Federal prisoners. The Jail Inspection Service sets nine basic standards in this area including: (1) adequate diet (minimum 2,100 calories); (2) adequate medical service; (3) facilities for separating felons, juveniles, misdemeanants and females; (4) adequate sanitation; (5) control and discipline; and (6) management.

As the majority of jails are obsolete, longstanding unmet needs in the area of jail construction are the most important factors in the capital outlays now required to provide these facilities. In some instances new programs much similar to the Huber Law in Wisconsin, which permits certain jail inmates to work in civilian jobs in the community by day and return to jail at night, have required new and different types of facilities than have been traditionally available in jails. Finally, population growth is seen as a factor accounting for the capital requirements in this area.

Since jails in metropolitan areas are most overcrowded, the need for new facilities in almost every high-population area is critical. Even where localities have attempted to meet their needs for jail construction, they have found their new facilities overcrowded as soon as they have begun operation. Because jails in rural and low population areas usually have little problem with overcrowding, little pressure is felt in these areas to replace old and obsolete facilities.

If we assume that 622 jails on which we know the period of construction, are representative of all jails and that the percentages of facilities built during a given period would equal the percentage of the total bed spaces provided, then we can compute the probable capital outlay at \$6,000 per bed for the past 5 years as approximately \$100 million or \$20 million a year.

On the same basis, we can say that if one-half of all jails are obsolete that 60,000 beds are now needed and these would cost \$360 million at \$6,000 per bed.

If approximately \$20 million a year was spent in each of the past 5 years for new jail construction, and jails are being built at an accelerated rate, more than \$200 million would probably be spent in this area in the next 10 years.

Jails are being built at an increasing rate which will probably continue as the backlog of unmet needs and the growth of population are putting tremendous pressure on communities to update and expand their jail facilities. This is particularly true in high population areas. Tax-exempt municipal bonds are the usual source of financing jail construction and will probably continue to be the primary source of revenue for building such facilities.

PART II. ADULT FELONY INSTITUTIONS

The second part of this chapter deals exclusively with State adult felony institutions. The information for this report was obtained from the responses to questionnaires sent to the departments of correction in all 50 States and in the District of Columbia. Responses were received from all States with the following exceptions: Alaska, Arkansas, Kansas, Massachusetts, Rhode Island, Utah, and West Virginia; therefore, these States have been excluded from the study.

A. NATURE AND COMPOSITION

1. DESCRIPTION OF FACILITIES

The institutions covered in this study are categorized in terms of the type of security provided. Three general levels of security are used: minimum, medium, and maximum. Minimum custody institutions usually have no fences, walls or towers; they are, in other words, open institutions. Forestry camps, farm camps, and some youth facilities are examples of minimum custody institutions. This type of institution is relatively small, housing 60 to about 300 inmates in dormitories, and at times in individual rooms, as opposed to cells. First offenders, young offenders, and relatively minor offenders with short sentences are confined in minimum custody institutions.

Medium custody institutions usually have a capacity of 300 to 800. They provide a variety of housing arrangements, consisting of dormitories and one- or two-man cells. These institutions are surrounded by fences, and have guard towers placed at strategic points to maintain security. Reformatories and houses of correction are examples of medium security institutions. This type of institution serves a heterogeneous group of inmates with prior records, varying sentence lengths and kinds of offenses.

Differing from the other institutional types in the intensity of its security, the maximum custody institutions are double fenced or walled facilities, with guard towers that provide full coverage of the perimeter, providing very tight internal and external security. Cells of varying sizes are the typical housing arrangements in close custody institutions. The institutions are usually large, with capacities ranging from 500 to 3,000. They are designed for long-term, serious offenders with extensive prior records, considered dangerous to society. Individuals requiring maximum control who are over 25 years old and have a history of assaultive behavior or an escape record in institutions of lesser security are placed in this type of institution.

For the purposes of this study, the data on States have been grouped in the following manner: by estimated civilian population, by prisoners confined in State institutions and by geographical region—Northeastern, North Central, Southern and Western. The Northeastern region consists of: Maine, New Hampshire, Vermont, Connecticut, New York, New Jersey, and Pennsylvania. Included in the North Central region are: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, and Nebraska. Making up the Southern region are: Delaware, Maryland, the District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Oklahoma, and Texas. Finally, the Western region consists of: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Nevada, Washington, Oregon, California, and Hawaii. As mentioned earlier, Massachusetts, Rhode Island, Kansas, Arkansas, West Virginia, Utah, and Alaska were excluded from the study due to the fact that they did not respond to the questionnaire.

We have combined the data by State into two population groups, that of estimated civilian population and confined prison population, and have obtained the rate of prisoners confined per 100,000 of the estimated civilian population. The estimated civilian population is that reported by the Census Bureau as of July 1, 1964, while the confined prisoner population is that reported by the national prisoner statistics program as of December 31, 1964. As seen in table 1, the States with a larger civilian population, in general, have larger confined prisoner rates than do the States with a smaller civilian population. For the States with populations of 10 million or more, the confined prisoner rate is 108.9 per 100,000; those States in the 4 million to 10 million group have a 105.3 rate. For the States having a civilian population of 2 to 3 million, 500,000 to 1 million, and under 500,000, the rates were 90.1, 89.4 and 83.4 respectively. The only exception to this trend was the population group with 1 to 2 million, which had a confined prisoner rate of 112.7. In addition to the foregoing, there were other exceptions within the civilian population groups. For example, among the States with larger populations, Pennsylvania had a confined prisoner rate of 67.0; New Jersey had one of only 69.6; Wisconsin had one of 69.3; and Minnesota had one of 53.0. Among the smaller States—3 million and under—Oklahoma had a confined prisoner rate of 115.5; Colorado had one of 138.4; and Nevada had one of 112.5. Although the District of Columbia had the highest rate with 208.2 prisoners confined per 100,000 population, this figure may not be

equitable with those of other States since the District is entirely urban, whereas the States have both rural and urban elements making up the population.

With regard to region, the West had the highest confined prisoner rate—131.9, followed by the South, North Central and Northeast regions with rates of 119.1, 90.3 and 80.7 respectively.

2. EXISTING CORRECTIONAL INSTITUTIONS

Excluding nonrespondent States, the number of State adult felony institutions in existence as of 1965 was 279. As seen in table 2, the States with larger civilian populations have the largest number of correctional institutions. One hundred ninety-five, or almost 70 percent of these institutions have been built by States with a civilian population of 4 million or more. This must be qualified, however, by noting that North Carolina has built 75, or 57.7 percent of the 130 institutions in the 4 to 10 million population group. As for the regional breakdown, the South, with 147 or 52.7 percent of the total has built the greatest number, although it must be mentioned once again that North Carolina built 75 of these.

Most of these institutions were found to be 25 years of age or older. Table 2 shows that of the 279 institutions, 187 or 67 percent were built prior to 1941. This trend is seen in all State population groups with the exception of the one in the 2 to 3 million range, which shows that 8 of their 23 institutions were built since 1961. Regionally, the institutions in the States comprising the Northeast, North Central, South and the West have tended to be over 25 years old.

The States with large confined prisoner populations have tended to build the greatest proportion of institutions. The States with confined prisoner populations of 3,000 or more have built 215 or 77.1 percent of the 279 institutions.

B. Cost

Because the States reporting presented their operating costs during the period 1963–1965 in various ways on the questionnaire used in this study, it is not possible to present a comprehensive picture of this aspect of their operations. Data are given here only for those States that provided separate figures for each of the last three years.

California's cost figure for 1963, 1964 and 1965 was \$5,842,184, \$6,380,907 and \$7,526,475 respectively. Pennsylvania's appropriation was \$16,551,943, \$16,716,009 and \$17,267,369 for the years 1963–1965 respectively; New Jersey's cost was \$8,603,199, \$9,504,358 and \$9,810,893 for the three year period. Among the smaller States for which we have data for the three year period, Arizona appropriated, for fiscal years 1964–1966, \$2,418,735, \$3,272,611 and \$3,213,847 respectively; Montana, for the years 1963–1965, appropriated \$1,451,951, \$1,486,784 and \$1,525,686 respectively; and South Carolina, for fiscal years 1964–1966 appropriated \$1,710,377, \$1,871,877 and \$1,848,795. The data indicate that States with large civilian populations appropriate more money than do small States; this is natural since larger States have more institutions with a greater confined population than do smaller States and would, therefore,

have greater operational costs. It can also be seen that operational costs have increased for each of these States from 1963 to 1965.

C. TREND OF CAPITAL OUTLAYS

Data were obtained on adult correctional institutions constructed over the last 20 years by type of institution, design capacity and capital outlay. Completed data were obtained on only 62 adult correctional institutions built during the last 20 years—i.e., number, capacity, total cost, average cost per bed. Forty of these were minimum-type institutions with a total capacity of 23,170, a cost of \$162,091,000 and an average cost per bed of \$6,996. Eleven were medium-type institutions with a capacity of 6,945, a total cost of \$57,212,000 and an average cost per bed of \$8,238. Eight were maximum institutions with a capacity of 8,162, a cost of \$32,364,000 and an average cost per bed of \$3,965. This figure is undoubtedly atypical of construction costs for maximum security institutions. Considering the States in which these institutions were built—Texas, Florida, North Carolina, South Carolina, and New Mexico—it should be pointed out that in some cases these States used a broader definition of the term “maximum” than is generally accepted; some States used prison labor, lowering construction costs; and some of the institutions were exceedingly small. The foregoing accounts for the apparent disparity in cost figures for this group of institutions as opposed to minimum and medium institutions. Two were medical institutions—one built by California and one by Florida with a combined capacity of 2,872, at a cost of \$21,439,000 and an average cost per bed of \$7,465. There was one prerelease guidance center constructed in Colorado with a designed capacity of 70, at cost of \$250,000 at an average cost per bed of \$3,571.

