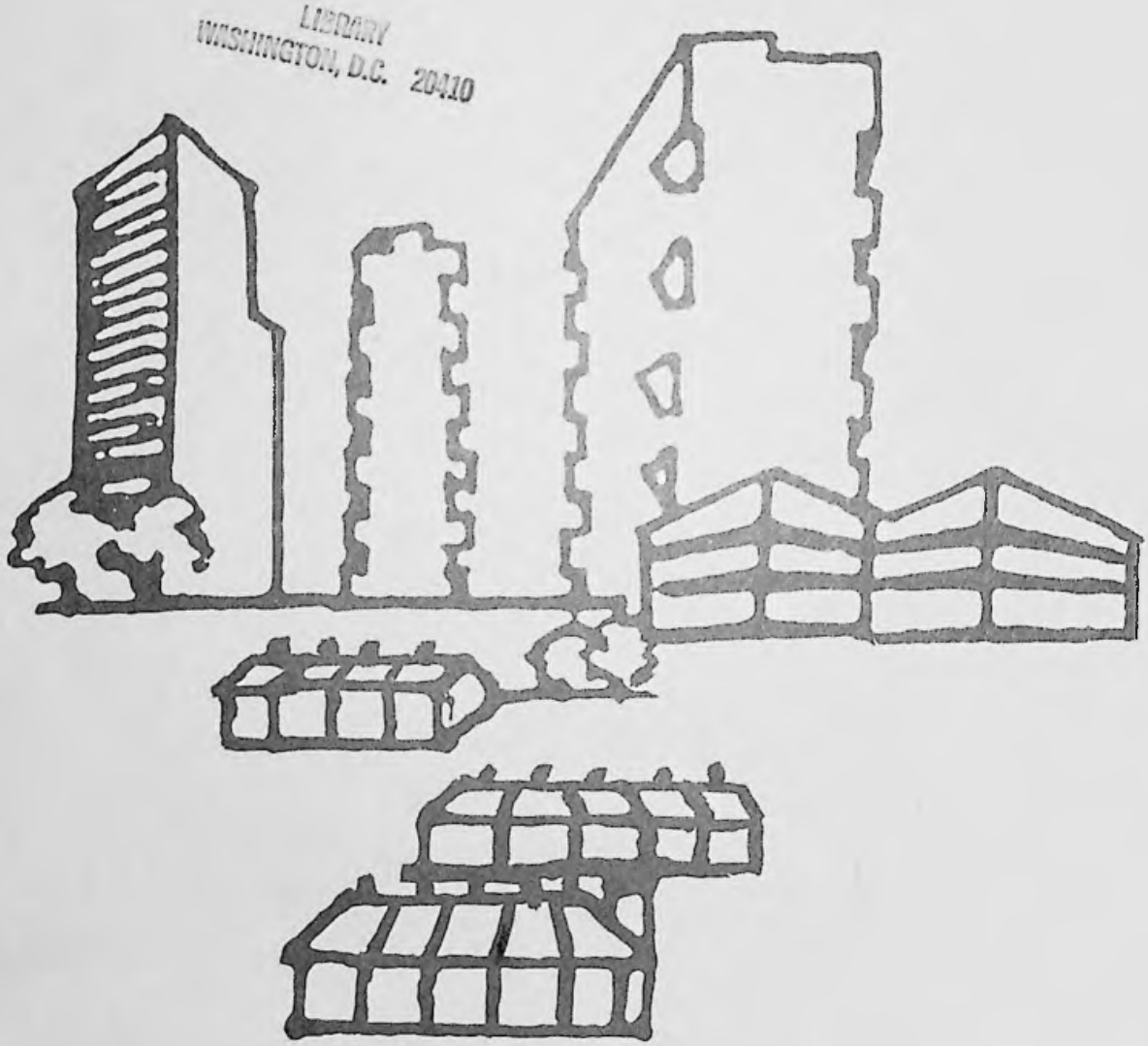
U.S. Department of Housing and Urban Development
Office of Policy Development and Research

The Costs of HUD Multifamily Housing Programs

Volume 2: Appendices

A Comparison of the Development, Financing and Life Cycle Costs of Section 8, Public Housing, and Other Major HUD Programs



The Costs of HUD Multifamily Housing Programs

Volume 2: Appendices

A Comparison of the Development, Financing and Life Cycle Costs of Section 8, Public Housing, and Other Major HUD Programs

Prepared for:
U.S. Department of Housing and Urban Development
Office of Policy Development and Research
Washington, D.C. 20410

Prepared by:
Urban Systems Research & Engineering, Inc.
Cambridge, MA 02138

Contract H-5252

May 1982

The research and studies forming the basis for this report were conducted pursuant to a contract with the Department of Housing and Urban Development (HUD). The statements and conclusions contained herein are those of the contractor and do not necessarily reflect the views of the U.S. Government in general or HUD in particular. Neither the United States Government nor HUD makes any warranty, expressed or implied, or assumes responsibility for the accuracy or completeness of the information herein.

Table of Contents

Appendix A

DATA COLLECTION PROCEDURES

Appendix A

DATA COLLECTION PROCEDURES

Several kinds of data were required to perform the analysis of multi-family housing development costs, and similarly several data collection methods were employed to acquire these data. The overriding principle for the data gathering plan was to restrict data to those items available from standard records maintained by HUD or the SHFA; information which could not be acquired from standard forms was obtained by contacting the developer of the project.

The data required to fulfill the study's research design formed four data groups: the characteristics of the project; the actual costs of developing the project; the characteristics of the developer; and key dates and project locations. The methodologies undertaken for securing each data group are described below, and the results of these efforts are summarized by program variant in Table A-1.

Costs and Attribute Data: FHA-Insured & 202 Projects

All projects which advance through the FHA processing cycle must complete a series of standard FHA forms.[1] Three of these forms provided the requisite costs and attribute

---

[1] In this study, this included 221(d)(4) subsidized and unsubsidized projects; 11(b) insured projects; 236 projects; and state-financed projects with FHA insurance. Although 202 projects are not FHA-insured, they follow the FHA processing procedures.

Table A-1

DATA COLLECTION RESULTS BY PROGRAM VARIANT

Program Type[a]	Attempted Sample	Actual Sample[b]				Percent of Attempted Sample with Complete Data
		Costs & Attribute Data		Developer's Survey		
		Number of Projects	Percent of Attempted Sample	Number of Projects	Percent of Actual Sample	
FHA PROJECTS						
221(d)(4) unsubsidized	190	140	74 %	77	55 %	41 %
Section 236	170	117	69	68	58	40
202/8	107	58	54	33	57	31
HUD/FHA - New Construction	181	137	76	81	59	45
HUD/FHA - Sub Rehab.	96	57	59	35	61	36
State/FHA - New Construction	121	79	65	37	47	31
State/FHA- Sub Rehab.	20	13	65	7	54	35
11(b)/FHA	29	19	66	9	47	31
Subtotal	914	620	68 %	347	56 %	38 %
STATE, UNINSURED						
State - New Construction	183	133	73	82	62	45
State - Sub Rehab.	40	20	50	13	65	33
Subtotal	223	153	69 %	95	62 %	43 %
PUBLIC HOUSING						
Turnkey	118	58	49	43	74	36
Conventional	120	53	44	409	75	33
Subtotal	238	111	47 %	83	75 %	35 %
TOTAL	1,375	884	60 %	525	59 %	38 %

[a]All program types are new construction unless otherwise indicated.

[b]The number of projects for which data were collected is sometimes slightly higher than in sample used for analysis due to elimination of projects during data cleaning; a significant number of 236 projects were eliminated since completion dates were missing.

data for the FHA and 202 projects in the sample. Form 2013, Application for Project Mortgage Insurance, presents the proposed project's characteristics and array of amenities. This form is submitted several times during FHA processing; however, the version submitted at the Firm Commitment processing stage most accurately reflects the project as built. Therefore, the 2013 at Firm Commitment was collected for the attribute data on these projects.[2]

Essentially all costs data for the FHA and 202 projects were available from FHA Form 2330, Mortgagor's Certificate of Actual Costs; the one cost item that is not recorded on the 2330 is the appraised value of land. The appraised value of land is, however, documented on FHA Form 2580, Maximum Insurable Mortgage, and therefore, the 2580 was also collected during field work. Costs and attribute data acquired on FHA and 202 projects were not considered complete unless all three forms (2013, 2330, and 2580) were available.

Since a full set of records for completed FHA projects are supposed to be forwarded by the respective Area Offices to HUD's Central Office, the primary strategy for collecting the standard FHA forms was to conduct a file search at Central Office. USR&E attempted to collect data for 807 FHA projects; data were collected for 365 FHA projects, representing 45 percent of the attempted sample.

For the FHA projects which had no Central Office docket, or had incomplete records in the Central Office file, forms were obtained from the appropriate Area Office. In addition, the Area Office was the primary source for data on 202 projects. USR&E undertook two strategies for acquiring data from the Area Offices. On-site visits were made to the 26 Area Offices which had the largest number of projects requiring data; requests were made by mail to the remaining 21 Area

---

[2]Available 2013s at other processing stages were treated as missing data.

Offices from which data were needed.[3] As Table A-1 illustrates, through the Central Office and Area Office file searches, costs and attribute data were obtained for 620 of the 914 FHA and 202 projects, representing a 68 percent collection rate.

Costs and Attribute Data: SHFA/Non-FHA Insured

As in FHA processing, sponsors of projects financed by State Housing Finance Agencies must submit a Mortgage Application which presents the characteristics of the proposed project; and upon completion of the project, the actual costs of development must be certified by public accountants. Therefore, the tactic for obtaining attribute and costs data for these projects was essentially the same as for FHA projects -- i.e., to extract attribute data from the final version of the mortgage application, and to obtain costs information from certified costs records. Data on a SHFA project were considered incomplete unless both the application and certified costs were available.

Since each SHFA has its own processing procedures and set of forms, on-site visits were performed at the ten SHFAs from which data had to be acquired. Using FHA forms as a model for comparability, the field staff attempted to identify data not available on the standard application and costs records maintained by the SHFA.[4] While in the field, staff also administered an interview with a representative from the agency to help explain state policies and procedures which might affect costs, and to clarify specific agency costs items (e.g., how administrative costs are determined).

---

[3]All 21 of the Area Offices responded to the mail request.

[4]For example, the value of the land or property was not always documented on the certified costs but was often recorded elsewhere in the agency's files.

Every effort was made to assure that the state data were comparable to FHA records. Telephone calls were made to the developers of state projects to obtain attribute data missing on the standard mortgage application,[5] and follow-up calls were made to the state agencies to further define specific costs items so that the state costs data could be coded comparably to the FHA costs.

Through all of these efforts, costs and attribute data for 153 projects were gathered out of the attempted 223 state projects, which resulted in data for 69 percent of the state financed, uninsured projects in the sample (see Table A-1).

Costs and Attribute Data: PHA

The collection of data on Public Housing projects was somewhat more difficult. No standard form is maintained by PHAs or HUD which provides the type of attribute data needed for this analysis.[6] Therefore, a survey had to be fielded to each Public Housing Authority with a project in the sample to obtain the data on the project's characteristics.[7]

Also, over the period under study, a variety of standard forms were used to record the costs of developing Public

---

[5]These calls were coordinated with the telephone follow-up to the Developer's Survey discussed later in this Appendix.

[6]PHAs do complete HUD Form 51885, Physical Characteristics of Project, but this form does not provide the key data items required for the analysis.

[7]The survey of Public Housing Authorities was a tailored version of the Developer Survey forwarded to all developers of sampled projects; it requested project attribute data and information on the PHA's characteristics and development experience. The procedures employed to administer the PHA survey were essentially identical to the administration of the Developer's Survey described in the next section of this Appendix.

Housing units, thereby making it more difficult to identify the appropriate "standard" costs form. Moreover, since the data collection effort could not rely only upon projects for which the costs had been certified because there is often a three year lag between completion of a Public Housing project and the certification of costs, the strategy was to collect forms marked "Final" which document the costs at the end of construction, as well as forms identified as "Actual" which represent certified costs.

In keeping with the overall data collection approach, a Central Office file search was first conducted to obtain the costs data for Public Housing projects. The file searchers were instructed to make a copy of Form 52484 with the latest date, or the latest version of a similar form if Form 52484 was not available.[8] As a result of this effort, forms were obtained for 190 of the 238 projects fielded, or 80 percent of the Public Housing projects in the sample; however, only ten of the forms were explicitly identified as representing "Actual" or "Final" costs -- i.e., earlier stages in processing were indicated as the status of the costs figures, or there was no indication of processing status.

Because of the low response rate of the data collected from the Central Office file search, almost the full sample of Public Housing projects had to be fielded during the Area Office file search stage of data collection.[9] At the conclusion of the Area Office phase of data collection, costs

---

[8]Form 52484, Development Cost, Budget/Cost Statement, is the most recent version of the Development Costs Statement for Public Housing projects; earlier versions with similar costs data are Forms 5080, Development Cost Budget-Turnkey; Form 52399, Development Cost Control Statement; and Form 52152, Development Cost Budget.

[9]The Area Office file search for Public Housing data was performed at the same time as the Area Office on-site visits and mail requests for the FHA data.

had been obtained for 211 projects, or 89 percent of the sample. However, only 42 of the 211 forms collected represented "Actual" costs and another 36 forms were identified as "Final" costs. The remaining 133 forms collected in the field were designated as earlier stages in processing. USR&E staff performed several tests to determine if the latest approved budgets on the 133 forms designated at other processing stages were reliable costs figures, and the tests concluded that these costs were not reliable. Therefore, only the 78 forms marked "Actual" or "Final", or 33 percent of the Public Housing sample, were acceptable data. To increase the sample of Public Housing projects, each PHA was requested to forward a copy of the project's most recent development costs when responding to the PHA survey and a special telephone request was made to the 30 PHAs for which surveys had been forwarded but no acceptable costs data were available. After these efforts, acceptable costs data had been acquired for a total of 111 Public Housing projects.

Because of the difficulty in obtaining complete records for the Public Housing projects, the decision was made to include all projects with final or actual costs data for analysis even if a survey was not available. However, a project for which a survey was available but the costs were unavailable was considered incomplete. As Table A-1 shows, completed data were collected for 83 projects or 35 percent of the attempted sample, and costs data were collected for 47 percent of the sample.

Developers' Characteristics

The fielding of an eight page Developer's Survey was the methodology employed for acquiring information about the characteristics and experience of developers, the terms and conditions of construction and permanent financing of projects, the project's syndication status, and the developer's assessment of the project's neighborhood.

In general, the survey was forwarded to the developers of projects for which complete costs and attribute data had been collected from the Central and Area Offices file searches. For Public Housing projects, the survey was sent to each PHA in the sample because of the problems encountered in collecting acceptable PHA Costs data. The names and addresses for the FHA, 202, and SHFA developers were secured from the respective mortgage applications. The Directory of Public Housing Authorities was used for obtaining PHA addresses.

The first batch of surveys were mailed to the developers of projects for which data were collected at HUD's Central Office (365 projects). Two weeks after the mailing, a postcard was sent to the 235 developers which had not responded, encouraging them to forward the survey. Only about 15 additional responses were received as a result of the postcard; therefore, this technique was discontinued for subsequent mailings.

The strategy used for gathering data from developers who did not respond to the mailed survey was to administer the survey by telephone. Since many of the mailed surveys were returned because the addressee was unknown, a major effort was made to track down the developer including telephoning the Loan Management division of the respective Area Office to obtain the developer's most recent address and telephone number. As Table A-2 illustrates, the telephone followup was responsible for nearly half (41 percent) of the completed surveys.

No survey data were included in the analysis unless complete costs data were available for the project. This resulted in 525 surveys being used for analysis. Therefore, of the approximately 884 projects for which a survey was fielded, surveys were obtained for 68 percent (574 collected surveys) of the projects; and of the 884 projects for which a survey was fielded, 59 percent or 525 surveys are being used in the analysis. Table A-1 displays that of the 1,375 projects in the attempted sample, survey data are available for 38 percent of the projects.

Table A-2

DISTRIBUTION OF COMPLETED SURVEYS[a]
BY MAIL AND BY TELEPHONE

	Number of Surveys		
	Received by Mail	Administered by Telephone	Total
FHA Projects	207	150	357
SHFA Projects	58	59	117
PHA Projects	71[b]	29	100
TOTAL	336 (59%)	238 (41%)	574

[a]The number of completed surveys is greater than the number of surveys in the actual sample because some projects were eliminated during the cleaning of data.

[b]Many of the PHAs which were telephoned preferred to mail the survey to completing it over the telephone.

MIS Data: Key Dates & Project Location

The respective management information systems (Section 8 MIS, PHA FORMS, and FHA MIDLIS) were the primary sources for obtaining key dates to track the length of processing time for each project in the sample and securing project location data. The dates obtained to assess processing time were: (1) initial application; (2) beginning of construction; and (3) end of construction. Since the Initial Application Date for state uninsured projects is not accurately recorded on the Section 8 MIS, an attempt was made to collect this date during site visits to the state agencies; dates from 129 projects were collected in the field.[10] The project location data were used with the Dodge Construction Index to deflate development costs. Records were obtained on all projects, but some of the data were incomplete; all information on application dates was missing on the FHA MIDLIS system.

---

[10]For field work, Initial Application was defined as first full submission including costs information, after reservation of funds.

Appendix B

UNADJUSTED DEVELOPMENT COST DATA

Table B-1

PER PROJECT DEVELOPMENT COSTS:
Current Dollars[1,2]
(Unweighted)
(In thousands)

COMPONENTS OF COSTS	UNSUBSIDIZED	SUBSIDIZED											
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
Total Improvements	$ 1,825	$ 1,646	$ 2,340	$ 1,677	$ 2,075	$ 1,828	$ 2,047	$ 1,933	$2,363	$ 1,998	$ 1,876	$ 1,766	.019
Land[a]	153	96	137	102	125	97	104	578	532	371	125	95	.225
Off-Site Costs[c]	15	6	12	6	5	7	5	5	5	0	N/A	N/A	.061
Construction Period Carrying Charges (Interest, Insurance, Taxes)[a]	130	113	129	102	105	97	118	205	246	140	61	62	.075
Program Financing & Filing Fees[a]	164	112	10	150	153	148	68	199	246	66			.178
Legal, Organizational & Audit[a]	14	15	18	13	13	12	11	23	36	26	67	84	.084
Other Costs[a]	9	29	71	11	12	15	23	37	21	17			.138
Profit[a]	209	114	75	194	236	198	174	234	272	172			.075
TOTAL COSTS[b]	2,520	2,130	2,794	2,256	2,725	2,403	2,551	3,213	3,721	2,791	2,127	2,006	.032
Escrow Funds	N/A	N/A	N/A	N/A	N/A	N/A	27	N/A	N/A	15	N/A	N/A	.009
TOTAL COSTS + ESCROW	N/A	N/A	N/A	N/A	N/A	N/A	2,578	N/A	N/A	2,806	N/A	N/A	N/A
Sample Size	133	77	58	135	19	78	132	56	13	19	55	53	

[1]The level of significance at which F tests reject the hypothesis of equal means across program types is indicated as follows:
a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

				SECTION 8							PUBLIC HOUSING		
				NSTRUCTION				SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
				HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta^2
			$ 24,542	$ 18,871	$ 20,931	$18,932	$ 21,888	17,508	$ 16,377	$ 24,066	$ 24,202	$21,991	.239
	131	799	1,398	1,130	1,125	884	1,166	4,739	4,837	3,986	1,541	1,231	.361
		62	150	73	42	134	40	33	24	0	N/A	N/A	.032
Insurance,	1,140	851	1,251	1,250	1,052	956	1,149	1,715	1,578	1,412	924	844	.089
Program Financing & Filing Fees^a	1,534	913	102	1,631	1,493	1,469	710	1,732	1,561	684			.551
Legal, Organizational & Audit^a	155	139	220	173	149	150	126	227	279	457	870	1,096	.095
Other Costs^a	117	199	783	125	132	158	256	299	225	228			.195
Profit^a	1,997	1,050	853	2,154	2,380	2,015	1,693	2,081	1,739	2,084			.226
TOTAL COSTS^a	24,218	17,426	29,300	25,207	27,302	24,699	27,027	28,334	26,620	32,917	27,536	25,162	.188
Escrow Funds	N/A	N/A	N/A	N/A	N/A	N/A	330	N/A	N/A	216	N/A	N/A	.006
TOTAL COSTS + ESCROW^a	N/A	N/A	N/A	N/A	N/A	N/A	27,357	N/A	N/A	33,133	N/A	N/A	.096
Sample Size	133	77	58	135	19	78	132	56	13	19	55	53	

[1] The level of significance at which F tests reject the hypothesis of equal means across program types is indicated as follows:
a = .001; b = .01; c = .05; d = .1.

[2] eta^2 indicates the proportion of variance explained by program type.

DEVELOPMENT

UNSUBSIDIZED
221(d)(4

S PER SQUARE FOOT OF GROSS SPACE:
Current Dollars[1,2]
(Unweighted)

	236 RENT SUPPLEMENT	SUBSIDIZED										
		SECTION 8								PUBLIC HOUSING		
NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
		202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
$ 18.66	$ 14.47	31.92	$ 23.47	$ 25.29	$ 24.44	$ 25.45	$ 19.00	$ 18.41	$ 22.90	$ 33.50	$ 24.83	.441
1.49	0.86	1.85	1.36	1.36	1.13	1.31	4.32	5.43	3.92	2.33	1.68	.279
0.14	0.09	0.19	0.09	0.03	0.19	0.03	0.04	0.06	0.00	N/A	N/A	.033
1.20	0.95	1.60	1.30	1.32	1.25	1.32	1.73	1.50	1.23	0.73	0.96	.104
64	0.99	0.13	2.01	1.91	1.90	0.83	1.84	1.68	0.59			.600
	0.18	0.30	0.21	0.17	0.19	0.16	0.24	0.37	0.43	1.12	1.11	.081
	0.14	1.04	0.17	0.16	0.19	0.31	0.31	0.60	0.23			.252
	1.38	1.13	2.67	2.88	2.62	1.88	2.29	1.70	1.95			.291
	18.18	36.31	29.92	31.77	30.79	29.97	25.46	24.33	27.34	35.35	26.89	.355
	19.05	38.16	31.28	33.13	31.92	31.29	29.78	29.75	31.26	37.68	28.56	
	N/A	N/A	N/A	N/A	N/A	0.50	N/A	N/A	0.27	N/A		
	/A	N/A	N/A	N/A	N/A	31.79	N/A	N/A	31.53			
		56	131	19	78	100	45	7				

sts reject the hypothesis of equal means across program type
c = .05; d = .1.

explained by program type.

Appendix C

UNWEIGHTED COST AND ATTRIBUTE DATA

Table C-1

PER PROJECT DEVELOPMENT COSTS:
1980 Dollars Adjusted for Regional Differences in Costs[1,2]
(Unweighted)
(In thousands)

COMPONENTS OF COSTS	UNSUBSIDIZED	SUBSIDIZED											
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
Total Improvements[c]	2,259	2,989	2,706	2,057	2,344	2,283	2,480	2,197	2,827	2,360	2,868	2,852	.027
Land[a]	166	131	114	129	130	144	135	518	399	227	208	229	.150
Off-Site Costs[d]	17	11	14	7	5	9	6	5	6	0	N/A	N/A	.021
Construction Period Carrying Charges (Interest, Insurance, Taxes)[a]	161	208	152	127	121	122	144	235	298	167	91	101	.056
Program Financing & Filing Fees[a]	203	205	11	186	168	185	84	228	295	77			.179
Legal, Organizational & Audit[a]	17	28	22	17	15	14	14	26	44	31	99	133	.083
Other Costs[a]	13	52	82	13	14	19	27	44	24	20			.126
Profit	259	210	87	238	267	247	215	266	327	206			.054
TOTAL COSTS	3,095	3,834	3,187	2,774	3,065	3,025	3,104	3,519	4,220	3,089	3,267	3,315	.018
Escrow Funds	N/A	N/A	N/A	N/A	N/A	N/A	32	N/A	N/A	19	N/A	N/A	.007
TOTAL COSTS + ESCROW	N/A	N/A	N/A	N/A	N/A	N/A	3,136	N/A	N/A	3,107	N/A	N/A	N/A
Sample Size	133	77	58	135	19	78	132	56	13	19	55	53	

[1]The level of significance at which F tests reject the hypothesis of equal means across program types is indicated as follows: a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

Table C-2

DEVELOPMENT COST COMPONENTS AS A PROPORTION
OF TOTAL DEVELOPMENT COST[1,2]
(Unweighted)

COMPONENTS OF COSTS	UNSUBSIDIZED	SUBSIDIZED											
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
			202	HUD FHA	1-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
Total Improvements[a]	73.5 %	77.0 %	84.4 %	74.1 %	76.8 %	75.1 %	79.9 %	60.6 %	62.7 %	75.6 %	86.4 %	85.4 %	.462
Land[a]	5.4	4.4	3.9	5.4	4.2	5.7	6.1	17.4	15.8	8.7	7.5	7.4	.205
Off-Site Costs[a]	0.5	0.4	0.5	0.3	0.2	0.5	0.1	0.1	0.1	0.0	N/A	N/A	.043
Construction Period Carrying Charges (Interest, Insurance, Taxes)[a]	4.7	4.9	4.4	4.1	3.9	3.7	4.1	6.3	6.3	5.1	3.0	3.1	.112
Program Financing & Filing Fees[a]	6.4	5.3	0.3	6.4	5.2	5.8	2.6	6.5	6.3	2.3			.716
Legal, Organizational & Audit[a]	0.7	0.8	0.8	0.7	0.6	0.6	0.4	0.8	1.2	1.3	3.2	4.2	.067
Other Costs[a]	0.5	1.1	2.7	0.5	0.5	0.6	0.8	1.0	0.9	0.7			.181
Profit[a]	8.3	6.2	3.0	8.5	8.7	7.9	5.9	7.3	6.7	6.3			.310
TOTAL COSTS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	N/A
Sample Size	133	77	58	135	19	78	132	56	13	19	55	53	

[1]The level of significance at which F tests reject the hypothesis of equal means across program types is indicated as follows:
a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

Table C-3

PER UNIT DEVELOPMENT COSTS:
1980 Dollars Adjusted for Regional Differences in Costs[1,2]
(Unweighted)

COMPONENTS OF COSTS	UNSUBSIDIZED	SUBSIDIZED										
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8							PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION	
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
Total Improvements[a]	22,149	24,502	28,379	23,175	24,277	23,661	26,079	19,878	19,872	28,530	35,401	34,364	.315
Land[a]	1,651	1,321	1,305	1,723	1,357	1,705	1,806	4,380	4,054	2,516	3,037	3,043	.165
Off-Site Costs[c]	154	116	173	85	48	168	48	33	27	0	N/A	N/A	.030
Construction Period Carrying Charges (Interest, Insurance, Taxes)[a]	1,435	1,582	1,469	1,296	1,242	1,201	1,375	1,961	1,954	1,691	1,257	1,319	.044
Program Financing & Filing Fees[a]	1,923	1,674	121	2,013	1,678	1,844	853	1,989	1,905	799			.552
Legal, Organizational & Audit[a]	198	260	259	216	176	186	149	258	341	541	1,273	1,696	.084
Other Costs[a]	155	357	901	143	158	193	293	352	263	276			.173
Profit[a]	2,491	1,948	979	2,649	2,758	2,507	2,049	2,360	2,122	2,483			.181
TOTAL COSTS[a]	30,158	31,760	33,586	31,299	31,695	31,464	32,652	31,211	30,539	36,837	40,968	40,423	.164
Escrow Funds	N/A	N/A	N/A	N/A	N/A	N/A	386	N/A	N/A	272	N/A	N/A	.004
TOTAL COSTS + ESCROW	N/A	N/A	N/A	N/A	N/A	N/A	33,038	N/A	N/A	37,159	N/A	N/A	N/A
Sample Size	133	77	58	135	19	78	132	56	13	19	55	53	

[1]The level of significance at which F tests reject the hypothesis of equal means across program types is indicated as follows:
a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

Table C-4

DEVELOPMENT COSTS PER SQUARE FOOT OF GROSS SPACE:
1980 Dollars Adjusted for Regional Differences in Costs[1,2]
(Unweighted)

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED											
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
Total Improvements[a]	$ 23.59	$ 29.90	$ 37.32	$ 28.27	$ 27.39	$ 30.43	$ 30.50	$ 21.22	$ 19.49	$ 27.44	$ 49.00	$ 41.96	.465
Land[a]	1.77	1.55	1.74	2.07	1.49	2.28	1.90	4.80	3.72	2.59	3.99	3.73	.141
Off-Site Costs[c]	.17	.15	.23	.11	.05	.22	.06	.03	.05	0	N/A	N/A	.027
Construction Period Carrying Charges (Interest, Insurance, Taxes)	1.50	1.93	1.87	1.59	1.43	1.54	1.65	2.08	1.85	1.64	1.15	1.53	.044
Program Financing & Filing Fees[a]	2.06	2.04	.16	2.45	1.94	2.36	1.02	2.15	1.88	.83			.560
Legal, Organizational & Audit[a]	.22	.30	.37	.26	.19	.24	.17	.26	.38	.48	1.79	1.92	.068
Other Costs[a]	.17	.40	1.23	.19	.18	.25	.36	.38	.40	.27			.213
Profit[a]	2.64	2.39	1.32	3.23	3.11	3.21	2.46	2.55	1.98	2.33			.226
TOTAL COSTS[a]	32.11	38.65	44.23	38.16	35.74	40.58	37.94	33.47	29.74	35.58	55.93	49.13	.319
Escrow Funds	N/A	N/A	N/A	N/A	N/A	N/A	.54	N/A	N/A	.24	N/A	N/A	.021
TOTAL COSTS + ESCROW	N/A	N/A	N/A	N/A	N/A	N/A	38.48	N/A	N/A	35.82	N/A	N/A	N/A
Sample Size	124	73	56	131	19	78	105	46	8	19	31	31	

[1]The level of significance at which F tests reject the hypothesis of equal means across program types is indicated as follows: a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

Table C-5

STRUCTURAL CHARACTERISTICS OF PROJECTS[1,2]
(Unweighted)

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED										
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
PROJECT SIZE													
Number of Units[a]	104	119	94	87	102	90	90	112	130	86	77	81	.038
Average Unit Size[a] (Square Feet)	821	683	537	681	738	647	698	652	655	689	670	718	.156
BEDROOMS													
a. Average Number per Unit[a]	1.70	1.50	1.00	1.50	1.80	1.40	1.50	1.50	1.40	1.20	1.40	1.50	.081
b. Composition of Average Project Efficiency[a]	2.5 %	9.7 %	5.9 %	0.8 %	0.0 %	0.0 %	1.1 %	12.2 %	13.6 %	4.8 %	11.8 %	16.0 %	.103
1 Bedroom[a]	34.7	45.2	91.9	65.3	59.4	71.1	65.4	42.9	47.6	72.9	57.3	48.9	.181
2 Bedrooms[a]	54.7	29.2	2.2	21.5	17.5	20.2	20.9	30.2	28.2	17.1	16.8	13.2	.258
3 or more Bedrooms[a]	8.2	15.9	0.0	12.5	23.1	8.7	12.6	14.7	10.6	5.3	14.1	21.9	.084
BATHS													
a. Average Number per Unit[a]	1.22	1.05	1.00	1.07	1.15	1.04	1.04	1.04	1.03	1.01	1.03	1.17	.160
b. Composition of Average Project Half Bathroom[a]	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	1.2 %	0.0 %	.046
1 Bathroom[a]	69.3	90.8	99.9	88.2	81.3	92.0	94.6	93.2	95.0	97.7	94.0	91.4	.153
1.5 Bathrooms[a]	18.9	8.4	0.0	8.7	7.1	7.5	4.1	5.5	5.0	1.2	1.7	3.9	.081
2 or more Bathrooms	11.9	0.8	0.1	3.1	11.6	0.5	1.3	1.3	0.0	0.9	2.9	4.8	.059
PROJECT AMENITIES													
Air Conditioning[a]	87.9 %	51.9 %	65.5 %	75.0 %	52.6 %	88.5 %	59.1 %	55.6 %	38.5 %	78.9 %	56.1 %	25.0 %	N/A
Laundry Facilities[a]	91.7	89.6	86.2	86.4	52.6	87.2	90.2	79.6	69.2	68.4	82.9	57.5	N/A
Dish Washers[a]	92.4	3.9	6.9	10.6	26.3	6.4	10.6	11.1	15.4	42.1	2.4	0.0	N/A
Drapes[a]	76.5	49.4	70.7	50.8	52.6	42.3	43.2	35.2	30.8	26.3	29.3	22.5	N/A
Refrigerators[a]	100.0	98.7	98.3	99.2	100.0	98.7	90.9	100.0	100.0	89.5	100.0	97.5	N/A
Disposal[a]	93.2	53.2	51.7	65.2	36.8	52.6	62.9	37.0	38.5	63.2	12.2	10.0	N/A
Kitchen Exhaust Fans[a]	97.7	89.6	94.8	92.4	94.7	96.2	87.9	51.9	46.2	89.5	85.4	77.5	N/A
Carpets[a]	98.5	62.3	91.4	81.8	63.2	75.6	73.5	53.7	30.8	78.9	43.9	17.5	N/A

[1]The level of significance at which F tests or Chi Square tests reject the hypothesis of equal means or distributions across program types is indicated as follows:

a = .001; b = .01; c = .05; d = .1.

