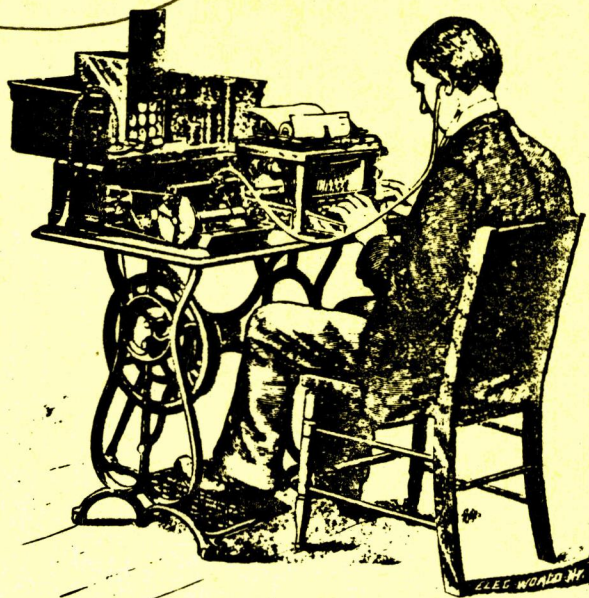


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DATA QUALITY ANALYSIS:

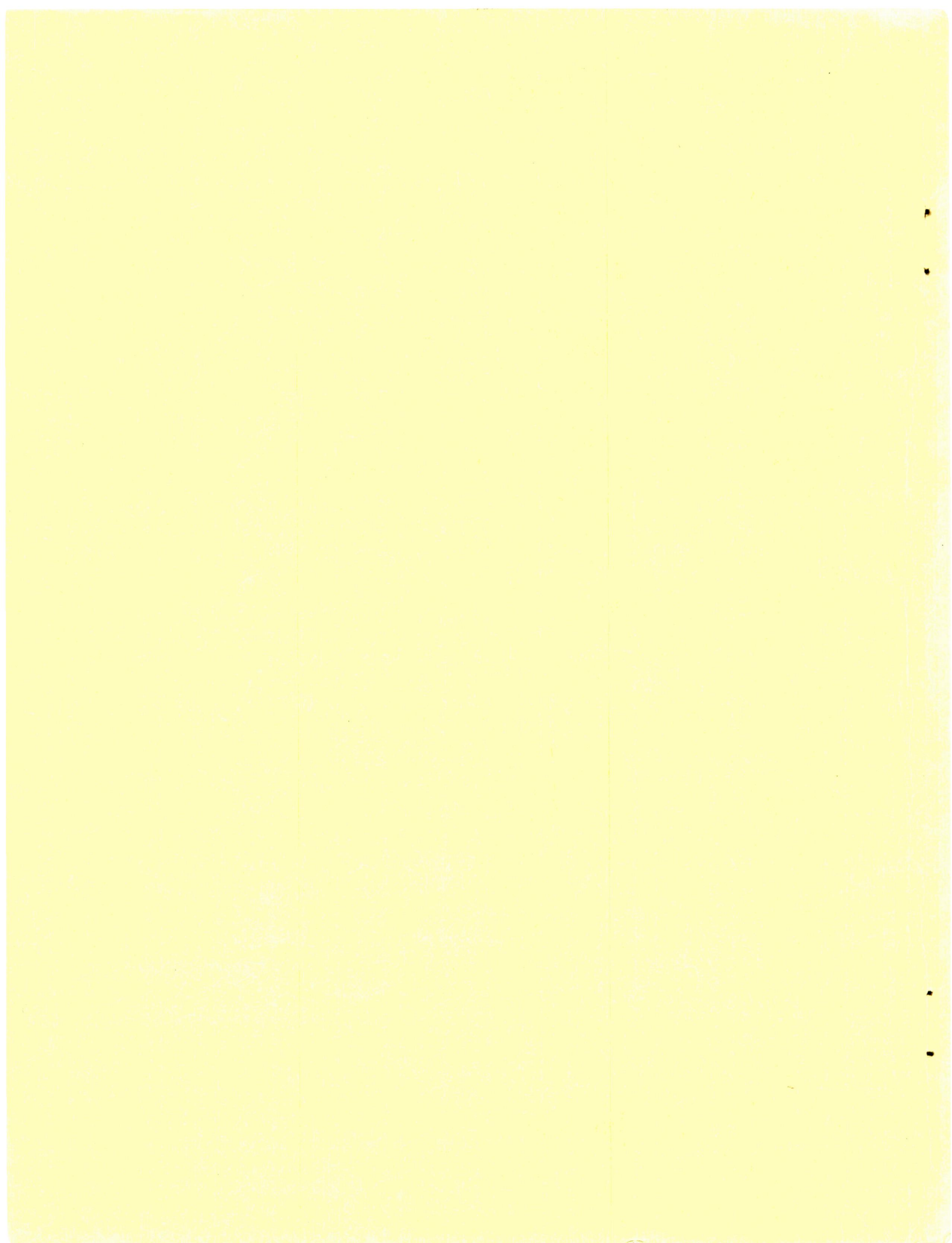
Section 8 Tenant Characteristics



**Office of Program Planning
and Evaluation**



**HUD-Region IX
May 1979**



ANALYSIS OF THE DATA QUALITY OF THE SECTION 8 TENANT
CHARACTERISTICS DATA BASE

DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT

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Program Planning and Evaluation
Department of Housing and Urban Development
San Francisco, Region IX
May 1979

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I. SUMMARY

A. Background

This report on the quality of the data in the Section 8 Tenant Characteristics data base grew out of a larger project to evaluate the effectiveness of HUD and PHA policies in serving the eligible population in Region IX. As part of that evaluation, the Region IX Study Team attempted to use the official HUD data base on Tenant Characteristics (the LIAPS/HAP 1 data system). However, as the analysis proceeded, it became apparent that the data could not be used for the evaluation because of its low quality. Rather than discard a substantial amount of staff effort, the Study Team decided to document what they had found so that the system for collecting and reporting on the tenant population in the Section 8 program could be improved. This report presents that documentation.

Completeness of the data was analyzed by comparing the Section 8 MIS data with the LIAPS/HAP 1 data. Accuracy was assessed through interviews with staff who prepare the input documents in six Region IX PHAs: two inner city, two suburban, and two rural. In addition, statistics from LIAPS/HAP were compared with statistics generated by the national evaluation of the Section 8 Existing program.

B. Findings and Conclusions

In general, implementation and system design problems plague the system from start to finish. Many of these are soluble by proper statistical and management techniques, but they have not been addressed by system managers. Not only is the data in the system incomplete, but the lack appears to be systematically linked to variables of interest at the local level, such as type of population served. In addition, inconsistent and inaccurate data collection procedures at the local level cast doubt upon the data that is actually contained in the system. The following identifies the specific study conclusions.