By geographic region, the South has built the most institutions, 27 out of the total of 62; followed by the West with 19, the North Central with 10 and the Northeast with 6. The average cost per bed ranged from a low of \$907 for a minimum custody institution in Alabama housing 300 inmates to a high of \$22,487 for a youth center housing 300 inmates built in Washington, D.C. Most of the institutions constructed during the last 20 years have been built by States with larger civilian and confined prisoner populations. States with larger populations have, in addition, spent more per bed than have States with smaller populations. A complete breakdown by individual States can be seen by looking at table 3.

In addition to the 62 institutions represented in table 3, there were 4 other institutions constructed during the past 20 years—1 minimum custody institution in Florida, 1 medium custody in Indiana and 2 institutions in Connecticut, 1 minimum and 1 medium, for which no cost figures were available.

Part II of this report is concerned entirely with State owned and operated institutions. These governments appropriated the funds for construction of the institutions built during the last 20 years from tax revenues in all States except the following: California, Illinois, Missouri, and New Mexico, which used bond issues and Maryland which used a general construction loan.

Among the factors cited by the respondents as most important in the last 20 years for the construction of new institutions were growth

in population, obsolete facilities, upsurge in crime, a desire to improve the correctional system, improved economic situation, better segregation of prisoners, implementation of narcotic offender treatment laws, and expanded agricultural programs.

D. PROSPECTIVE NEEDS AND CAPITAL OUTLAYS

In order to arrive at a prospective capital outlay for 1966-75, two figures were obtained. The States supplied a total estimated outlay without regard to particular institutional needs and, in addition, supplied an institution-by-institution breakdown giving an approximation of the funds needed for each planned new institution, as well as an estimation of the institutional capacity and the expected completion date. The former figure gives a general overview of needs which might arise in the field of corrections during the next decade while the latter shows specific requirements by listing the particular types of institutions planned during the next 10 years.

During the next decade, there is the likelihood that 76 new institutions will be constructed. We have complete data on 72 of these institutions. The institutions not included in this analysis are a minimum institution in Tennessee (prospective cost unknown), two institutions in Oklahoma—one a maximum security institution and the other a reception center (both costs unknown) and one institution in Wyoming, cost \$250,000, but capacity unknown.

Of the 72 institutions for which there is complete data, 24 will be minimum custody institutions at a total cost of \$95,190,000; 18 will be medium custody institutions at a total cost of \$159,425,000; 8 will be maximum custody institutions at a total cost of \$144 million; 5 will be medical institutions at a combined cost of \$66,800,000; 11 will be prerelease guidance centers (or halfway houses) at a cost of \$1,500,000; and 6 will be reception and diagnostic centers at a cost of \$32,800,000. In summary, the total estimated capital outlay for 72 new institutions likely to be constructed over the next 10 years is \$499,715,000. Of the expected 11 prerelease guidance centers, 4 are to be built in Iowa at a cost of \$200,000 and 7 are to be built in Oregon at a cost of \$1,300,000.

In contrast to the past 20 years, when most new institutions were built by States with the largest civilian or confined populations, smaller States will account for an increasing amount of construction in the next 10 years. Iowa is expected to construct 10 new institutions and Oregon is planning to build 8 new institutions. Although smaller States are building numbers of institutions on a level comparable with that of larger States, the larger States' expenditures will continue to be much greater. Out of a total of \$95,190,000 expected to be spent on minimum custody institutions, States with a population of 4 million or more are planning to spend \$60,250,000; out of a total planned expenditure of \$159,425,000 for medium custody institutions, these

same States account for \$109,050,000; and \$130 million of the \$144 million total expenditure on maximum custody institutions is to be spent by these States.

With regard to region, the West is planning to build the most institutions—26 followed by the South with 19, the North Central with 18 and the Northeast with 9. Of the prospective expenditures on minimum institutions and medical centers, the West is planning to spend the largest amount of the four geographic regions—\$58,410,000 and \$37 million respectively; the Northeast is planning the greatest expenditure for medium, maximum, and diagnostic institutions—\$72,500,000, \$64 million, and \$17,500,000 respectively. A complete delineation of planned expenditures by State, for the years 1966-75, can be seen on table 4.

The estimated overall capital outlay figure for correctional needs during the next 10 years without regard to specific institutional construction is \$721,038,260. This is an approximation since data were not obtained from Illinois, Connecticut, Oklahoma, and the District of Columbia. The obtained figure is much greater than the \$499,715,000 projected for specific construction, since the figure \$721,038,260 includes needs for which no specific plans are now available. It is indicated on table 5 that States having a population of 4 million or more are projecting a total capital outlay of \$546,669,650. It may be noted that States with a confined prison population of 10,000 inmates or more are projecting a sum of \$343,250,000 over the next 10 years. Those with a confined population of 5,000 to 10,000 are projecting a sum of \$96,750,000.

All of the funds for the capital outlay are expected to come from State appropriations or general tax revenues with the following exceptions: Missouri, New Jersey, Washington which will use bond issues, and Maryland which will use a general construction loan. This funding applies only to the capital outlay for institutions in the planning stage at the present time.

It should be pointed out here that much of the data are approximations and, therefore, inconsistencies may exist. Data on capital outlay have been obtained insofar as possible; however, certain States such as Illinois, Connecticut, Oklahoma, and the District of Columbia were not able to supply data on projected capital outlay and, therefore, the totals which are supplied on the attached tables are not in actuality as high as the totals should be.

Table 6 offers a complete breakdown, by State, on a per year basis of the capital outlay, devoted to institutions for which there is the probability of construction during the next 10 years.

Among the reasons given for the prospective capital outlay were: population growth, replacement of obsolete facilities, expansion of rehabilitative programs, current backlog of unmet needs, and better segregation of prisoners, including the need to provide special facilities for the inmates with psychiatric problems.

TABLE 1.—*Estimated civilian population: July 1, 1964, confined prisoners in State institutions Dec. 31, 1964, for selected States*

State and region	Estimated civilian population	Confined prisoners in State prisons	Rate of prisoners confined per 100,000 of the estimated civilian population
Population 10,000,000-plus:			
Total.....	77,812,000	84,700	108.9
New York.....	17,870,000	17,658	98.8
California.....	17,749,000	26,483	149.2
Pennsylvania.....	11,442,000	7,667	67.0
Illinois.....	10,443,000	8,753	83.8
Texas.....	10,227,000	12,278	120.1
Ohio.....	10,081,000	11,861	117.7
4,000,000 under 10,000,000:			
Total.....	46,782,000	47,607	101.8
Michigan.....	8,075,000	8,028	99.4
New Jersey.....	6,629,000	4,614	69.6
Florida.....	5,607,000	6,725	119.9
Indiana.....	4,816,000	4,797	99.6
North Carolina.....	4,761,000	4,888	102.7
Missouri.....	4,374,000	3,529	80.7
Virginia.....	4,221,000	4,873	115.4
Georgia.....	4,197,000	7,309	174.1
Wisconsin.....	4,102,000	2,844	69.3
3,000,000 under 4,000,000:			
Total.....	20,594,000	21,683	105.3
Tennessee.....	3,770,000	3,187	84.5
Minnesota.....	3,516,000	1,863	53.0
Louisiana.....	3,433,000	3,564	103.8
Alabama.....	3,384,000	4,586	135.5
Maryland.....	3,378,000	5,453	161.4
Kentucky.....	3,113,000	3,030	97.3
2,000,000 under 2,000,000:			
Total.....	15,649,000	14,102	90.1
Washington.....	2,930,000	2,960	101.0
Iowa.....	2,755,000	2,256	81.9
Connecticut.....	2,752,000	1,716	62.4
South Carolina.....	2,490,000	2,306	92.6
Oklahoma.....	2,432,000	2,808	115.5
Mississippi.....	2,290,000	2,056	90.0
1,000,000 under 2,000,000			
Total.....	6,813,000	7,672	112.7
Colorado.....	1,926,000	2,666	138.4
Oregon.....	1,865,000	2,056	110.2
Arizona.....	1,561,000	1,627	104.2
Nebraska.....	1,461,000	1,323	90.6
500,000 under 1,000,000			
Total.....	6,763,000	6,044	89.4
New Mexico.....	987,000	987	100.0
Maine.....	971,000	719	74.0
District of Columbia.....	794,000	1,653	208.2
South Dakota.....	708,000	525	74.2
Montana.....	695,000	742	106.8
Idaho.....	686,000	476	69.4
New Hampshire.....	647,000	198	30.6
Hawaii.....	641,000	504	78.6
North Dakota.....	634,000	240	37.9
Under 500,000			
Total.....	1,628,000	1,360	83.4
Delaware.....	482,000	281	58.3
Vermont.....	408,000	290	71.1
Nevada.....	400,000	450	112.5
Wyoming.....	338,000	339	100.3
Total.....	176,041,000	183,168	104.0
South.....	54,579,000	64,997	119.1
North Central.....	50,965,000	46,019	90.3
West.....	29,778,000	39,290	131.9
Northeast.....	40,719,000	32,862	80.7