Table C-5 (Continued)

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED											
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
PROJECT AMENITIES (Continued)													
Recreation Rooms[a]	41.7	39.0	43.1	57.6	68.4	57.7	68.9	27.8	53.8	57.9	85.4	67.5	N/A
Intercoms[a]	1.3	0.0	1.7	0.0	0.0	0.0	34.1	0.0	0.0	5.3	19.5	20.0	N/A
Balconies[a]	3.0	0.0	0.0	3.0	0.0	0.0	22.0	0.0	0.0	10.5	22.0	17.5	N/A
Tennis Courts[a]	32.6	0.0	1.7	2.3	0.0	2.6	3.0	3.7	0.0	0.0	0.0	2.5	N/A
Swimming Pool[a]	62.1	3.9	0.0	5.3	10.5	3.8	5.3	5.6	0.0	0.0	0.0	0.0	N/A
Playground[a]	28.8	11.7	10.3	52.3	73.7	48.7	49.2	7.4	30.8	31.6	43.9	45.0	N/A
DENSITY													
Lotsize Per Unit[a] (Square Feet)	2,815	2,051	2,654	2,997	3,171	3,074	2,751	921	1,700	1,103	3,176	5,222	.104
Number of Stories[a]	2.29	5.09	4.32	2.91	3.60	3.08	3.30	6.10	5.44	4.92	3.28	4.05	.109
STRUCTURE TYPE													
Semi-attached or Detached	7.0 %	1.3 %	9.1 %	10.6 %	5.6 %	17.3 %	7.0 %	1.9 %	0.0 %	0.0 %	19.5 %	37.5 %	
Row[b]	10.1	1.3	7.3	12.1	16.7	14.7	18.3	1.9	0.0	0.0	9.8	10.0	.033
Walk-Up[a]	63.6	12.0	5.5	18.9	27.8	17.3	8.7	15.4	0.0	10.5	2.4	7.5	.238
Elevator[a]	7.8	29.3	70.9	37.9	27.8	28.0	39.2	67.3	75.0	52.6	43.9	32.5	.144
Mixed[a]	11.6	56.0	7.3	20.5	22.2	22.7	27.0	13.5	25.0	36.8	24.4	12.5	.096
EXTERIOR FINISH[a]													
Durable	12.1 %	37.0 %	38.6 %	37.1 %	31.6 %	41.6 %	37.7 %	75.9 %	77.8 %	76.5 %	42.5 %	60.0 %	N/A
Mixed Durable	28.0	26.0	28.1	32.6	42.1	37.7	20.2	13.0	11.1	23.5	17.5	25.0	N/A
Wood	26.5	23.3	15.8	11.4	21.1	15.6	30.7	1.9	0.0	0.0	12.5	5.0	N/A
Stucco	10.6	5.5	8.8	6.1	0.0	0.0	0.0	3.7	0.0	0.0	5.0	2.5	N/A
Manufactured	3.8	0.0	1.8	0.0	5.3	1.3	3.5	0.0	0.0	0.0	2.5	0.0	N/A
Other	18.9	8.2	7.0	12.9	0.0	3.9	7.9	5.6	11.1	0.0	20.0	7.5	N/A
PERCENT ELDERLY[a]	5.3 %	46.8 %	76.6 %	53.0 %	47.4 %	56.4 %	43.9 %	44.6 %	46.2 %	57.9 %	50.9 %	54.7 %	.190
SCATTERED SITE	18.4 %	17.5 %	15.2 %	5.2 %	22.2 %	2.9 %	17.3 %	14.3 %	0.0 %	15.4 %	24.4 %	17.5 %	.032
Sample Size[3]	132	77	58	132	19	78	132	54	13	19	41	40	

[1]The level of significance at which F tests or Chi Square tests reject the hypothesis of equal means or distributions across program types is indicated as follows:

a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

[3]Sample sizes refer to the number of observations available on project amenities.

Table C-6

COMPARISON OF AVERAGE UNIT SIZE IN SQUARE FEET:
ACTUAL VERSUS HUD STANDARDS
(Unweighted)

BED-ROOM TYPE	HUD STANDARDS		UNSUBSIDIZED	SUBSIDIZED										
			221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING	
	HUD MAXIMUM[1]	HUD MINIMUM[2]	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION	
					202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional
Eff.	415	N/A	461	427	430	454	N/A	506	448	437	382	491	485	481
1BR	540	510	657	579	549	578	579	568	591	570	578	622	582	611
2BR	800	600	897	792	784	819	789	772	841	823	930	869	800	829
3BR	1,050	730	1,116	986	N/A	1,033	948	1,029	1,104	957	1,350	1,212	1,050	1,048
4BR	1,150	910	1,291	1,195	N/A	1,211	1,281	1,257	1,368	1,330	1,690	1,392	1,206	1,299
Sample Size[3]			138	115	57	137	19	79	129	48	9	20	39	33

[1]Source: HUD Notice H81-65, Nov. 12, 1981. Maximum is applicable for 100 percent subsidized Section 8 projects planned and built after November 1981.

[2]Source: Comptroller General of the United States, How to House More People at Lower Costs Under the Section 8 New Construction Program, CED-81-54, March 6, 1981. Minimum was derived from Minimum Property Standards.

[3]Sample sizes differ from those used in the general cost analysis due to missing data needed for cost deflation.

Table C-7

LOCATIONAL CHARACTERISTICS OF PROJECTS[1,2]
(Unweighted)

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED									
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8							PUBLIC HOUSING	
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION	
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional
LOCATION[3]												
Non-SMSA	16.6 %	25.9 %	25.8 %	41.4 %	58.0 %	60.2 %	46.6 %	19.7 %	15.3 %	5.3 %	40.0 %	49.1 %
SMSA												
Central City	36.8	53.3	48.3	35.6	36.8	18.0	29.0	69.6	46.2	68.4	38.2	32.1
Suburb	46.6	20.8	25.9	23.0	5.2	21.8	24.4	10.7	38.5	26.3	21.8	18.8
SIZE OF PLACE (in thousands)												
Non-SMSA												
LT 10[a]	5.3 %	10.4 %	10.3 %	21.5 %	21.1 %	32.1 %	22.9 %	3.6 %	7.7 %	0.0 %	27.3 %	24.5 %
10-49.9[c]	11.3	15.6	15.5	20.0	36.8	29.2	23.7	16.1	7.7	5.3	12.7	24.5
SMSA												
50-249.9	12.8	10.4	10.3	16.3	5.3	7.7	11.5	1.8	0.0	0.0	10.9	11.3
250-999.9[a]	34.6	15.6	25.9	16.3	10.5	18.0	14.5	33.9	30.8	42.1	34.6	30.2
1000-2499[b]	25.6	31.2	29.3	20.0	26.3	11.5	17.6	16.1	30.8	21.1	12.7	5.7
GE 2500[a]	10.5	16.9	8.6	5.9	0.0	2.6	9.9	28.6	23.1	31.6	1.8	3.8
NEIGHBORHOOD CONDITIONS												
Above Average	56.6 %	31.0 %	36.4 %	29.9 %	0.0 %	31.4 %	42.5 %	5.7 %	42.9 %	23.1 %	20.0 %	28.9 %
Average	40.8	44.8	39.4	54.5	62.5	42.9	42.5	42.9	14.3	46.2	52.5	50.0
Below Average	2.6	24.1	24.2	15.6	37.5	25.7	15.1	51.5	42.9	30.8	27.5	21.0
NEIGHBORHOOD PROPERTY VALUES												
Rising faster than Market	21.8 %	18.2 %	21.9 %	18.2 %	28.6 %	12.1 %	23.4 %	22.9 %	42.9 %	30.8 %	14.6 %	15.0 %
Rising at same rate as Market	74.4	70.9	75.0	75.3	57.1	75.8	72.7	54.3	42.9	61.5	80.5	75.0
Stagnant or declining	3.9	10.9	3.1	6.5	14.3	12.1	3.9	22.8	14.3	7.7	4.8	10.0

[1]The level of significance at which Chi Square tests reject the hypothesis of equal distributions across program types is indicated as follows:

a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

Table C-8

CHARACTERISTICS OF PROJECT DEVELOPERS[1,2]
(Unweighted)

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED											
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
SPONSOR TYPE													
Profit-Making[a]	99.2 %	63.2 %	0.0 %	99.3 %	100.0 %	89.6 %	84.2 %	94.3 %	81.8 %	72.2 %	0.0 %	0.0 %	N/A
Syndicated[a]	37.0	42.1	0.0	58.7	87.5	84.6	72.9	74.2	80.0	100.0	0.0	0.0	N/A
ORGANIZATION													
Number Employees	79	54	69	82	96	83	82	20	44	48	152	142	.033
Age[a]	17	16	26	16	10	16	16	15	12	15	26	32	.118
EXPERIENCE													
Total Projects Developed[b]	7	17	4	21	17	19	11	9	8	9	7	5	.060
Total Units Developed[c]	808	2,170	311	1,889	1,353	2,392	1,053	873	1,077	985	690	684	.037
Sample Size[3]	73	55	33	76	8	31	73	34	7	11	34	38	

[1]The level of significance at which F tests or Chi Square tests reject the hypothesis of equal means or distributions across program types is indicated as follows:

a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

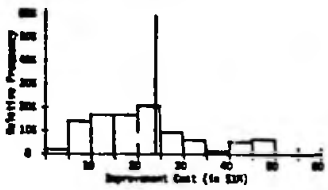
[3]Sample size refers to responses on the developer survey on syndication status.

Figure C-1

DISTRIBUTION OF PER PROJECT IMPROVEMENT COST
1980 Dollars Adjusted for Regional Differences in Cost
(Unweighted)

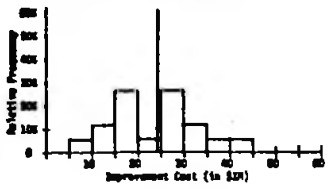
Overall Sample Mean ($2,450)

Section 221(d)4



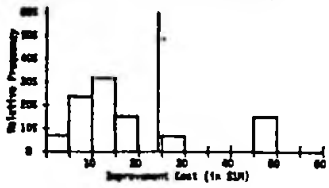
Overall Sample Mean ($2,450)

Section 8 New 11(b)/FHA

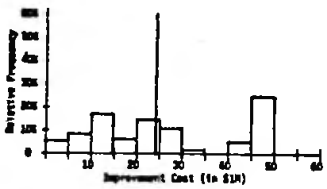


Overall Sample Mean ($2,450)

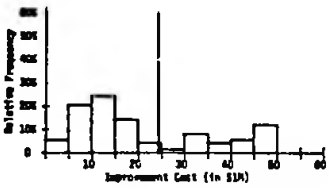
Section 8 Sub-Rehab State/FHA



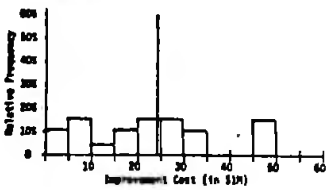
Section 236 Rent Supplement



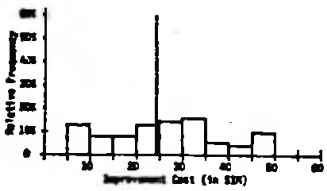
Section 8 New State/FHA



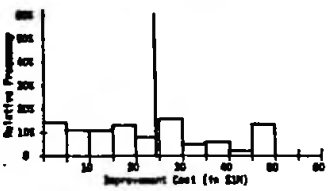
Section 8 Sub-Rehab State/Non-FHA



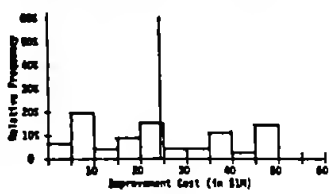
Section 8 New 202



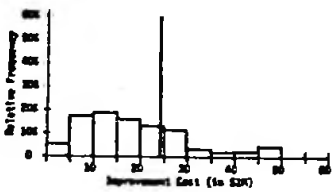
Section 8 New State/Non-FHA



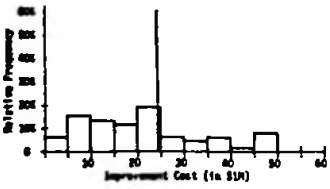
Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



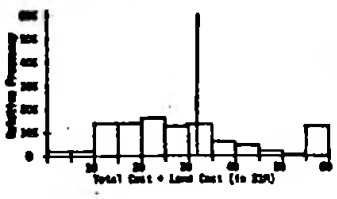
Public Housing New Conventional

Figure C-2

DISTRIBUTION OF PER PROJECT TOTAL COST + LAND COST
1980 Dollars Adjusted for Regional Differences in Cost
(Unweighted)

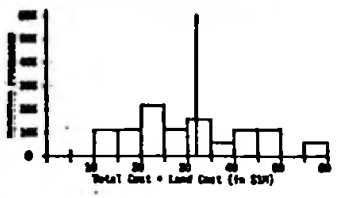
Overall Sample Mean ($3,183M)

Section 221(d)4



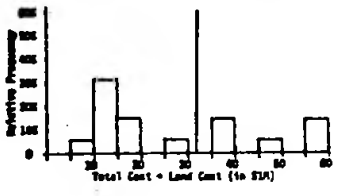
Overall Sample Mean ($3,183M)

Section 8 New 11(b)/FHA

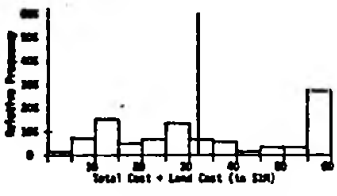


Overall Sample Mean ($3,183M)

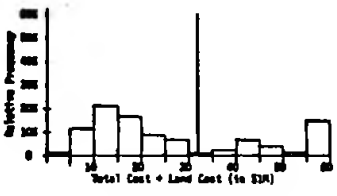
Section 8 Sub-Rehab State/FHA



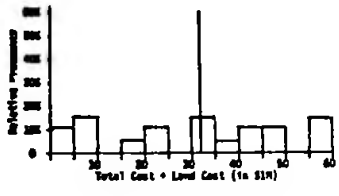
Section 236 Rent Supplement



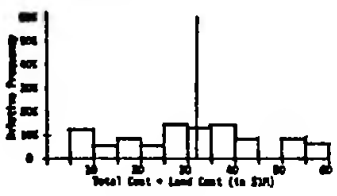
Section 8 New State/FHA



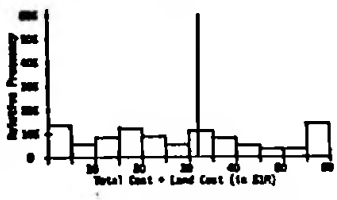
Section 8 Sub-Rehab State/NON-FHA



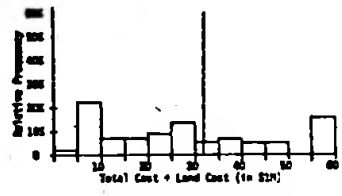
Section 8 New 202



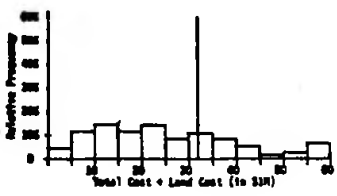
Section 8 New State/Non-FHA



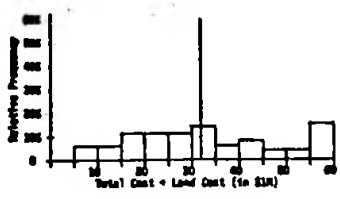
Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional

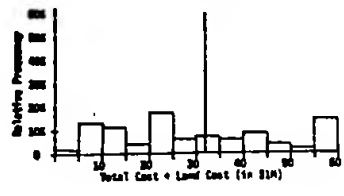
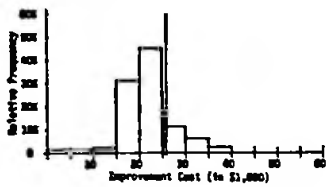


Figure C-3

DISTRIBUTION OF PER UNIT IMPROVEMENT COST:
1980 Dollars Adjusted for Regional Differences in Cost
(Unweighted)

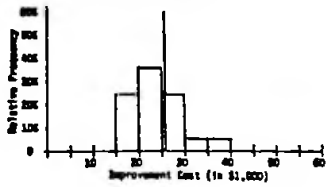
Overall Sample Mean ($25,408)

Section 221(d)4



Overall Sample Mean ($25,408)

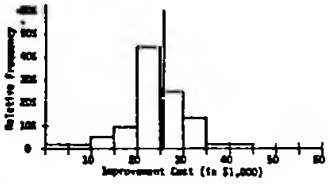
Section 8 New 11(b) FHA



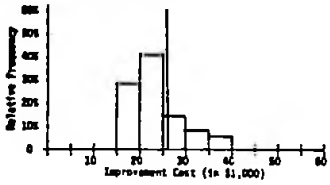
Overall Sample Mean ($25.408)

Section 8 Sub-Rehab State/FHA

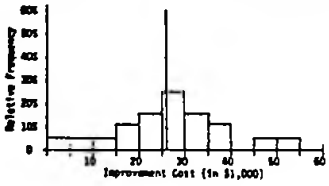
Section 236 Rent Supplement



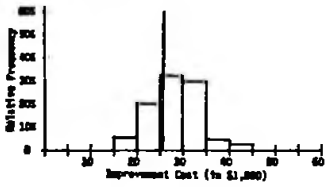
Section 8 New State/FHA



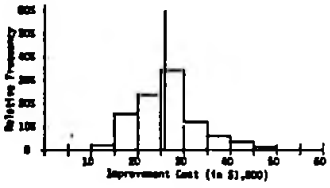
Section 8 Sub-Rehab State/Non-FHA



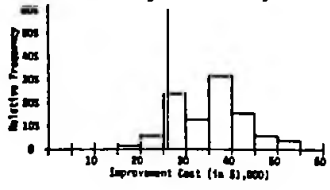
Section 8 New 202



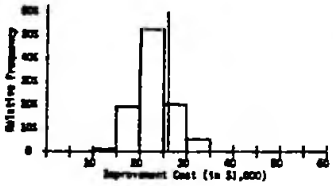
Section 8 New State/Non-FHA



Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA

Public Housing New Conventional

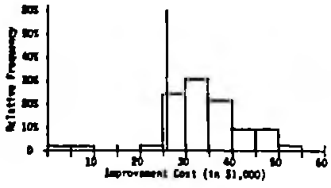
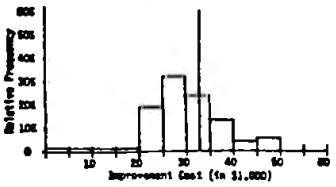


Figure C-4

DISTRIBUTION OF PER UNIT TOTAL COST and LAND COST
1980 Dollars Adjusted for Regional Differences in Cost
(Unweighted)

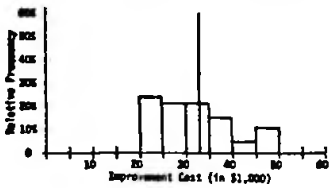
Overall Sample Mean ($32,887)

Section 221(d)4



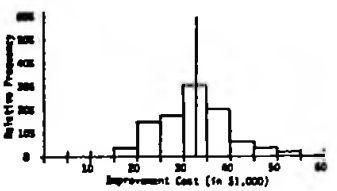
Overall Sample Mean ($32,887)

Section 8 New 11(b)/FHA

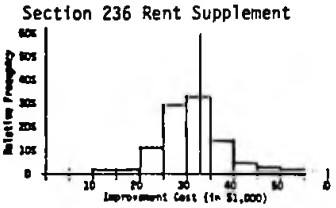


Overall Sample Mean ($32,887)

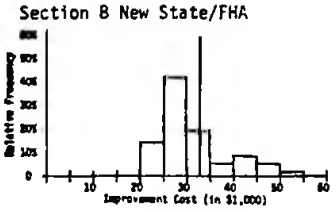
Section 8 Sub-Rehab State/FHA



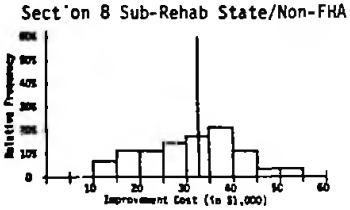
Section 236 Rent Supplement



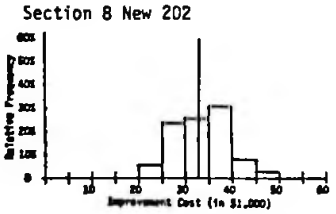
Section 8 New State/FHA



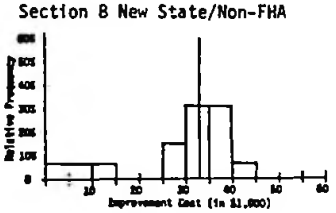
Section 8 Sub-Rehab State/Non-FHA



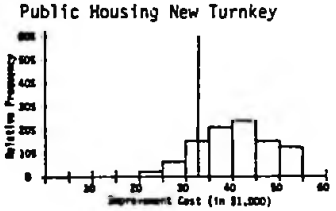
Section 8 New 202



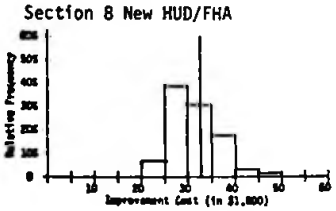
Section 8 New State/Non-FHA



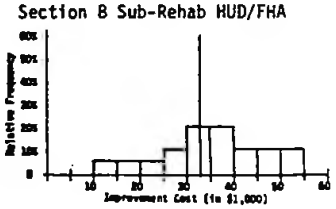
Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional

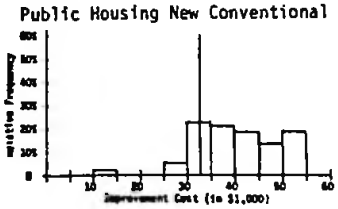
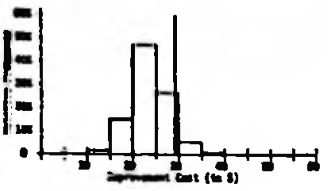


Figure C-5

DISTRIBUTION OF IMPROVEMENT COST PER SQUARE FOOT OF GROSS SPACE
1980 Dollars Adjusted for Regional Differences in Cost
(Unweighted)

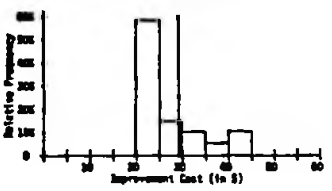
Overall Sample Mean ($29.76)

Section 221(d)4



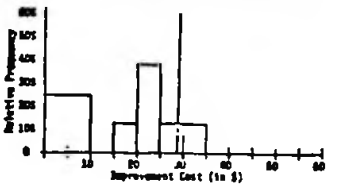
Overall Sample Mean ($29.76)

Section 8 New 11(b)/FHA

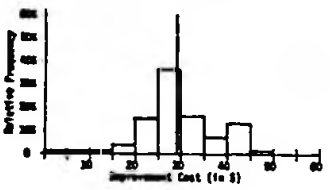


Overall Sample Mean ($29.76)

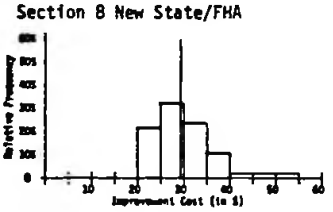
Section 8 Sub-Rehab State/FHA



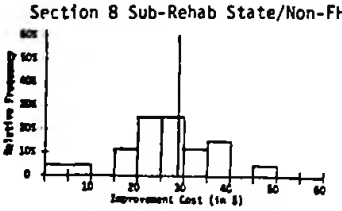
Section 236 Rent Supplement



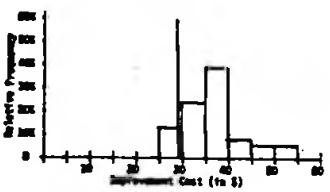
Section 8 New State/FHA



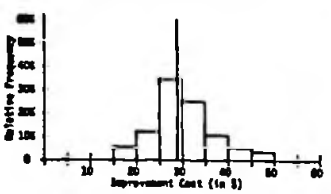
Section 8 Sub-Rehab State/Non-FHA



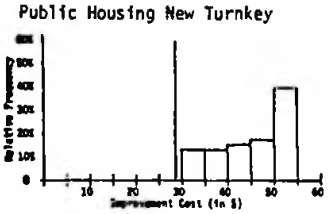
Section 8 New 202



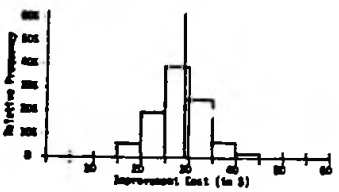
Section 8 New State/Non-FHA



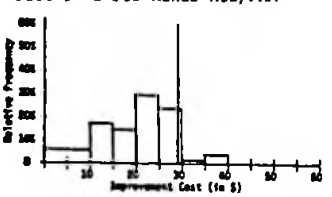
Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional

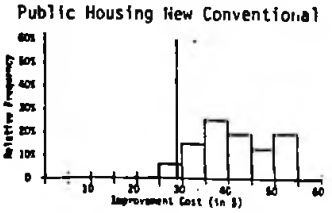
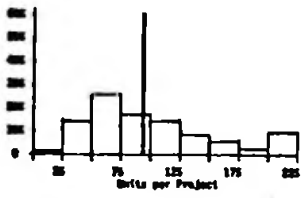


Figure C-6

DISTRIBUTION OF NUMBER OF UNITS PER PROJECT
(Unweighted)

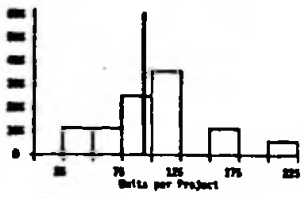
Overall Sample Mean
(96)

Section 221(d)4



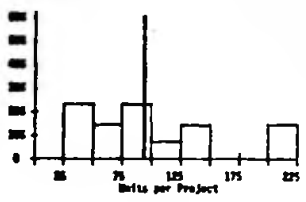
Overall Sample Mean
(96)

Section 8 New 11(b)/FHA



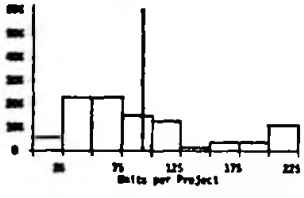
Overall Sample Mean
(96)

Section 8 Sub-Rehab State/FHA

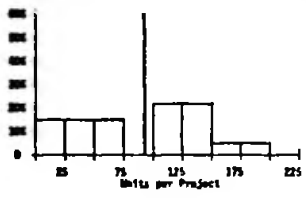


Section 236 Rent Supplement

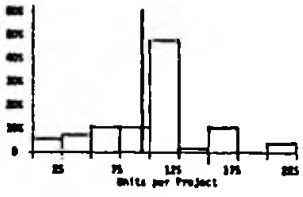
Section 8 New State/FHA



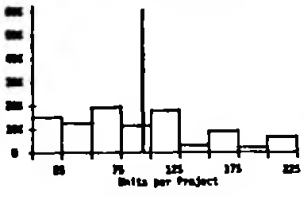
Section 8 Sub-Rehab State/Non-FHA



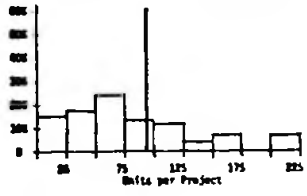
Section 8 New 202



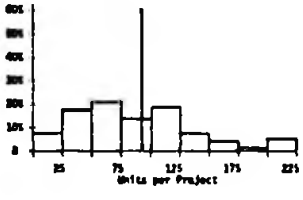
Section 8 New State/Non-FHA



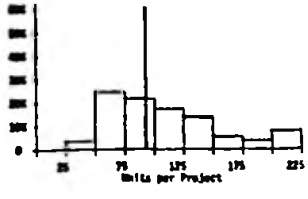
Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional

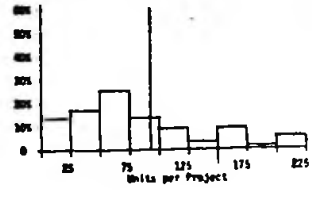
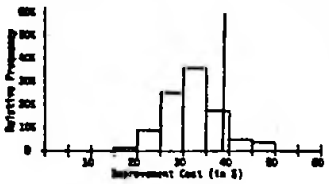


Figure C-7

DISTRIBUTION OF TOTAL COST + LAND COST
PER SQUARE FOOT OF GROSS SPACE
1980 Dollars Adjusted for Regional Differences in Cost
(Unweighted)

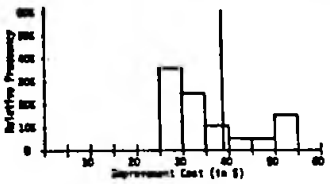
Overall Sample Mean ($38.57)

Section 221(d)4



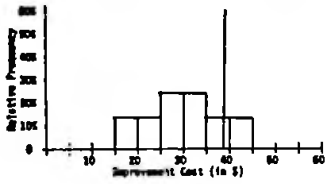
Overall Sample Mean ($38.57)

Section 8 New 11(b)/FHA

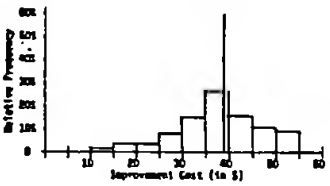


Overall Sample Mean ($38.57)