Conclusion #1: There are serious conceptual problems with the data system. The design of LIAPS contains two serious biases which prevents it from being able to present a picture of the active tenant population at any one point in time unless the data are properly weighted. Terminated tenants are not removed from the system, and elderly and handicapped tenants are systematically under-reported. Proper weighting results in data that is "roughly right," and at least within 10 percent on most variables tested.

Conclusion #2: LIAPS data is consistently and considerably under-reported. Overall, the LIAPS data for 1977 contained data on only 61% of the cases reported in occupancy by the Section 8 MIS at that time. In Region IX for that same period, only 60 percent of PHA's with Section 8 units in occupancy reported, and they reported on only 75 percent of their tenants. The 1978 data was similarly incomplete.

Conclusion #3: Inconsistent and inadequate practices in recording and posting the data in the field cast doubt upon the accuracy of most individual data items in LIAPS. For example, one PHA records the Census Tract of the unit that the applicant resides in before he or she moves to a unit assisted with Section 8. Another PHA considers a minor to be a child under 18 while another uses 21 as the cutoff date.

Conclusion #4: LIAPS has substantial accuracy problems due to the lack of adequate data cleaning and data management procedures. The reports presently generated by Washington, as well as others generated by the Region IX study, contain data which is obviously inaccurate, due to the presence of extreme values, not caught and corrected by a cleaning program. For example, the Washington reports show a family of nine living in a studio apartment. The Region IX report shows a maximum annual income from the Existing Finders Keepers program at \$48,880, and the maximum income limit as \$98,880 for the same program which is well above the published limits for any area.