TABLE 2.—*Number of institutions by year built, State and region, by estimated civilian population, for selected States*

State and region	Total	Year built				
		Before 1900	1901-20	1921-40	1941-60	Since 1961
Total.....	279	54	30	103	51	41
Population 10,000,000+:						
Total.....	65	18	5	19	13	10
New York.....	19	7	2	5	3	2
California.....	13	2	—	1	6	4
Pennsylvania.....	8	3	2	2	1	—
Illinois.....	6	3	—	2	—	1
Texas.....	13	1	—	8	1	3
Ohio.....	6	2	1	1	2	—
4,000,000 under 10,000,000:						
Total.....	130	11	10	68	26	15
Michigan.....	8	2	—	3	2	1
New Jersey.....	14	1	3	2	3	5
Florida.....	8	—	1	—	5	2
Indiana.....	4	2	1	—	—	—
North Carolina.....	75	1	3	55	13	3
Missouri.....	8	1	—	3	1	3
Virginia.....	5	2	1	2	—	—
Georgia.....	3	—	—	1	2	—
Wisconsin.....	5	2	1	1	—	1
3,000,000 under 4,000,000:						
Total.....	28	7	3	7	6	5
Tennessee.....	4	3	—	1	—	—
Minnesota.....	3	1	2	—	—	—
Louisiana.....	2	—	1	—	1	—
Alabama.....	7	—	—	3	3	1
Maryland.....	9	2	—	1	2	4
Kentucky.....	3	1	—	2	—	—
2,000,000 under 3,000,000:						
Total.....	23	5	4	3	3	8
Washington.....	7	1	1	—	2	3
Iowa.....	3	2	1	—	—	—
Connecticut.....	2	—	—	—	1	1
South Carolina.....	7	2	—	2	—	3
Oklahoma.....	3	—	1	1	—	1
Mississippi.....	1	—	1	—	—	—
1,000,000 under 2,000,000:						
Total.....	7	4	2	—	1	—
Colorado.....	2	2	—	—	—	—
Oregon.....	2	1	—	—	1	—
Arizona.....	1	—	1	—	—	—
Nebraska.....	2	1	1	—	—	—
500,000 under 1,000,000:						
Total.....	16	6	5	2	2	1
New Mexico.....	1	—	—	—	1	—
Maine.....	3	1	2	—	—	—
District of Columbia.....	3	—	2	—	—	1
South Dakota.....	1	1	—	—	—	—
Montana.....	1	1	—	—	—	—
Idaho.....	1	1	—	—	—	—
New Hampshire.....	1	1	—	—	—	—
Hawaii.....	3	—	1	2	—	—
North Dakota.....	2	1	—	—	1	—
Under 500,000:						
Total.....	10	3	1	4	—	2
Delaware.....	4	—	1	3	—	—
Vermont.....	2	1	—	1	—	—
Nevada.....	3	1	—	—	—	2
Wyoming.....	1	—	—	—	—	—
Northeast.....	49	14	9	10	8	8
North Central.....	48	18	7	11	6	6
South.....	147	12	11	279	27	18
West.....	35	10	3	3	10	9

¹ North Carolina accounted for 75.² North Carolina accounted for 55.

2,000,000 under 3,000,000:	9	6	665	1,608	2,418	2	402	2,577	6,414
Total.....									
Washington.....	4	4	285	825	2,895				
Iowa.....	1	1	80	340	4,256				
Connecticut.....	3								
South Carolina.....	2					1	102	777	7,618
Oklahoma.....	1	1	300	443	1,477	1	300	1,800	6,000
Mississippi.....									
1,000,000 under 2,000,000:									
Total.....	4	2	400	472	1,180	1	279	2,500	8,961
Colorado.....	2	1	100	200	2,000				
Oregon.....	1					1	279	2,500	8,961
Arizona.....	1	1	300	272	907				
Nebraska.....									
500,000 under 1,000,000:									
Total.....	2	1	300	6,746	22,487				
New Mexico.....	1								
Maine.....									
District of Columbia.....	1	1	300	6,746	22,487				
South Dakota.....									
Montana.....									
Idaho.....									
New Hampshire.....									
Hawaii.....									
North Dakota.....									
Under 500,000:									
Total.....	2	2	305	2,332	7,646				
Delaware.....									
Vermont.....									
Nevada.....	2	2	305	2,332	7,646				
Wyoming.....									
Total.....	62	40	23,170	162,091	6,996	11	6,945	57,212	8,238
Northeast.....	6	5	1,560	16,672	10,687	1	102	777	7,618
North Central.....	10	7	2,796	35,275	12,616	3	3,500	35,500	10,143
South.....	27	13	4,688	21,029	4,486	6	3,064	18,435	6,017
West.....	19	15	14,126	89,115	6,309	1	2,279	2,500	8,961

See footnotes at end of table, p. 667.

STATE AND LOCAL PUBLIC FACILITY NEEDS

667

[illegible]

¹ Does not include 1 camp, capacity 50, because cost unknown.

¹ Does not include 1 camp, capacity 50, because cost unknown.

* Does not include 1 medium, capacity 1,056, and 1 minimum, capacity 400, because cost unknown.

[illegible]

See footnotes at end of table, p. 671.

TABLE 4.—*Projected expenditures for prison construction by type of institution, and estimated civilian population by State, 1966-75—Con.*

Estimated civilian population by State and region	Type of institution									
	Medical					Prerelease centers				
	Number	Capacity	Cost in thou- sands	Average cost per bed		Number	Capacity	Cost in thou- sands	Average cost per bed	
Population 10,000,000-plus: Total.....	1	1,600	\$24,000	\$15,000						
New York.....										
California.....										
Pennsylvania.....	1	1,600	24,000	15,000						
Illinois.....										
Texas.....										
Ohio.....										
4,000,000 under 10,000,000:										
Total.....	1	800	25,000	31,250						
Michigan.....										
New Jersey.....										
Florida.....	1	800	25,000	31,250						
Indiana.....										
North Carolina.....										
Missouri.....										
Virginia.....										
Georgia.....										
Wisconsin.....										
3,000,000 under 4,000,000:										
Total.....						1	300	1,000	3,333	
Tennessee.....										
Minnesota.....										
Louisiana.....										
Alabama.....										
Maryland.....										
Kentucky.....						1	300	1,000	3,333	

STATE AND LOCAL PUBLIC FACILITY NEEDS

2,000,000 under 3,000,000: Total	1	400	4,800	12,000	4	80	\$200	\$2,500	1	150	2,500	16,667
Washington												
Iowa					4	80	200	2,500				
Connecticut												
South Carolina	1	400	4,800	12,000					1	150	2,500	16,667
Oklahoma												
Mississippi												
1,000,000 under 2,000,000: Total	1	500	6,000	12,000	7	350	1,300	3,714	1	200	1,000	5,000
Colorado	1	500	6,000	12,000								
Oregon					7	350	1,300	3,714	1	200	1,000	5,000
Arizona												
Nebraska												
500,000 under 1,000,000: Total	1	600	7,000	11,667					1	200	2,500	25,000
New Mexico												
Maine									1	200	2,500	25,000
District of Columbia												
South Dakota												
Montana												
Idaho												
New Hampshire												
Hawaii	1	600	7,000	11,667								
North Dakota												
Under 500,000: Total												
Delaware												
Vermont												
Nevada												
Wyoming												
Total	5	3,900	66,800	17,128	11	430	1,500	3,498	6	2,050	32,800	12,377
Northeast												
North Central	1	800	25,000	31,250	4	80	200	2,500	2	1,200	17,500	14,583
South	1	400	4,800	12,000					1	800	10,500	13,500
West	3	2,700	37,000	13,704	7	350	1,300	3,714	2	450	3,500	7,778
									1	200	1,000	5,000

Not available.

¹ Not available.
² Does not include 1 minimum custody institution, capacity 100, because cost unknown.

^a Does not include 1 maximum custody institution, capacity 800, because cost unknown. Does not include 1 reception center because capacity and cost unknown.

⁴ Does not include 1 medium custody institution because capacity unknown.