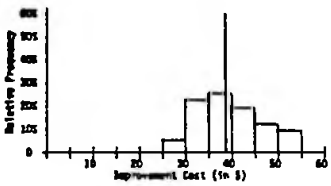
Section 8 Sub-Rehab State/FHA



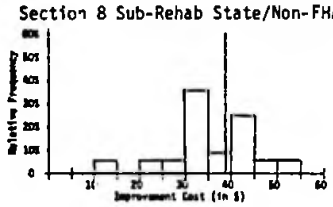
Section 236 Rent Supplement



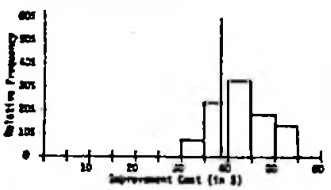
Section 8 New State/FHA



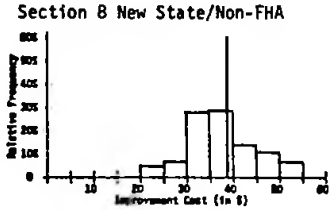
Section 8 Sub-Rehab State/Non-FHA



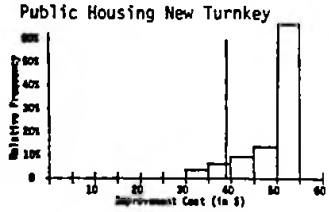
Section 8 New 202



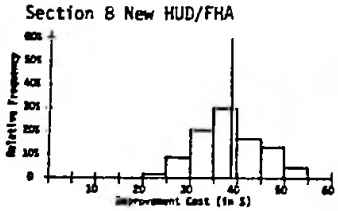
Section 8 New State/Non-FHA



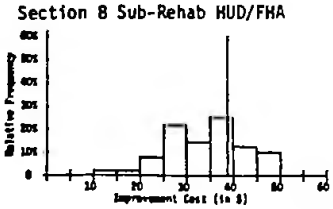
Public Housing New Turnkey



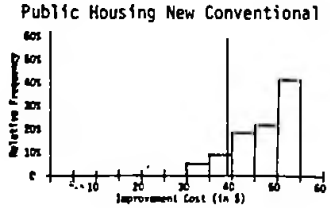
Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional



Appendix D

REGIONAL BREAKDOWNS OF UNWEIGHTED DEVELOPMENT COSTS

Table D-1

PER PROJECT DEVELOPMENT COST:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)
(In $1,000s)

Census Region: North East

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 3,436	$ 2,722	$ 3,797	$ 3,290	$ 2,600
Land	582	85	217	488	125
Off-Site Costs	147	1	7	8	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	259	150	213	295	41
Program Financing & Filing Fees	299	169	183	255	
Legal, Organizational & Audit	41	21	28	42	112
Other Costs	0	59	58	48	
Profit	414	272	341	365	
TOTAL COSTS	5,178	3,479	4,845	4,795	2,879
Sample Size	4	5	45	48	12

Table D-2

PER PROJECT DEVELOPMENT COST:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: North Central

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 3,022	$ 2,114	$ 2,033	$ 1,601	$ 2,076
Land	214	81	100	529	107
Off-Site Costs	14	5	8	1	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	239	121	117	197	43
Program Financing & Filing Fees	251	139	113	173	
Legal, Organizational & Audit	17	23	12	16	74
Other Costs	12	34	23	8	
Profit	353	132	192	200	
TOTAL COSTS	4,122	2,650	2,598	2,723	2,301
Sample Size	36	14	172	16	22

Table D-3

PER PROJECT DEVELOPMENT COST:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: South

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 2,241	$ 3,590	$ 2,296	$ 1,311	$ 2,834
Land	162	258	134	803	205
Off-Site Costs	8	8	8	0	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	159	262	142	167	117
Program Financing & Filing Fees	215	257	144	167	
Legal, Organizational & Audit	23	17	18	38	117
Other Costs	17	57	22	44	
Profit	252	281	226	143	
TOTAL COSTS	3,077	4,730	2,990	2,674	3,274
Sample Size	42	32	141	17	68

Table D-4

PER PROJECT DEVELOPMENT COST:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: West

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 1,984	$ 2,686	$ 1,922	$ 1,271	$ 2,226
Land	198	200	137	1,548	133
Off-Site Costs	20	21	9	0	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	126	197	89	144	15
Program Financing & Filing Fees	181	176	80	155	
Legal, Organizational & Audit	13	17	12	16	68
Other Costs	13	53	35	11	
Profit	225	163	113	74	
TOTAL COSTS	2,760	3,514	2,397	3,219	2,443
Sample Size	51	26	64	7	6

Table D-5

PER UNIT DEVELOPMENT COST:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: North East

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 20,451	$ 27,758	$ 30,187	$ 30,034	$ 35,685
Land	2,501	1,048	1,584	4,410	1,694
Off-Site Costs	632	44	68	48	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	1,449	1,649	1,649	2,327	930
Program Financing & Filing Fees	1,685	1,799	1,287	2,031	
Legal, Organizational & Audit	278	265	250	475	1,519
Other Costs	7	653	506	433	
Profit	2,384	2,860	2,563	3,225	
TOTAL COSTS	29,387	36,076	38,094	42,984	39,828
Sample Size	4	5	45	48	12

Table D-6

PER UNIT DEVELOPMENT COST:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: North Central

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 26,652	$ 24,923	$ 23,900	$ 17,977	$ 34,004
Land	1,810	958	1,143	5,512	2,057
Off-Site Costs	140	64	106	7	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	1,888	1,317	1,278	2,151	1,121
Program Financing & Filing Fees	2,126	1,625	1,331	1,823	
Legal, Organizational & Audit	158	299	171	202	1,249
Other Costs	116	309	274	113	
Profit	3,066	1,845	2,300	2,138	
TOTAL COSTS	35,956	31,341	30,503	29,923	38,432
Sample Size	36	14	172	16	22

Table D-7

PER UNIT DEVELOPMENT COST:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: South

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 19,792	$ 22,760	$ 22,753	$ 11,128	$ 31,168
Land	1,234	1,723	1,235	6,814	2,130
Off-Site Costs	82	57	92	3	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	1,266	1,616	1,292	1,293	1,361
Program Financing & Filing Fees	1,835	1,636	1,424	1,353	
Legal, Organizational & Audit	255	261	203	184	1,402
Other Costs	196	325	231	360	
Profit	2,198	1,804	2,231	1,328	
TOTAL COSTS	26,858	30,182	29,461	22,463	36,061
Sample Size	42	32	141	17	68

Table D-8

PER UNIT DEVELOPMENT COST:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: West

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 24,235	$ 25,928	$ 26,727	$ 10,817	$ 30,993
Land	2,450	2,046	2,071	11,066	1,994
Off-Site Costs	219	248	104	0	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	1,461	1,667	1,132	872	226
Program Financing & Filing Fees	2,147	1,717	1,026	1,064	
Legal, Organizational & Audit	191	227	167	148	978
Other Costs	171	372	425	83	
Profit	2,712	1,962	1,319	554	
TOTAL COSTS	33,585	34,167	32,971	24,604	34,192
Sample Size	51	26	64	7	6

Table D-9

DEVELOPMENT COST PER SQUARE FOOT OF GROSS SPACE:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: North East

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 23.72	$ 31.91	$ 35.27	$ 29.58	$ 47.11
Land	2.98	1.28	1.84	3.86	2.37
Off-Site Costs	0.76	0.04	0.08	0.05	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	1.70	1.85	1.91	2.23	0.68
Program Financing & Filing Fees	1.96	2.04	1.48	1.94	2.02
Legal, Organizational & Audit	0.32	0.30	0.30	0.44	
Other Costs	0.01	0.75	0.58	0.43	
Profit	2.77	3.27	2.89	3.18	
TOTAL COSTS	34.23	41.44	44.35	41.71	52.18
Sample Size	4	5	44	38	9

Table D-10

DEVELOPMENT COST PER SQUARE FOOT OF GROSS SPACE:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: North Central

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 23.30	$ 26.43	$ 29.00	$ 19.19	$ 46.86
Land	1.56	0.98	1.38	5.09	2.62
Off-Site Costs	0.11	0.07	0.13	0.01	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	1.70	1.39	1.54	2.14	1.34
Program Financing & Filing Fees	1.84	1.75	1.64	1.89	
Legal, Organizational & Audit	0.14	0.31	0.21	0.21	1.75
Other Costs	0.10	0.35	0.34	0.13	
Profit	2.68	1.97	2.78	2.28	
TOTAL COSTS	31.42	33.25	37.02	30.94	52.57
Sample Size	34	14	167	15	14

Table D-11

DEVELOPMENT COST PER SQUARE FOOT OF GROSS SPACE:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: South

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 21.64	$ 29.15	$ 27.51	$ 14.07	$ 38.94
Land	1.30	1.52	1.48	8.28	3.02
Off-Site Costs	0.10	0.08	0.13	0.01	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	1.38	2.08	1.56	1.61	1.42
Program Financing & Filing Fees	2.00	2.08	1.75	1.69	
Legal, Organizational & Audit	0.28	0.30	0.26	0.23	1.63
Other Costs	0.22	0.29	0.30	0.48	
Profit	2.38	2.40	2.63	1.60	
TOTAL COSTS	29.30	37.90	35.62	27.97	45.02
Sample Size	41	28	131	15	36

Table D-12

DEVELOPMENT COST PER SQUARE FOOT OF GROSS SPACE:
1980 Dollars, Unadjusted for Regional Difference in Cost
(Unweighted)

Census Region: West

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED			
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8		PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION	SUBSTANTIAL REHAB.	NEW CONSTRUCTION
Total Improvements	$ 28.96	$ 33.17	$ 35.64	$ 18.61	$ 40.63
Land	2.81	2.61	2.61	15.32	3.67
Off-Site Costs	0.26	0.31	0.17	0.00	N/A
Construction Period Carrying Charges (Interest, Insurance, Taxes)	1.65	2.10	1.58	1.08	0.13
Program Financing & Filing Fees	2.58	2.20	1.52	1.25	
Legal, Organizational & Audit	0.23	0.29	0.25	0.24	1.05
Other Costs	0.19	0.50	0.70	0.14	
Profit	3.23	2.45	2.19	0.81	
TOTAL COSTS	39.91	43.63	44.66	37.45	45.48
Sample Size	45	26	47	5	3

Appendix E

AVERAGE COSTS PER PROJECT

Appendix E

Average Costs Per Project

Total project expenditures are a rough indicator of the overall quantity and quality of the housing bundle embodied in the average project, particularly when isolating hard development costs, i.e., improvement, land and offsite costs. In particular, a comparison of average project costs across program variants reveals the extent to which each program type tends to concentrate on smaller, less expensive projects versus large scale, expensive developments. Average project development costs and their components are shown in Table E-1.

Improvement Costs. Although the average cost of construction per project varies significantly across the different programs, most of the variation is due to differences within program types. The latter is indicated by the low value of eta^2, which implies that only 3.7 percent of the total variance is explained by deviations of program means from the overall sample average. This finding suggests that there is a substantial degree of heterogenity among the types of projects developed within each program variant.

Nevertheless, several patterns do emerge from inter-program comparisons. First, among new construction programs, Section 8 projects (except those built under Section 202) tend to be less costly than unsubsidized FHA. The average construction cost among the four Section 8 variants is about $2.1 million, compared to almost $2.5 million for unsubsidized projects. Second, Public Housing, Section 236 and

Table E-1

PER PROJECT DEVELOPMENT COSTS:
1980 Dollars Adjusted for Regional Differences in Costs[1,2]
(Weighted)
(In thousands)

COMPONENTS OF COSTS	UNSUBSIDIZED	SUBSIDIZED											
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
Total Improvements[b]	2,495	2,894	2,783	2,028	2,363	2,395	2,017	2,113	3,344	1,901	2,720	2,964	.037
Land[a]	183	129	177	131	129	146	108	469	368	147	189	282	.142
Off-Site Costs[b]	18	14	14	7	4	10	4	5	8	0	N/A	N/A	.035
Construction Period Carrying Charges (Interest, Insurance, Taxes)[a]	183	215	158	124	125	132	113	221	333	128	87	114	.067
Program Financing & Filing Fees[a]	227	201	12	183	175	196	67	215	349	51			.208
Legal, Organizational & Audit[a]	19	37	23	16	15	15	11	26	50	28	95	128	.122
Other Costs[a]	15	30	84	13	15	18	23	43	34	17			.127
Profit[a]	287	-276	89	234	270	262	163	256	386	179			.078
TOTAL COSTS	3,427	3,796	3,339	2,736	3,095	3,174	2,505	3,348	4,871	2,450	3,091	3,488	.018
Sample Size	133	77	58	135	19	78	132	56	13	19	55	53	

[1]The level of significance at which F tests reject the hypothesis of equal means across program types is indicated as follows: a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

Section 202 projects are all more expensive than unsubsidized projects, with average costs ranging up to almost $3 million for conventional Public Housing. Third, average construction expenditures for substantial rehabilitation projects appear fairly similar to new construction Section 8, except for state insured projects. With average costs of $3.3 million, the latter program type has the highest construction expenditures per project of all twelve program variants.

Land. The patterns in average land costs are fairly similar to those of improvements, with land costs of Section 8 projects below those of most other program types. However, some interesting differences are evident. While construction costs of Section 236 projects are rather high, the land costs of such projects are similar to those for Section 8, due to a higher density of construction for Section 236 projects. Not surprisingly, land costs for substantial rehabilitation projects are substantially larger than those for new construction, since the value of the existing structure is included in the value of land. Finally, while land costs for Turnkey projects are similar to those for unsubsidized projects, land costs for Conventional Public Housing projects are about 50 percent higher.

Total Development Cost. Inter-program differences in total development cost are more moderate than the differences in construction costs, due to a tendency for soft costs to be relatively low for the program variants with the highest improvement costs. Turnkey public housing and HUD- and SHFA-processed Section 8 New Construction have total development costs that range from about $2.5 to $3 million for the average project, compared to about $3.4 million for 202/8, Conventional Public Housing, and unsubsidized FHA. The most costly new projects are built under the 236 program, at $3.8 million. Among Section 8 program variants, the SHFA uninsured programs tend to have the lowest priced projects (around $2.5

million), due to their relatively low program financing and filing fees. By far the most expensive projects ($4.9 million) are produced under the state insured rehabilitation program.

APPENDIX F

FORMS

HUD/FHA Forms

2013	Application: Project Mortgage Insurance
2330	Mortgagor's Certificate of Actual Cost
2580	Maximum Insurable Mortgage

Public Housing Cost Forms

52484	Development Cost Budget/Cost Statement
5080	Development Cost Budget - Turnkey
52399	Development Cost Control Statement
52397	Determination of Minimum Development Cost
52152	Development Cost Budget

FHA Form 2013

Form Approved
OMB NO. 63-R0676

FHA FORM NO. 2013
Rev. July 1975

U. S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL HOUSING ADMINISTRATION

APPLICATION - PROJECT MORTGAGE INSURANCE

Project Name:	Project Number:

TO: _____ and the FEDERAL HOUSING COMMISSIONER.

The undersigned hereby requests a loan in the principal amount of $ _____ to be insured under the provisions of Section _____ of the National Housing Act, said loan to be secured by a first mortgage on the property hereinafter described.

Insurance of advances during construction ☐ is, ☐ is not desired. ☐ Feasibility (Rehab.) ☐ SAMA ☐ Conditional ☐ Firm

Type of Mortgagor: ☐ PM ☐ LD ☐ B-S ☐ NP Permanent Mortgage Interest Rate _____ %.

A. LOCATION AND DESCRIPTION OF PROPERTY:

1. Street Nos.	2. Street	3. Municipality	4. Census Tract	5. County	6. State and ZIP Code

7. Type of Project:	8. No. Stories	9. Foundation:	9a. Basement Floor:
☐ Elevator ☐ Walkup ☐ Row (T.H.) ☐ Detached ☐ Semi-Detached		☐ Slab on Grade ☐ Full Basement ☐ Partial Bsmt. ☐ Crawl Space	☐ Structural Slab ☐ Slab on Grade

10.	11. Number of Units		12. Number of Buildings	13. List Accessory Buildings and Area	13a. List Recreation Facilities and Area
	Revenue	Non-Rev.			
☐ Proposed ☐ Existing					

SITE INFORMATION		BUILDING INFORMATION			
14. Dimensions: ft. by ft. or sq. ft.	16. Yr. Built	16a. ☐ Manufactured Housing ☐ Modules ☐ Components ☐ Conventionally Built			
15. Zoning: *(If recently changed, submit evidence)*	16b. Exterior Finish	17. Structural System	17a. Floor System	18. Heating- A/C System	

B. INFORMATION CONCERNING LAND OR PROPERTY:

19. Date Acquired	20. Purchase Price	21. Additional Costs Paid or Accrued	22. If Leasehold, Annual Ground Rent	23a. Total Cost	23b. Outstanding Balance	24. Relationship- Business, Personal or Other Between Seller and Buyer
	$	$	$	$	$	

25. Utilities:	Public	Community	Distance from Site
Water	☐	☐	
Sewers	☐	☐	

26. Unusual Site Features:
☐ Cuts ☐ Fills ☐ Rock Formations ☐ Erosion ☐ None
☐ Poor Drainage ☐ High Water Table ☐ Retaining Walls
☐ Other (Specify) _____ ☐ Off-Site Improvements

C. ESTIMATE OF INCOME:

27. Number of Family Type Unit	Living Area (Square Feet)	Composition of Units	Unit Rent Per Month	Total Monthly Rent for Unit Type
			$	$
			$	$
			$	$
			$	$
			$	$

28. TOTAL ESTIMATED RENTALS FOR ALL FAMILY UNITS $

29. Number of Parking Spaces:
☐ Attended ☐ Self Park
Open Spaces _____ @ $ _____ per month
Covered Spaces _____ @ $ _____ per month

30. Commercial:
Area-Ground Level _____ sq. ft., @ $ _____ per sq. ft./month
Other Levels _____ sq. ft., @ $ _____ per sq. ft./month

31. TOTAL ESTIMATED GROSS PROJECT INCOME AT 100% OCCUPANCY $

32. TOTAL ANNUAL RENT *(Item 31 x 12 months)* $

33. Gross Floor Area: sq. ft.	34. Net Rentable Residential Area: sq. ft.	35. Net Rentable Commercial Area: sq. ft.

36. NON-REVENUE PRODUCING SPACE

Type of Employee	No. Rooms	Composition of Unit	Location of Unit in Project

D. EQUIPMENT AND SERVICES INCLUDED IN RENT: *(Check Appropriate Items)*

37. EQUIPMENT:
☐ Ranges (Gas or Elec.) ☐ Dishwasher
☐ Refrig. (Gas or Elec.) ☐ Carpet
☐ Air Cond. (Equip. Only) ☐ Drapes
☐ Kitchen Exhaust Fan ☐ Swimming Pool
☐ Laundry Facilities ☐ Tennis Court
☐ Disposal ☐ Other (Specify) _____

38. SERVICES:
GAS: ☐ Heat ☐ Cooking ☐ Hot Water ☐ Air Conditioning
ELEC.: ☐ Heat ☐ Cooking ☐ Hot Water ☐ Air Conditioning ☐ Lights, etc., in Unit
OTHER FUEL: ☐ Heat ☐ Hot Water
☐ WATER ☐ OTHER _____

39. SPECIAL ASSESSMENTS:
a. ☐ Prepayable ☐ Non-Prepayable
b. Principal Balance $ _____
c. Annual Payment $ _____
d. Remaining Term _____ years.

E. ESTIMATE OF ANNUAL EXPENSE:

ADMINISTRATIVE:

1. Advertising ..... $ _____
2. Management ..... $ _____
3. Other ..... $ _____
4. TOTAL ADMINISTRATIVE ... $ _____

OPERATING:

5. Elevator Maintenance Expense $ _____
6. Fuel (Heating and Domestic Hot Water ..... $ _____
7. Lighting & Misc., Power ... $ _____
8. Water ..... $ _____
9. Gas ..... $ _____
10. Garbage & Trash Removal ... $ _____
11. Payroll ..... $ _____
12. Other ..... $ _____
13. TOTAL OPERATING ..... $ _____

MAINTENANCE:

14. Decorating ..... $ _____
15. Repairs ..... $ _____
16. Exterminating ..... $ _____
17. Insurance ..... $ _____
18. Ground Expense ..... $ _____
19. Other ..... $ _____
20. TOTAL MAINTENANCE ..... $ _____
21. Replacement Reserve (0.0060 x Total for Structures, Line 41) ..... $ _____
22. TOTAL EXPENSE ..... $ _____

TAXES:

23. Real Estate: Estimated Assessed Valuation $_____ @ $_____ per $1000 $ _____
24. Personal Property: Est., Assessed Valuation $_____ @ $_____ per $1000 $ _____
25. Employee Payroll Tax ..... $ _____
26. Other ..... $ _____
27. Other ..... $ _____
28. TOTAL TAXES ..... $ _____
29. TOTAL EXPENSE AND TAXES ..... $ _____

F. INCOME COMPUTATIONS:

30. Estimated Project Gross Income (Line C32, Page 1) ..... $ _____
31. Occupancy (Entire Project) ..... _____ %
32. Effective Gross Income (Line 30 x Line 31) ..... $ _____
33. Total Project Expenses (Line 29) ..... $ _____
34. Net Income to Project (Line 32 — Line 33) .... $ _____
35. Expense Ratio (Line 29 ÷ by Line 32) ..... _____ %

H. TOTAL REQUIREMENTS FOR SETTLEMENT:

1. DEVELOPMENT COSTS (Line 72) ..... $ _____
2. LAND INDEBTEDNESS (Or Cash required for Land Acquisition) ..... $ _____
3. SUBTOTAL (Line 1 + Line 2) ..... $ _____
4. Mortgage Amount ..... $ _____
5. Fees Paid by Other than Cash $ _____
6. Line 4 plus Line 5 Subtotal ..... $ _____
7. CASH INVESTMENT REQUIRED (Line 3 — Line 6) ..... $ _____
8. INITIAL OPERATING DEFICIT ..... $ _____
9. ANTICIPATED DISCOUNT ..... $ _____
10. Working Capital (2% of Mortgage Amount) .... $ _____
11. Off-Site Construction Costs ..... $ _____
12. TOTAL ESTIMATED CASH REQUIREMENT (Lines 7 + 8 + 9 + 10 + 11) ..... $ _____

G. ESTIMATE OF REPLACEMENT COST:

36a. Unusual Land Improvements $ _____
36b. Other Land Improvements ... $ _____
36c. Total Land Improvements ..... $ _____

STRUCTURES:

37. Main Buildings ..... $ _____
38. Accessory Buildings ..... $ _____
39. Garage ..... $ _____
40. All Other Buildings ..... $ _____
41. TOTAL STRUCTURES ..... $ _____
42. General Requirements ..... $ _____

FEES:

43. Builder's General Overhead @ _____% ..... $ _____
44. Builder's Profit @ _____% .. $ _____
45. Architect's Fee — Design @ _____% ..... $ _____
46. Architect's Fee — Supervisory @ _____% ..... $ _____
47. Bond Premium ..... $ _____
48. Other Fees ..... $ _____
49. TOTAL FEES ..... $ _____
50. TOTAL for All Improvements (Lines 36c + 41 + 42 + 49) ..... $ _____
51. Cost per Gross Square Foot ..... $ _____
52. Estimated Construction Time ..... _____ months.

CARRYING CHARGES AND FINANCING:

53. Interest _____ months @ _____ % on $_____ ..... $ _____
54. Taxes ..... $ _____
55. Insurance ..... $ _____
56. FHA Mtg. Ins. Pre. (0.5%). $ _____
57. FHA Exam. Fee (0.3%). .... $ _____
58. FHA Inspec. Fee (0.5%) .... $ _____
59. Financing Fee (___ %). ..... $ _____
60. AMPO (____%). ..... $ _____
61. FNMA/GNMA Fee (____%). $ _____
62. Title and Recording ..... $ _____
63. TOTAL CARRYING CHARGES & FIN.... $ _____

LEGAL, ORGANIZATION & AUDIT FEE:

64. Legal ..... $ _____
65. Organization ..... $ _____
66. Cost Certification Audit Fee $ _____
67. TOTAL LEGAL, ORGANIZATION & AUDIT FEE $ _____
68. Builder & Sponsor Profit and Risk ..... $ _____
69. Consultant Fee ..... $ _____
70. Supplemental Management Fund ..... $ _____
71. Contingency Reserve ..... $ _____
72. TOTAL ESTIMATED DEVELOPMENT COST (Excluding Land or Off-Site Cost) (Lines 50 + 63 + 67 + 68 + 69 + 70 + 71) .... $ _____
73. LAND (Estimated Market Price of Site) _____ sq.ft. @ $_____ per sq. ft. .. $ _____
74. TOTAL ESTIMATED REPLACEMENT COST OF PROJECT (Line 71 + Line 72) ..... $ _____

Source of Cash to meet Requirements	Amount
	$
	$
	$
	$
	$
TOTAL	$

I. NAMES, ADDRESSES AND TELEPHONE NUMBERS OF THE FOLLOWING:

1. SPONSOR(S): Name, Address and ZIP Code: Telephone Number:	2. CONTRACTOR: Name, Address and ZIP Code: Telephone Number:
1a. Name, Address and ZIP Code: Telephone Number:	3. SPONSOR'S ATTORNEY: Name, Address and ZIP Code: Telephone Number:
1b. Name, Address and ZIP Code: Telephone Number:	4. ARCHITECT: Name, Address and ZIP Code: Telephone Number:

J. CERTIFICATION:

The undersigned, as the principal sponsor of the proposed mortgagor, certifies that he is familiar with the provisions of the Regulations of the Federal Housing Commissioner under the above identified Section of the National Housing Act and that to the best of his knowledge and belief the mortgagor has complied, or will be able to comply, with all of the requirements thereof which are prerequisite to insurance of the mortgage under such section.

The undersigned further certifies that to the best of his knowledge and belief no information or data contained herein or in the exhibits or attachments listed herein are in any way false or incorrect and that they are truly descriptive of the project or property which is intended as the security for the proposed mortgage and that the proposed construction will not violate zoning ordinances or restrictions of record.

The undersigned agrees with the Federal Housing Administration that pursuant to the requirements of the FHA Regulations, (a) neither he nor anyone authorized to act for him will decline to sell, rent or otherwise make available any of the property or housing in the multifamily project to a prospective purchaser or tenant because of his race, color, religion or national origin; (b) he will comply with federal, state and local laws and ordinances prohibiting discrimination; and (c) his failure or refusal to comply with the requirements of either (a) or (b) shall be proper basis for the Commissioner to reject requests for future business with the sponsor identified or to take any other corrective action he may deem necessary.

Date: _____ **Signed:** _____
(Sponsor)

REQUEST FOR COMMITMENT: ☐ *Conditional* ☐ *Firm*

TO: FEDERAL HOUSING COMMISSIONER:

Pursuant to the provisions of the Section of the National Housing Act identified in the foregoing application and FHA Regulations applicable thereto, request is hereby made for the issuance of a commmitment to insure a mortgage covering the property described above. After examination of the application and the proposed security, the undersigned considers the project to be desirable and is interested in making a loan in the principal amount of $ _____ which will bear interest at _____%, will require repayment of principal over a period of _____ months according to amortization plan agreed upon.

Insurance of advances during construction ☐ is, ☐ is not desired.

It is understood that the financing expense, in the amount of $ _____ is subject to adjustment so that the total will not exceed _____% of the amount of your commitment.

Herewith is check for $ _____ , which is in payment of the application fee required by FHA Regulations.

Signed: _____
(Proposed Mortgagee)

Address of Mortgagee:

FOR FHA USE ONLY

Date Received						
Amount						
Code						
Schedule						
Received By						

FHA Form 2330

Form Approved
OMB No. 63-R1367

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
HOUSING-FEDERAL HOUSING COMMISSIONER

MORTGAGOR'S CERTIFICATE OF ACTUAL COST

No mortgage shall be insured unless a Certificate of Actual Cost is executed upon completion of all physical improvements on the mortgaged property and prior to final endorsement (Section 227, P.L. 479, 48 Stat., 12 U.S.C.).

TO: Federal Housing Commissioner

c/o _____ Director

_____

_____

_____
(City and State)

PROJECT NUMBER

PROJECT NAME

LOCATION

This Certificate is made pursuant to the provisions of that Agreement and Certification of _____ *(Mortgagor)* dated _____ and in order to induce you to finally endorse the mortgage for insurance.

The actual cost to the owner of labor and materials and necessary services for construction of the physical improvements in connection with the subject project, after deduction of all kickbacks, rebates, adjustments, discounts, promotional or advertising recoupment, made or to be made to the mortgagor, sponsor or any corporation, trust, partnership, joint venture or other legal entity in which they or any of them hold any interest is set forth below, the cost of construction is (is not) supported by FHA 2330-A, Contractor's Certificate of Actual Cost. (FHA Form No. 2330-A must be submitted when there is an identity of interest between mortgagor and general contractor and when a Cost Plus contract is required in non-profit projects.)

ITEM	COLUMN A PAID IN CASH	COLUMN B TO BE PAID IN CASH WITHIN 45 DAYS AFTER FINAL ENDORSEMENT	COLUMN C TOTAL
* 1a. Amount due under terms of Lump-Sum Construction Contract *(as adjusted)*	$	$	$
* 1b. Amount due under terms of Cost-Plus Construction Contract *(as adjusted and exclusive of Builder's Profit)*			
* 1c. Allowable Builder's Profit *(Use only if Item 1b. is used.)*			
2a. Architect's Fee—Design			
2b. Architect's Fee—Supervision			
* 3. Interest during construction			
* 4. Taxes during construction			
* 5. Property Insurance			
* 6. Mortgage Insurance Premium (MIP)			
7. FHA Examination Fee			
8. FHA Inspection Fee			
* 9. Title and Recording Fees			
* 10. Financing			
* 11. Legal, Organizational and Mortgagor's Cost Certification Audit Fee			
* 12. Off-Site Costs			
* 13. Other *(Exclusive of items required by the Construction Contract.)*			
SUBTOTAL			$
14. Profit and Risk Allowance *(If Applicable)*			
SUBTOTAL			$
15. Reduction *(if any)* resulting from operating statement attached			[ ]
* Attach itemized schedules and copies of bills and/or receipts where applicable TOTALS	$	$	$

NOTE. This Certificate must be supported by a certification as to actual cost by an independent Certified Public Accountant or by an independent public accountant as required by HUD Regulations.

The undersigned hereby certifies that, except as noted on the other side of this form, there has not been and it not now any identify of interest between mortgagor and general contractor and/or any subcontractor, material supplier, or equipment lessor. It is further certified that, except as noted, there are not and have not been any such relationships between sponsor(s) of this project and general contractor and/or subcontractor, material supplier and equipment lessor.

All references to "Identity of Interest" herein made are made in the context of the definition printed on the back of this form, which has been read by the undersigned.