C. Recommendations

1. Present System Should be Radically Changed or Terminated: Based upon the fact that the Department has spent approximately \$750,000 to date on the system without producing data that can be used for any serious analytical purpose, actions should be taken to change or terminate the system. In addition, until such changes occur, data produced from LIAPS should not be published in documents used by researchers outside the Department (such as the HUD Statistical Yearbook), nor should it be used for budget purposes.

Any new planning and evaluation system, or revisions to the existing system, should include the following elements:

- Easily accessible data base that covers application through termination;
- Automated codebook with complete documentation on the data;
- Formal data cleaning procedures;
- Data Management System;
- Adequate data collection forms and procedures developed with the assistance of those who use them.

2. Planning and Evaluation Data Unit Should be Established:

In order to insure that new systems are designed and existing ones redesigned to produce quality data, and that the data can be readily and easily used by researchers inside and outside the Department, it is recommended that a discrete unit be established with action responsibility for the quality and use of all planning and evaluation data systems within HUD. This unit would document and clean existing data systems, and archive them for use. The unit would also prepare data quality assessments of different systems, and work with the program offices in a pro-active manner to rectify problems with system design and implementation.

II. INTRODUCTION

A. Background

This report is an assessment of the quality of the Section 8 Tenant Characteristics data which is found in the LIAPS-HAP 1 (Lower Income Assistance Programs System) data base. This report is part of a larger project being undertaken by the Office of Program Planning and Evaluation in Region IX to assess the occupancy patterns in the Section 8 Existing program: "The PHA Section 8 Existing Evaluation and Occupancy Indicator Project." The overall project was begun by PP&E in October of 1978, in cooperation with the Regional Offices of FH&EO and Housing, and with the Regional Economist.

The project was undertaken at the request of the Regional Administrator to determine whether our Assisted Housing programs were reaching the right groups of beneficiaries. Not only was she interested in what were the characteristics of the population in Region IX who were receiving subsidies, but she was also concerned that this information become a standard part of the information available to managers at every level of the Region for administering assisted housing programs. Accordingly, in addition to an evaluation of occupancy in the Assisted Housing area, PP&E was also charged with exploring the development of an on-going statistical reporting system on occupancy characteristics for Regional managers.

A decision was made to start with the Section 8 Existing program because it was a new program and little was known about whom the program was serving, or how well the administrative data systems for tenant characteristics were working in comparison to the older assisted programs. In addition, in Region IX, approximately 44,000 units were put into occupancy over a two-year period, as compared to the 46,000 units under management for the Conventional Public Housing program, which has been in effect since 1937.

This project has two major work tasks:

1. An Evaluation of whether or not the Section 8 Existing (or Finders Keepers) program is reaching its intended target population; and if not, to determine what HUD and Public Housing Authority (PHA) policies should be changed so that it does.
2. The Development of an Occupancy Indicator System for the Section 8 Existing Program using existing or readily obtainable data, that will provide periodic assessments to HUD and PHA staff of the effectiveness of local performance in reaching the intended beneficiaries.

This report is part of the Occupancy Indicator System Project: the second work task referred to above. In the planning stages of the indicator task, it was felt that the development of an indicator system should utilize the present Section 8 Tenant Characteristics data base (LIAPS) before exploring other alternatives. This was felt to be appropriate for several reasons.

First, it was known that the summary reports produced by Washington from this system were not useful at the Regional, Area Office, or PHA level. The reports themselves contain nothing but raw counts, and do not provide comparisons. In addition, they are rarely produced at the Regional level, and never at the Area Office or PHA level. Second, it appeared that this system contains a wealth of data items, many of which could be combined in ways that would produce needed statistics for Regional and Area Office decision-making without imposing new reporting requirements on the Public Housing Authorities, which are the source of the data. Finally, the preparation of the data input forms by the PHA's was reputed to be extremely time-consuming, and it was felt that strong efforts should be made to make use of the existing system to justify this expenditure.