TABLE 5.—*Estimated capital outlay, by State and region, 1966-75, for selected States, by estimated civilian population*

<i>State and region</i>	<i>Estimated capital outlay</i>
Total.....	\$721,038,260
Population 10,000,000 plus:	
Total.....	378,750,000
New York.....	104,000,000
California.....	190,000,000
Pennsylvania.....	35,500,000
Illinois.....	(¹)
Texas.....	12,000,000
Ohio.....	35,000,000-40,000,000
Median.....	(37,500,000)
4,000,000 under 10,000,000:	
Total.....	167,919,650
Michigan.....	25,000,000
New Jersey.....	33,500,000
Florida.....	2,500,000
Indiana.....	9,000,000
North Carolina.....	40,000,000
Missouri.....	21,000,000
Virginia.....	6,169,650
Georgia.....	10,750,000
Wisconsin.....	20,000,000
3,000,000 under 4,000,000:	
Total.....	750,000,000
Tennessee.....	12,000,000
Minnesota.....	10,000,000
Louisiana.....	6,000,000
Alabama.....	6,000,000
Maryland.....	23,000,000
Kentucky.....	18,000,000
2,000,000 under 3,000,000:	
Total.....	22,136,000
Washington.....	3,536,000
Iowa.....	8,000,000
Connecticut.....	(¹)
South Carolina.....	10,000,000
Oklahoma.....	(¹)
Mississippi.....	600,000
1,000,000 under 2,000,000:	
Total.....	28,002,060
Colorado.....	10,000,000
Oregon.....	6,000,000
Arizona.....	5,000,000
Nebraska.....	7,002,060
500,000 under 1,000,000:	
Total.....	27,730,550
New Mexico.....	
Maine.....	2,500,000
District of Columbia.....	(¹)
South Dakota.....	
Montana.....	1,330,550
Idaho.....	12,000,000
New Hampshire.....	150,000
Hawaii.....	10,000,000
North Dakota.....	1,750,000

¹ Unknown

TABLE 5.—*Estimated capital outlay, by State and region, 1966-75, for selected States, by estimated civilian population—Continued*

<i>State and region</i>		<i>Estimated capital outlay</i>
Under 500,000:		
Total.....		\$21, 500, 000
Delaware.....		5, 500, 000
Vermont.....		3, 500, 000
Nevada.....	8, 000, 000-15, 000, 000	
Median.....		(11, 500, 000)
Wyoming.....		1, 000, 000
Regions:		
Total.....		721, 038, 260
Northeast.....		179, 150, 000
North Central.....		139, 002, 060
South.....		152, 519, 650
West.....		250, 366, 550

TABLE 6.—*Projected expenditures for institutional construction by State and year, 1966-75*

[Cost in thousands of dollars]

State	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Total.....	136, 960	16, 875	7, 000	230	111, 370	57, 500	37, 000	44, 750	10, 000	71, 600
Alabama.....	3, 000									
Arizona.....										
California.....					22, 000	24, 000	16, 000	16, 000	10, 000	16, 000
Colorado.....		250	250		5, 300		6, 000			
Connecticut ¹										
Delaware.....		6, 500								
District of Columbia ¹										
Florida.....					17, 000					
Georgia.....					7, 500					
Hawaii.....										
Idaho.....	12, 000									
Illinois ¹										
Indiana.....										
Iowa.....		5, 125	200	230	1, 500					
Kentucky.....					6, 000		12, 000			
Louisiana.....		5, 000								
Maine.....	2, 500									
Maryland.....							3, 000	20, 000		
Michigan.....	25, 000									
Minnesota.....										
Mississippi.....	300									
Missouri.....					20, 500					
Montana.....	324									
Nebraska.....										
Nevada.....										
New Hampshire.....										
New Jersey.....	29, 000									
New Mexico.....										
New York.....					20, 000	32, 000				52, 000
North Carolina.....										
North Dakota.....										
Ohio.....	30, 000									
Oklahoma ¹			2, 300							
Oregon.....										
Pennsylvania.....	15, 000									
South Carolina.....	13, 300									
South Dakota.....										
Tennessee ²										
Texas.....							8, 750			2, 850
Vermont.....	3, 500									
Virginia.....			4, 250							
Washington.....	2, 786									750
Wisconsin.....					11, 570	1, 500				
Wyoming.....	250									

¹ Information not available for these States.² Tennessee will appropriate funds for 2 institutions—1 a minimum institution, expected completion date in 1966—cost unknown and 1 a \$6,000,000 minimum institution, expected completion date unknown.

CHAPTER 40

Fire Stations and Related Building Facilities*

A. NATURE AND COMPOSITION OF FACILITIES

1. DESCRIPTION OF FACILITIES

The United States of America receives fire protection at the local government level from an estimated 23,000 fire departments. As can be ascertained from table 1, page 676, 22,426 can be identified in the various States. The discrepancy is due to faulty information in some States and the lack of uniform accounting between the various reporting agencies. None of these figures include military, GSA or industrial fire departments.

These fire departments, hereafter referred to as "the fire service," are maintained by cities, villages, boroughs, towns, and tax districts generally referred to as "fire districts." Some counties or parishes provide fire protection to the communities within their boundaries, but the number is small and for the purpose of this report are included in the total figures covering local communities.

Another form of fire department found in the United States is the "membership corporation" which owns its apparatus and equipment as well as buildings, and contracts service to what may be termed "fire protection districts" or "contract districts." Since these districts are taxing districts, the departments serving them are included in the totals without distinction.

Finally, there are a handful of "commercial contract" departments which offer their services to subscribers on a profit basis. Because the effect on the total is negligible their presence is ignored and not otherwise identified.

The fire service is distributed as follows:

1. An estimated 1,600 fully paid departments protect communities from 10,000 population and up.

2. An estimated 4,400 predominantly volunteer membership departments protect communities of 2,500 to 9,999 population. In this category some paid firefighters may be employed, and many of the so-called "volunteers" may be more accurately identified as "paid-on-call" firefighters.

3. In those communities below 2,500 population approximately 17,000 fire departments are maintained, for the most part, staffed with wholly volunteer personnel.

Present estimates of manpower employed by the fire service are 250,000 paid or full-time professional firefighters and 1,500,000 volunteers, including paid-on-call men.

*Prepared by Donald M. O'Brien, general manager, International Association of Fire Chiefs, with minor editing by committee staff.

2. EXISTING CAPITAL PLANT

(a) *Number of Facilities*

(1) *Buildings*.—The fire service operates 110,000 vehicles of all types with the major apparatus consisting of 60,000 pumper trucks and 8,000 aerial ladder trucks. Housing these motor vehicles is the primary reason for fire department buildings.

In those cities maintaining paid departments or part-paid departments the fire stations also serve as living quarters for the on-duty men.

In the volunteer service the buildings are equipped as meeting rooms for the members and may also serve as community social centers.

The paid fire service building facilities are generally more complex than those found in volunteer departments. For example, a large city commonly has a headquarters station, which may or may not house apparatus, a number of company stations strategically located within the community, a large maintenance shop, training center, communications or fire alarm center, and so forth. A modern trend in the larger cities is to combine administrative, maintenance, training, and communications functions in a complex of buildings within the community limits.

(2) *Fire stations*.—A survey conducted in mid-1965 disclosed that the fire service maintains 2,760 headquarters buildings. Many of these serve as central stations where apparatus and manpower are housed in addition to the administrative and specialist offices.

The same survey disclosed that 25,600 fire stations were in existence at the time. It should be noted that the overwhelming majority of the 17,000 departments serving communities of less than 2,500 population maintain only a single station housing 1 to 3 motor vehicles.

(3) *Shops*.—A total of 1,200 maintenance shops is provided. Most small departments, paid and volunteer, have no special shop facilities. In a few cases, in larger departments, the fire department maintenance work is carried on in central garages in conjunction with other city departments, such as street, police, parks, etc.

(4) *Training centers*.—Most paid fire departments provide some type of training facilities, and a total of 1,560 centers is maintained. Some of these are multibuilding facilities but are not further identified.

A number of counties now provide a central training facility for joint use by all volunteer departments within the county limits. In addition, some States provide fire training centers at colleges or universities as a part of their adult education extension service. The totals of the above are not large and have been included in the above figures.

(5) *Fire alarm centers*.—A total of 450 separate communications centers is operated. These include facilities for reception of public alarms by means of telephone or telegraph. Dispatching services all include the use of radio for communicating with mobile vehicles.

In all other departments similar forms of alarm reception and dispatching equipment are maintained but the center is located within a building which provides for other functions as well.

(b) *Distribution by States*

Fire departments are distributed as shown in table 1 below: (Fire stations may be estimated in a given State by reckoning the number

of communities, populationwise, and multiplying by the following factors: Over 500,000, 53.6; 250,000 to 499,999, 23; 100,000 to 249,999, 11.4; 50,000 to 99,999, 5.6; 25,000 to 49,999, 3.5; 10,000 to 24,999, 1.8; 5,000 to 9,999, 1.5; 2,500 to 4,999, 1.2; 1,000 to 2,499, 1.1; less than 1,000, 1).

TABLE 1

State	Number of de- partments
Alabama.....	225
Alaska.....	60
Arizona.....	100
Arkansas.....	235
California.....	760
Colorado.....	210
Connecticut.....	420
Delaware.....	60
District of Columbia.....	1
Florida.....	350
Georgia.....	340
Hawaii.....	5
Idaho.....	150
Illinois.....	1, 100
Indiana.....	755
Iowa.....	965
Kansas.....	510
Kentucky.....	350
Louisiana.....	255
Maine.....	410
Maryland.....	295
Massachusetts.....	375
Michigan.....	850
Minnesota.....	770
Mississippi.....	155
Missouri.....	430
Montana.....	205

TABLE 1

State	Number of de- partments
Nebraska.....	490
Nevada.....	55
New Hampshire.....	260
New Jersey.....	450
New Mexico.....	140
New York.....	1, 840
North Carolina.....	550
North Dakota.....	415
Ohio.....	1, 155
Oklahoma.....	270
Oregon.....	405
Pennsylvania.....	2, 250
Rhode Island.....	100
South Carolina.....	170
South Dakota.....	330
Tennessee.....	175
Texas.....	600
Utah.....	100
Vermont.....	195
Virginia.....	365
Washington.....	645
West Virginia.....	275
Wisconsin.....	750
Wyoming.....	100
Total.....	22, 426

Distribution populationwise in mid-1965 for the country as a whole is shown in table 2 below.