_____
(Mortgagor)

_____
(Signature)

_____
(Title)

_____
(Date)

WARNING

U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions," provides in part: "Whoever, for the purpose of . . influencing in any way the action of such Administration. . . makes. passes. utters, or publishes any statement, knowing the same to be false . . . shall be fined not more than $5,000 or imprisoned not more than two yea

Previous editions are obsolete

FHA—2330 (7/77)

Identity of Interest between the mortgagor and/or sponsor as parties of the first part and general contractors, subcontractors, material suppliers, or equipment lessors as parties of the second part will be construed as existing under any of the following conditions:

When there is any financial interest of the party of the first part in the party of the second part; when one or more officers, directors or stockholders of the party of the first part is also an officer, director, or stockholder of the party of the second part; when any officer, director, or stockholder of the party of the first part has any financial interest whatsoever in the party of the second part; when the party of the second part advances any funds to the party of the first part; when the party of the second part provides and pays on behalf of the party of the first part the cost of any architectural services or engineering services other than those of a surveyor, general superintendent, or engineer employed by a general contractor in connection with his or its obligations under the construction contract; when the party of the second part takes stock or any interest in the party of the first part as part of the consideration to be paid them; when there exists or come into being any side deals, agreements, contracts or undertakings entered into or contemplated, thereby altering, amending, or cancelling any of the required closing documents except as approved by the Commissioner.

The following identities of interest exist: (IF NONE, SO STATE):

_____

(Mortgagor)

By: _____

Date: _____

FHA Form 2580

FHA FORM NO. 2580
Rev. 7/75

U. S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL HOUSING ADMINISTRATION

Approval of Budget Bureau not required

MAXIMUM INSURABLE MORTGAGE

Project Name: _____ Project No. _____

To: _____ _____
Mortgagee *Mortgagor*

_____ _____
Street *Street*

_____ _____
City and State *City and State*

Dear Sirs:

This Administration, pursuant to the Agreement and Certification executed in connection with the above project, has reviewed the mortgagor's certified statement of actual cost and in reliance thereon has made certain related determinations as required under Section 227 of the National Housing Act. Accordingly, the Commissioner will endorse as insured an original credit instrument, secured by a first mortgage upon the land and property included in the project, in an amount not to exceed that set forth herein below.

It is understood, however, that any estimated items of cost may result in a further reduction of the mortgage when the actual costs are established, that such a reduction, if any, must be made in accordance with the aforesaid Agreement and Certification, and that acceptance of items "to be paid in cash within 45 days after final endorsement" is conditioned upon proof of payment of such items in cash. Failure to comply with this requirement may result in a mandatory prepayment to the mortgage.

Pursuant to Section 227 of the National Housing Act, all items approved herein are final and incontestable, except for fraud or material misrepresentation on the part of the mortgagor, as of the date of the final endorsement of the mortgage for insurance, except that items shown on FHA Form 2330 to be paid within 45 days, shall not be considered final and incontestable until the date of HUD's approval of the supplemental cost certification.

1. (a) Original Mortgage Amount		$_____
(b) Less: Minus Effect of Construction Changes, if any	$	
(c) Unused Contingency Reserve, if any (Rehabilitation)	$	
(d) Total Deductions from Original Mortgage Amount		$_____
(e) Adjusted Original Mortgage Amount		$ .....
2. Certified "Actual Cost" (From FHA Form 2330)	$	
3. Disallowed Amounts (Schedule 2)	$_____	
4. Recognized "Actual Cost" of Improvements	$	
5. Land	$_____	
6. TOTAL LAND & IMPROVEMENTS	$_____	
7. Statutory Percentage of Total Cost (_____ % of Item 6)	$	
8. Lesser of: (i) $_____ Existing Mortgage Indebtedness on (Land and Improvements to be Rehabilitated) or (ii) an Amount Equal to ____ % of the Fair Market Value $_____ of Land and Improvements Before (Repair or Rehabilitation)	$_____	
9. TOTAL – Line 7 plus Line 8, (if any)		$ .....
10. Maximum Insurable Mortgage in Multiples of $100, (Item 1(e) or Item 9 whichever is the Lesser) If Grants involved see attached sheet to this form for Reconciliation of Adjustments, if required		$_____

Schedule 1. Approval of the Maximum Insurable Mortgage, as stated on Line 10, is conditioned upon the following:

A. A supplemental cost certification prepared by an IPA of CPA of FHA Forms 2330 and 2330A must be submitted within 60 days after final endorsement in order to account for those items of cost on the current certification which are "to be paid within 45 days after final endorsement."

Previous Edition is Obsolete

Schedule 1 (cont.)

Schedule 2. Disallowed Costs

Schedule 3. Computation of Mortgagor's Initial Equity Investment

1. Total Land and Improvements *(Line 6 above)* $_____
2. Less: Maximum Insurable Mortgage *(Line 10 above)* $_____
3. Mortgagor's Initial Equity Investment $_____

Schedule 4. Tentative Disallowances. Those items which appear below are classified as tentative disallowances and may be recognized and approved as certifiable costs subsequent to the issuance of this form provided that satisfactory clarifying documentation is submitted within 30 days. Whether or not these items are subsequently approved will have no effect on the maximum insurable mortgage listed on line 10 of this form.

Assistant Secretary for HPMC/FHA Commissioner

Dated_____ By _____
Authorized Agent

PUBLIC HOUSING COST FORMS

HUD Form 52484

Form Approved
OMB No. 63R-1570

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
PUBLIC HOUSING PROGRAM

DEVELOPMENT COST BUDGET/COST STATEMENT

DWELLING UNITS		
Family	Elderly	Total

COPY NUMBER

PR/PROJECT NUMBER

Housing Type and Production Method	Turnkey	Conv.	Force Act.
New Construction			
ACQ W/Subst. Rehb.			
ACQ WO/Subst. Rehab.			

PUBLIC HOUSING AGENCY

LOCALITY OF PROJECT

No financial or technical assistance may be provided to a project pursuant to an Annual Contributions Contract unless a development program, including a development cost budget, has been approved [24 CFR 841.115].

STATUS *(Check one)*

☐ Development Program (DP) Budget
☐ Budget Between DP and Contract Award
☐ Contract of Sale/Contract Award Budget
☐ Budget Between Contract Award & Final
☐ Final Development Cost Budget
☐ Development Cost Control Statement
☐ Statement of Actual Development Cost

SUBPART I — BUDGET

LINE NO.	ACCOUNT CLASSIFICATION (a)	LATEST APPROVED BUDGET Date_____ (b)	ACTUAL DEVELOPMENT COST INCURRED TO_____ (c)	ACTUAL CONTRACT AWARD BALANCE (d)	ESTIMATED ADDITIONAL TO COMPLETE (e)	TOTAL DEVELOPMENT COST AMOUNT (c) + (d) + (e) (f)	TOTAL DEVELOPMENT COST PER UNIT (g)
1	DEVELOPER'S PRICE 1440 Site						
2	1450 Site Improvements						
3	1460 Dwelling Construction						
4	1465 Dwelling Equipment						
5	1470 Nondwelling Construction						
6	1475 Nondwelling Equipment						
7	1430.1 Archit. & Engr. Svcs.						
8	Other						
9	TOTAL DEVELOPER'S PRICE						
10	PUBLIC HOUSING AGENCY COSTS ADMINISTRATION 1410.1 Nontechnical Salaries						
11	1410.2 Technical Salaries						
12	1410.4 Legal Expenses						
13	1410.9 Employee Benefit Contribution						
14	1410.10 Travel						
15	1410.12 Publications						
16	1410.14 Membership Dues and Fees						
17	1410.16 Telephone and Telegraph						
18	1410.18 Equipment Expended						
19	1410.19 Sundry						
20	TOTAL ADMINISTRATION						
21	1415 LIQUIDATED DAMAGES						
22	INTEREST 1420.1 Interest to HUD						
23	1420.2 Interest on Notes-Non-HUD						
24	1420.3 Interest on Bonds						
25	1420.7 Interest Earned from Invest.						
26	TOTAL INTEREST						
27	1425 INITIAL OPER. DEFICIT						
28	PLANNING 1430.1 Architectural & Engr. Fees						
29	1430.2 Consultant Fees						
30	1430.6 Permit Fees						
31	1430.7 Inspection Costs						
32	1430.9 Housing Surveys						
33	1430.19 Sundry Planning Costs						
34	TOTAL PLANNING						
35	SITE ACQUISITION 1440.1 Property Purchases						
36	1440.2 Condemnation Deposits						
37	1440.3 Excess Property						
38	1440.4 Surveys and Maps						
39	1440.5 Appraisals						
40	1440.8 Title Information						
41	1440.8 Legal Costs - Site						
42	1440.10 Option Negotiations						
43	1440.12 Current Tax Settlement						
44	1440.19 Sundry Site Costs						
45	1440.20 Site Net Income						
46	TOTAL SITE ACQUISITION						
47	1450 SITE IMPROVEMENTS						
48	1460 DWELLING CONSTRUCTION						
49	1465 DWELLING EQUIPMENT						
50	1470 NONDWELLING CONSTRUCTION						
51	1475 NONDWELLING EQUIPMENT						
52	1480 CONTRACT WORK IN PROGRESS						
53	1495 RELOCATION COSTS						
54	TOTAL (Including Donations)						
55	Less Donations						
56	TOTAL BEFORE CONTINGENCY (Excluding Donations)						
57	Contingency: 1% or 5% (or less) of line 56						
58	TOTAL DEVELOPMENT COST						

HUD-52484 (8-77)

HUD Form 5080

PART I

1. DEVELOPMENT COST BUDGET – TURNKEY

(Instructions for preparation are on page 7 of this form and in Handbook HPMC-FHA 7420.1. RHA 7510.1 includes Account Classification Definitions.)

HUD-5080
Page 2

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
(Low-Rent Public Housing)

Form Approved
OMB No. 63-R1158

Copy No. _____

DEVELOPMENT COST BUDGET – TURNKEY

Project No.

STATUS (Check One)	
Development Program	☐
Contract of Sale	☐
Final	☐

_____
(Name of Local Authority)

_____
(Locality of Project)

	ELDERLY	OTHER	TOTAL
Units			
Rooms			
R. Ratio			

ACCOUNT CLASSIFICATION		TOTAL DEVELOPMENT COST AMOUNT	TOTAL DEVELOPMENT COST PER UNIT	LATEST PREVIOUSLY APPROVED BUDGET
DEVELOPER'S PRICE				
1440	Site			
1450	Site Improvements			
1460	Dwelling Construction			
1465	Dwelling Equipment			
1470	Nondwelling Construction			
1430.1	Architectural & Engr. Services			
	Other			
	TOTAL DEVELOPER'S PRICE			
LOCAL AUTHORITY COSTS:				
ADMINISTRATION				
1410.1	Nontechnical Salaries			
1410.2	Technical Salaries			
1410.4	Legal Expense			
1410.9	Employee Benefit Contributions			
1410.10	Travel			
1410.12	Publications			
1410.14	Membership Dues and Fees			
1410.16	Telephone and Telegraph			
1410.19	Sundry Administration Costs			
	TOTAL ADMINISTRATION			
1420	INTEREST			
1425	INITIAL OPERATING DEFICIT			
PLANNING				
1430.2	Consultant Fees			
1430.5	Cost Estimates			
1430.7	Inspection Costs			
1430.8	Fee for HUD Services			
1430.9	Housing Surveys			
1430.19	Sundry Planning Costs			
	TOTAL PLANNING			
1440.5	APPRAISALS			
EQUIPMENT NOT IN DEVELOPER'S PRICE				
1465	Dwelling Equipment			
1475	Nondwelling Equipment			
	TOTAL EQUIPMENT			
1495	RELOCATION COSTS			
TOTAL (BEFORE CONTINGENCY)				
CONTINGENCY (1% or less of TOTAL BEFORE CONTINGENCY)				
TOTAL DEVELOPMENT COST				

*Submitted by:

_____
_____ _____
(Title) *(Date)*

*Recommended:

_____
(Signature of Authorized Official)
_____ _____
(Title) *(Date)*

*Approved:

_____
(Signature of Authorized Official)
_____ _____
(Title) *(Date)*

*To be completed when form is used for other than Development Program status.

HUD-52
August
(Former

G AND URBAN DEVELOPMENT
BLIC HOUSING

Form Approved
Budget Bureau No. 63-R0855

DEVELOPMENT COST CONTROL STATEMENT

ACTUAL

Project No. _____
Locality _____
Number of Units 14
Number of Rooms _____

(Name of Local Authority)

ACCOUNT CLASSIFICATION (1)	ACTUAL DEVELOPMENT COST INCURRED TO 8-31-78 (2)	ACTUAL CONTRACT AWARD BALANCE (3)	ACTUAL COST PLUS CONTRACT BALANCE 2 + 3 (4)	LATEST APPROVED BUDGET EXCLUDING CONTINGENCY (5)	LATEST APPROVED BUDGET INCLUDING CONTINGENCY (6)
ADMINISTRATION					
1410.1 Nontechnical Salaries	4,489.92			4,490.00	
1410.2 Technical Salaries					
1410.4 Legal Expense	233.36			234.00	
1410.9 Employee Benefit Contr.	486.99			487.00	
1410.10 Travel					
1410.12 Publications					
1410.14 Membership Dues & Fees					
1410.16 Telephone & Telegraph					
1410.18 Equipment Expended					
1410.19 Sundry	1,569.87			1,570.00	
TOTAL ADMINISTRATION	6,780.14			6,781.00	6,800.00
1415 LIQUIDATED DAMAGES					
INTEREST					
1420.1 Interest to HUD	4,449.16			10,003.00	
1420.2 Int. on Notes—Non-HUD	13,044.00			12,424.00	
1420.3 Interest on Bonds					
1420.7 Int.—Inc. from Investment	(6,427.59)			(6,472.00)	
TOTAL INTEREST	11,065.57			16,000.00	16,000.00
1425 INIT. OPER. DEFICIT				350.00	350.00
PLANNING					
1430.1 Arch. & Eng. Fees	20,737.00			20,737.00	
1430.2 Consultant Fees	607.39			607.00	
1430.6 Permit Fees					
1430.7 Inspection Costs					
1430.8 Fee for HUD Services	658.00			660.00	
1430.9 Housing Surveys					
1430.19 Sundry Planning Costs	1,185.25			1,185.00	
TOTAL PLANNING	23,187.64			23,188.00	23,736.00
SITE ACQUISITION					
1440.1 Property Purchases	9,575.00			9,575.00	
1440.2 Condemnation Deposits					
1440.3 Excess Property					
1440.4 Surveys and Maps	2,200.00			2,340.00	
1440.5 Appraisals	475.00			475.00	
1440.6 Title Information					
1440.8 Legal Cost — Site	553.44			554.00	
1440.10 Option Negotiations					
1440.12 Current Tax Settlement					
1440.13 Tenant Relocation					
1440.19 Sundry Site Costs	315.00			315.00	
1440.20 Site Net Income					
TOTAL SITE ACQUISITION	13,118.44			13,259.00	13,300.00
CONSTRUCTION AND EQUIPMENT					
1450 Site Improvement	97,294.00				
1460 Dwelling Structures	157,393.91			4,931.00	
1465 Dwelling Equipment	3,861.00				
1470 Nondwelling Structures	9,083.00			546.00	
1475 Nondwelling Equipment				263,951.00	
1480 Contract Work in Process					
TOTAL CONSTRUC. & EQUIP.	267,632.11			269,428.00	269,500.00
TOTALS Including Donations	321,783.90			329,066.00	329,686.00
Less: DONATIONS					
TOTALS	321,783.90			329,066.00	329,686.00

SUBMITTED BY:

(Name) (Title) (Date)

220234-F HUD-Wash. D. C. HUD-52399

HUD Form 52397

HUD-52397
June 1969

Form Approved
Budget Bureau No. [illegible]

USR&E

PHA #:

PROJECT:

(Local Authority)

COST

Contract No. ______
Project No. ______
Locality ______
No. of Units 105

	ACCOUNT CLASSIFICATION (1)	ACTUAL DEVELOPMENT COST INCURRED TO 12-31-80 (2)	ACTUAL CONTRACT AWARD BALANCE (3)	ESTIMATED MINIMUM ADDITIONAL TO COMPLETE (4)	MINIMUM DEVELOPMENT COST 2+3+4 (5)	LATEST BUDGET INCLUDING CONTINGENCY (6)
	ADMINISTRATION					
1	1410.1 Nontechnical Salaries	6,881.99			6,881.99	X
2	1410.2 Technical Salaries	31,945.35			31,945.35	X
3	1410.4 Legal Expenses	1.13			1.13	X
4	1410.9 Employee Benefit Contr.	4,225.92			4,225.92	X
5	1410.10 Travel	428.19			428.19	X
6	1410.12 Publications	148.03			148.03	X
7	1410.14 Membership Dues & Fees	12.47			12.47	X
8	1410.16 Telephone & Telegraph	53.21			53.21	X
9	1410.18 Equipment Expended	2,092.81			2,092.81	X
10	1410.19 Sundry	1,817.09			1,817.09	X
11	TOTAL ADMINISTRATION	47,606.19			47,606.19	40,936.[illegible]
12	1415 LIQUIDATED DAMAGES	(4,620.00)			(4,620.00)	
	INTEREST					
13	1420.1 Interest to HUD	6,529.13			6,529.13	X
14	1420.2 Int. on Notes—Non-HUD	93,029.15			93,029.15	X
15	1420.3 Interest on Bonds					X
16	1420.7 Int.-Inc. from invest	(99,066.55)			(99,066.55)	X
17	TOTAL INTEREST	491.73			491.73	[illegible]
18	1425 INIT. OPER. DEFICIT	2,397.12			2,397.12	[illegible]
	PLANNING					
19	1430.1 Arch. & Eng. Fees	52,627.00			52,627.00	X
20	1430.2 Consultant Fees					X
21	1430.6 Permit Fees	454.38			454.38	X
22	1430.7 Inspection Costs	1,206.10			1,206.10	X
23	1430.8 Fee for HUD Services	2,840.00			2,840.00	X
24	1430.9 Housing Surveys					X
25	1430.19 Sundry Planning Costs	6,079.52			6,079.52	X
26	TOTAL PLANNING	63,207.00			63,207.00	66,[illegible]
	SITE ACQUISITION					
27	1440.1 Property Purchases	79,000.00			79,000.00	X
28	1440.2 Condemnation Deposits					X
29	1440.3 Excess Property					X
30	1440.4 Surveys and Maps	950.00			950.00	X
31	1440.5 Appraisals	850.00			850.00	X
32	1440.6 Title Information	94.88			94.88	X
33	1440.8 Legal Costs — Site					X
34	1440.10 Option Negotiations					X
35	1440.12 Current Tax Settle.					X
36	1440.19 Sundry Site Costs					X
37	1440.20 Site Net Income	(125.00)			(125.00)	X
38	TOTAL SITE ACQUISITION	80,769.88			80,769.88	83,[illegible]
	CONSTRUCTION & EQUIPMENT					
60	1450 Site Improvement	93,500.60			93,500.60	X
65	1460 Dwelling Structures	654,874.97			654,874.97	X
70	1465 Dwelling Equipment	12,135.66			12,135.66	X
75	1470 Nondwelling Structures	70,888.65			70,888.65	X
80	1475 Nondwelling Equipment	4,235.31			4,235.31	X
85	1480 Contract Work in Process					X
						X
						X
						X
39	TOTAL CONSTRUC. & EQUIP.	835,635.19			835,635.19	[illegible]
46	1495 Relocation Cost	4,350.00			4,350.00	[illegible]
47	TOTALS (Including Donations)	1,029,837.11			1,029,837.11	[illegible]
48	Less: Donations	3,000.00			3,000.00	[illegible]
51	TOTALS	1,026,837.11			1,026,837.11	[illegible]

Approved:

______ ______

Previous edition is obsolete

HUD-52152
Rev. 11-71

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Form Approved
OMB No. 63-R0649

LOW-RENT PUBLIC HOUSING

DEVELOPMENT COST BUDGET

Project No. _____

STATUS – (Check One)

- Between Dev. Prog. & Cont. Aw. ☐
- Contract Award ☐
- Between Contr. Aw. & Final ☐
- Final ☐

_____ (Name of Local Authority)

_____ (Locality of Project)

	ELDERLY	OTHER	TOTAL
Units			
Rooms			
R. Ratio			

PART I – BUDGET

ACCOUNT CLASSIFICATION (1)	ACTUAL DEVELOPMENT COST INCURRED TO _____ (2)	ACTUAL CONTRACT AWARD BALANCE (3)	ESTIMATED ADDITIONAL TO COMPLETE (4)	TOTAL DEVELOPMENT COST AMOUNT 2 + 3 + 4 (5)	TOTAL DEVELOPMENT COST PER UNIT (6)	LATEST PREVIOUSLY APPROVED BUDGET (7)
ADMINISTRATION						
1410.1 Nontech. Sal.						
1410.2 Tech. Sal.						
1410.4 Legal Exp.						
1410.9 Empl. Ben. Contr.						
1410.10 Travel						
1410.12 Publications						
1410.14 Membership Dues & Fees						
1410.16 Telephone & Telegraph						
1410.18 Equip. Expensed						
1410.19 Sundry						
TOTAL ADMINISTRATION						
1415 **LIQUIDATED DAMAGES**						
INTEREST						
1420.1 Int. to HUD						
1420.2 Int. on Notes-Non-HUD						
1420.3 Int. on Bonds						
1420.7 Int. Inc. from Invest.						
TOTAL INTEREST						
1425 **INIT. OPER. DEFICIT**						
PLANNING						
1430.1 Arch. & Eng. Fees						
1430.2 Consultant Fees						
1430.4 Permit Fees						
1430.7 Inspection Costs						
1430.8 Fee for HUD Services						
1430.9 Housing Surveys						
1430.19 Sundry Plan. Costs						
TOTAL PLANNING						
SITE ACQUISITION						
1440.1 Property Purchases						
1440.2 Condemn. Deposits						
1440.3 Excess Property						
1440.4 Surveys and Maps						
1440.5 Appraisals						
1440.6 Title Information						
1440.8 Legal Costs – Site						
1440.10 Option Negotiation						
1440.12 Current Tax Settle						
1440.19 Sundry Site Costs						
1440.20 Site Net Income						
TOTAL SITE ACQUISITION						
CONSTRUCTION & EQUIPMENT						
1465 **RELOCATION COST**						
TOTALS (Including Donations)						
Less: DONATIONS						
TOTALS (Before Contingency)						
CONTINGENCY			%			
TOTAL						

HUD-52152

Appendix G

WEIGHTS

Table G-1

WEIGHTS

		Number of Units		5 - 49				50 - 99				100 or More				SCALING FACTOR[1]
		Type		Family		Elderly		Family		Elderly		Family		Elderly		
		Date		75-78	79	75-78	79	75-78	79	75-78	79	75-78	79	75-78	79	
Section 8	New Construction	HUD	202[a]	N/A	N/A	N/A	16/9	N/A	N/A	N/A	23/12	N/A	N/A	15/6	66/31	58/120
			FHA[b]	32/8	43/9	53/11	50/8	58/11	57/11	123/15	71/11	51/13	51/11	78/16	73/11	135/740
			11(b) Insured	N/A	2/2	N/A	N/A	N/A	3/3	N/A	9/4	N/A	6/5	2/1	8/4	19/30
		SHFA	FHA	7/6	9/5	12/9	4/3	11/6	18/11	14/9	8/4	3/2	11/4	16/12	12/7	78/125
			Uninsured	55/13	55/10	94/10	71/5	31/12	32/10	46/9	35/9	44/11	37/18	72/12	33/13	132/605
	Substantial Rehabili-tation	HUD	FHA	N/A	N/A	3/1	5/1	17/9	14/10	3/3	6/4	8/5	12/7	7/7	11/9	56/86
		SHFA	FHA	4/2	N/A	1/1	N/A	N/A	2/2	3/3	N/A	4/2	1/1	2/1	3/1	13/20
			Uninsured	21/3	N/A	N/A	13/3	6/2	6/1	N/A	N/A	8/1	4/1	7/4	8/4	19/73
Low Income Public Housing[c]			Turnkey	80/6	30/4	19/6	8/3	64/8	6/1	40/10	3/1	41/8	N/A	50/7	8/1	55/349
			Conventional	62/4	7/3	20/8	4/1	57/10	9/3	22/8	N/A	46/4	N/A	37/11	3/1	53/267
Section 236 Rent Supplement (HUD Processed)				144/15	1/1	11/3	N/A	297/14	N/A	24/4	N/A	342/11	N/A	67/29	N/A	77/836
Section 221(d)4 (Unsubsidized)				91/18	14/3	N/A	N/A	157/42	54/12	5/4	N/A	250/32	107/19	3/3	N/A	133/681

[1]The final weight for each cell was derived by multiplying the cell weight by the corresponding scaling factor for each program type. This procedure causes the sum of weights for each progam type to equal the number of observations.

Appendix H

DERIVATION OF THE CONSTRUCTION AND LAND PRICE INDEX

Appendix H

DERIVATION OF THE CONSTRUCTION AND LAND PRICE INDEX

This appendix describes the statistical procedures that were used to derive the Construction and Land Price Indices. It begins by describing the calculations that were made in order to translate the local Indexes that are presented in the Dodge Building Cost Calculator and Valuation Guide into a national index that controls for price variations across cities as well as time. The next section describes the manner in which a Land Price Index was constructed from our sample data.

The Dodge Construction Index

The Dodge publication presents two basic indices that are relevant to our analysis. One index, a(i,t), expresses costs in a given city ("i") at a given point in time ("t") as a fraction of costs in New York City in that period. Thus,

$$(1) \quad a(i,t) = \frac{C(i,t)}{C(NYC,t)}$$

where C(i,t) is the unadjusted cost of construction. Note that a(NYC,t) is by definition equal to one. The Dodge data also has a time series index for each of the 183 cities in its sample. The only series that was relevant to our analysis was the one for New York City. It is defined by:

$$(2) \quad b(t) = \frac{C(NYC,t)}{C(NYC,1947)}$$

with b(1947) = one.

To adjust for differences in prices over cities and over time, we first made the following transformation:

$$(3) \quad C(NYC,1980) = \frac{b(1980)}{b(t)} \times \frac{C(i,t)}{a(i,t)}$$

where "t" was defined as the midpoint of the construction period for each project. This translates nominal costs into 1980, New York City equivalents. As a last step, we multiplied the term in Equation (3) by the sample-wide average of a(i,1980). This adjustment produced an index that translates nominal development costs into 1980 equivalents for the average location in the sample.

In Appendix D, we present data that is corrected for time but not for place in order to estimate regional differences in development costs. To derive these data, we made the following transformation:

$$C(i,1980) = \frac{a(i,1980)}{a(i,t)} \times \frac{b(1980)}{b(t)} \times C(i,t)$$

This translates nominal costs into 1980 dollars, but allows prices to vary across the localities in the sample.

The Land Price Index

To derive an index for the price of land, we first estimated a regression equation that related variations in the unit price of land to a series of variables expected to influence property values, including the project's location and development date. To avoid price variations due to programatic differences in the definition of land, we restricted this component of the analysis to newly constructed FHA projects, including: Section 8, 236, and unsubsidized 221(d)4.

Table H-1 shows the results of this analysis. The dependent variable is the logarithm of the unit price of land, expressed on a square foot basis. The independent variables include: (1) the date of development (as measured by the beginning of the construction period); (2) geographic region; (3) a series of dummy variables measuring the size of the

Table H-1

REGRESSION OF THE COST OF LAND PER SQUARE FOOT:
Newly Constructed FHA Projects
(Semi-log)

INDEPENDENT VARIABLES	Estimated Coefficient (β)	Standard Error (σ)	Variable Sample Mean
CONSTRUCTION DATE[1]	.1060[a]	.0297	6.962
GEOGRAPHIC REGION			
a. West (Yes=1/No=0)	- .1739	.2828	.227
b. North Central (Yes=1/No=0)	- .6283[b]	.2727	.334
c. South (Yes=1/No=0)	- .5445[b]	.2712	.364
SIZE OF PLACE (1,000s)			
a. 10- 49.9	.4734[b]	.2252	.186
b. 50- 249.9	.3847	.2992	.118
c. 250- 999.9	.6308[b]	.2515	.229
d. 1000-2499.9	1.2495[a]	.2291	.231
e. 2500	1.8841[a]	.3069	.075
CENTRAL CITY LOCATION (Yes=1/No=0)	.5963[a]	.1823	.372
NEIGHBORHOOD RATING			
a. Overall Quality[2]	.0270	.0787	3.102
b. Rate of Appreciation[3]	.4341[a]	.1317	2.096
LOTSIZE (1,000s square feet)	- .0022[a]	.000	236.665
CONSTANT	- 7.6196		
R^2= .402	F = 14.15	n = 535	

[a]Significant at 99 percent. [c]Significant at 90 percent.
[b]Significant at 95 percent. [d]Significant at 85 percent.

[1]The construction date represents the year in which construction began. Its values ranged from 1, representing 1971, to 9, representing 1979.

[2]Developers rated the project's neighborhood at the time of development on a scale from 1 to 5, where 1 = blighted, 2 = deteriorated, 3 = beginning to deteriorate, 4 = average, 5 = above average.

[3]Developers were asked how property values in the project's neighborhood had changed relative to the rest of the market in the past three years, where 1 = declined, 2 = remained stagnant, 3 = risen at about the same rate, 4 = risen more rapidly than the rest of the market.

metropolitan (or non-metropolitan) area; (4) a dummy variable for central city locations; (5) two variables measuring the developer's assessment of the neighborhoods quality and rate of price appreciation; and (6) the overall size of the parcel. The last variable was included to capture possible economies of scale derived from purchasing land in larger segments. Since the dependent variable is expressed in logarithmic terms, the estimated regression coefficients indicate the percentage impact that a change in a given variable will have on the unit price of land.

Overall, the regression does a fairly good job in explaining land price variations, accounting for about 40 percent of the sample variance. Most of the independent variables are significant, and all have the expected sign. In general, the price of land is highest in the North East and the West, and lowest in the Midwest and the South. Unit prices are also shown to be lowest for larger parcels of land, and to increase fairly steadily with the size of the metropolitan area, the quality of the neighborhood, and the accessibility of the site (as measured by the central city indicator). The regression parameters also indicate that land prices have increased by about 10.5 percent per year, a figure that is roughly consistent with national data for the sample period.

Given the estimated regression parameters displayed in the table, we constructed an index that controlled for unit land price variations across cities and over time for the entire sample of projects. To make this index roughly consistent with the Dodge deflator -- which is based on metropolitan-wide statistics -- we based our index on a subset of variables appearing in the land equation, including: (1) year; (2) region; (3) size of metropolitan area; and (4) central city location. The procedures used to construct the land price index involved fairly straightforward manipulations of the estimated regression equation. Let "PR" be the value of land that is predicted by the regression equation when "t" is 1980

and when all other variables are equal to their sample-wide means. Thus:

$$\overline{PR} = \hat{a}_0 + \hat{a}_1(1980) + \hat{a}_i\overline{P}_i + b_i\overline{X}_i.$$

where $\{P_i\}$ is the set of variables describing region, size of place, and central city location; and $\{X_i\}$ is the set of variables describing neighborhood and parcel size. Note that $\overline{PR}$ is a constant, representing the average price of land expressed in 1980 dollars. The deflator for a project developed in time "t" and place "P_i" is defined as:

$$DF = (\hat{a}_0 + \hat{a}_1 t + \hat{a}_i P_i + b_i\overline{X}_i) \div \overline{PR}.$$

Note that the only project-specific variables that are used to calculate "DF" are the time and place dummies; all other variables (such as neighborhood) are again set equal to the sample means. Given this deflator, the "adjusted" value of land is simply:

ADJUSTED COSTS = (UNADJUSTED COSTS) ÷ DF.