From the outset, the Project Team was aware of severe deficiencies with regard to the quality of the data in the LIAPS-HAP 1 system. Accordingly, the first task of the project was to assess the quality of the data, to identify specific problems and their causes in order to take steps within the Region to resolve the data accuracy problems before proceeding further with the use of the data. During this process it was determined that the problems with the data system were so severe, that resolving local implementation problems would make little difference to the low quality of the data. Therefore, it was decided to document these problems so that Departmental actions could be taken to improve the system for collecting beneficiary data.

B. Methodology

1. Data for the Section 8 Existing Program

In order to assess data quality, two major activities were undertaken. The first was to obtain copies of the 1976, 1977 and 1978 data tapes on Section 8 Existing tenant characteristics (the Lower Income Assistance Program System -- LIAPS-HAP 1) from Washington, and to perform a series of computer runs and comparisons with other data systems, such as the Section 8 MIS, to assess the accuracy and completeness of the data.

The second activity was an on-site review of the original source documents and local procedures that are used to prepare the source documents for input to the system. This was done in six Region IX PHA's: the City of Los Angeles Housing Authority, the Oakland Housing Authority, the Orange County Housing Authority, the Alameda County Housing Authority, the Merced County Housing Authority and the Imperial Valley Housing Authority.

The computer analysis consisted of producing means, minimums and maximums on all of the data items to check for logical consistency. Missing data was checked for all variables appearing in the data base and special listings were prepared to identify the nature and the extent of blank cases found in LIAPS. The total cases for each PHA in Region IX were checked against the totals reported by that PHA as of the same reporting date in the monthly Section 8 MIS. The total number of PHA's reporting was checked against a master list of PHA's with Section 8 ACC's in this Region.

During the on-site review, the procedures used to fill in the documents were examined. A statistical sample of files was reviewed, and the initial source of the data and the data as it appears on the form that is sent to Washington was cross-checked. In addition, the clerk, who prepares the report which is submitted to Washington, was interviewed to determine how and when the report was filled in. Finally, each PHA was asked to estimate the staff costs of filling in the document.

2. New/Rehab and Loan Management Data

Although it was not the original purpose of the project to assess the quality of the Section 8 New Construction, Substantial Rehabilitation or Loan Management data, as the field work progressed, system-wide deficiencies became apparent which affected this data as well. Since this data is in the same data base, our report also contains a brief assessment of the data for these programs. This analysis is based on a comparison of the LIAPS data and the Section 8 MIS. In addition, basic descriptive statistics were generated for these programs and examined for logic.

The remainder of this report is divided into three sections. The first describes the logic of LIAPS and the programs it is intended to support. The second details the major findings and conclusions of the effort, while the third section outlines the recommendations that the Project Team has developed as a result of the findings. In addition, there is an appendix to the report which contains (1) copies of the original HUD forms and instructions which are the input to LIAPS; and (2) descriptive statistics generated from the LIAPS data for Region IX and the country for 1977 and 1978.

III. DESCRIPTION OF LIAPS

A. Overview of the Section 8 Programs

In order to understand the LIAPS data system, it is necessary to review the programs that the system supports. Briefly, the Housing Act of 1974 authorized HUD to implement a new form of housing subsidy that would permit the assistance to follow the person and not the unit. In addition, the Act authorized the construction and renovation of multifamily structures that would then be subsidized. Briefly, the programs are structured as follows:

- The Section 8 Existing (or Finders-Keepers) Program subsidies are administered by approximately 2,000 local Public Housing Authorities throughout the country. Potential applicants receive a "certificate" which enables them to search for an acceptable unit, or to stay in place to receive the subsidy. The PHA then contracts with the landlord to pay a portion of the rent so that tenants pay no more than 25% of their income for the rent and utilities.
- The Section 8 New Construction Program subsidies go directly to a project developer. HUD enters into a commitment with a developer to subsidize the rent of tenants who meet the eligibility criteria, so that they pay no more than 25% of their income for rent and utilities. The subsidy also covers the rent of vacant units in the project, if any. The developer builds the projects, screens applicants, and rents to appropriate tenants.
- The Section 8 Substantial Rehabilitation Program is similar in kind to the Section 8 New Construction Program, except that the developer will renovate an existing multifamily structure.
- Section 8 Loan Management Program subsidies go to other HUD-insured and previously assisted multifamily projects (such as Section 236 or 221(d)(3)) which were in default, or had financial difficulties. In these projects, the subsidy goes to the project and not to the tenant, as with the Section 8 New and Rehab programs.