TABLE 2

Population group	Number in the United States	Head- quarters	Stations	Shops	Training centers	Fire alarm
500,000 and over.....	28	28	1, 500	26	28	21
100,000 to 499,999.....	109	109	1, 590	92	100	55
50,000 to 99,999.....	217	217	1, 215	210	72	72
10,000 to 49,999.....	1, 731	1, 731	3, 911	862	390	294
2,500 to 9,999.....	4, 187		5, 517		970	
Under 2,500.....	16, 232		17, 855			
Total.....	22, 504	2, 085	31, 588	1, 190	1, 560	442

(c) Historical Data

Perhaps 2 percent of fire stations built prior to 1900 are still in use. (Within the next 4 years these most likely will be abandoned or razed.) However, about 10 percent of fire station structures still in use were

built in the 1901-20 period. Approximately 20 percent still in service were built in the period 1920-40. Very few were built during the war years of 1941-45.

However, nearly 60 percent of all stations have been built between 1945-60 and perhaps 8 percent since 1961.

The years 1945-60 were periods of great expansion for the fire service in this country. Nearly 45 percent of all existing fire departments were formed during this time, the majority in the smaller communities which accounts for the fire station construction boom during that period.

This was also a period of heavy replacement of structures in the larger departments (delayed by World War II) as well as growth of the larger communities by annexation with the resulting need for new facilities in the annexed portions.

(d) *Ownership and Valuation*

It is believed 95 percent of all fire department buildings are owned by the local government, including tax districts. An estimated 4½ percent are owned by membership corporations, and one-half of 1 percent are county or State owned. The estimated valuation of present buildings is \$3 billion.

B. COSTS AND USER CHARGES

1. CONSTRUCTION AND COSTS

The fire service is expected to spend up to \$191 million during 1966 on building construction. An additional \$8,500,000 will be expended to equip these units with furniture, etc.

In the smaller volunteer departments many of these buildings will be of simple construction such as slab foundation and cinder block walls. The cost¹ will approximate \$18 per square foot.

A station intended to house two to four motor vehicles incorporating excellent design will cost approximately \$25 per square foot. Larger stations of the same design will cost approximately \$20 per square foot.

A 1965 survey of random cities and towns showed the following construction budgets:

TABLE 3

Population group	Number reporting	Dollars budgeted	Average per department
Over 500,000.....	15	8,390,000	\$560,000
100,000 to 499,999.....	30	7,700,000	335,000
50,000 to 99,999.....	25	4,560,000	182,500
10,000 to 49,999.....	74	6,072,000	83,000
2,500 to 9,999.....	24	737,000	31,000
Less than 2,500.....	37	350,000	9,000

¹ Variations in cost per square foot can be expected across the country depending on labor rates. The above figures are based on skilled construction worker rates in the New York City area.

As closely as can be determined the funds for these buildings were obtained as follows:

TABLE 4

[In percent]

Population group	Operating budget (taxes)	Capital budget (taxes)	Bond issue (municipal)	Urban renewal	Fund-raising activities, carnivals, etc.
Over 500,000.....		52	48		
100,000 to 499,999.....		48	46	6	
50,000 to 99,999.....	5	44	49	2	
10,000 to 49,999.....	13	40	35	2	10
2,500 to 9,999.....	27	20	22	2	29
Under 2,500.....	32	8	13	4	43

Based on the survey material a simple projection of fire service building for the year 1966 is as follows:

TABLE 5

Population group	Building starts	Estimated cost
Over 500,000.....	80	\$52,000,000
250,000 to 499,999.....	48	18,000,000
100,000 to 249,999.....	82	16,000,000
50,000 to 99,999.....	114	22,000,000
25,000 to 49,999.....	284	25,000,000
10,000 to 24,999.....	290	28,000,000
5,000 to 9,999.....	122	5,000,000
2,500 to 4,999.....	315	14,000,000
1,000 to 2,499.....	440	8,000,000
Under 1,000.....	438	3,000,000
Total.....	2,213	191,000,000

2. OPERATION EXPENSE

Maintenance and operation expenses are estimated according to population groups as follows:

Average of \$2,900 per department for the 6,000 departments in communities of 2,500 population and over for a total of \$17,640,000 during the year 1965.

Average of \$116 per department for the 17,000 departments serving communities of less than 2,500 population for a total of \$1,972,000 in 1965.

Payment of costs.—Charges to pay for these buildings are based on local taxation. In fire districts these are specific taxes. In those areas where membership corporations provide service the building and maintenance costs are supported by contract fees, donations, and fund-raising activities, such as carnivals, bingo, etc.

Generally, the costs are held to budgeted figures and seldom exceeded (as is typical where local tax moneys are involved).

C. FUTURE NEEDS

During the period 1966-75 it can be anticipated that 20,000 new fire stations will be constructed by the fire service. These can be expected to be divided as follows:

TABLE 6

Population groups	Buildings	Estimated cost
Over 50,000.....	2,000	\$720,000,000
2,500 to 50,000.....	10,000	576,000,000
Under 2,500.....	8,000	75,000,000
Total.....	20,000	1,371,000,000

These buildings will be needed to replace obsolete structures now in use, new stations required to meet expansion of communities, and the creation of entirely new fire departments.

The above projection takes into account the absorption of some small departments into larger ones by annexation as well as the consolidation of stations in departments where changing fire protection requirements indicate this desirability.

It is expected that financing of these buildings will proceed in a parallel manner to that shown in table 4. In this respect it can be anticipated that greater use be made of urban renewal funds in the larger communities. This should result due to forced demolition and relocation of fire stations as the renewal projects proceed.

CHAPTER 41

Public Office and Court Buildings*

A. NATURE AND COMPOSITION OF FACILITIES

1. DESCRIPTION OF FACILITIES

(a) *Physical Characteristics*

At the State level, the functions of government are divided between the legislature and the courts, executive and administrative agencies. The legislative space needs include those buildings necessary to carry on the business of lawmaking, thus are generally located in the State capital. However, there is a growing trend among State legislators to have space in public buildings in their home districts or rent such space commercially to provide a place to contact their constituents. The State judicial function is more decentralized. Its space needs include courts of various levels; supreme courts, intermediate courts of appeal in 14 States,¹ general trial courts and, in some cases, specialized courts and minor courts. These courts, other than the supreme courts, are distributed throughout the State. The other functions of State government are administered by the Governor, his administrative departments, and various independent agencies and commissions. These administrative offices are generally located in the capital city but with local or district offices usually located in other parts of the State.

At the county level of government (there are over 3,000 counties in the United States), organization is complicated and quite varied. However, there are some broad general patterns: (1) a governing body (commissioners, supervisors, etc.) controls the county's fiscal affairs, enacts legislation, may perform some administrative functions, and usually exercises some degree of supervisory authority over county affairs in general, and (2) a considerable variety of officers, boards, and commissions charged with more specific tasks such as sheriff, coroner, clerk, treasurer, recorder, superintendent of schools, and county engineer.

For the less populous counties, governmental needs are generally served by one multipurpose structure. For counties of over 100,000 population special purpose buildings are more common, serving specific functions such as jails, health centers, welfare departments, etc.

The organization of municipal government generally falls into one of three categories: (1) mayor-council, (2) commission, (3) council-manager. Department heads are responsible for such functions of government as police and fire protection, public works, finance, and

*Prepared by American Public Works Association, by Mr. Andrew Kinane, staff planner, with minor editing by committee staff.

¹ As of 1962.

public health. In larger cities other functions such as urban renewal, public housing, and welfare are also provided for.

In the larger communities, special purpose buildings are constructed to serve specific functions, such as police protection, public health and welfare, fire protection, etc. In smaller cities, generally those of less than 10,000 population, these functions are implemented by a single multipurpose building. Schools, not included in this chapter, are a specific exception to this rule. In this chapter, only the space needs for city halls, city and county courts, and multipurpose public administration functions are considered. Other local public buildings such as police and fire stations, armories, exhibition centers, libraries, schools, arenas, or auditoriums are excluded, except insofar as they are part of multipurpose public buildings.

It should be kept in mind in any study of this sort that some general purpose space will be in specialized structures and that specialized purpose office space will be found in generalized structures. It is assumed that the two factors are compensating.

(b) *Accepted Standards*

Widely accepted standards for office space needs, published by the Building Research Advisory Board, indicate that office buildings should have an average of 80 square feet per employee. This is for buildings having 10 percent or less private (individual) offices. They give a range of from 50 square feet per employee in multiple occupancy offices to 175 square feet in private offices.

Other standards suggest higher space requirements per employee. The American Society of Planning Officials' report on "civic center planning" suggests that 100 square feet per employee is a good average. An estimate for the future, suggested for the city of Akron by their central city consultant,² is 128 square feet per employee. The Public Administration Service in their report on "Space Needs in Municipal Buildings" indicates that for city halls an overall average, allowing for council chambers and conference rooms, of 200 square feet per employee or more may frequently be necessary to provide adequately for all functions.