Appendix I

SUPPLEMENTARY TABLES FOR LIFE-CYCLE PROGRAM COSTS AND SUBSIDIES

Table I-1 Scenario 2, 1979

Total Development Costs and Components of Total Development Costs $). Standard Unit, Identical Improvement and Land Costs.

Housing Programs / Cost Components	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Bonds	Turnkey Long-term Bonds	Conventional Long-term Bonds	Unsubsidized 221(d)(4)	236 Rent Supplement
Hard Costs							
Improvements	21,197	21,197	21,197	21,197	21,197	21,197	21,197
Shell	0	0	0	0	0	0	0
Land	1,723	1,723	1,723	1,723	1,723	1,723	1,723
Total Hard Costs	22,920	22,920	22,920	22,920	22,920	22,920	22,920
BSPRA	749	697	697	749	697	2,576	2,560
Soft Costs							
Construction Per Interest	1,961	846	846	1,961	846	1,935	1,922
Construction Per Taxes	285	0	0	285	0	300	302
Construction Per Mortgage Insurance	0	0	0	0	0	135	134
Finance Fees	549	0	0	549	0	406	403
Commitment Fees	0	0	0	0	0	1,055	726
Legal, Organizational, Audit	205	205	205	205	205	205	202
AMPO	0	0	0	0	0	0	0
Examination & Inspection	0	0	0	0	0	216	215
Title & Recording	89	89	89	89	89	89	89
Construction Per Insurance	89	89	89	89	89	89	89
Other	640	795	795	640	795	135	323
Total Soft Costs	3,781	2,024	2,024	3,781	2,024	4,564	4,409
Total Development Costs	27,450	25,641	25,641	25,450	25,641	30,061	29,888
Depreciable Base	22,764	22,867	22,867	22,764	22,867	24,302	24,473

Table I-1 Scenario 1. 1979. (continued)

Total Development Costs and Components of Total Development Costs ($). Standard Unit. Identical Improvement and Land Costs.

Housing Programs / Cost Components	NEW CONSTRUCTION					SUB REHAB		
	Section 8					Section 8		
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem)	SHFA FHA	SHFA Uninsured
Hard Costs								
Improvements	21,197	21,197	21,197	21,197	21,197	18,713	19,279	20,798
Shell	0	0	0	0	0	2,484	1,919	404
Land	1,723	1,723	1,723	1,723	1,723	1,723	1,723	1,723
Total Hard Costs	22,920	22,920	22,920	22,920	22,920	22,920	22,920	22,920
SSFRA	712	2,580	2,452	2,474	2,361	2,311	2,292	2,314
Soft Costs								
Construction Per Interest	1,278	1,935	934	1,018	974	1,905	1,011	970
Construction Per Taxes	72	300	299	300	295	298	301	296
Construction Per Mortgage Insurance	0	135	129	130	0	133	129	0
Finance Fees	0	406	387	391	0	400	388	0
Commitment Fees	0	1,056	827	912	0	880	569	0
Legal, Organizational, Audit	205	203	207	208	205	205	207	205
Escrow	0	0	0	0	498	0	0	497
Examination & Inspection	0	217	207	208	0	213	207	0
Title & Recording	89	89	89	89	89	89	89	89
Construction Per Insurance	89	89	89	89	89	89	89	89
Other	787	163	155	208	249	187	543	199
Total Soft Costs	2,520	4,593	3,323	3,553	2,399	4,399	3,533	2,345
Total Development Costs	26,152	30,093	28,695	28,497	27,680	29,630	28,735	27,579
Depreciable Base	22,874	24,335	24,189	24,265	23,985	24,086	24,407	23,988

Table I-2 Scenario 1. 1979

Gross Rent, Components of Gross Rent, and Rent Subsidy. Levelized Annual Amounts ($). Standard Unit. Identical Improvement and Land Costs.

Housing Programs / Components	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Notes	Turnkey Long-term Bonds	Conventional Long-term Notes	Unsubsidized d(4)	236 Rent Supplement
Loan Payment	1,882	1,758	1,990	1,952	1,823	2,504	916
Mortgage Insurance Premiums	0	0	0	0	0	131	130
Return on Equity	0	0	0	0	0	301	299
Property Taxes	91	91	91	91	91	793	793
Utilities	964	964	964	964	964	964	964
Other Costs	1,637	1,637	1,637	1,637	1,637	1,637	1,637
Gross Rent	4,574	4,450	4,682	4,644	4,515	6,029	4,639
Tenant Contribution	2,463	2,463	2,463	2,463	2,463	6,029	2,463
Rent Subsidy	2,111	1,987	2,219	2,181	2,052	0	2,176

Table I-2 Scenario 1. 1979 (continued)

Gross Rent, Components of Gross Rent, and Rent Subsidy. Levelized Annual Amounts ($).

Housing Programs / Components	NEW CONSTRUCTION					SUB REHAB		
			Section 8			Section 8		
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem)	SHFA FHA	SHFA Uninsured
Loan Payment	2,153	2,139	2,005	2,198	2,271	2,106	2,102	2,263
Mortgage Insurance Premiums	0	129	123	125	0	129	124	0
Return on Equity	0	301	287	290	277	296	287	276
Property Taxes	198	793	793	793	793	793	793	793
Utilities	964	964	964	964	964	964	964	964
Other Costs	1,637	1,637	1,637	1,637	1,637	1,637	1,637	1,637
Gross Rent	4,952	5,963	5,522	6,007	5,942	5,925	5,987	5,933
Tenant Contribution	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463
Rent Subsidy	2,489	3,500	3,059	3,544	3,479	3,462	3,524	3,470

Table I-3. Scenario 1. 1979

Direct, Indirect and Total Net Subsidies.
Levelized Annual Amounts ($). Standard Unit.
Identical Improvements and Land Costs.

Housing Programs / Subsidies	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Notes	Turnkey Long-term Bonds	Conventional Long-term Notes	Unsubsidized d(4)	236 Rent Supplement
Direct Subsidies							
Rent Subsidy	2,111	1,987	2,219	2,181	2,052	0	2,176
Interest Subsidy	0	0	0	665	621	0	1,674
Agency Administration Costs	68	68	68	68	68	65	93
GNMA Tandem	0	0	0	0	0	0	0
Total Direct Subsidies	2,179	2,055	2,287	2,914	2,741	65	3,943
Indirect Subsidies							
Excess Depreciation	-358	-360	-360	-358	-360	158[1]	193
Construction Per Interest	40	-49	-49	40	-49	0	40
Construction Per Taxes	6	0	0	6	0	0	6
Local Taxes Foregone	702	738[3]	738[3]	702	738[3]	0	0
Tax Exempt Bonds	1,184	1,192[4]	1,192[4]	0	86[4]	0	0
Capital Gains Taxes	0	0	0	0	0	-156	-171
Total Indirect Subsidies	1,574	1,521	1,521	390	415	2	68
Total Net Subsidies	3,753	3,576	3,808	3,304	3,156	67	4,011

Table I-1. Scenario 1. 1979 (Continued)

Direct, Indirect and Total Net Subsidies.
Levelized Annual Amounts ($). Standard Unit.
Identical Improvements and Land Costs.

Housing Programs / Subsidies	NEW CONSTRUCTION					SUB REHAB*					
	Section 8					Section 8					
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem		SHFA FHA		SHFA Uninsured	
						40 yr	167(k)	40 yr	167(k	40 yr	167(k
Direct Subsidies											
Rent Subsidy	2,489	3,500	3,059	3,544	3,479	3,462		3,524		3,470	
Interest Subsidy	358[2]	0	0	0	0	0		0		0	
Agency Administration Costs	87	156	194	28	2	157		36		3	
GNMA Tandem	0	585	0	0	0	576		0		0	
Total Direct Subsidies	2,934	4,241	3,253	3,572	3,481	4,195		3,560		3,473	
Indirect Subsidies											
Excess Depreciation	-360	192	190	191	189	190	987	192	989	188	985
Construction Per Interest	-75	40	19	21	20	39		21		20	
Construction Per Taxes	-4	6	6	6	6	6		6		6	
Local Taxes Foregone	522[3]	0	0	0	0	0		0		0	
Tax Exempt Bonds	0	0	1,244[4]	1,307[4]	1,257[4]	0		1,297[4]		1,174[4]	
Capital Gains Taxes	0	-170	-169	-170	-168	-168	-197	-170	-199	-167	-195
Total Indirect Subsidies	183	68	1,290	1,355	1,304	67	735	1,346	2,014	1,221	1,890
Total Net Subsidies	3,117	4,309	4,543	4,927	4,785	4,262	4,930	4,906	5,574	4,694	5,363

[1]Includes recapture.

[2]Includes interest subsidy on construction period interest.

[3]Includes foregone construction period property taxes.

[4]Includes foregone taxes on construction period financing.

* 40 year refers to the use of double-declining balance depreciation on a 40-year building life. 167(k) refers to the use of the special five-year straight line depreciation for up to $20,000 of rehabilitation expenditures per unit.

Table I-4. Scenario 3. 1979

Total Development Costs and Components of Total Development Costs ($). Standard Unit, Varying Land and Improvement Costs by Program.

Housing Programs / Cost Components	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Bonds	Turnkey Long-term Bonds	Conventional Long-term Bonds	Unsubsidized (4)	236 Rent Supplement
Hard Costs							
Improvements	34,139	30,510	30,510	34,139	30,510	21,285	23,266
Shell	0	0	0	0	0	0	0
Land	2,921	3,735	3,735	2,921	3,735	1,635	1,347
Total Hard Costs	37,060	34,245	34,245	37,060	34,245	22,920	24,613
BSPRA	1,199	1,000	1,000	1,199	1,000	2,585	2,797
Soft Costs							
Construction Per Interest	3,151	1,256	1,256	3,151	1,256	1,934	2,066
Construction Per Taxes	459	0	0	459	0	300	325
Construction Per Mortgage Insurance	0	0	0	0	0	135	145
Finance Fees	982	0	0	882	0	406	434
Commitment Fees	0	0	0	0	0	1,055	780
Legal, Organizational, Audit	205	205	205	205	205	205	202
Escrow	0	0	0	0	0	0	0
Examination & Inspection	0	0	0	0	0	216	231
Title & Recording	89	89	89	89	89	89	89
Construction Per Insurance	89	89	89	89	89	99	89
Other	970	1,180	1,180	970	1,180	135	347
Total Soft Costs	5,845	2,819	2,819	5,845	2,819	4,564	4,708
Total Development Costs	44,104	38,063	38,063	44,104	38,063	30,069	32,118
Depreciable Base	36,486	32,868	32,868	36,486	32,868	24,299	25,819

Table I-4. Scenario 2. 1979 (Continued)

Total Development Costs and Components of Total Development Costs ($). Standard Unit, Varying Land and Improvement Costs by Program.

Housing Programs / Cost Components	NEW CONSTRUCTION					SUB REHAB		
		Section 8				Section 8		
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem)	SHFA FHA	SHFA Uninsured
Hard Costs								
Improvements	27,728	23,470	22,624	24,769	24,749	16,930	18,578	24,316
Shell	0	0	0	0	0	2,468	1,974	263
Land	1,303	1,739	1,344	1,668	1,864	1,739	1,668	1,864
Total Hard Costs	29,031	25,209	23,968	26,437	26,613	21,137	22,220	26,443
BSPRA	924	2,848	2,609	2,881	2,748	2,101	2,202	2,697
Soft Costs								
Construction Per Interest	1,614	2,127	978	1,174	1,129	1,757	980	1,119
Construction Per Taxes	91	330	313	346	342	274	292	339
Construction Per Mortgage Insurance	0	149	135	150	0	123	125	0
Finance Fees	0	446	406	450	0	369	376	0
Commitment Fees	0	1,161	865	1,051	0	811	552	0
Legal, Organizational, Audit	205	205	211	210	205	204	205	205
AMPO	0	0	0	0	578	0	0	572
Examination & Inspection	0	238	216	240	0	197	201	0
Title & Recording	89	89	89	89	89	89	89	89
Construction Per Insurance	89	89	89	89	89	89	89	89
Other	996	179	162	240	289	172	527	229
Total Soft Costs	3,084	5,013	3,464	4,039	2,721	4,085	3,436	2,641
Total Development Costs	33,039	33,070	30,041	33,357	32,082	27,323	27,858	31,781
Depreciable Base	29,826	26,913	25,789	28,308	27,964	22,046	23,660	27,683

Table I-5. Scenario 2. 1979.

Gross Rent, Components of Gross Rent, and Rent Subsidy. Levelized Annual Amounts ($). Standard Unit, Varying Land and Improvement Costs by Program.

Housing Programs / Components	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional long-term Notes	Turnkey long-term Bonds	Conventional long-term Notes	Unsubsidized(4)	236 Rent Supplement
Loan Payment	3,023	2,609	2,955	3,136	2,707	2,505	877
Mortgage Insurance Premiums	0	0	0	0	0	131	140
Return on Equity	0	0	0	0	0	301	321
Property Taxes	91	91	91	91	91	794	859
Utilities	964	964	964	964	964	964	964
Other Costs	1,637	1,637	1,637	1,637	1,637	1,637	1,637
Gross Rent	5,715	5,301	5,647	5,828	5,399	6,332	4,798
Tenant Contribution	2,463	2,463	2,463	2,463	2,463	6,332	2,463
Rent Subsidy	3,252	2,838	3,184	3,365	2,936	0	2,335

Table I-5. Scenario 2, 1979. (Continued)

Gross Rent, Components of Gross Rent, and Rent Subsidy. Levelized Annual Amounts ($). Standard Unit, Varying Land and Improvement Costs by Program.

Housing Programs / Components	NEW CONSTRUCTION					SUM REHAB		
	Section 8					Section 8		
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	RHFA FHA	RHFA Uninsured	HUD-FHA (GNMA Tandem)	RHFA FHA	RHFA Uninsured
Loan Payment	2,720	2,350	2,099	2,532	2,633	1,942	2,115	2,608
Mortgage Insurance Premiums	0	142	129	144	0	119	120	0
Return on Equity	0	331	300	334	321	273	279	318
Property Taxes	237	873	827	914	909	725	772	901
Utilities	964	964	964	964	964	964	964	964
Other Costs	1,637	1,637	1,637	1,637	1,637	1,637	1,637	1,637
Gross Rent	5,558	6,297	5,956	6,525	6,464	5,660	5,887	6,428
Tenant Contribution	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463
Rent Subsidy	3,095	3,834	3,493	4,062	4,001	3,197	3,424	3,965

Table I-6 Scenario 2. 1979.

Direct, Indirect and Total Net Subsidies.
Levelized Annual Amounts ($). Standard Unit,
Varying Land and Improvement Costs by Program.

Housing Programs / Subsidies	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Notes	Turnkey Long-term Bonds	Conventional Long-term Notes	Unsubsidized d(4)	236 Rent Supplement
Direct Subsidies							
Rent Subsidy	3,252	2,838	3,184	3,365	2,936	0	2,335
Interest Subsidy	0	0	0	1,069	922	0	1,799
Agency Administration Costs	68	68	68	68	68	65	93
GNMA Tandem	0	0	0	0	0	0	0
Total Direct Subsidies	3,320	2,906	3,252	4,502	3,926	65	4,227
Indirect Subsidies							
Excess Depreciation	-575	-518	-518	-575	-518	158[1]	211
Construction Per Interest	65	-73	-73	65	-73	0	43
Construction Per Taxes	9	0	0	9	0	0	7
Local Taxes Foregone	1,110	1,078[3]	1,078[3]	1,110	1,078[3]	0	0
Tax Exempt Bonds	1,903	1,770[4]	1,770[4]	0	129[4]	0	0
Capital Gains Taxes	0	0	0	0	0	-155	-181
Total Indirect Subsidies	2,512	2,257	2,257	609	616	3	80
Total Net Subsidies	5,832	5,163	5,509	5,111	4,542	68	4,307

Table I-6 Scenario 2. 1979. (Continued)

Direct, Indirect and Total Net Subsidies.
Levelized Annual Amounts ($). Standard Unit.
Varying Land and Improvement Costs by Program.

Housing Programs / Subsidies	NEW CONSTRUCTION					SUB REHAB*					
	Section 8					Section 8					
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem)		SHFA FHA		SHFA Uninsured	
						40 yr	167(k)	40 yr	167(k)	40 yr	167(k)
Direct Subsidies											
Rent Subsidy	3,095	3,834	3,493	4,062	4,001	3,197		3,424		3,965	
Interest Subsidy	452[2]	0	0	0	0	0		0		0	
Agency Administration Costs	87	156	207	28	2	157		36		3	
GNMA Tandem	0	642	0	0	0	531		0		0	
Total Direct Subsidies	3,634	4,632	3,700	4,090	4,003	3,885		3,460		3,968	
Indirect Subsidies											
Excess Depreciation	-470	212	203	223	220	174	956	186	983	218	915
Construction Per Interest	-94	44	20	24	23	36		20		23	
Construction Per Taxes	-5	7	6	7	7	6		6		7	
Local Taxes Foregone	745[3]	0	0	0	0	0		0		0	
Tax Exempt Bonds	0	0	1,303[4]	1,506[4]	1,457[4]	0		1,257[4]		1,443[4]	
Capital Gains Taxes	0	-186	-175	-194	-194	-154	-184	-165	-193	-192	-220
Total Indirect Subsidies	176	77	1,357	1,566	1,513	60	714	1,304	1,973	1,499	2,168
Total Net Subsidies	3,810	4,709	5,057	5,656	5,516	3,945	4,599	4,764	5,433	5,467	6,136

[1]Includes recapture

[2]Includes interest subsidy on construction period interest

[3]Includes foregone construction period taxes.

[4]Includes foregone taxes on construction period financing.

* 40 year refers to the use of double-declining balance depreciation on a 40-year building life. 167(k) refers to the use of the special five-year straight-line depreciation for up to $20,000 of rehabilitation expenditures per unit.

Table I-7 Scenario 3, 1979.

Total Development Costs and Components of Total Development Costs (3), Varying Unit, Land and Improvement Costs by Program.

Housing Programs / Cost Components	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Notes	Turnkey Long-term Bonds	Conventional Long-term Notes	Unsubsidized d(4)	236 Rent Supplement
Hard Costs							
Improvements	35,430	34,734	34,734	35,430	34,734	22,086	24,865
Shell	0	0	0	0	0	0	0
Land	2,921	3,735	3,735	2,921	3,735	1,635	1,347
Total Hard Costs	38,351	38,469	38,469	38,351	38,469	23,721	26,212
BSPRA	1,244	1,136	1,136	1,244	1,136	2,479	2,985
Soft Costs							
Construction Per Interest	3,260	1,405	1,405	3,260	1,405	2,001	2,198
Construction Per Taxes	476	0	0	476	0	311	346
Construction Per Mortgage Insurance	0	0	0	0	0	140	154
Finance Fees	912	0	0	912	0	420	461
Commitment Fees	0	0	0	0	0	1,092	831
Legal, Organizational, Audit	205	205	205	205	205	202	205
Escrow	0	0	0	0	0	0	0
Examination & Inspection	0	0	0	0	0	224	246
Title & Recording	89	89	89	89	89	89	89
Construction Per Insurance	89	89	89	89	89	89	89
Other	1,004	1,329	1,329	1,004	1,329	140	369
Total Soft Costs	6,035	3,117	3,117	6,035	3,009	4,708	4,988
Total Development Costs	45,630	42,722	42,722	45,630	42,722	31,108	34,185
Depreciable Base	37,856	37,377	37,377	37,856	37,377	25,073	28,643

Table I-7 Scenario 3. 1979. (Continued)

Total Development Costs and Components of Total Development Costs ($). Varying Unit, Land and Improvement Costs by Program.

Housing Programs / Cost Components	NEW CONSTRUCTION					SUB REHAB		
	Section 8					Section 8		
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem)	SHFA FHA	SHFA Uninsured
Hard Costs								
Improvements	28,500	23,230	24,252	24,128	24,770	20,247	20,676	20,578
Shell	0	0	0	0	0	2,468	1,974	263
Land	1,303	1,739	1,344	1,668	1,864	1,739	1,668	1,864
Total Hard Costs	29,803	24,969	25,596	25,796	26,634	24,454	24,318	31,705
RSPRA	950	2,820	2,792	2,808	2,750	2,491	2,441	3,268
Soft Costs								
Construction Per Interest	1,656	2,107	1,044	1,145	1,130	2,033	1,073	1,329
Construction Per Taxes	93	327	334	337	343	318	320	407
Construction Per Mortgage Insurance	0	147	144	147	0	142	137	0
Finance Fees	0	442	433	440	0	427	412	0
Commitment Fees	0	1,150	923	1,026	0	939	604	0
Legal, Organizational, Audit	205	205	205	205	205	202	205	206
Escrow	0	0	0	0	578	0	0	685
Examination & Inspection	0	236	231	234	0	228	220	0
Title & Recording	89	89	89	89	89	89	89	89
Construction Per Insurance	89	89	89	89	89	89	89	89
Other	1,022	177	173	234	289	199	576	274
Total Soft Costs	3,154	4,969	3,665	3,946	2,723	4,666	3,725	3,089
Total Development Costs	33,907	32,758	32,053	32,550	32,107	31,611	30,484	38,062
Depreciable Base	30,650	26,641	27,626	27,582	27,987	25,811	26,065	33,561

Table I-8. Scenario 3. 1979.

Gross Rent, Components of Gross Rent, and Rent Subsidy. Levelized Annual Amounts ($). Varying Unit, Land and Improvement Costs by Program.

Housing Programs / Components	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Notes	Turnkey Long-term Bonds	Conventional Long-term Notes	Unsubsidized d(4)	236 Rent Supplement
Loan Payment	3,128	2,929	3,317	3,245	3,038	2,592	933
Mortgage Insurance Premiums	0	0	0	0	0	135	149
Return on Equity	0	0	0	0	0	311	342
Property Taxes	91	91	91	91	91	821	914
Utilities	964	964	964	964	964	964	964
Other Costs	1,637	1,637	1,637	1,637	1,637	1,637	1,637
Gross Rent	5,820	5,621	6,009	5,937	5,730	6,460	4,939
Tenant Contribution	2,463	2,463	2,463	2,463	2,463	6,460	2,463
Rent Subsidy	3,357	3,158	3,546	3,474	3,267	0	2,476

Table I-8. Scenario 3. 1979. (Continued)

Gross Rent, Components of Gross Rent, and Rent Subsidy. Levelized Annual Amounts ($). Varying Unit, Land and Improvement Costs by Program.

Housing Programs / Components	NEW CONSTRUCTION					SUB REHAB		
	Section 8					Section 8		
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem)	SHFA FHA	SHFA Uninsured
Loan Payment	2,791	2,328	2,240	2,472	2,635	2,247	2,314	3,123
Mortgage Insurance Premiums	0	141	137	141	0	138	132	0
Return on Equity	0	328	321	326	321	316	305	381
Property Taxes	244	865	883	892	910	840	845	1,080
Utilities	964	964	964	964	964	964	964	964
Other Costs	1,637	1,637	1,637	1,637	1,637	1,637	1,637	1,637
Gross Rent	5,636	6,263	6,182	6,432	6,467	6,142	6,197	7,185
Tenant Contribution	2,463	2,463	2,463	2,463	2,494	2,463	2,463	2,463
Rent Subsidy	3,173	3,800	3,719	3,969	4,004	3,679	3,734	4,722

Table I-9. Scenario 3. 1979.

Direct, Indirect and Total Net Subsidies.
Levelized Annual Amounts ($). Varying Unit,
Land and Improvement Costs by Program.

Housing Programs / Subsidies	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Notes	Turnkey Long-term Bonds	Conventional Long-term Notes	Unsubsidized[4]	236 Rent Supplement
Direct Subsidies							
Rent Subsidy	3,357	3,158	3,546	3,474	3,267	3	2,476
Interest Subsidy	0	0	0	1,106	1,035	0	1,915
Agency Administration Costs	68	68	68	68	68	65	93
GNMA Tandem	0	0	0	0	0	0	0
Total Direct Subsidies	3,425	3,226	3,614	4,648	4,370	65	4,484
Indirect Subsidies							
Excess Depreciation	-596	-588	-588	-596	-588	164[1]	226
Construction Per Interest	67	-82	-82	67	-82	0	45
Construction Per Taxes	10	0	0	10	0	0	7
Local Taxes Foregone	1,152	1,314[3]	1,314[3]	1,152	1,314[3]	0	0
Tax Exempt Bonds	1,969	1,987[4]	1,987[4]	0	144[4]	0	0
Capital Gains Taxes	0	0	0	0	0	-161	-192
Total Indirect Subsidies	2,602	2,631	2,631	633	788	3	86
Total Net Subsidies	6,027	5,857	6,245	5,281	5,158	68	4,570

Table I-9. Scenario 3. 1979. (Continued)

Direct, Indirect and Total Net Subsidies. Levelized Annual Amounts ($). Varying Unit, Land and Improvement Costs by Program.

Housing Programs / Subsidies	NEW CONSTRUCTION					SUB REHAB*					
	Section 8					Section 8					
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem)		SHFA FHA		SHFA Uninsured	
						40 yr	167(k)	40 yr	167(k)	40 yr	167(k)
Direct Subsidies											
Rent Subsidy	3,173	3,800	3,719	3,969	4,004	3,679		3,734		4,722	
Interest Subsidy	465	0	0	0	0	0		0		0	
Agency Administration Costs	97	156	214	28	2	157		36		3	
GNMA Tandem	0	636	0	0	0	614		0		0	
Total Direct Subsidies	3,725	4,592	3,933	3,997	4,006	4,450		3,770		4,725	
Indirect Subsidies											
Excess Depreciation	-483	210	218	217	220	203	900	205	902	264	961
Construction Per Interest	-97	43	22	24	23	42		22		28	
Construction Per Taxes	-5	7	7	7	7	7		7		8	
Local Taxes Foregone	767[3]	0	0	0	0	0		0		0	
Tax Exempt Bonds	0	0	1,390[4]	1,469[4]	1,458[4]	0		1,376[4]		1,728[4]	
Capital Gains Taxes	0	-184	-186	-189	-194	-179	-207	-180	-208	-208	-257
Total Indirect Subsidies	182	76	1,451	1,528	1,514	73	742	1,430	2,099	1,820	2,468
Total Net Subsidies	3,907	4,668	5,384	5,525	5,520	4,523	5,192	5,200	5,869	6,545	7,193

[1]Includes recapture

[2]Includes interest subsidy on construction period interest.

[3]Includes foregone construction period taxes.

[4]Includes foregone taxes on construction period financing.

* 40 year refers to the use of double-declining balance depreciation on a 40-year building life. 167(k) refers to the use of the special five-year straight-line depreciation for up to $20,000 of rehabilitation expenditures per unit.

Table I-10. Scenario 2. Future.

Total Development Costs and Components of Total Development Costs ($). Standard Unit. Varying Land and Improvement Costs by Program.

Housing Programs / Cost Components	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Notes	Turnkey Long-term Bonds	Conventional Long-term Notes	Unsubsidized d(4)	236 Rent Supplement
Hard Costs							
Improvements	34,139	--	30,510	34,139	30,510	21,295	23,266
Shell	0	--	0	0	0	0	0
Land	2,921	--	3,735	2,921	3,735	1,635	1,347
Total Hard Costs	37,060	--	34,245	37,060	34,245	22,920	24,613
BSPRA	1,216	--	1,004	1,216	1,004	2,620	2,835
Soft Costs							
Construction Per Interest	3,648	--	1,405	3,648	1,405	2,228	2,391
Construction Per Taxes	460	--	0	460	0	301	326
Construction Per Mortgage Insurance	0	--	0	0	0	137	146
Finance Fees	893	--	0	893	0	411	439
Commitment Fees	0	--	0	0	0	1,069	790
Legal, Organizational, Audit	205	--	205	205	205	205	202
Escrow	0	--	0	0	0	0	0
Examination & Inspection	0	--	0	0	0	219	234
Title & Recording	89	--	89	89	89	89	89
Construction Per Insurance	89	--	89	89	89	89	89
Other	983	--	1,185	983	1,185	137	351
Total Soft Costs	6,367	--	2,973	6,367	2,973	4,895	5,060
Total Development Costs	44,643	--	38,222	44,643	38,222	30,435	32,508
Depreciable Base	36,516		32,877	36,516	32,877	24,439	26,864

Table I-10. Scenario 2. Future. (Continued)

Total Development Costs and Components of Total Development Costs ($). Standard Unit. Varying Land and Improvement Costs by Program.

Housing Programs / Cost Components	NEW CONSTRUCTION					SUB REHAB		
	Section 8					Section 8		
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem)	SHFA FHA	SHFA Uninsured
Hard Costs								
Improvements	27,728	23,470	22,624	24,769	24,749	16,930	13,578	24,316
Shell	0	0	0	0	0	2,468	1,974	263
Land	1,303	1,739	1,344	1,668	1,864	1,739	1,668	1,864
Total Hard Costs	29,031	25,209	23,968	26,437	26,613	21,137	22,220	26,443
BSPRA	933	2,887	2,633	2,908	2,773	2,133	2,225	2,722
Soft Costs								
Construction Per Interest	1,396	2,461	1,193	1,414	1,359	2,034	1,193	1,380
Construction Per Taxes	91	335	313	346	343	275	295	342
Construction Per Mortgage Insurance	0	151	136	151	0	125	127	0
Finance Fees	0	452	409	454	0	374	380	0
Commitment Fees	0	1,176	873	1,060	0	822	557	0
Legal, Organizational, Audit	205	211	218	212	204	205	205	202
Escrow	0	0	0	0	583	0	0	577
Examination & Inspection	0	241	218	242	0	199	202	0
Title & Recording	89	89	89	89	89	89	89	89
Construction Per Insurance	89	89	89	89	89	89	89	89
Other	1,004	181	164	242	291	174	531	231
Total Soft Costs	3,374	5,386	3,702	4,299	2,958	4,386	3,658	2,910
Total Development Costs	33,338	33,482	30,303	33,644	32,344	27,656	28,103	32,075
Depreciable Base	29,843	26,957	25,817	28,339	27,991	22,082	23,688	27,710

Table I-11. Scenario 2. Future.

Gross Rent, Components of Gross Rent, and Rent Subsidy. Levelized Annual Amounts ($).
Standard Unit. Varying Land and Improvement Costs by Program.

Housing Programs / Components	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional long-term Notes	Turnkey long-term Bonds	Conventional long-term Notes	Unsubsidized(4)	236 Rent Supplement
Loan Payment	4,132	--	3,538	3,175	2,718	3,584	888
Mortgage Insurance Premiums	0	--	0	0	0	135	144
Return on Equity	0	--	0	0	0	305	325
Property Taxes	91	--	91	91	91	795	860
Utilities	964	--	964	964	964	964	964
Other Costs	1,637	--	1,637	1,637	1,637	1,637	1,637
Gross Rent	6,824	--	6,230	5,867	5,410	7,420	4,818
Tenant Contribution	2,463	--	2,463	2,463	2,463	7,420	2,463
Rent Subsidy	4,361	--	3,767	3,404	2,947	0	2,355

Table I-11. Scenario 2. Future.