B. Purpose of LIAPS

LIAPS was developed in 1975 when the Section 8 program first began, to "determine the effectiveness of the (Section 8) program as well as answering congressional inquiries concerning implementation." It was anticipated that the major users of the system would be in Central Office, and that the system would be used for "evaluation, statistical, and analytical" purposes. Secondary use of the system was anticipated for the Regions and Area Offices, and by Central Office for management and control purposes.¹

The system was not intended to be an operational data system, where the emphasis is on tracking individual projects and funds obligation. Instead the system was to be updated twice a year, and was to provide demographic data on Section 8 beneficiaries, as well as basic information on the unit and the subsidy for tenants under this program.

The system produces a variety of tables at the national level. These reports are said to be used for budget purposes and for answering special requests from Congress. They are also used for entry into the HUD Statistical Yearbook, which is the Department's official statistical publication for outside researchers.

C. Data in LIAPS

The heart of LIAPS is the data which appears on the Application for Tenant Eligibility (HUD Form 52659), which is used to determine each applicant's eligibility. This form contains information on family size, income, race, head-of-household status, and previous housing status. The application itself is composed of two sections. (See Appendix A for a copy of the Application.) The first part is written information about the applicant, while the second section (Part II) consists of the same information recorded into pre-coded response categories. Once the first part (Part I) of the application is filled out, the second part is coded by the project or PHA staff. The data which eventually makes its way into the LIAPS data base is the data on the Part II of the application.

Additional data items in the system are the amount of the subsidy, rent paid, the Census tract and locality codes. Data is entered twice a year into the system on all new tenants who have begun receiving program benefits within the past six months, as well as all previous tenants who have had their eligibility recertified for the program within the past six months.

1. HUD Systems Description Handbook, page 213.

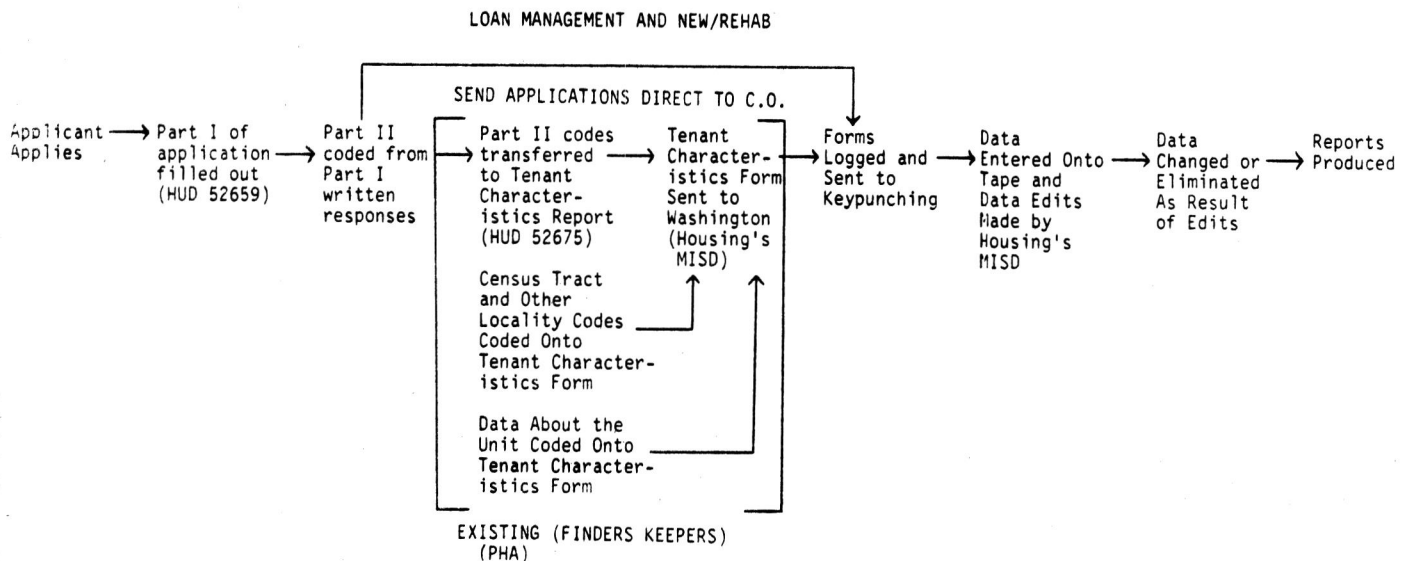
Since the beginning of the program, three separate files have been created for LIAPS: one for the June and December data of 1976, one for the June and December data of 1977, and one for the June and December data of 1978.