In a recent survey of public office space needs, conducted by the American Public Works Association, the cities that responded indicated that they leased space on the basis of 100 square feet per employee. Cities over 100,000 population indicated that for city-owned public office buildings the space needs varied from approximately 100 to 500 square feet per employee. The median was from between 200 and 300 square feet per employee. This generally corresponds with the overall average suggested in the Public Administration Service's report for municipal buildings allowing for council chambers, conference rooms, corridors, etc.

For cities under 100,000 population the range of space needs reported was somewhat greater, being 100 to 1,000 square feet per employee. (In some small communities the figure was even higher.) The median was also somewhat greater, being 500 to 700 square feet per employee. It is perhaps interesting to note that statistics developed in the course of this study indicate that, on the average, there are 1

² Walker & Murray, Associates.

to 2 persons in the city for each square foot of public office space; i.e., an average city of 50,000 people would have from 25,000 to 50,000 square feet of public office space.

The figures given above, it should be recognized, are averages. In planning for building needs space requirements should be established by function—clerical, drafting, department heads, etc.

Policy formulation is critical in order to answer questions related to space needs and standards. If every community designed buildings adequate to meet future needs, located these facilities properly, took advantage of all economies and had sufficient funds to pay for them, there would be no problem. Policy formulation, of course, is as critical on the local level as it is on the State and Federal level.

TABLE I.—*Space needed in hypothetical city halls serving populations of 25,000, 50,000, 100,000, and 200,000, by function*

Function	25,000 population		50,000 population		100,000 population		200,000 population	
	Number of employees	Space allocated (square feet)	Number of employees	Space allocated (square feet)	Number of employees	Space allocated (square feet)	Number of employees	Space allocated (square feet)
Council chambers.....	---	1,500	---	1,700	---	2,000	---	2,000
Executive offices.....	17	3,950	17	3,950	19	4,350	24	4,550
Finance offices.....	11	2,300	14	2,600	17	3,350	22	4,700
Personnel offices.....	2	300	3	450	5	1,300	10	1,500
City clerks' offices.....	4	750	5	900	7	1,200	11	1,850
City attorney's offices.....	2	350	4	600	4	600	6	850
Planning office.....	5	850	7	1,350	9	1,450	12	1,850
Parks department.....	2	300	2	300	2	300	3	400
Recreation department.....	3	750	4	850	6	1,050	10	1,650
Traffic engineering department.....	2	450	3	600	4	750	6	900
Civilian defense.....	2	---	2	---	2	300	3	400
Public health.....	7	1,750	11	2,750	18	3,900	28	5,750
Public works department.....	23	4,100	30	4,850	40	6,500	56	8,900
Total.....	80	17,350	102	20,900	133	27,050	191	35,300

Source: "Space Needs and Departmental Inter-relationships in Municipal Building," Public Administration Service, p. 27.

(c) *Past and Present Characteristics*

The civic center has traditionally been the section of the city or town, usually near the center, where administration buildings, courts, libraries, and other public buildings have been grouped. It is the history of the construction of public office and court buildings such as city halls, State capitals, administration buildings, county courthouses and other general purpose public buildings that is discussed here. Special-purpose buildings, libraries, fire stations, etc., are discussed in other chapters.

Civic centers have basically aimed to serve the public administrative needs of the area served. This may be a city, county, metropolitan region or State. This concentration of public business has also facilitated the conduct of interdepartmental affairs. As needs have grown, wings have been added to existing buildings and new structures have been added. As the core of cities has become more and more congested, there has been a growing trend to decentralize certain functions such as maintenance shops and refuse collection. However, this trend generally applies to large cities only where congestion is significant and distances between remote districts are great.

The modern design and layout of public buildings considers the future growth potential of governmental services to be accommodated as well as the practical problems of adequate parking, employee facilities, general utilities, and public access and convenience. Esthetic opportunities of impressive vistas, pleasant settings, and harmonious design should not be overlooked. There are no special formulas or standards for solving any of these problems. However, the number of people who come to government offices, the number of service cars, and the amount of employee and public parking to be accommodated are factors to be considered when civic centers are being planned or expanded.

This gives the general setting and background of the building and construction of public office and court buildings. A detailed analysis of the past and present characteristics of these buildings is discussed on the pages that follow.

2. EXISTING CAPITAL PLANT

(a) *Number, Distribution, and Floor Area*

It is estimated that there are about 25,000³ public office and court buildings in the United States that have been constructed by State, county, and local units of government. These buildings have a gross floor area of about 330 million square feet or an average of 13,500 square feet per structure. In cities of 50,000 to 100,000 population there is on the average one or two structures with a total floor area of 50,000 square feet.

On the basis of population of city, the number of these buildings per typical city varies from one in cities of less than 10,000 to five or more in cities over 500,000. Towns of less than 2,500 (there are 13,389 such places according to the census), account for almost half the city-owned space being used.

It goes without saying that cities that are county seats or State capitals will have many more buildings and public office space than the average city in their size range. Thus, in a typical county seat of 50,000, there will be about four structures with 100,000 square feet of office space. A State capital is likely to have about 15 structures including county and city facilities with a million or more square feet of space.

TABLE II.—*General-purpose public buildings, distribution of structures by size and type for the United States*

CITY-OWNED FACILITIES

Population (thousands)	Number of cities	Population (thousands) 1960	Average number per city	Structures	Total floor areas in square feet (thousands)
500 or more.....	21	28,484	5	100	20,000
100 to 500.....	109	22,000	3	300	15,000
50 to 100.....	180	12,511	2	360	7,200
10 to 50.....	1,344	27,781	1.5	2,000	20,000
2.5 to 10.....	3,000	15,267	1	3,000	24,000
Less than 2.5.....	13,389	9,600	1	13,400	67,000
Total.....	18,088	115,911	1.1	19,160	153,200

³ Based on APWA survey.

TABLE II.—*General-purpose public buildings, distribution of structures by size and type for the United States—Continued*

COUNTY-OWNED FACILITIES (COUNTY SEAT)	
Number of counties.....	3,000
Average number per county.....	1.7
Total floor area.....	125,000,000
Total structures.....	5,100
STATE-OWNED FACILITIES (CAPITAL CITIES)	
Number of States.....	50
Average number of structures per State.....	12
Total structures.....	600
Total floor area.....	50,000,000

NOTE.—U.S. total: 25,000 structures; 330,000,000 square feet.

Sources: APWA Civic Building Survey. U.S. Census of Population, 1960.

TABLE III.—*Age of general-purpose State and local public office and court buildings in the United States*

	Since 1961	1941-60	1921-40	1901-20	Before 1900
Number constructed.....	3,400	5,400	6,600	5,000	4,600
(Percent).....	14				
Floor space in millions of square feet.....	60	86	114	32	38
(Percent).....	18	26	35	10	11
Average square feet per structure.....	17,600	16,000	17,300	6,400	8,300

Source: American Public Works Association Civic Building Survey, 1966.

Over 80 percent of our civic buildings are less than 50 years old. However, put another way, this means that one in five public buildings presently in use is more than 50 years old. The median age is about 35 years. However, since World War II there has been a sharp increase in the size of structures, thus half the available space is located in structures less than 25 years old.

(b) *Ownership and Current Value*

Public office and court buildings broadly include general purpose buildings owned by municipalities, counties, and States. It is estimated that about 75 percent of these buildings are owned by municipalities. State governments account for about 1 to 2 percent of all facilities, the balance being owned by county governments.

The estimated value of existing general purpose public buildings is about \$7 billion. County buildings account for a little over one-third of this amount or \$2.5 billion. City buildings account for \$2.4 billion. There are more city owned general purpose public buildings however, which because of their small size account for a smaller part of the dollar value. A breakdown of estimated values of general-purpose public buildings is illustrated below:

TABLE IV.—*Estimated current (1966) value of general-purpose public buildings in United States*

Ownership	Square feet (millions)	Dollar cost per square foot	Cost (millions)
City:			
Less than 2,500.....	70	10	\$700
2,500 population and over.....	85	20	1,700
County.....	125	25	3,125
State.....	50	30	1,500
Total.....	330		7,025

Source APWA Civic Building Survey.

B. COSTS AND USER CHARGES

CONSTRUCTION COSTS

Construction costs for multipurpose public buildings may vary widely. A simple structure, with a minimum of mechanical requirements, may be constructed for as low as \$7 a square foot. At the other extreme, a complex multistory structure highly mechanized with sophisticated electrical, mechanical, and air-control systems can cost more than \$60 per square foot.

On the basis of a recent survey conducted by APWA a rough estimate of the current cost of facilities has been prepared. A median cost of \$30 to \$40 per square foot was reported including land costs. It can be seen from the following table that there is considerable variation. Many factors such as land costs, community standards, labor costs, et cetera, contribute to this variation.

TABLE V.—*General-purpose public building costs*

Size (square feet):	Total cost
10,000 to 15,000.....	\$400,000 to \$800,000.
15,000 to 75,000.....	\$1,000,000 to \$2,000,000.
100,000 to 200,000.....	\$4,000,000 to \$7,000,000.
200,000 to 500,000.....	\$10,000,000 to \$30,000,000.

Source: APWA civic building survey.