Gross Rent, Components of Gross Rent, and Rent Subsidy. Levelized Annual Amounts ($). Standard Unit. Varying Land and Improvement Costs by Program.

Housing Programs / Components	NEW CONSTRUCTION						
	Public Housing					Other	
	Tax Exempt Market			Federal Financing Bank			
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Notes	Turnkey Long-term Bonds	Conventional Long-term Notes	Unsubsidized d(4)	236 Rent Supplement
Loan Payment	4,132	--	3,538	3,175	2,718	3,584	888
Mortgage Insurance Premiums	0	--	0	0	0	135	144
Return on Equity	0	--	0	0	0	305	325
Property Taxes	91	--	91	91	91	795	860
Utilities	964	--	964	964	964	964	964
Other Costs	1,637	--	1,637	1,637	1,637	1,637	1,637
Gross Rent	6,824	--	6,230	5,867	5,410	7,420	4,818
Tenant Contribution	2,463	--	2,463	2,463	2,463	7,420	2,463
Rent Subsidy	4,361	--	3,767	3,404	2,947	0	2,355

Table I-11. Scenario 2. Future. (Continued)

Gross Rent, Components of Gross Rent, and Rent Subsidy. Levelized Annual Amounts ($). Standard Unit. Varying Land and Improvement Costs by Program.

Housing Programs / Components	NEW CONSTRUCTION					SUB REHAB		
	Section 8					Section 8		
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem)	SHFA FHA	SHFA Uninsured
Loan Payment	3,163	2,380	2,525	2,803	2,898	1,966	2,341	2,874
Mortgage Insurance Premiums	0	144	132	146	0	122	122	0
Return on Equity	0	335	303	336	323	277	281	321
Property Taxes	237	875	828	915	910	726	773	902
Utilities	964	964	964	964	964	964	964	964
Other Costs	1,637	1,637	1,637	1,637	1,637	1,637	1,637	1,637
Gross Rent	6,001	6,335	6,389	6,801	6,732	5,692	6,118	6,698
Tenant Contribution	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463
Rent Subsidy	3,538	3,872	3,926	4,338	4,269	3,229	3,655	4,235

Table I-12. Scenario 2. Future.

Direct, Indirect and Total Net Subsidies.
Levelized Annual Amounts ($). Standard Unit.
Varying Land and Improvement Costs by Program.

Housing Programs / Subsidies	NEW CONSTRUCTION							
	Public Housing						Other	
	Tax Exempt Market			Federal Financing Bank				
	Turnkey Short-term Notes	Conventional Short-term Notes	Conventional Long-term Notes	Turnkey Long-term Bonds	Conventional Short-term Notes	Conventional Long-Term Notes	Unsubsidized d(4)	236 Rent Supplement
Direct Subsidies								
Rent Subsidy	4,361	--	3,767	3,404	--	2,947	0	2,355
Interest Subsidy	0	--	0	1,798	--	1,540	0	2,937
Agency Administration Costs	68	--	68	68	--	68	65	93
GNMA Tandem	0	--	0	0	--	0	0	0
Total Direct Subsidies	4,429	--	3,835	5,270	--	4,555	65	5,385
Indirect Subsidies								
Excess Depreciation	-493	--	-444	-493	--	-444	566[1]	667
Construction Per Interest	102	--	-56	102	--	-56	0	67
Construction Per Taxes	13	--	0	13	--	0	0	9
Local Taxes Foregone	1,111	--	1,079[3]	1,111	--	1,079[3]	0	0
Tax Exempt Bonds	2,005	--	1,817[4]	0	--	101[4]	0	0
Capital Gains Taxes	0	--	0	0	--	0	-175	-188
Total Indirect Subsidies	2,738	--	2,396	733	--	680	391	555
Total Net Subsidies	7,167	--	6,231	6,003	--	5,235	456	5,940

Table I-12. Scenario 2. Future. (Continued)

Direct, Indirect and Total Net Subsidies.
Levelized Annual Amounts ($). Standard Unit.
Varying Land and Improvement Costs by Program.

Housing Programs / Subsidies	NEW CONSTRUCTION					SUB REHAB					
	Section 8					Section 8					
	202	HUD-FHA (GNMA Tandem)	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA (GNMA Tandem		SHFA FHA		SHFA Uninsured	
						15 yr	167(k)	15 yr	167(k)	15 yr	167(k)
Direct Subsidies											
Rent Subsidy	3,538	3,872	3,926	4,338	4,269	3,229		3,655		4,235	
Interest Subsidy	582[2]	0	0	0	0	0		0		0	
Agency Administretion Costs	87	156	220	230	203	157		218		202	
GNMA Tandem	0	0	0	0	0	946		0		0	
Total Direct Subsidies	4,207	5,173	4,146	4,568	4,472	4,332		3,873		4,437	
Indirect Subsidies											
Excess Depreciation	-403	669	641	704	695	548	780	588	824	688	924
Construction Per Interest	-76	67	33	39	38	57		33		38	
Construction Per Taxes	-4	9	9	10	10	8		8		10	
Local Taxes Foregone	745	0	0	0	0	0		0		0	
Tax Exempt Bonds	0	0	1,367[4]	1,585[4]	1,533[4]	0		1,324[4]		1,522[4]	
Capital Gains Taxes	0	-192	-181	-201	-200	-161	-161	-170	-170	-198	-198
Total Indirect Subsidies	262	553	1,869	2,137	2,076	452	684	1,783	2,019	2,061	2,297
Total Net Subsidies	4,469	5,726	6,015	6,705	6,548	4,784	5,016	5,656	5,892	6,498	6,734

[1]Unsubsidized d(4) uses 175% declining balance, switching to straight line. The depreciation period is 15 years.

[2]Includes interest subsidy on construction period interest

[3]Includes foregone construction period taxes.

[4]Includes foregone taxes on construction period financing.

* 15 years refers to the use of double-declining balance depreciation with a switch to straight line. The depreciation period is 15 years. 167(k) refers to the use of the special 5 year straight-line depreciation for up to $20,000 of rehabilitation expenditures per unit.

Appendix J

THE METHODOLOGY AND ASSUMPTIONS FOR CALCULATING PROGRAM SUBSIDIES

The purpose of this appendix is to present in detail the assumptions concerning important parameters in the analysis and the methodology used to calculate costs and subsidies. In Section J.1 we present the method of calculating total development costs from hard costs. In Section J.2 we present the method of calculating the components of annual operating costs. In Section J.3 the interest rates used in the analysis are presented and in J.4 the tax rates used.

Section J.5 contains a discussion of the method used to convert present values into annual amounts. In Section J.6 the methods and assumptions used to calculate each component of total subsidies are presented. Finally, Section J.7 contains an algebraic presentation of the method for decomposing subsidy variations across programs.

J.1 The Calculation of Total Development Costs from Hard Costs

In this section we describe the formula for calculating total development costs from hard costs. In addition, we present values of the parameters used to calculate development costs.

J.1.1 Total Development Cost Equation

Total development costs are calculated by adding soft costs and profit to hard costs. There are primarily two components of hard costs, improvements including off-site costs and land costs. However, for substantial rehabilitation projects there are three components, improvements, land costs, and the costs of the existing improvements (the shell). Let

K = improvement costs including the costs of the shell,

L = land costs,

P = profit (or BSPRA),

C_a = soft costs that are not depreciated (i.e., they are amortized or expensed) excluding construction period taxes,

C_d = soft costs that are depreciated,

TDC = total development costs

T_c = construction period in months,

C_t = construction period taxes,

O = other costs that are assumed to be constant across programs,

c_i = C_i as a proportion of the mortgage, i = a, d,

m = the mortgage loan as a proportion of total development costs,

t = annual property tax rate during construction,

p = profit (P) as a proportion of the base allowed for the calculation of BSPRA.

Then

$$P = p \times (TDC - P - L)$$

$$(1 + p)P = p \times (TDC - L)$$

$$P = (p/(1+p))(TDC - L)$$

The base for construction period taxes is the depreciable base (which includes profit) plus land costs. We assume one-half this base is counted per month for the purposes of calculating the tax. This is equivalent to assuming that there is no value at the beginning of the construction period and value increases continuously throughout the period. Therefore,

$$C_t = (K + P + C_d + L)(T_c/12)(t/2)$$

Let $b = (T_c/12)(t/2)$,

Note that

$$C_a = c_a \times m \times TDC$$

$$C_d = c_d \times m \times TDC$$

Then $C_t = [K + L + c_d m\ TDC + (p/(1+p))(TDC - L)] \times b$

Total development costs is

$$TDC = K + L + O + C_a + C_d + P + C_t$$

$$= K + L + O + c_a m\ TDC + c_d m\ TDC + (p/(1+p))(TDC - L) + [K + L + c_d m\ TDC + (p/(1+p))(TDC - L)] \times b$$

Simplifying,

$$TDC = \frac{(1+b)[K + (1/(1+p))L] + o}{1-c_a m - (1+b)c_d m - (1+b)(p/(1+p))}$$

J.1.2 Assumptions: Parameter Values for Total Development Costs

In this section we present the values of parameters used to calculate total development costs. These include hard costs and rates for soft costs.

Hard Costs

The hard costs for the program analyzed are obtained from the sample of housing projects discussed in Chapters 4 and 5. The only significant modification needed is for substantially rehabilitated projects. For these, hard costs are broken down into improvements and other hard costs. The latter include land costs and costs of the existing shell. These must be distinguished for a proper treatment of depreciation allowances.

To do this we assumed that land costs are the same for the sub rehab projects as for new construction under the same agency. Specificaly, land costs for HUD-FHA sub rehab projects are assumed to equal land costs for the GNMA Tandem projects, and land costs for SHFA insured and uninsured sub rehab projects are assumed to be the same as those for the corresponding new construction projects. The difference between other hard costs and land costs is the cost of the shell.

Soft Costs

The basis for soft costs is the data on our sample of projects. However, these data were often not available in the detail needed to identify different components of soft costs. This is not only of interest in itself, but different components of soft costs are treated differently for purposes of depreciation.

For example, the data available aggregated all financing and commitment fees associated with the mortgage. For all FHA insured projects we use the FHA financing fee rate of 1.5 percent of the

mortgage. The remainder is allocated to commitment fees. For 202 and Conventional Public Housing, financing and commitment fees are zero.

For Public Housing projects all construction period charges are aggregated in our data source. For Conventional Public Housing projects there are no construction period taxes and financing fees. All charges are construction period interest. However, this is not the case for Turnkey projects. To break out different charges we estimate construction period interest and taxes using assumed interest and tax rates. The residual of construction period charges is assumed to be construction financing fees.

Three charges are assumed to be constant across all programs, because it is thought that these are insensitive to program variants. The charges are (1) Legal, Organizational, and Audit; (2) Title and Recording; and (3) Construction Period Property Insurance. Weighted averages over all programs are used for these charges, and the amounts are in line with those used in other studies.[1]

Exam and inspection fees are assumed to be 0.8 percent of the mortgage for FHA insured projects (except 202s) and zero otherwise. The cost category Escrow is applicable only for SHFA uninsured projects. It is a fund used for operating reserves. The charge for this fund varies across states, but two percent of the mortgage is typical and has been used in other studies.[2] We adopt this rate. Finally, the soft cost category "other" includes the remainder.

Profit/BSPRA

For all programs except Public Housing and 202s we assume a ten percent allowance for profit or BSPRA. This is ten percent of the

---

[1]This procedure was also used in the following studies: GAO, Evaluation of Alternatives for Financing Low and Moderate Income Rental Housing, PAD-80-13; Appendix III; George Peterson and Brian Cooper, Tax Exempt Financing of Housing Investment. The Urban Institute, 1979. Ch. 2.

[2]See GAO, Op.Cit. and Peterson and Cooper, Op.Cit.

allowable basis, total development cost net land costs and profit. We assume that all developer returns come in this form, at least as it affects development costs.

For Public Housing and Section 202 projects we assume a profit rate of three percent. This was the amount that could be identified from the sample, and to the extent that builders receive more, it is probably buried in improvement costs.

Table J-1 summarizes our assumptions for soft costs for various expenses; these are distinguished between those which are depreciated and other expenses. In addition, Table J-1 contains the profit rates, proportion of development costs which is mortgaged, and the property tax rates used in the calculation of total development costs.

J.2 Annual Costs

Annual loan payments and mortgage insurance premiums (for insured projects) are easily calculated from mortgage amounts and interest rates. We assume a property tax rate of two percent for all programs except Section 202s and Public Housing. Based on data provided by HUD, we use a property tax rate of 0.5 percent for Section 202s. The lower rate is probably related to the non-profit status of development owners.

Annual utility and other operating costs are based on HUD provided data for HUD-FHA Section 8 projects. These data are from the OLMS data base (Office of Loan Management) for 1980. The data were requested of projects of 12 or more units, obtained by region, and then weighted by the actual percentage of units with FHA insurance in force in that region.

For 221(d)4 housing with Section 8, utility costs have been estimated by HUD by taking an average of actual costs for Section 236 and Section 221(d)3 units. This was required because many units of 221(d)4/Section 8 housing are built recently and have individual metering. HUD personnel believe that 236 and 221(d)3 housing generally do not have individual metering. "Other operating costs"

Table 3-1

RATES FOR SOFT COSTS, PROFIT, PROPERTY TAX RATES, PROPORTION OF DEVELOPMENT COSTS MORTGAGED*. (%)

PROGRAM / COST CATEGORY	NEW CONSTRUCTION									SUB REHAB		
	Public Housing		Other		Section 8					Section 8		
	Turnkey	Conventional	Unsubsidized(4)	236 Rent Supplement	202	HUD-FHA (GNMA	11(b) FHA	SHFA FHA	SHFA Uninsured	HUD-FHA	SHFA FHA	SHFA Uninsured
Depreciated Expenses[1]												
Examination and Inspection	0%	0%	0.8%	0.8%	0%	0.8%	0.8%	0.8%	0%	0.8%	0.8%	0%
Title and Record.	**	**	**	**	**	**	**	**	**	**	**	**
Construction Period Property Insurance	**	**	**	**	**	**	**	**	**	**	**	**
Other	2.2	3.1	0.5	1.2	3.0	0.6	0.6	0.8	1.0	0.7	2.1	0.8
Other Expenses[1]												
Construction Period Interest[3]	7.1(8.2)	3.3(6.4)	7.1(8.2)	7.1(8.2)	4.9(5.7	7.1(8.2)	3.6 (4.4)	3.9(4.7)	3.9 (4.7)	7.1(8.2	3.9(4.7)	3.9(4.7)
Construction Period Mortgage Insurance	0	0	0.5	0.5	0	0.5	0.5	0.5	0	0.5	0.5	0
Financing Fee	2.0	0	1.5	1.5	0	1.5	1.5	1.5	0	1.5	1.5	0
Commitment Fees	0	0	3.9	2.7	0	3.9	3.2	3.5	0	3.3	2.2	0
Legal, Organizational, Audit	**	**	**	**	**	**	**	**	**	**	**	**
Escrow	0	0	0	0	0	0		0	2.0	0	0	2.0
Profit (BSPRA)[2]	3.0	3.0	10.0	10.0	3.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent Mortgaged	100	100	90	90	100	90	90	90	90	90	90	90
Property Tax Rate	***	***	2.0	2.0	0.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0

FOOTNOTES TO TABLE J-1

(1) Percent of Mortgage.

(2) Base for profit (and BSPRA) is total development costs minus profit minus land costs. Profit is included in the depreciable base.

(3) Based on construction period interest rates presented below.

* Numbers in parantheses refer to the "future" scenario. In cases where numbers do not appear in parantheses, the rates are for both the 1979 and future scenarios.

** Fixed dollar amount for all progrems: Title and Recording, $89; Construction Period Property Insurance, $89; Legal, Organizational, Audit, $205.

*** Property Taxes are not based on property value. Instead, payments in lieu of taxes (PILOT) are made. The one exception is construction period taxes for Turnkey Public Housing; we assume a 2 percent property tax rate.

are actual averages for each program and are increased by 15 percent for improvement and replacement reserves.[3] The Payments in Lieu of Taxes (PILOT) is based on findings of a recent HUD study of Public Housing.[4] These are based on a 25 percent tenant contribution. Since we assume a 30 percent tenant contribution, the HUD figures are increased by 20 percent (0.30/0.25 = 1.20). As a result PILOT is approximately 3.7 percent of the tenant contribution net of utility costs.

The one remaining element of annual operating costs is the return on investor equity. For the purposes of determining these payments, equity is limited to ten percent of replacement costs. For profit motivated owners the annual return is ten percent on the initial equity investment. The Assistant Secretary for Housing and HUD can adjust this upwards, but it is unclear whether this is common. Therefore, we assume a constant annual dollar distribution over the time period of interest, twenty years. For non-profit sponsors there is no payment on equity.[5]

Three components of annual costs are allowed to vary over time with inflation: utility costs, other operating costs, and property taxes. Based on the long-term forecasts of two leading forecasters,

---

[3]This is based on findings of the Massachusetts state agency, and is consistent with the first year experience of the housing allowance supply experiment. See "Cost-Based Funding With a Replacement and Improvements Allowance," Chapter 7 in U.S. Department of Housing and Urban Development, Alternative Operating Subsidy Systems For the Public Housing Program. Washington D.C., 1982.

[4]PILOT data are calculated from the Performance Funding System data base, U.S. Department of Housing and Urban Development, Office of Policy Development and Research, 1982.

[5]See The Housing Development Reporter, 30:1209, HDR RF-181, 1-12-81. Pp. 39-40.

we assume that the average rate of inflation over the next ten to fifteen years is seven percent.[6] We assume that utility and other operating costs increase annually at this rate, and that property taxes increase at an annual rate of 5.4 percent. This is the net effect of a seven percent inflation rate in property values -- assumed to equal the general inflation rate -- and a real depreciation rate of 1.5 percent for apartment buildings.[7]

J.3 Interest Rates

The interest rates used in the analysis for 1979 and the future are presented in Table J-2. Most of the 1979 rates are from published sources noted in the table. For example, the unsubsidized/construction period interest rate in 1979 is the rate on loans of $500,00 and over for construction and land development. This is used for the GNMA Tandem, unsubsidized 221d(4), Section 236, Turnkey, and HUD-FHA sub rehab projects.[8] The 1979 interest rate for tax exempt notes is the average of the three and six-month rates on project notes of local housing authorities that are rated A1/A+. The interest rate on long-term tax exempts is that for 30-year

---

[6]DRI forecasts an average increase in the GNP deflator of 7.4 percent from 1981 to 1995; DRI, The Data Resources U.S. Long-Term Review, Summer 1981. Evans Economics forecasts the average increase in the GNP deflator of 6.7 percent from 1981 to 1990; Evans Economics, Inc., First Quarter 1981. The average of these two is 7.0 percent.

[7]This is derived from unpublished material supporting Charles R. Hulten and Frank Wykoff, "The Estimation of Economic Depreciation Using Vintage Asset Prices: An Application of the Box-Cox Power Transformation." Journal of Econometrics, 15 (1981), pp. 367-396. Note that (1.07)(0.985) = 1.054.

[8]Statistical Abstract of the U.S., 1980. Table No. 905.

Table J-2

INTEREST RATE ASSUMPTIONS FOR THE ANALYSIS OF
LOW-INCOME HOUSING PROGRAMS

	1979	Future
GNMA Tandem		
Construction Period Interest Rate (%)	12.25	14.0
Mortgage Interest Rate (%)	7.5	7.5
GNMA mortgage sale price as a proportion of face value	0.8031	0.6725
Market rate of return (%)	9.83	12.0
11(b)		
Interest rate on tax exempt notes (%)	5.25	6.3
Construction period interest rate (%)	6.2	7.5
Interest rate on tax exempt bonds (%)	7.35	9.0
Mortgage interest rate (%)	7.35	9.0
SHFA Insured		
Interest rate on tax exempt notes (%)	5.25	6.3
Construction period interest rate (%)	6.7	8.0
Interest rate on tax exempt bonds (%)	7.35	9.0
Mortgage interest rate (%)	8.10	9.0
SHFA Uninsured		
Interest rate on tax exempt notes (%)	5.25	6.3
Construction period interest rate (%)	6.7	8.0
Interest rate on tax exempt bonds (%)	8.10	9.75
Mortgage interest rate (%)	8.85	9.75
Section 236		
Construction period interest rate (%)	12.25	14.0
Mortgage interest rate (%)	9.0	13.0
Subsidized interest rate (%)	1.0	1.0
Unsubsidized 221d(4)		
Construction period interest rate (%)	12.25	14.0
Mortgage interest rate (%)	9.0	13.0
Section 202/8		
Construction period interest rate (%)	8.375	9.75
Mortgage interest rate (%)	7.875	9.25
U.S. long-term bond rate (%)	9.3	11.0

Table J-2

INTEREST RATE ASSUMPTIONS FOR THE ANALYSIS OF LOW-INCOME HOUSING PROGRAMS
(Continued)

	1979	Future
Public Housing--Conventional		
Interest rate on tax exempt notes (%)	5.63	6.3
Construction period interest rate (%)	5.63	6.3
Interest rate on tax exempt bonds (%)	7.35	9.0
Mortgage interest rate (%)	7.35	9.0
Expected interest rate on tax exempt notes (%)	6.3	6.3
Expected mortgage interest rate based on tax exempt notes (%)	6.3	6.3
Public Housing--Turnkey		
Construction period interest rate (%)	12.25	14.0
Interest rate on tax exempt notes (%)	6.3	9.0
Expected Mortgage interest rate (%) based on tax-exempt notes	6.3	9.0
Public Housing--Federal Financing Bank Conventional		
Interest rate on tax exempt notes (%)	5.63	6.3
Construction period interest (%)	5.63	6.3
U.S. long-term bond rate (%)	9.3	11.0
Subsidized mortgage interest rate (%)	6.6	6.6
Public Housing--Federal Financing Bank Turnkey		
Construction period interest rate (%)	12.25	14.0
U.S. long-term bond rate (%)	9.3	11.0
Subsidized mortgage interest rate (%)	6.6	6.6
Triple-A Bond Rate		
U.S. Treasury Bills, average of 3 mo. and 6 mo.	10.0	9.5

Note: 1979 data are based on published sources including: Economic Report of the President, 1981; Statistical Abstract of the U.S., 1980; Federal Reserve Bulletin, September 1980, Table 1.36. We have also drawn on communication with GNMA personnel and unpublished tables. Tax exempt rates for 1979 were made available by Merrill, Lynch, Pierce, Fenner and Smith in New York. Future estimates are based on a 4 percent real rate of return, 7 percent inflation and a resulting U.S. long-term bond rate of 11 percent. Other rates are based on the latter. See Text for explanations.

housing authority bonds also rated A1/A+.[9]

The short-term tax exempt rate is the basis for construction period loans for 11(b), SHFA insured, and SHFA uninsured projects. We assume that local agencies and state housing finance agencies mark-up the loan rates for construction loans in 1979 with SHFAs imposing a slightly higher premium.[10]

The long-term tax-exempt rate is the basis for mortgage interest rates for state and local agencies. We assume that local agencies extend mortgages at the tax-exempt rate, SHFAs impose a premium, and the premium is three-fourths of a percentage point. We distinguish further between tax-exempt bonds and therefore mortgage interest rates for SHFA insured and uninsured projects. The A1/A+ rate on long-term bonds in Table J-2 is assumed to be that for insured projects. To obtain the interest rate on long-term tax-exempt bonds for uninsured projects, we add three-fourths of a percentage point.[11] Then the state agency mark-up of an additional three quarters of a percentage point is added to this.

Construction period loans for Conventional Public Housing projects are made at the short-term tax-exempt rate; in 1979 they averaged 5.63 percent.[12] Long-term or mortgage financing requires further

---

[9]The long-term and short-term tax exempt rates were provided to us by Merrill Lynch in New York.

[10]In the GAO report (Op.Cit.) the author noted that the source and interest rate on construction loans varied. We do not have actual rates.

[11]It is difficult to get hard data on the rate differential for bonds on insured versus uninsured projects. Since state bonds are backed by a pool of projects, the distinction for bond issues may not be appropriate for some issues. We obtained the differential in discussions with HUD personnel in the State Agency Office and the Office of Financial Management.

[12]These were provided from HUD data by Theodore Daniels.

elaboration. In 1979 Public Housing construction was financed by the sale of short-term notes that are continually rolled over. Since September, 1980, long-term bonds are sold for mortgage loans. However, in the latter case the securities were sold to the Federal Financing Bank, an agency of the U.S. Government. The housing authority is nominally charged the tax-exempt rate, and this is the basis for rent calculations. This rate is currently set at 6.6 percent. But loans from the Federal Government are made at a cost to the U.S. Government equal to the borrowing rate for comparable maturities. The difference between this U.S. borrowing rate and the tax-exempt rate is an additional subsidy paid by the government. In this case Public Housing receives subsidies similar to Section 236 interest rate subsidies.[13]

The analysis for 1979 is done three weays. In one we assume long-term financing is done by selling short-term tax exempt notes to the public that are subsequently rolled over. In the second, we assume long-term tax-exempt bonds are sold to the public for long-term financing. Finally, in the third we assume that long-term tax-exempt bonds are sold to the Federal Financing Bank (see Appendix I). However, only the first is reported in Chapter 7.

Section 202 projects are also currently financed through the Federal Financing Bank. Loans are made at an average U.S. borrowing rate on securities of all durations. In September 1978 the U.S. Treasury quoted an average rate of 7.126 percent to HUD for fiscal 1979 and in September 1979 it quoted 8.057 percent. Since we are dealing with calendar 1979, a weighted average is 7.359 percent.[14] In 1979 HUD rounded this rate to the nearest

---

[13]William Gainer of the Government Accounting Office made us aware of Federal Financing Bank. Arnold Diamond and Theodore Daniels of HUD patiently explained the workings of the Bank.

[14]These rates were provided by Ms. Jill Onsley of the U.S. Department of the Treasury and can be found in the Treasury Bulletin, Table FD-2.

eighth of a percentage point and added one-half percentage point to determine the mortgage rate charged to 202 projects. The resulting rate is 7.875 percent. We assume that one-half point is added to this for the construction period interest rate.

Mortgage rates for GNMA tandem loans are mandated at 7.5 percent. The rate for HUD-FHA sub-rehab and for Section 236 projects before the interest rate subsidy is nine percent; this is the maximum allowable on FHA insured mortgages in 1979.

The analysis of housing programs for the "future" is intended to provide an idea of costs the U.S. Government is likely to encounter in the future. Two assumptions underly the interest rates we use for the scenarios: the after tax real rate of return on capital is four percent, and the inflation rate is seven percent.[15] On this basis we assume that the long-term rate on U.S. bonds is 11 percent. All other rates are based on their historical relationship to this rate.

We assume that the triple-A bond rate and the prime rate are 12 percent, and that conventional construction loans are about two points above the prime. The conventional mortgage interest rate is assumed to be 13.5 percent, and the ceiling on FHA insured mortgage is assumed to rise to 13 percent.

State and local tax-exempt bonds historically have been about 70 percent of taxable bonds. In our "future" scenario we assume that they are 75 percent of the triple-A bond rate, implying a base tax-exempt rate of 9 percent. We believe that there are several reasons for this narrowing of the differential between taxable and tax-exempt rates; the maximum federal tax rate on unearned income has been decreased to 50 percent, all-savers certificates compete for tax-exempt investments, there has been an increasing trend in

---

[15]See Alan J. Auerbach and Dale W. Jorgenson, "Inflation-proof Depreciation of Assets," Harvard Business Review, September-October 1980, and references cited therein for the real rate. Our assumption of a seven percent inflation rate is discussed above.

the use of tax exempts for housing, and the rating of state and loal bonds may decline due to the pressure on these governments from tax limitation movements and decreased federal aid.

The base rate of 9 percent is assumed for all insured state and local projects. The resulting mortgage rates are assumed to equal the bond rate in all three cases. This has usually been the case for 11(b)s, but it is also becoming more prevalent among SHFAs. When this is the case, SHFAs receive an administrative fee from HUD of three percent of gross rent. We obtain a future short-term tax-exempt rate by assuming the same relationship between it and the long-term tax-exempt rate as existed in 1979. This results in a short-term rate of 6.3 percent. "Future" construction period interest rates for 11(b) and SHFA projects are calculated by assuming the same relation between construction period rates and the short-term tax-exempt rates as existed in 1979.

The same short-term tax-exempt bond rate is assumed for Public Housing in the future as for state and local bonds for Section 8 projects, since we have no better alternative. Also, the two rates are fairly close in 1979. However, we assume that the long-term rate administratively set for Public Housing when financed through the Federal Financing Bank continues to be 6.6 percent.

To obtain the mortgage interest rate for Section 202s in the future, we assume that the Treasury quoted rate is the same proportion of the U.S. long-term bond rate as prevailed in 1979. This results in a Treasury quotation of 8.7 percent [(7.359/9.3)(11) = 8.7]. Assuming the same mark-ups as prevailed in 1979, the mortgage rate is 9.25 percent and the construction period loan rate is 9.75 percent in the "future".

The last interest rate that should be discussed is the U.S. Treasury bill rate. This is used when evaluating the subsidies that would result if loans were made at U.S. Government borrowing rates instead of rates based on the use of tax-exempt bonds by state and local governments. The Treasury bill rate is used as a construction period loan rate.

The 1979 rate is an average of the three and six month bill rates. The bill rate assumed for the future is calculated assuming that it has the same ratio to the U.S long-term bond rate as that which prevailed in the past. We calculated the ratio of the average of the one year and six month Treasury bill rates to the U.S. Treasury twenty year bond rate for the years 1960, 1965, 1970, and 1973 through 1978. The average of these ratios is 0.86. Therefore the bill rate for the future is assumed to be 9.5 percent (0.86)(11) = 9.5[16]

J.4 Tax Rates

We use a marginal tax rate of 60 percent for the benefits from depreciation and interest deductions in the 1979 scenario, and a 50 percent rate for the "future" scenario. For individuals in a 60 percent marginal bracket for federal income taxes, the average state rate for states having an income tax is eight percent. This rate is used for both scenarios.

As discussed in Chapter 7, we use a federal marginal tax rate for tax-exempt bond holders is 42 percent in 1979 and 34 percent in the future. The state marginal tax rate is 7 percent in both time periods.

These rates are summarized in Table J-3 along with the formula for calculating the overall marginal tax rates. This formula takes into account the deductability of state taxes in calculating federal taxes.

The state tax rate of 8 percent for investors in housing projects is calculated by determining the marginal state income tax rate for a taxpayer in each state in the 64 percent federal marginal tax bracket. The 64 percent bracket is used because it allowed the use of an income level ($110,000) in this bracket that required

[16]See the Statistical Abstract of the U.S., 1980, Tables 903, 907.

Table J-3

ASSUMED INCOME TAX RATES

Housing Investor Marginal Tax Rate:	1979	Future
Federal rate	0.60	0.50
State rate*	0.08	0.08
Total rate*	0.63	0.54
Average Tax Rate of Tax Exempt Bondholders:		
Federal rate	0.42	0.34
State rate*	0.07	0.07
Total rate*	0.46	0.38

* Let t_f = federal marginal rate, t_s state marginal rate, t_T = overall (total) marginal rate. Then, $t = t(1-t) + t_s$.