Each tape contains Existing, New, Rehab and Loan Management data. There are 284,650 records on the 1977 tape, and 37,150 on the June 1978 tape (including blank cases). Reports are run on the data at mid-year, and then the June and December data are merged at the end of the year and the official year-end report run. Terminated tenants are not removed from the system.

D. Data Flow From the Field to Washington

For the New Construction, Rehabilitation and Loan Management Programs, the project owners are responsible for submitting the form to Housing's Management Information System Division in Washington. For the Existing (Finders-Keepers) program, the Public Housing Authorities transfer the data from the Part II of the Application form to the Family Characteristics Report (HUD Form 52675), as well as additional data about the rent, subsidy from other sources in the tenant's file and send that form to Washington. When the reports reach Housing's MISD, they are logged in by a clerk, and sent to a contractor for keypunching. The data is then entered into the HUD computers. (See Figure #1)

FIGURE 1: Flow of Data



E. Edit Checks

Once the data is received from the keypuncher, it is run through an edit program. This program is designed to flag three problems with the data. First, the project numbers in LIAPS for all the tenants within that project are to match with the project numbers in the Section 8 MIS¹. It is assumed for the most part that the project numbers in the Section 8 MIS are complete and accurate, since this is the system that is used for operational and funds obligation purposes, and it is updated monthly. If there are project numbers in LIAPS that do not match the Section 8 MIS, the entire transaction is printed out on an error listing and the transactions are not posted to the master file until the error is corrected, or unless the error is overridden and "forced" into the master file.

Second, each data item is checked for the appropriate report date. During 1977, because it was felt that the program was just starting, this criteria was not used, and accordingly, there is 1976 data in the 1977 data base. This criteria was used for the June 1978 data however. Third, data on a particular tenant was not to be entered into the system if it did not contain an entry in the fields for "Census Tract". However, due to the fact that very few of these entries have ever been made by project managers or PHA's, this criteria has been relaxed for all entries to the present date.

If a record fails the edit criteria, it is printed out on an edit report which is sent to Housing Management Information System Division. At this point, the errors are to be individually checked against the data input forms (the Applications for the New, Rehab and Loan

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1. It is perhaps self-explanatory what a New, Rehab or Loan Management "project" is, and hence what a project number for each multifamily project is. The units for each Public Housing Authority are also given out in "projects," i.e., large blocks of units. PHA's are required to report to HUD on these blocks of units. However, there is no locational meaning to the "project" for a PHA and it is merely a record keeping device for HUD.

Management programs, and the Tenant Characteristics Report for the Existing program). Corrections are to be made, the record sent back to the keypuncher, and then the item is to be re-entered into the system. Since the transactions are batched and sent to the keypuncher periodically, this process is not thought to seriously slow down entry of data to the system.

As mentioned above, it is possible for entries which fail the edit criteria to be "forced" back into the system if the staff of Housing's MISD scan the edit listing and the data entry form and have reasons for including the entry.

IV. FINDINGS AND CONCLUSIONS

Despite the inclusion of many potentially useful data items, the Section 8 Tenant Characteristics Data System is inadequate for planning and evaluation purposes at any level of the department due to serious system biases, the poor quality of the data in the system, and the lack of relevant and meaningful output reports.

Implementation and system design problems plague the system from start to finish. Not only is the data entered into the system incomplete, but the lack appears to be systematically linked to variables of interest at the local level, such as type of population served. In addition, inconsistent and inaccurate data collection procedures at the local level cast doubt upon the data that is actually contained in the system. It also appears that many coding and keypunch errors are allowed to remain in the system, which further limits the use to which the data can be put. However, even if the implementation problems were solved, the data in the system would still not be suitable for planning and evaluation purposes, due to the presence of a bias in the design of the system which prevents the data base from providing an overall picture of the tenants in the program at any one point in time, or over the course of a year unless it is properly weighted. Finally, none of the output reports are designed for management purposes at any level of the Department, nor are they useful for Regional or local management purposes.