C. TREND OF CAPITAL OUTLAYS

Since the end of World War II there has been a rapid rise in annual expenditures for general purpose public buildings. In 1950, State and local governments were spending about \$50 million per year. By 1960 that amount had increased threefold. The current rate is approximately four times what it was in 1950. The figures are given below:

TABLE VI.—*Value of general-purpose public buildings put in place (1950-64)*
(State and locally owned only)

Year:	[In millions of dollars]	Amount
1950.....		53
1955.....		83
1958.....		135
1959.....		140
1960.....		151
1961.....		175
1962.....		164
1963.....		195
1964.....		218

This sharp increase in annual expenditures reflects several changes in our society. One is that the population of the United States is expanding rapidly and virtually all of that growth is in urban areas. The increase is in part related to the inflationary trend of prices in the period designated. Another factor is the generally increasing affluence of our society and consequently, not only an increasing ability to pay for governmental services, but the willingness to pay for more sophisticated public works facilities.

Of the current capital outlay of \$200 million for general purpose public buildings almost half is spent by county governments. Another

one-third is spent by municipal governments and the balance, about one-sixth, is expended by State governments.

SUMMARY

In summary, there have been about 25,000 public office buildings built by State and local governments in the United States with a total gross floor area of about 330 million square feet. On the average, these structures are 35 years old (18 percent are 60 years old or older). The value of these existing structures is about \$7 billion with a median replacement cost of about \$30 to \$40 per square foot. The rate of capital expenditure for general purpose public buildings has been increasing rapidly (threefold in the last decade) and is currently at the \$200 million per year level. In the past the majority, or 70 percent, of civic buildings have been financed by tax-exempt municipal bonds. Federal grants have accounted for about 10 percent of the cost of these facilities. Another 15 percent of the cost has come from direct appropriation from tax sources, particularly used in the case of State financing. The remaining 5 percent came from miscellaneous sources such as State aid, rents, utility service charges, et cetera.

D. NEEDS AND PROSPECTIVE CAPITAL OUTLAYS

In estimating the probable "unmet needs" for the next 10 years with respect to general purpose public buildings, there are several major considerations. The basic projection is a continuation of past trends. However, possible modification due to changes in policy or economic conditions are considered. The resultant projection gives a range of probable costs for the next 10 years.

Indications are that during the next decade, 1966-75, that the capital requirements for general purpose public buildings will exceed \$3 billion. The annual capital expense is projected to rise from \$200 million per year at present to about \$400 million per year by 1975.

This 100-percent rise in annual capital expenditures over the next 10 years is based on these trends:

Population, current rate of increase: 20 percent per 10 years.

Construction cost, current rate of increase: 20 percent per 10 years.⁴

Government employment, (local and State only) current rate of increase: 50 percent per 10 years.

General rise in quality of facilities: At least 10 percent per 10 years.

In the recent APWA survey, those responding indicated a need for an increase of at least 10 percent in additional revenue from other sources such as Federal grants.

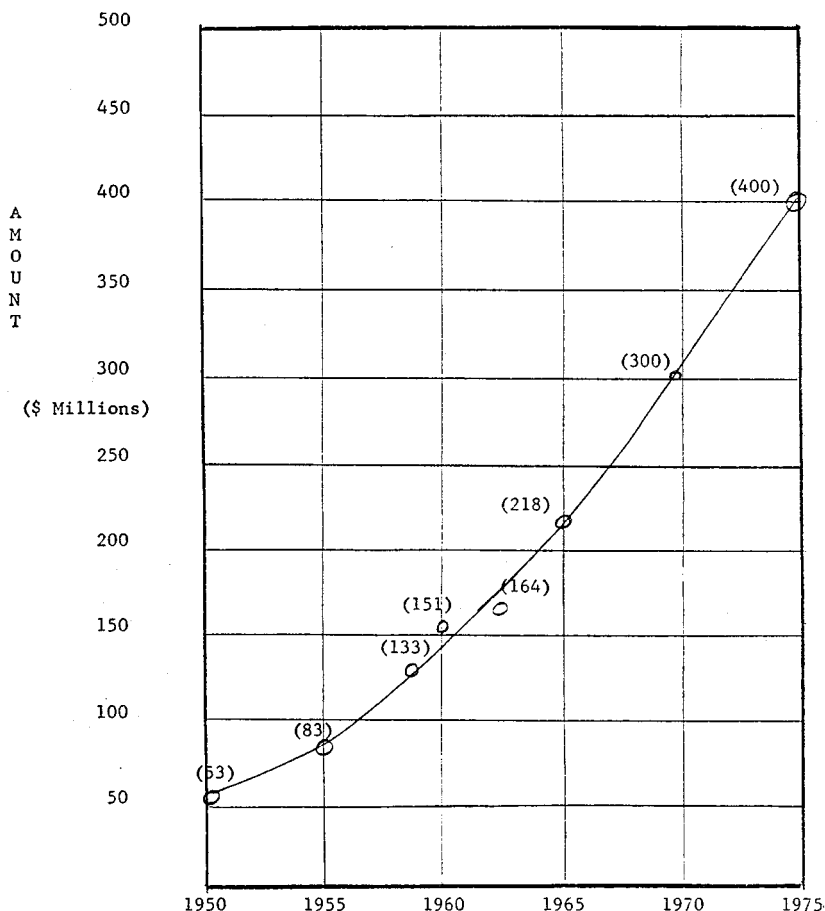
It is important to point out that the projected expenditures for general purpose public buildings are primarily a projection of past trends. The amount that will actually be spent can vary considerably depending on general economic conditions as well as governmental policy. As an example, there are now large antipoverty programs and youth training programs, all requiring space that had

⁴ The increase for 1965 was 3 percent and there is some indication that 20 percent may be a conservative figure.

CHART I

TREND OF CAPITAL OUTLAY

For General Purpose Public Buildings



Sources: Statistical Abstract of the United States
 Census of Governments, 1957 and 1962
 Construction Review, United States Department of Commerce
 APWA Civic Building Survey

not been foreseen. Between 1925 and 1935, because of the depression, expenditures for nonresidential public buildings dropped 50 percent. Other factors affecting cost of construction include policy decisions on when and where to buy land. Property purchased well in advance of need can frequently be procured for much less than property acquired at the time of construction. Careful site selection providing for future expansion can also reduce the overall cost of construction. Cooperation between different levels of government,

such as city and county in the construction of facilities should also, in some cases, reduce costs. One larger facility may very well be less expensive than several smaller facilities. And the efficiency of operation should be considered in any such decision. A further consideration of expense is the ownership of public buildings versus the rental of space for public needs. There is no clear consensus on whether it is better to rent or to own. Generally, each situation has to be evaluated on the basis of overall cost, permanency of occupancy, future space needs, location, use and public convenience. At present, about 10 percent of general purpose public building space is rented, an indication of preference for ownership over renting. Another alternative that has been used successfully is the long term lease or lease-purchase contract whereby the structure is built privately and leased or purchased over a long period by the public agency. Pennsylvania is following such a program.

Between 1950 and 1960, the dominant population growth has been in metropolitan areas over 500,000. Their population has increased by 45 percent. Most of this growth has been in the suburban areas. On this basis it is projected that a little less than one-half of the capital requirements during the next 10 years will be in these suburban areas. Cities with populations of less than 2,500 have only increased in population by 1 percent between 1950 and 1960. Since these cities represent less than 5 percent of the total population it is projected that the need in these cities would be only a small percent of the total. Most of the balance of the projected needs, a little more than one-half, is projected to be in the central cities which have half the urban population. It is estimated that about 10 percent of the projected needs are in "independent" cities between 2,500 to 50,000 population; that, is, cities outside metropolitan areas.

It is expected that in the next 10 years there will be no significant change in the proportion of capital outlay for general-purpose public buildings spent by the State and local governments. This would suggest that about half these expenditures would be spent by county governments, a little less than a third by municipal governments and the balance by State governments.

Past trends indicate that about 70 percent of the general-purpose public buildings have been financed by tax-exempt bonds. About 15 percent have been financed directly from appropriations from tax resources. Federal grants have accounted for about 10 percent. In view of current trends in such areas as pollution control, urban renewal, et cetera, and a growing municipal financial pinch, Federal participation may be expected to increase in the next 10 years.

In summary, then, the possible variation over the next decade is considerable. It could range from a low of a little over a billion dollars, in the case of a major depression, to as much as \$5 billion or more depending on the degree of inflation, quality of construction and design, and local, State, and Federal policy.

The probable range of capital cost for general purpose buildings during the next decade is likely to be in the order of \$3 billion. Assuming a variation of 10 percent the range would be from \$2.7 billion to \$3.3 billion.

The indicated "gap" between local funds available and cost is about 10 percent or \$300 million in the next 10 years. This would be a gap of \$20 million annually starting in 1965 and increasing to \$40 million annually by 1975. Since this figure is a projection of his-

torical data it does not reflect increased governmental activity in public works fields. The annual gap will increase proportionately to increased activity in these areas. Furthermore, if financing is eased by some form of subsidy, it may be assumed that obsolete buildings will be replaced at a more rapid rate than at present. This would further tend to increase annual expenditures and increase the gap.