State rates are obtained from Commerce Clearing House, State Tax Handbook, As of October 1, 1980. pp. 666, 670-681.

little interpolation to obtain state rates. In fact, state rates are determined for three income levels and therefore three federal tax rates, 54, 64, and 70 percent. Then a simple average of the state rates is calculated for states having an income tax. The average ranges from 7.8 percent corresponding to the 54 percent federal rate to 8.1 percent corresponding to the 70 percent federal rate. Therefore, 8 percent is used for both the 1979 and future scenarios. The state rates, the income levels used for each federal tax rate, and the means are presented in Table J-4.

It is difficult to determine the bias introduced by using a simple average, that is, weighting each state equally. But we do not think it is large. Clearly, California and New York are the largest states and are among the highest in tax rates. But New Jersey and Pennsylvania together are somewhat larger than New York and have tax rates below the simple average. Ohio and Illinois are both large and also have below average tax rates. Therefore, it is unlikely that calculating a weighted average would significantly affect the state tax rate used in this analysis.

The use of 7 percent for holders of tax-exempt bonds is a rough estimate. The state tax schedules appear to be flatter than the federal tax schedule, and the 42 percent rate is an average of marginal federal rates. To the extent that states also have progressive tax schedules, we would not expect the state rate for this analysis to decrease by the same proportion as the federal rate used. In any event, the overall effective tax rate is not very sensitive to variations in the state rate; for example, if a state rate of 5 percent is used, the overall rate is 45 percent for the holders of tax-exempt bonds.

J.5 Annualizing Subsidies and Costs

In Chapter 7 subsidies and total project costs are stated as annual quantities. We have referred to these as "annual' and on

Table J-4

STATE PERSONAL INCOME TAX RATES

State	FEDERAL MARGINAL BRACKET**		
	0.54	0.64	0.70
1. Alabama*	0.05	0.05	0.05
2. Arizona	0.08	0.08	0.08
3. Arkansas*	0.07	0.07	0.07
4. California*	0.11	0.11	0.11
5. Colorado	0.08	0.08	0.08
6. Delaware	0.135	0.135	0.135
7. D.C.*	0.11	0.11	0.11
8. Georgia	0.06	0.06	0.06
9. Hawaii	0.11	0.11	0.11
10. Idaho	0.075	0.075	0.075
11. Illinois	0.025	0.025	0.025
12. Indiana	0.019	0.019	0.019
13. Iowa	0.12	0.13	0.13
14. Kansas	0.09	0.09	0.09
15. Kentucky	0.06	0.06	0.06
16. Louisiana	0.06	0.06	0.06
17. Maine	0.10	0.10	0.10
19. Maryland	0.05	0.05	0.05
19. Massachusetts	0.054	0.054	0.054
20. Michigan	0.046	0.046	0.046
21. Minnesota	0.16	0.16	0.16
22. Mississippi*	0.04	0.04	0.04
23. Missouri	0.06	0.06	0.06
24. Montana	0.121	0.121	0.121
25. Nebraska	0.092	0.109	0.119
26. New Hampshire*	0	0	0
27. New Jersey*	0.025	0.025	0.025
28. New Mexico	0.075	0.085	0.09
29. New York	0.14	0.14	0.14
30. North Carolina*	0.07	0.07	0.07
31. North Dakota	0.075	0.075	0.075
32. Ohio	0.035	0.035	0.035
33. Oklahoma	0.06	0.06	0.06
34. Oregon	0.10	0.10	0.10
35. Pennsylvania*	0.022	0.022	0.022
36. Rhode Island	0.103	0.0112	0.133
37. South Carolina*	0.07	0.07	0.07
38. Tennessee*	0	0	0
39. Utah	0.0775	0.0775	0.0775
40. Vermont	0.124	0.0147	0.161
41. Virginia	0.0575	0.0575	0.0575
42. West Virginia	0.068	0.079	0.093
43. Wisconsin	0.10	0.010	0.10
Mean (n=41)	0.078	0.080	0.081
(St. Dev.)	(0.034)	(0.036)	(0.037)

* Federal Income is not used as State Tax Base.

** Income used to calculate state marginal tax bracket:

Federal Tax Bracket	Income
0.54	$ 65,000
0.64	$110,000
0.70	$225,000

Source: Commerce Clearing House, State Tax Handbook As Of October 1, 1980. Chicago, 1980. Charts "State Personal Income Taxes", p. 666; and "Income Tax Rates and Exemptions on 1980 Calendar Year Income," pp. 670-681.

occasion "average annual" subsidies, but they are not simple averages over the 20-year period of analysis. In this section we discuss this concept and present the formula used in its calculation.

In Chapter 7 and Appendix I elements of costs and subsidies are presented as annual amounts, and in Appendix I they are described in the titles of the tables as "Levelized Annual" amounts. These represent the constant annual payments on an annuity, the value of which equals the present value of the annual amounts over the period of analysis (usually 20 years).

For example, in Tables I-1 and 7-3 we present the annual subsidies by program. These represent the constant annual payments on an annuity, the value of which equals the present value of the annual subsidies received over the 20-year period of analysis. We assume that the return on the annuity equals the discount rate, 11 percent.

The annual amounts related to annuity payments have several advantages over a simple annual average (the simple average is the present value of the cost or subsidy of interest divided by 20). The simple average is never actually paid or received, and it will be lower than any actual annual amount in current dollars including the first year amount. This results because amounts in future years become increasingly discounted and add smaller increments to the total present value.

The levelized annual or "annuitized" measure of annual costs is more consistent with life cycle analysis. It takes into account the opportunity cost of capital over time and is similar in magnitude to what the government can expect for the subsidies needed in current prices.

The difference in magnitude of the two concepts can be illustrated with an example. If annual utility costs for a project are calculated as simple annual averages, then they will be 70 percent of first year utility costs. When they are presented as payments on an annuity, they are 175 percent of first year costs, and this is

about the same as the annual amount in the eighth year. This assumes a 7 percent annual inflation rate in utility costs and an 11 percent discount rate.

To derive the annual quantities used in this study, let

$$K(r, T) = [(1-(1+r))/r]^{-T}$$

where

r = discount rate
T = period of analysis

This is the present value of a dollar received every period for T periods at a discount rate of r.

If U_{pv} is the present value of utility costs, then annual utility costs (U_a) over T years are calculated as

$$U_a = [U_{pv}]/[K(r, T)].$$

J.6 The Calculation of Annual Subsidies and Annual Total Project Costs

In this section we present the methods and formulae used to calculate each component of annual subsidies and annual total development costs. Our discussion proceeds sequentially with the components of subsidies as they are presented in Tables I-3, I-6, I-9 and I-12.

J.6.1 Annual Rent Subsidy

To calculate the annual rent subsidy, we must first calculate annual gross rent, tenant contribution, and then calculate the difference. The annual loan payment and return on equity are straightforward. We assume that a 40-year loan is extended requiring fixed monthly, and therefore annual, payments. We assume the return on equity is a fixed amount per year and equals 10 percent of the initial equity investment.

Annual Mortage Insurance Premium

The annual mortgage insurance premium is obtained by first calculating the present value of the outstanding mortgage balance at the end of each year for the first 20 years. This is multiplied by the mortgage insurance premium rate (0.5 percent) yielding the present value of the premium payments. Finally, the latter is divided by the capitalization factor to yield the constant annual payment.

To calculate the present value of the outstanding mortgage balance (M_{pv}), let

i = monthly mortgage loan rate,

r = annual discount rate,

M_t = outstanding mortgage balance at the end of year t (M_o = initial mortgage).

Then

$$M_{pv} = [(M_o)/K(i, 480)] \sum_{t=1}^{20} \frac{K(i, 480-12t)}{(1+r)^t}$$

We assume a 40-year mortgage loan implying 480 months, a discount rate of $r = 0.11$, and $K(r, t)$ is defined above. The annual mortgage insurance premium (MIP_a) is

$$MIP_a = (0.005M_{pv})/[K(r, 20)]$$

Annual Property Taxes, Utilities, and Other Costs

To calculate annual property taxes, utilities, and other costs, we calculate their present values over the first 20 years of the project, and then calculate the annual amounts. In calculating present values we must take into account the annual rates of inflation in these costs.

Let

g = annual rate of inflation,

r = annual discount rate,

C_o = annual cost in the first year of operation.

Then "average" cost (C_a) is

$$C_a = C_o \frac{K(r^*, 20)}{K(r, 20)}$$

where $r^* = \frac{r-g}{1+g}, \quad r > g$

and is the real discount rate net of inflation.

Note that

$$K(r^*, 20) = \sum_{t=1}^{20} [(1+g)/(1+r)]^t \quad , r > g.$$

For utilities and other costs $g = 0.07$ and for property taxes $p = 0.054$. In all cases $r = 0.11$.

Annual Tenant Contribution

Annual tenant contribution is calculated like utilities. Let

R_o = the initial year tenant contribution

Then annual tenant contribution is

$$R_a = R_o \frac{K(r^*, 20)}{K(r, 20)},$$

r^* is defined as above with $g = 0.07$ and $r = 0.11$.

Annual Rent Subsidy

The annual "average" rent subsidy is the difference between annual gross rent and annual tenant contribution. Annual gross rent is the sum of the annual measures of its components.

J.6.2 Interest Subsidy

The annual interest subsidy is calculated as the average difference between the annual loan payment that would be required if a mortgage loan were made at an unsubsidized interest rate and the loan payment actually made at the lower subsidized interest rate.

Let

i_u = (annual unsubsidized interest rate)/12,

i_s = (annual subsidize rate)/12,

M = amount of the mortgage loan,

S_I = annual interest subsidy.

Then

$$S_I = 12M \left[\frac{1}{K(i_u, 480)} - \frac{1}{K(i_s, 480)} \right]$$

J.6.3 Agency Administrative Costs

The agency administrative costs were provided by HUD and are presented in Table J-5. There are two components, a cost incurred during the development period and an annual managemnt cost. We assume that the annual management costs increases at the general rate of inflation, seven percent.

Let

C_a = administrative cost during the development period,

C_m = management cost in the initial year of project operation,

A = annual Agency Administrative Costs.

Then

$$A = [C_m K(r^*, 20)]/[K(r, 20)] + C_d/K(r, 20)$$

Table J-5

ESTIMATES OF HUD ADMINISTRATIVE COSTS FOR DEVELOPMENT AND MANAGING HOUSING UNDER HUD PROGRAMS
(1981 dollars per unit)

Program	Development Costs	Management Costs
Section 8 New Construction		
HFDA, insured***	247	0*
HFDA, noninsured	21	0*
HUD, insured	342	74
Section 202	246	37
Section 8 Substantial Rehab.		
HFDA, insured	320	0*
HFDA, noninsured	23	0*
HUD, insured	352	74
Public Housing, New	288	22
FHA, nonsubsidized	227	25
Section 236	342**	34

* Management costs are 3 percent of gross rent.

** No development cost is available for 236 projects. We use that for HUD insured Section 8 new construction projects.

*** This is also used for Section 11(b)s.

Source: Derived from HUD Budget Congressional Justification for 1982 Estimates. March 1981, and from HUD Management Information System. When used in the analyses, these costs are multiplied by 0.906 to deflate to 1980 dollars. This deflator is the ratio of the 1980 to the 1981 CPI.

where

$$r^* = (r-0.07)/1.07,$$

and $r = 0.11$.

J.6.4 GNMA Tandem Subsidy

The annual GNMA Tandem subsidy is the difference between what GNMA pays for a mortgage (97.5 percent of face value) and what it receives for the sale of the mortgage in the secondary market. Since the mortgage bears an interest rate (7.5 percent) below the market rate of return required by investors, it is sold at a discount.

Let

M = the amount of the mortgage,

d = discount on the face value at sale (a proportion),

G = GNMA Tandem subsidy stated as an annual amount,

r = discount rate.

Then

$$G = \frac{M[0.975 - (1-d)]}{K(r, 20)}$$

The sale price as a percent of the face value of the mortage (1-d) is obtained from a Table provided by GNMA. The sale price proportions in the table are calculated assuming that the mortgages are for a period of 40 years at an interest rate of 7.5 percent, and they are paid off at the end of 20 years. In addition, they are calculated assuming that interest on the initial mortgage amount is received monthly with the entire mortgage amount paid off at the end of 20 years. Sale price proportions are calculated in the same way when we analyze the sensitivity of GNMA Tandem subsidies to variations in the GNMA ceiling on the mortgage interest rate. In all cases the Tandem subsidy is calculated assuming GNMA resells

mortgage immediately upon purchase. Actually, the holding period averages about a year, but making this adjustment has a negligible effect on annual subsidies.

J.6.5 Annual Subsidies from Excess Depreciation

Indirect subsidies are based on the difference between the present value of depreciation deductions using accelerated depreciation and the present value using straight-line depreciation, stated as an annual basis. In 1979 all projects taking depreciation could use the double-declining balance (DDB) method with a switch to straight-line (SL) at the optimal time. The building life for depreciation is 40 years.

Since the optimal switch to straight-line occurs in year 22, the 20-year period of analysis implies that only the DDB method is used. Let

B = the initial depreciable base,

r = discount rate,

T_o = depreciation period, usually 20 years,

T = depreciable life of the building,

d = geometric rate of depreciation (in 1979 $d = 2/40 = 0.05$),

D_{pv} = present value of depreciation deductions,

D_a = "annual" depreciation deductions.

Then

$$D_{pv} = B[d/(1-d)]\ K(r^*, T_o)$$

$$r^* = (r+d)/(1-d)\ ,$$

and $$D_a = D_{pv}/K(r, 20)$$

The annual depreciation deductions using straight-line depreciation are

$$D_{SL} = B/40.$$

If the building owner's marginal tax rate is q then the annual foregone taxes, or indirect subsidy, due to excess depreciation (S_D) are

$$S_D = q(D_a - D_{SL}).$$

If, instead of straight-line, we use a geometric rate of depreciation of 1.5% per year, then excess depreciation is the difference between D_a evaluated at d representing DDB and D_a evaluated at d = 0.015. The subsidy is the tax rate times the difference.

For the "future" scenario we use the allowable depreciation under ERTA. For a 20-year period of analysis, all depreciation is taken, because the depreciable life of a building is 15 years. Therefore, we must take into account the switch to straight-line. Let D^*_{pv} equal the present value of depreciation deductions using a declining balance method of depreciation with an optimal switch to straight-line.

Then

$$D^*_{pv} = B\left[d/(1-d)\right] K(r^*, t_o) + (1-d)^{t_o} B\, K(r, t_o)/\left[(T-t_o)(1+r)^{t_o}\right]$$

where

t_o = last year of use of the declining balance method of depreciation before the switch to straight-line, and

t_o = Integer [T+1-(1/d)].

Note that under ERTA, T=15, d = 2/15 for housing for low-income households, and d = 1.75/15 for unsubsidized 221(d)4 projects. The subsidy is

$$S^*_D = q[(D^*_{pv})/(K(r, 20)) - B/40]$$

For Public Housing and Section 202 projects, no depreciation is taken. Therefore the subsidy is

$$S_o = -\frac{qB}{40}$$

Recapture of Excess Depreciation

For unsubsidized Section 221(d)4 projects in 1979, the cumulative depreciation taken at the time of sale in excess of what would be taken using straight-line depreciation is distinguished from the remainder of the capital gain realized. This is taxed at ordinary income tax rates and is "recaptured"; the tax savings from the excess depreciation deductions are recaptured by the Treasury.

To determine the part of capital gains recaptured as ordinary income, let

B = depreciable base,

d = geometric rate of depreciation,

T^* = building depreciable life for tax purposes,

t_s = year of sale from construction,

t_o = optimal year of switch over to SL depreciation,

Y_R = income recaptured,

q = ordinary income tax rate,

RT = taxes on recapture stated on an annual basis.

Then

$$Y_R = B[(1-(1-d)^{t_s}) - t_s/T^*] \text{ for } t_s \leq t_o < T^*$$

$$Y_R = B[(1-(1-d)^{t_o}) - ((t_s - t_o)/(T^* - t_o))\ (1-d)^{t_o} - (t_s/T^*)]$$

$$\text{for } t_o < t_x < T^*$$

This simplifies to

$$Y_R = B[1-(1-d)^{t_o}\ ((T^* - t_s)/(T^* - t_o)) - (t_s/T^*)]$$

$$\text{for } t_o < t_s < T^*$$

Finally,

$$Y_R = 0 \text{ for } t_s \geq T^*$$

Therefore, annual taxes recaptured at ordinary income tax rates are

$$RT = q\ Y_R/K(r, 20)$$

J.6.6 Annual Subsidies from Construction Period Interest and Taxes

Let construction period interest and taxes be I^*_c and assume that they must be amortized over t_o years by unsubsidized Section 221(d)4 project owners. Then the present value of the tax savings for them are

$$S_{d4} = q[I_c^*\ K(r, t_o)/t_o]$$

If construction period interest and taxes can be expensed by low-income project owners upon completion of construction, then the present value of their tax savings is

$$S_1 = I^*_c q.$$

Then the annual subsidy for low-income projects is

$$S_I = (S_{d4} - S_1)/K(r, 20).$$

J.6.7 Annual Subsidies from Local Property Taxes Foregone

For Public Housing the annual subsidy due to payments less than ordinary property taxes is the difference between what a Public Housing project would pay if it paid the going property tax rate and its PILOT payments, both stated annually. The basis for property taxes is the depreciable base plus land value.

For Section 202s the implict subsidy is just three times the property taxes paid, because their property tax rate is 0.5 percent while that for other programs is 2.0 percent. In effect, Section 202s pay a fourth of what they would pay if they were in other programs and their sponsors were not non-profit.

J.6.8 Annual Subsidies from the Use of Tax-Exempt Bonds

The annual subsidy due to the use of tax-exempt bonds is calculated assuming the money used to purchase the tax-exempts would be used to purchase taxable triple-A corporate bonds. Let

i = monthly interest rate on triple-A bonds,

q = tax-exempt bond holders marginal tax rate,

M^* = value of the tax-exempts sold to finance a project,

I_{pv} = present value of interest payments that would be earned on the taxable bonds.

Then

$$I_{pv} = \frac{M^*}{K(i, T)} \sum_{t=1}^{20} \frac{12 + K(i, T-12t) - K(i, T-12t+12)}{(1+r)^t}$$

where $T = 480$.

This assumes a 40-year mortgage. It also assumes that the triple-A bonds are paid off like a mortgage; in each month both principle and interest are paid. The annual subsidy (S_{TEM}) due to tax-exempt mortgage financing is

$$S_{TEM} = (qI_{pv})/[K(r, 20)]$$

The annual subsidy due to short-term tax-exempt financing of construction period interest is easily calculated from our estimate of construction period interest. Let

I_c = construction period interest,

i_c = construction period interest rate based on tax-exempt notes,

i_t = interest rate on taxable U.S. Treasury bills,

S_{TEC} = annual subsidy due to tax-exempt construction period financing.

Then

$$S_{TEC} = [(qI_c)/K(r, 20)]\ (i_t/i_c)$$

Finally, the total annual subsidy due to the issue of tax-exempt financing is

$$S_{TE} = S_{TEM} + S_{TEC}$$

Note that M* does not equal the mortgage amount, but it includes an amount of overbonding for project reserves. This overbonding cannot be included in the mortgage. However, it is usually self-supporting, and agencies often count on the income from investing reserves at rates higher than the tax-exempt borrowing rate.

For state processed (SHFA) projects, investors in the bond market usually expect reserves equal to at least one year's loan payments. for insured 11(b)s these reserves are equal to loan payments for six months by regulation.[17]

For the computation of subsidies due to the use of tax-exempt bonds, we assume that overbonding equals loan payments for one year for all SHFA processed projects and for six months for 11(b)s.

J.6.9 Capital Gains Taxes

To calculate capital gains, we must calculate the adjusted basis of the property and the sale price. The adjusted basis is the original depreciable base plus land value minus the depreciatin deductions taken. Two forces cause prices to differ from the original depreciable base plus land value: real depreciation and inflation.

In most of the analysis we use straight-line depreciation over 40 years as a measure of real depreciation. We also assume a seven percent general inflation rate. Let

B = original depreciable base,

L = original land value,

t_o = year of sale (usually 20),

d = rate of depreciation for tax purposes (e.g., in 1979 d = 2/40 = 0.05 , and in the "future" d = 2/15 = 0.133)

---

[17]We are indebted to Mr. Michael Milton of the State Agency Office in HUD for his information.

P_{to} = sale price in year t_o,

C_{to} = adjusted basis in year t_o,

q =owner's marginal tax rate.

Then the sale price in t_o is

$$P_{to} = ((40-t_o)/40)B\ (1.07)^{t_o} + L(1.07)^{t_o}$$

The adjusted basis is

$$C_{to} = (1-d)^{t_o}\ B + L$$

Therefore, capital gains (G) are

$$G = P_{to} - C_{to}$$

Capital gains taxes are (CGT)

$$CGT = (0.40)(q)(G)$$

Therefore, annualized capital gains taxes (CGT_a) are

$$CGT_a = \frac{CGT}{(1+r)^{t_o}\ K(r,\ t_o).}$$

In most analyses we assume $t_o = 20$.

If a geometric rate of 1.5 percent is used as the real rate of depreciation, then the estimate of capital gains taxes differs. In this case,

$$P^*_{to} = (0.985)^{t_o}\ B\ (1.07)^{t_o} + L\ (1.07)^{t_o}.$$

The adjusted basis is the same so that

$$G = P^*_{to} - C_{to},$$

and CGT and CGT_a are calculated as above.

When a 15 year depreciation period is used and project is sold at the end of the 20 years, the original depreciable base is depreciated to zero. In this case, $C_{to} = L$, and the analysis proceeds as before.

J.6.10 Total Annual Project Costs

To compare total annual subsidies with costs, all elements of costs must be put on an annual basis. There are two components of costs, development costs and annual costs of operation represented by annual gross rent.

To avoid double counting we subtracted annual loan payments from gross rent. Where property tax payments are below what would result from a 2 percent tax rate, the difference is added to represent costs of real resources used. Let

APC = annual project costs,

OC = annual operating costs.

Then

$$APC = \frac{TDC}{K(r, 40)} + OC$$

J.7 An Algebraic Presentation of the Decomposition of Subsidy Variations

In this section we present the decomposition of program subsidy variations algebraically. Let

F_i = influence of financial and soft cost factors for program i,

F_o = influence of financial factors for unsubsidized 221(d)4 projects,

D_i = hard costs for the actual average unit produced under program i,

$\bar{D}$ = hard costs for the standard unit when produced as an unsubsidized d(4) project,

P_i = hard cost differential between program i and the unsubsidized d(4) variant ($P_o = 0$).

Then

$F_o\bar{D}$ = Total subsidies (S) for the standard housing unit under the d(4) variant,

$F_i\bar{D}$ = S for the standard unit under program i without efficiency differences (Scenario 1),

$F_i(\bar{D} + P_i)$ = S for the standard unit under program i allowing for efficiency differences (Scenario 2)

$F_i(D_i + P_i)$ = S for the average unit produced under program i (Scenario 3).

We wish to decompose

$$F(D_i + P_i) - F_o\bar{D}.$$

Then

$$F(D_i + P_i) - F_o\bar{D} = (F_i - F_o)\bar{D} + F_iP_i + F_i(D_i - \bar{D})$$

where

$(F_i - F_o)\bar{D}$ = financial effects

F_iP_i = efficiency effects

$F_i(D_i - \bar{D})$ = development effects

J.8 The Conversion of "Annual" Data to Present Values and First Year Data

Most of the data presented in Chapter 7 and in Appendix I are presented as annual data, and these are based on payments on an annuity; one might say the data are annuitized. To obtain present values, we need only multiply the annual data by K(0.11, 20), where K(r, T) is defined above. The multiplier is

$$K(0.11, 20) = 7.963.$$

To obtain first year data for operating costs and taxes, we multiply the present value of each component of costs by an appropriate capitalization factor, and this must take into account the inflation rate assumed for the respective component. Alternatively, first year figures can be obtained by multiplying the

annual figure by a ratio of capitalization factors. For elements of cost that increase by 5.4 percent annually due to inflation (that is, for property taxes), multiply the annual figures by

$$K(0.11, 20)/K(r^*, 20) = 0.656,$$

where $r^* = (0.11-0.054)/(1.054)$.

For elements of cost or subsidies that increase at 7.0 percent per year due to inflation, multiply the annual figures by

$$K(0.11, 20)/K(r^*, 20) = 0.572$$

where $r^* = (0.11-0.07)/(1.07)$.

Other first year amounts for components of costs and subsidies must be calculated differently depending on their type; for example, MIP, depreciation, and subsidies due to the use of tax exempt bonds must be calculated using formulae similar to those presented above for the annual quantities. Finally, first year quantities for gross rent, rental subsidies, total direct, total indirect, and total net subsidies must be calculated as the sum of the first year component amounts.

APPENDIX K

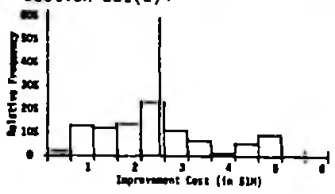
Distribution of Weighted Development Costs

Figure K-1

DISTRIBUTION OF PER PROJECT IMPROVEMENT COST
1980 Dollars Adjusted for Regional Differences in Cost
(Weighted)

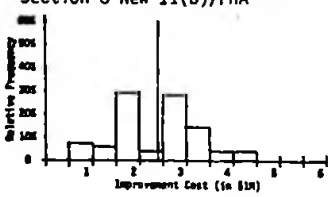
Overall Sample Mean ($2.406M)

Section 221(d)4



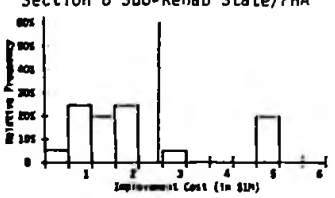
Overall Sample Mean ($2.406M)

Section 8 New 11(b)/FHA

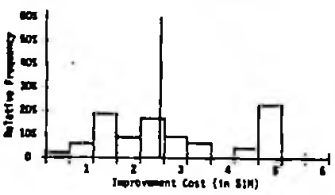


Overall Sample Mean ($2.406M)

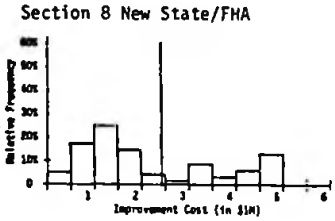
Section 8 Sub-Rehab State/FHA



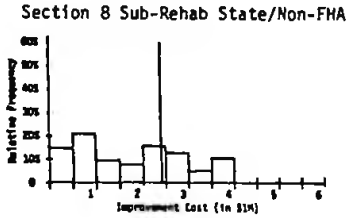
Section 236 Rent Supplement



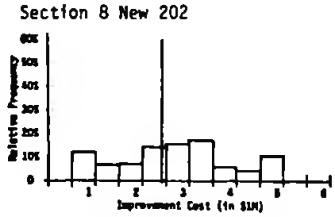
Section 8 New State/FHA



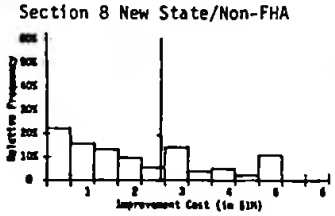
Section 8 Sub-Rehab State/Non-FHA



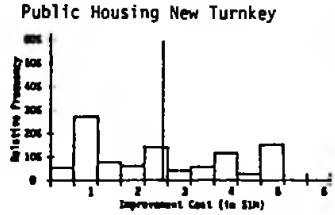
Section 8 New 202



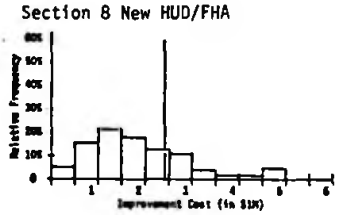
Section 8 New State/Non-FHA



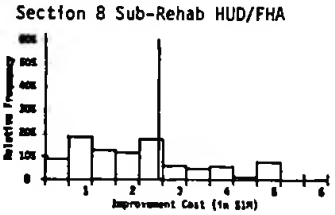
Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional

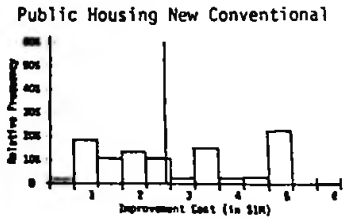
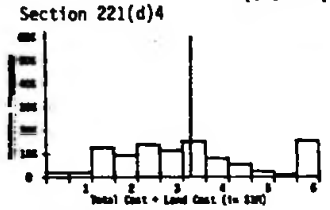


Figure K-2

DISTRIBUTION OF PER PROJECT TOTAL DEVELOPMENT COSTS
1980 Dollars Adjusted for Regional Differences in Cost
(Weighted)

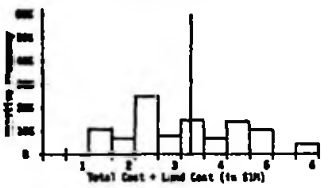
Overall Sample Mean ($3.136M)

Section 221(d)4



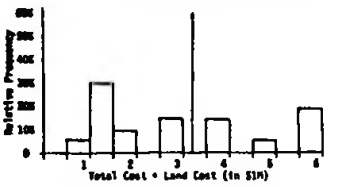
Overall Sample Mean ($3.136M)

Section 8 New 11(b)/FHA

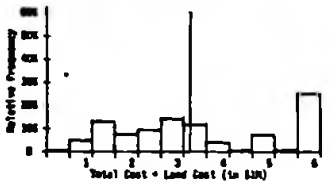


Overall Sample Mean ($3.136M)

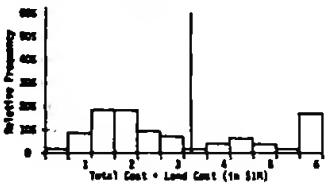
Section 8 Sub-Rehab State/FHA



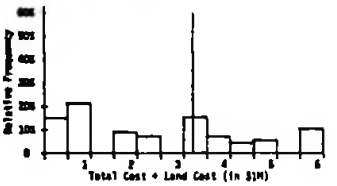
Section 236 Rent Supplement



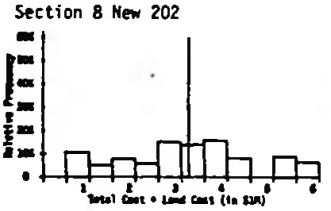
Section 8 New State/FHA



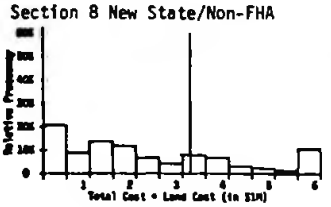
Section 8 Sub-Rehab State/Non-FHA



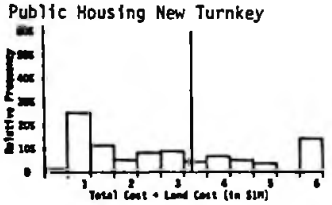
Section 8 New 202



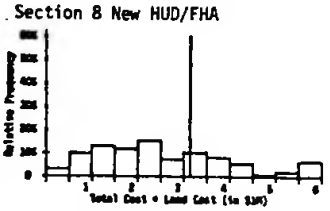
Section 8 New State/Non-FHA



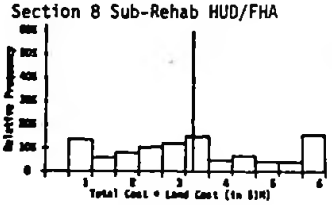
Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional

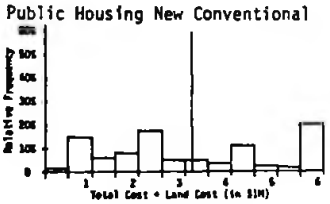
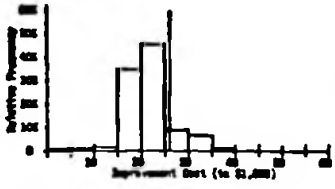


Figure K-3

DISTRIBUTION OF PER UNIT IMPROVEMENT COST
1980 Dollars Adjusted for Regional Differences in Cost
(Weighted)

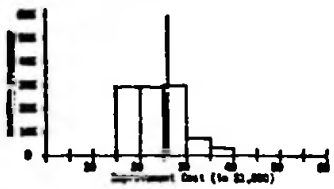
Overall Sample Mean ($25,284)

Section 221(d)4



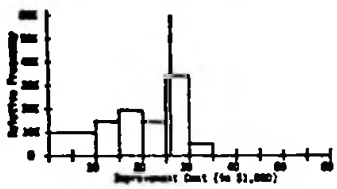
Overall Sample Mean ($25,284)

Section 8 New 11(b)/FHA

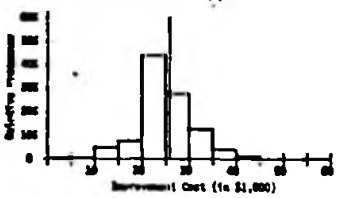


Overall Sample Mean ($25,284)

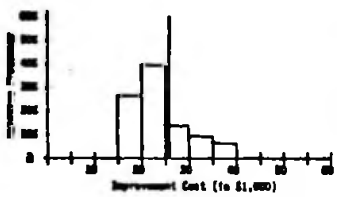
Section 8 Sub-Rehab State/FHA



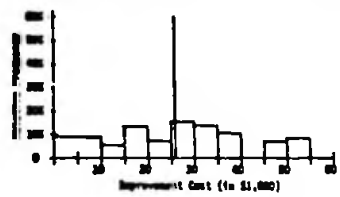
Section 236 Rent Supplement



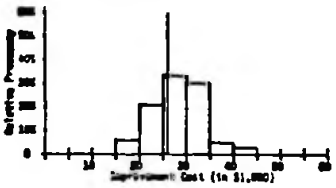
Section 8 New State/FHA



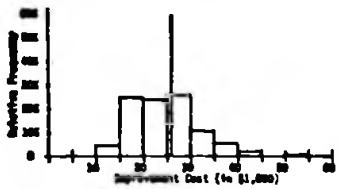
Section 8 Sub-Rehab State/Non-FHA



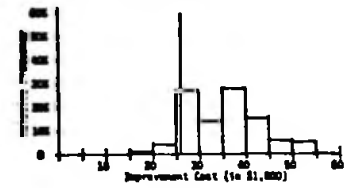
Section 8 New 202



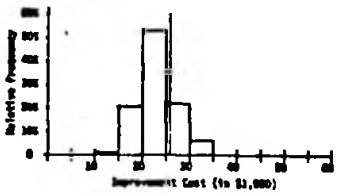
Section 8 New State/Non-FHA



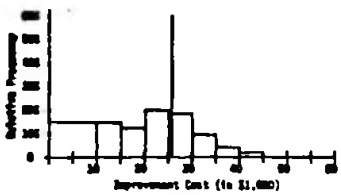
Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional

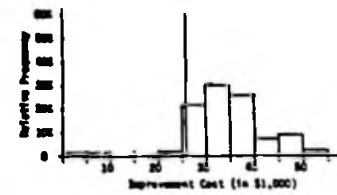
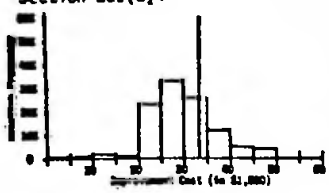


Figure K-4

DISTRIBUTION OF PER UNIT TOTAL DEVELOPMENT COST
1980 Dollars Adjusted for Regional Differences in Cost
(Weighted)

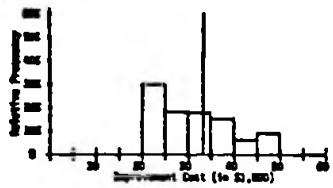
Overall Sample Mean ($32,747)

Section 221(d)4



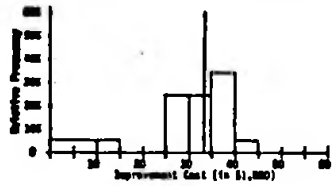
Overall Sample Mean ($32,747)

Section 8 New 11(b)/FHA

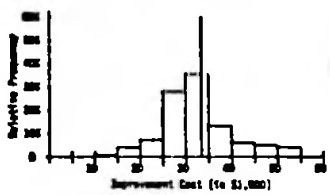


Overall Sample Mean ($32,747)

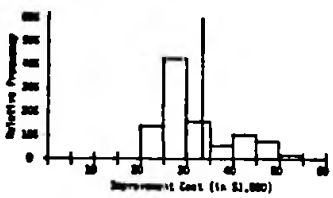
Section 8 Sub-Rehab State/FHA



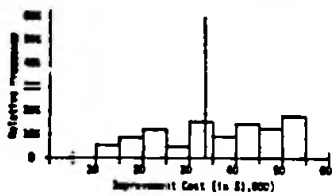
Section 236 Rent Supplement



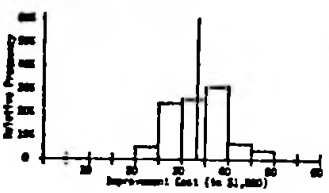
Section 8 New State/FHA



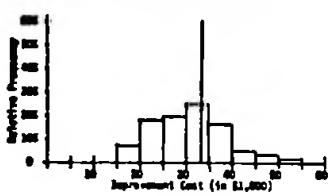
Section 8 Sub-Rehab State/Non-FHA



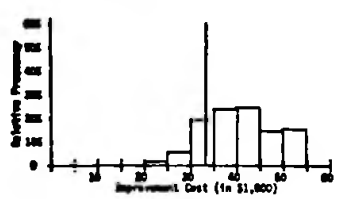
Section 8 New 202



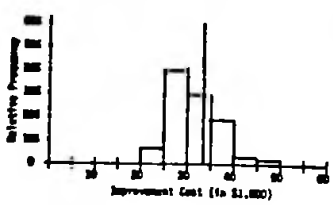
Section 8 New State/Non-FHA



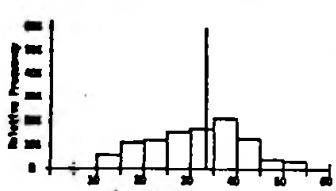
Public Housing New Turnkey



Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional

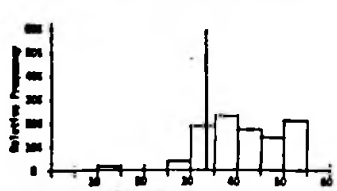
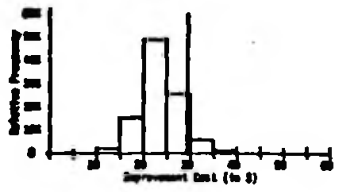


Figure K-5

DISTRIBUTION OF IMPROVEMENT COST PER SQUARE FOOT OF GROSS SPACE
1980 Dollars Adjusted for Regional Differences in Cost
(Weighted)

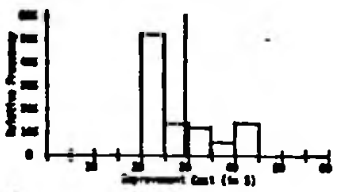
Overall Sample Mean ($29.44)

Section 221(d)4



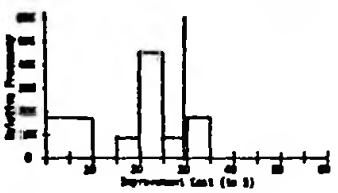
Overall Sample Mean ($29.44)

Section 8 New 11(b)/FHA

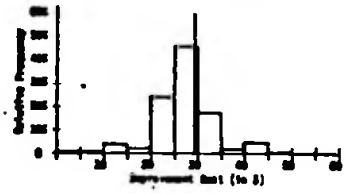


Overall Sample Mean ($29.44)

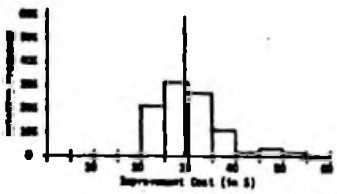
Section 8 Sub-Rehab State/FHA



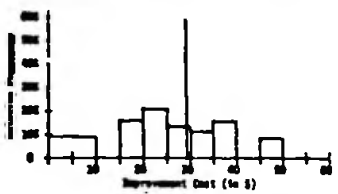
Section 236 Rent Supplement



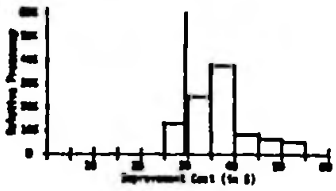
Section 8 New State/FHA



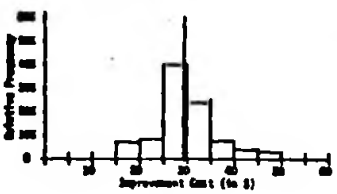
Section 8 Sub-Rehab State/Non-FHA



Section 8 New 202

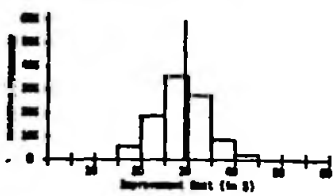


Section 8 New State/Non-FHA

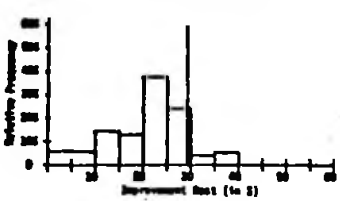


Public Housing New Turnkey

Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional

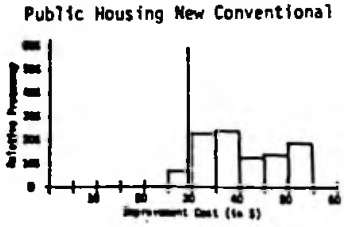


Figure K-6

DISTRIBUTION OF TOTAL DEVELOPMENT COST PER SQUARE FOOT
OF GROSS SPACE
1980 Dollars Adjusted for Regional Differences in Cost
(Weighted)

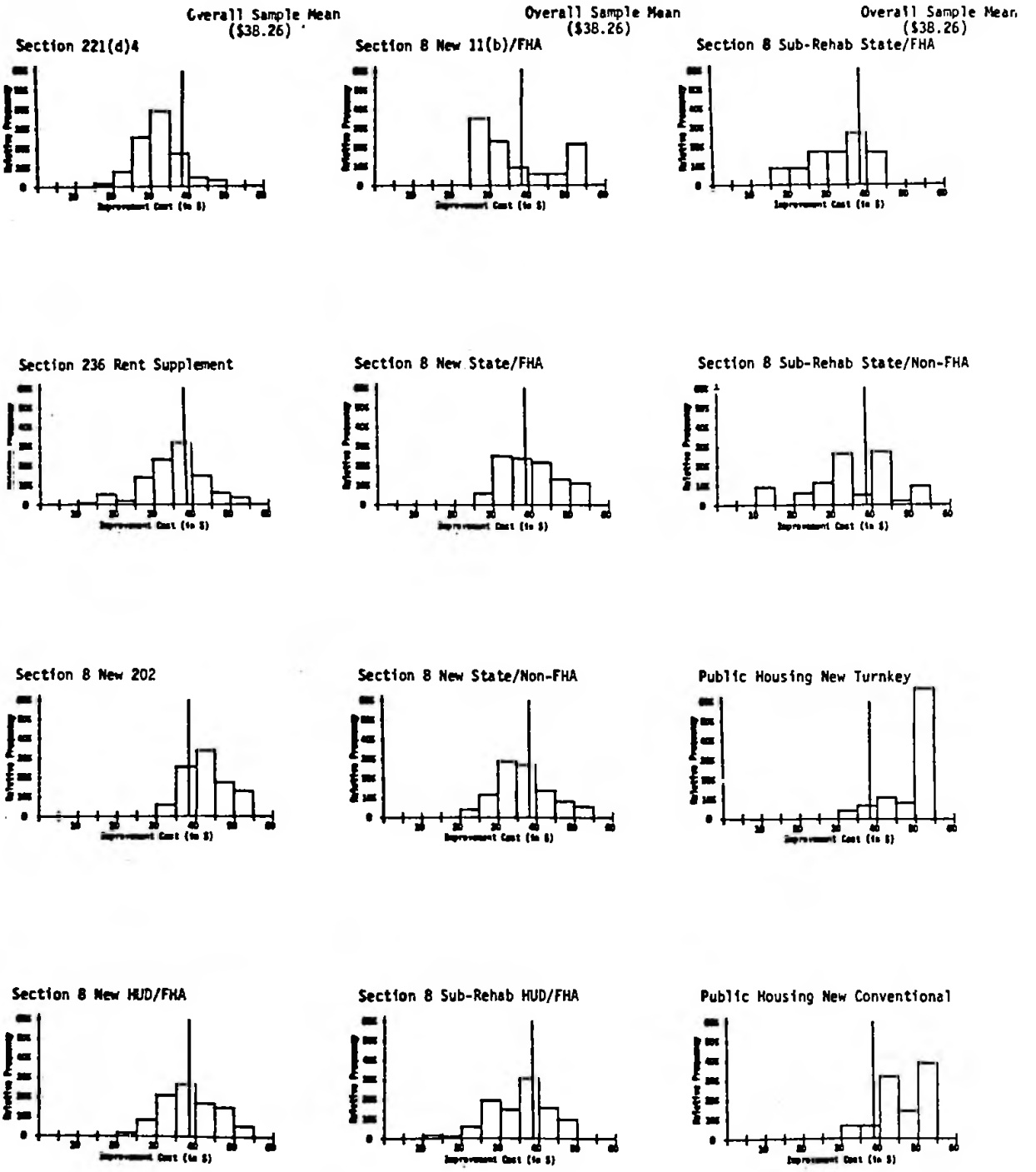
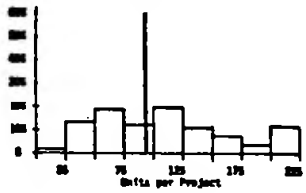


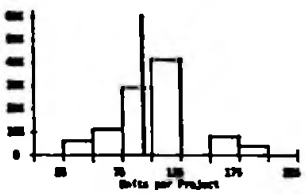
Figure K-7

DISTRIBUTION OF NUMBER OF UNITS PER PROJECT
(Weighted)

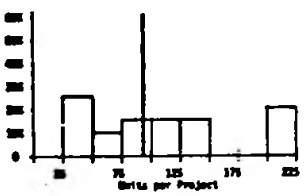
Overall Sample Mean
(95)
Section 221(d)4



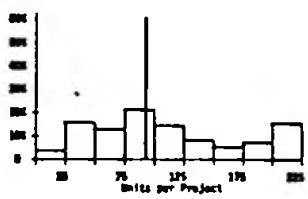
Overall Sample Mean
(95)
Section 8 New 11(b)/FHA



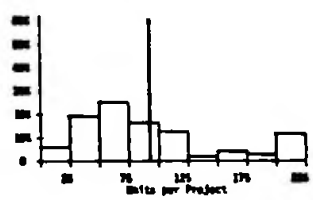
Overall Sample Mean
(95)
Section 8 Sub-Rehab State/FHA



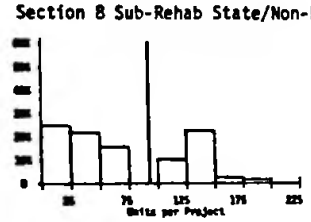
Section 236 Rent Supplement



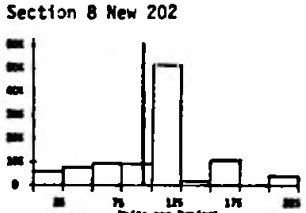
Section 8 New State/FHA



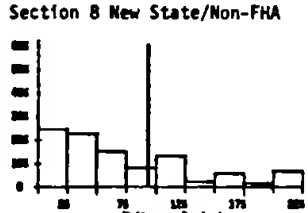
Section 8 Sub-Rehab State/Non-FHA



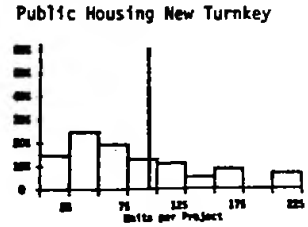
Section 8 New 202



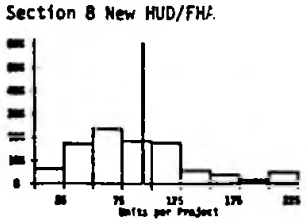
Section 8 New State/Non-FHA



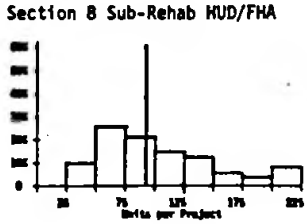
Public Housing New Turnkey



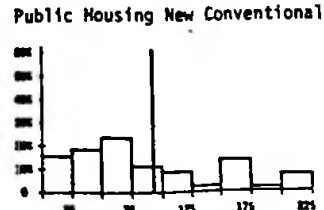
Section 8 New HUD/FHA



Section 8 Sub-Rehab HUD/FHA



Public Housing New Conventional



APPENDIX L

Characteristics of the Average Unit

Table L-1

STRUCTURAL CHARACTERISTICS OF AVERAGE UNIT
(Weighted)

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED									
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION	
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional
PROJECT SIZE												
Number of Units	104	109	94	86	102	93	91	111	130	93	77	82
Unit Size (Square Feet)	827	787	548	656	657	650	676	661	571	682	678	720
Residential Space (Percent)	87.0%	85.3%	69.2%	79.6%	77.8%	80.6%	76.3%	66.7%	67.2%	68.4%	81.2%	0.6%
BEDROOMS												
a.Average Number per Unit	1.7	1.9	1.0	1.3	1.4	1.3	1.4	1.5	1.2	1.2	1.4	1.5
b.Composition of Average Project												
Efficiency	1.6 %	5.8 %	6.0 %	1.4 %	0.0 %	0.0 %	2.3 %	11.2 %	20.9 %	4.9 %	17.1 %	20.0 %
1 Bedroom	37.3	26.0	91.8	73.7	73.1	73.9	72.2	40.7	48.2	73.6	50.6	41.4
2 Bedrooms	54.0	40.6	2.2	15.7	16.0	19.7	15.4	33.0	24.4	16.2	16.2	14.4
3 or more Bedrooms	7.2	27.6	0.0	9.1	10.9	6.4	10.1	15.1	6.5	5.2	16.1	24.4
BATHS												
a.Average Number per Unit	1.2	1.1	1.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.1
b.Composition of Average Project												
Half Bathroom	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	1.1 %	0.0 %
1 Bathroom	70.3	81.0	99.8	89.9	90.2	92.9	95.4	94.0	98.8	97.5	93.8	90.6
1.5 Bathrooms	13.5	15.8	0.0	7.4	5.9	6.5	3.4	4.7	1.2	1.6	1.9	4.6
2 or more Bathrooms	16.3	3.2	0.2	2.8	3.9	0.6	1.2	1.3	0.0	0.9	3.2	4.8
PROJECT AMENITIES												
Air Conditioning	92.5 %	58.1 %	68.8 %	72.3 %	51.3 %	88.4 %	67.2 %	52.0 %	19.6 %	89.8 %	62.9 %	32.7 %
Laundry Facilities	97.1	88.0	89.8	85.2	68.6	87.4	89.5	80.7	37.5	61.5	79.8	46.3
Dish Washers	95.0	2.0	5.0	9.5	23.3	10.9	12.5	14.5	4.0	58.0	5.1	0.0
Drapes	71.0	34.9	70.4	53.2	64.0	44.7	43.1	34.1	18.5	23.1	29.7	22.7
Refrigerators	100.0	99.5	99.6	99.4	100.0	99.8	88.8	100.0	100.0	92.9	100.0	99.7
Disposal	90.3	61.0	53.6	65.0	41.8	62.0	71.3	33.6	14.7	73.1	16.1	8.6
Kitchen Exhaust Fans	95.5	83.1	97.3	89.4	95.9	95.2	83.0	50.4	47.1	95.3	82.7	69.7
Carpets	97.2	46.2	89.2	83.0	71.8	77.3	77.7	52.0	17.7	83.1	42.2	15.3

Table L-1 (Continued)

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED									
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8							PUBLIC HOUSING	
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION	
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional
PROJECT AMENITIES (Continued)												
Recreation Rooms	54.7	36.8	51.1	67.4	84.0	62.5	75.1	27.4	60.0	56.6	93.7	72.3
Intercoms	0.0	0.6	2.3	0.0	0.0	0.0	24.0	0.0	0.0	2.7	20.8	20.9
Balconies	1.2	0.0	0.0	3.2	0.0	0.0	21.1	0.0	0.0	8.0	31.0	24.0
Tennis Courts	38.9	0.0	2.2	2.4	0.0	6.5	2.9	2.9	0.0	0.0	0.0	15.1
Swimming Pool	68.8	9.5	0.0	5.6	16.9	8.1	7.6	6.6	0.0	0.0	0.0	0.0
Playground	29.5	15.9	14.4	50.4	66.6	45.1	36.5	5.8	40.2	35.6	52.6	62.6
DENSITY												
Lotsize Per Unit (Square Feet)	2,917	2,529	2,108	2,666	2,192	2,490	2,387	830	570	829	2,624	5,572
Number of Stories	2.42	4.39	5.30	3.87	3.99	4.17	4.15	6.21	6.12	5.18	4.42	4.52
STRUCTURE TYPE												
Semi-attached or Detached	4.9 %	3.6 %	2.7 %	6.6 %	1.4 %	10.1 %	9.5 %	1.6 %	0.0 %	0.0 %	12.0 %	22.2 %
Row	8.3	6.1	5.2	7.0	14.6	7.1	8.0	1.0	0.0	0.0	6.9	19.5
Walk-Up	63.5	8.6	5.0	13.8	26.6	14.1	5.4	14.3	0.0	6.5	0.6	3.3
Elevator	7.0	9.8	80.4	51.5	36.9	41.5	49.7	67.8	62.1	42.1	43.3	32.2
Mixed	16.3	71.8	6.7	21.1	20.5	27.2	27.5	15.4	37.9	51.5	37.2	22.9
EXTERIOR FINISH												
Durable	14.2 %	33.9 %	39.7 %	42.2 %	44.8 %	51.6 %	51.3 %	77.5 %	59.9 %	82.4 %	45.5 %	51.4 %
Mixed Durable	37.0	34.9	28.7	28.6	35.7	35.8	15.4	9.6	36.8	17.6	19.0	29.1
Wood	27.0	25.0	13.3	8.5	12.4	7.7	19.7	5.7	0.0	0.0	8.0	1.5
Stucco	8.4	3.0	9.4	7.4	0.0	0.0	0.0	3.4	0.0	0.0	8.2	0.9
Manufactured	2.2	0.0	1.8	0.0	7.2	0.5	4.6	0.0	0.0	0.0	3.9	0.0
Other	11.2	3.2	7.0	13.2	0.0	4.4	8.9	3.7	3.3	0.0	15.5	17.1
SCATTERED SITE	22.7 %	11.6 %	18.2 %	3.4 %	21.5 %	6.0 %	13.7 %	18.2 %	0.0 %	9.5 %	23.9 %	27.8 %
PERCENT ELDERLY	1.2 %	14.1 %	97.8 %	61.7 %	58.9 %	55.7 %	55.0 %	39.7 %	51.5 %	46.1 %	43.8 %	37.3 %
Sample Size[3]	132	77	58	132	19	73	132	54	13	19	41	40

[1]Sample Sizes refer to the number of observations available on project amenities.

Table L-2

LOCATIONAL CHARACTERISTICS AVERAGE UNIT
(Weighted)

TYPE OF CHARACTERISTIC	UNSUBSIDIZED	SUBSIDIZED									
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8							PUBLIC HOUSING	
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION	
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional
LOCATION												
Non-SMSA	8.0 %	14.0 %	15.5 %	31.4 %	55.2 %	44.8 %	31.6 %	16.3 %	12.3 %	3.8 %	29.6 %	48.5 %
SMSA												
Central City	40.8	68.3	58.3	41.4	41.1	30.1	42.0	72.4	66.9	76.4	56.4	26.4
Suburb	51.2	17.7	26.2	27.2	3.7	25.1	26.4	11.3	20.8	19.8	14.0	25.1
SIZE OF PLACE (in thousands)												
Non-SMSA												
LT 10	5.3 %	6.4 %	11.5 %	18.4 %	41.9 %	26.5 %	17.2 %	13.7 %	10.4 %	3.8 %	12.1 %	24.0 %
10-49.9	2.7	7.6	4.0	13.1	13.3	18.3	14.5	2.6	2.0	0.0	17.6	24.6
SMSA												
50-249.9	16.1	10.1	10.9	18.2	3.7	6.5	13.6	1.9	0.0	0.0	6.6	5.6
250-999.9	31.3	23.2	25.6	18.1	2.7	25.4	22.8	35.6	16.3	40.1	45.8	37.6
1000-2499	29.5	28.7	38.2	24.5	38.5	16.7	16.8	14.6	41.3	10.4	17.2	4.0
GE 2500	15.1	24.0	9.8	7.7	0.0	6.5	15.2	31.7	30.0	45.6	0.8	4.2
NEIGHBORHOOD CONDITIONS												
Above Average	60.5 %	22.6 %	36.3 %	31.9 %	0.0 %	36.8 %	45.5 %	4.3 %	37.4 %	28.3 %	16.1 %	38.3 %
Average	38.7	47.9	40.4	50.5	60.7	33.2	41.6	47.4	2.0	36.4	54.9	35.9
Slight Deterioration	0.8	4.2	20.2	7.3	39.3	7.3	8.1	15.4	4.7	10.2	17.4	15.7
Deteriorated or Blighted	0.0	25.3	3.2	10.2	0.0	22.6	4.8	32.8	55.8	25.1	11.5	10.0
NEIGHBORHOOD PROPERTY VALUES												
Rising faster than Market	24.2 %	13.4 %	23.3 %	15.4 %	30.2 %	14.5 %	28.0 %	22.3 %	10.1 %	28.8 %	10.1 %	17.1 %
Rising at same rate as Market	68.1	69.4	74.2	78.3	54.4	72.7	70.2	57.2	37.4	64.9	83.4	74.2
Stagnant or declining	7.7	17.3	2.5	6.3	15.4	12.8	1.8	20.5	52.5	6.3	6.5	8.7

APPENDIX M

Breakdowns of Weighted Development Costs Unadjusted for Regional Differences

Table M-1

PER UNIT DEVELOPMENT COSTS:
1980 Dollars Not Adjusted for Regional Differences in Costs[1,2]
(Weighted)

COMPONENTS OF COSTS	UNSUBSIDIZED	SUBSIDIZED											
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING		
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION		
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
Total Improvements[a]	$23,191	$24,115	$28,120	$22,893	$23,517	$22,605	$25,459	$21,262	$20,737	$30,834	$32,756	$31,642	.206
Land[a]	1,933	1,601	1,634	1,336	1,272	1,120	1,473	5,373	5,295	4,927	2,193	1,985	.298
Off-Site Costs[b]	167	138	169	89	32	159	30	40	34	0	N/A	N/A	.039
Construction Period Carrying Charges (Interest, Insurance, Taxes)[a]	1,529	1,623	1,467	1,263	1,241	1,172	1,251	1,995	1,857	1,675	1,192	1,241	.062
Program Financing & Filing Fees[a]	2,036	1,648	117	1,970	1,727	1,772	800	2,059	2,026	756			.563
Legal, Organizational & Audit[a]	201	304	251	207	161	175	146	284	334	614	1,187	1,444	.115
Other Costs[a]	168	235	891	155	150	178	286	369	303	324			.165
Profit[a]	2,627	2,293	976	2,605	2,684	2,435	1,734	2,529	2,232	2,655			.155
TOTAL COSTS[a]	31,852	31,958	33,625	30,518	30,783	29,616	31,180	33,911	32,818	41,784	37,327	36,312	.090
Sample Size	133	77	58	135	19	78	132	56	13	19	55	53	

[1]The level of significance at which F tests reject the hypothesis of equal means across program types is indicated as follows: a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

Table M-2

DEVELOPMENT COSTS PER SQUARE FOOT OF GROSS SPACE:
1980 Dollars Not Adjusted for Regional Differences in Costs[1,2]
(Weighted)

COMPONENTS OF COSTS	UNSUBSIDIZED	SUBSIDIZED										
	221(d)(4)	236 RENT SUPPLEMENT	SECTION 8								PUBLIC HOUSING	
	NEW CONSTRUCTION	NEW CONSTRUCTION	NEW CONSTRUCTION					SUBSTANTIAL REHABILITATION			NEW CONSTRUCTION	
			202	HUD FHA	11-b FHA	State FHA	State Non-FHA	HUD FHA	State FHA	State Non-FHA	Turnkey	Conventional	eta[2]
Total Improvements[a]	$ 24.65	$ 26.92	$ 36.56	$ 28.41	$ 28.00	$ 28.82	$ 30.44	$ 22.71	$ 21.75	$ 28.33	$ 44.95	$ 37.68	.343
Land[a]	1.99	1.76	2.12	1.63	1.51	1.40	1.59	5.18	7.09	4.89	3.39	2.64	.295
Off-Site Costs[c]	0.18	0.16	0.22	0.11	0.03	0.21	0.04	0.04	0.07	0.00	N/A	N/A	.032
Construction Period Carrying Charges (Interest, Insurance, Taxes)[a]	1.60	1.80	1.85	1.57	1.49	1.48	1.59	2.07	1.89	1.56	0.89	1.46	.057
Program Financing & Filing Fees[a]	2.18	1.83	0.15	2.43	2.11	2.24	0.99	2.20	2.07	0.74			.57
Legal, Organizational & Audit[a]	0.22	0.32	0.35	0.26	0.19	0.23	0.19	0.29	0.43	0.52	1.53	1.65	.078
Other Costs[a]	0.17	0.25	1.19	0.20	0.18	0.23	0.36	0.39	0.60	0.30			.209
Profit[a]	2.78	2.60	1.30	3.24	3.19	3.07	2.26	2.72	2.13	2.40			.174
TOTAL COSTS[a]	33.77	35.64	43.74	37.85	36.70	37.68	37.45	35.60	36.03	38.75	50.76	43.43	.169
Sample Size	124	73	56	131	19	78	105	46	8	19	31	31	

[1]The level of significance at which F tests reject the hypothesis of equal means across program types is indicated as follows:
a = .001; b = .01; c = .05; d = .1.

[2]eta[2] indicates the proportion of variance explained by program type.

*U.S. GOVERNMENT PRINTING OFFICE : 1982 0-361-216/5055