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CHAPTER 42

Industrial Plants Financed and Owned by Local Governments*

The issuance of tax-exempt bonds by a municipality or other local government to finance the acquisition, construction, or improvement of industrial facilities to be leased to a private company is known generally as "municipal industrial financing." Such financing by local governments is authorized at present in 28 States, as shown in table 1, and limited types of such financing are authorized in a few additional States.

After widespread defaults in the period 1837-45 in bonds issued by local governments to assist certain types of private business, most of the States adopted constitutional amendments prohibiting the State or its municipalities from issuing bonds or loaning their credit in aid of private business. To permit municipal industrial financing in States with such constitutional prohibitions against the use of local government credit for the benefit of private business, constitutional amendments were required in some States, but in other States the courts held that the authorizing legislation was constitutional on the ground that it was basically for the benefit of the public or that, in the case of revenue bonds, it did not involve a pledge of the credit of the local government.

The present type of municipal industrial financing was initiated by Mississippi in 1936. Kentucky followed in 1948 and Alabama and Tennessee in 1951. This type of financing originated in an attempt to attract industrial plants to a few Southern States. Several States have authorized such financing in recent years only so that they could compete with other States by offering the same inducements to attract or keep industry.

Table 2 lists the number of issues and the dollar amount of municipal industrial financing in each State in the period 1956-64. This table shows that 5 States (Alabama, Arkansas, Kentucky, Mississippi, and Tennessee) have accounted for 88.4 percent (465) of the 526 issues in the indicated period and that those 5 States have accounted for 82.4 percent (\$652 million) of the \$791,342,000 in the dollar amount of such issues.

Table 3 lists the dollar amount of municipal industrial financing in each year from 1956 through 1965, a total of 526 issues aggregating over \$791 million. Table 3 includes all of the issues of municipal industrial bonds for which information has been obtained by the research department of the Investment Bankers Association, but it is believed that there have been substantial additional amounts of such financing.

Table 3 indicates the tremendous expansion in the use of such financing in recent years, with the total dollar amount only \$40 million in 1960, but over \$213 million in 1965. In the first 5 months of 1966 there already have been five large issues of revenue bonds which aggregate over \$200 million.

*Prepared by the Investment Bankers Association, with minor editing by committee staff.

Most of the States which have authorized municipal industrial financing permit only revenue bonds; that is bonds which are secured only by a pledge of the revenues from the facility financed by the bonds. Some States, including Alabama, Louisiana, Mississippi, and Tennessee, permit either general obligation bonds or revenue bonds. General obligation bonds are secured by a pledge of the full faith, credit and taxing power of the issuer, so that if the revenues from rental payments on the industrial facility are not sufficient to pay the principal and interest on the bonds, the municipality is committed to levy taxes in sufficient amount to pay such principal and interest. Mississippi accounts for a large percentage of the general obligation bonds which have been issued by municipalities to finance industrial plants, with 229 issues aggregating over \$79 million out of the total of 315 issues of general obligation bonds aggregating \$173 million.

Where municipal industrial financing is effected by revenue bonds, which is now the case for most issues outside of Mississippi, the only security for the bonds is the revenue from rental payments from the industrial facility, a private corporation.

The principal feature of all municipal industrial financing is the fact that tax-exempt bonds of local governments are issued to finance plants for the use of private companies. Since the tax-exempt bonds obtain a lower rate of interest, increasing numbers of large corporations are utilizing this type of financing. This trend is reflected in table 3 and in table 4 which lists the 15 largest municipal industrial bond issues. The industrial facilities financed by municipalities through tax-exempt bonds and leased to private companies have included chemical, tire, aluminum, fertilizer, sugar refining, paper, plastics and petrochemical, steel, meat processing, shoe, paint, textile, clothing, furniture, luggage, and container plants or factories.

The tax exemption of bonds issued by States and municipalities is based on a statutory exemption and the constitutional doctrine of reciprocal immunity, on the theory that bonds issued by local governments will be for governmental purposes. The use of tax-exempt financing provides industrial facilities with a competitive advantage over other companies in the same business that do not employ tax-exempt financing.

TABLE 1.—*Authorization for municipal industrial financing, Apr. 15, 1966*

Legislation authorizing the issuance of municipal bonds to finance industrial plants to be leased to private companies has been adopted in the following 28 States (on the basis of available information as of this date, no bond issues in the States marked with a "+" and 6 or fewer issues in the States marked with an "*"):

Alaska ¹	Kentucky	New York† ²
Alabama	Louisiana	North Dakota*
Arizona*	Maine†	Ohio*
Arkansas	Maryland*	Oklahoma*
Delaware*	Michigan†	Tennessee
Georgia	Mississippi	Vermont†
Hawaii*	Missouri*	Virginia†
Illinois†	Nebraska	West Virginia*
Iowa*	New Mexico*	Wyoming†
Kansas*		

¹ In Alaska there is no specific authorizing legislation but the constitution authorizes cities to exercise all powers not prohibited to them.

² In New York only a State development agency is authorized to issue bonds to assist in industrial development.

The following States have been omitted from the list for the indicated reasons: Minnesota—because the legislation authorizes only 1 municipality and 1 port authority to issue bonds for industrial purposes.

Washington—because the legislation permits port districts created by counties to establish industrial development districts only to develop land use and advance credit.

Wisconsin—because the legislation authorizes the issuance of bonds only for the purchase of land for use as industrial parks.

TABLE 2.—*Municipal industrial bond issues, by State, 1956-65 (on basis of information available to Investment Bankers Association)*

	Issues	Amount
Alabama.....	79	\$295,833,000
Arizona.....	1	22,250,000
Arkansas.....	38	100,106,000
Delaware.....	2	2,658,000
Georgia.....	7	14,090,000
Kansas.....	6	2,769,000
Kentucky.....	69	123,398,000
Louisiana.....	8	10,500,000
Michigan.....	3	970,000
Mississippi.....	237	86,388,000
Missouri.....	11	16,290,000
Nebraska.....	2	8,750,000
New Mexico.....	4	6,630,000
Oklahoma.....	6	5,167,000
Tennessee.....	42	46,289,000
West Virginia.....	2	2,604,000
Others.....	9	46,650,000
Total.....	526	791,342,000

TABLE 3.—*Municipal industrial financing, volume by year (number of issues and dollar amount)*

	General obligations		Revenue bonds		Total	
	Number	Amount	Number	Amount	Number	Amount
1956.....	9	\$1,411,000	1	\$110,000	10	\$1,521,000
1957.....	14	3,461,000	6	3,871,000	20	7,332,000
1958.....	35	8,006,000	6	17,045,000	41	25,051,000
1959.....	31	8,200,000	5	10,306,000	36	18,506,000
1960.....	44	29,454,000	10	11,217,000	54	40,671,000
1961.....	36	11,531,000	10	60,240,000	46	71,771,000
1962.....	39	16,736,000	27	67,581,000	66	84,317,000
1963.....	39	29,572,000	31	105,913,000	70	135,485,000
1964.....	40	49,339,000	51	143,838,000	91	193,177,000
1965.....	28	16,026,000	64	197,485,000	92	213,511,000
Total.....	315	173,736,000	211	617,606,000	526	791,342,000

TABLE 4.—*15 largest municipal industrial bond issues*

- 1961: \$25,000,000 (March) Cherokee, Ala. (population 1,400) to build a chemical plant for Armour & Co.
- 1962: \$21,000,000 (December) Opelika, Ala. (population 15,678) for U.S. Rubber.
- 1963: \$50,000,000 (October) Lewisport, Ky. (population 750—employs 1,000) to build an aluminum plant for Harvey Aluminum Co.
- 1964: \$23,000,000 (June) Helena, Ark. (population 11,500) to build a fertilizer complex for Arkla Chemical Corp., a subsidiary of Arkansas-Louisiana Gas Co.
- \$22,500,000 (September) Maricopa County, Ariz. (population 663,510) for American Sugar Refining Co.
- \$20,000,000 (October) Blytheville, Ark. (population 20,797) to build an anhydrous ammonia plant for Continental Oil Co.
- \$45,000,000 (December) Prattville, Ala. (population 6,616) to build a plant for Union Bag-Camp Paper Corp.

- 1965: \$25,500,000 (March) Selma, Ala. (population 28,385) for Hammermill Paper Corp.
\$45,000,000 (March) Phenix City, Ala. (population 27,630) for Mead Corp. and Inland Container Corp.
\$55,000,000 (August) Scottsboro, Ala. (population 6,449) Revere Copper & Brass Co. plant.
- 1966: \$60,000,000 (February) Clinton, Iowa (population 33,589) for construction of a plastics and petrochemical plant for Chemplex Co., a venture sponsored jointly by Skelly Oil Co. and American Can Co.
\$30,000,000 (announced February) Lorain, Ohio (population 68,932) Litton Industries of Los Angeles shipbuilding enterprise.¹
\$70,000,000 (April) Camden, Ala., to finance construction of lumber, plywood, and paperboard facilities for United Fruit Co., Boston, and MacMillan, Bloedel & Powell River, Ltd., Vancouver, Canada.¹
\$35,000,000 (April) issued by Northern Delaware Industrial Development Corp., an agency of the State of Delaware to finance acquisition and modernization of steel plant from the Phoenix Steel Corp. for that corporation.
\$34,400,000 (April) Ashland, Ky. (population 31,283) to build a steel plant for Armco Steel Corp.¹

¹ Sale expected soon.