The remainder of this section describes the four major problems which limit the usefulness of LIAPS in greater detail.

- Conceptual Problems with the Data System
- Completion Problems with the Data
- Accuracy Problems with Recording the Data in The Field
- Accuracy Problems Due to Improper Keypunch
Instructions and Data Cleaning Procedures

A. CONCEPTUAL PROBLEMS WITH THE DATA BASE

CONCLUSION: The design of LIAPS contains two serious biases which prevent it from ever being able to present a picture of the active tenant population at any one point in time.

Finding #1: The exclusion of elderly, disabled and handicapped tenants who have not been recertified during the calendar year, seriously biases the system and prevents it from producing accurate data on the active population in the Section 8 program at any one point in time.

As is evident from the preceding section, neither project owners nor the PHA's report on all their active tenants at one point in time. If PHA's are diligent about reporting, and the edit checks do not eliminate substantial amounts of data, it is only possible to have data in the data base about 1/2 of the active tenants at any point in time. This may not be seen as a serious flaw, since theoretically one could regard the data as a sample of the universe at that point in time. However, not only is data about new applications entered into the system, but data about recertifications as well. Data about recertifications, however, is not required for every tenant each year. Elderly, handicapped, and disabled tenants need be recertified only every other year and thus are not entered into the system at the six-month, or yearly end point in time.

Therefore, to regard the June or December data as a sample of half the program's participant will result in a serious bias in results. To run the reports for the year on the June and December data combined, as is the present practice, will also result in a serious bias. Reports are presently run for the HUD Statistical Yearbook on "Move-Ins" and "Recertifications" separately. However, the data thus portrayed does not solve the problem because it is run on December and June data combined. Insofar as the data is used to estimate the subsidy amounts for future budget estimates the error is indeed a critical one, since elderly and handicapped are underestimated.

Finding #2: Inclusion of data about the terminated tenants seriously biases the LIAPS data base.

In addition to the recertification problem, there is another bias to the system which may be as serious. Combining the "as-of" data for June and December does not permit tenants who terminate from the program to be removed from the system or to be identified as such on the output reports.

Again, this bias invalidates the data in the system and all reports produced by the system. The termination bias is particularly troublesome when the diverse practices of the PHA's which fill in the data, are taken into account. A PHA may record its tenants onto the "Family Characteristics Report" as of a particular date, or it may continue posting data to the form as recertifications are done or new tenants go to contract. Our survey indicated that terminations might run as high as 20% of all tenants in Region IX. Our preliminary analysis further indicates that there are statistically significant differences between terminees and active tenants with regard to race, family size, and amount of income. Therefore, to leave the terminated tenants in the data base without identifying them as such, will render the data useless for planning and evaluation purposes. Although more definitive conclusions must await the final analysis of the beneficiary data from the evaluation portion of this project, it appears that the inclusion of terminees in the data base would result in over-estimates of elderly and minority families.

Finding #3: The average daily balance concept, when applied to LIAPS appears to provide information about the program that is "roughly right," for demographic data, but it is not close for the dollar variables. In addition, the range of accuracy for the demographic variables is such as will preclude detailed and precise comparisons of the Section 8 tenant population, to the population in general, for example.

Central Office PD&R has proposed overcoming the system's conceptual problems by weighting the data base to compensate for the under-reporting of elderly and handicapped families, and the inclusion of the terminated tenants. Such a scheme would consist of the following elements:

- Recertification data for elderly, handicapped and disabled families (which is collected once every two years on each family) would be weighted double.
- Recertification data on families (which is submitted each year) would be weighted once.
- Initial data on families, elderly, handicapped and disabled family units would be weighted 1/2 (or by the percent of the calendar year they were receiving benefits).

It is felt that the presence of the terminated tenants in the data base would not bias the results, because data produced from the data base would not be a snapshot of the active tenant population at any one time, but would represent the average daily tenant population during the calendar year in question.

As long as analysts are aware of the constraints of the data, there appears to be no major conceptual problems to this approach. However, if the weighting scheme is adopted, data need not be collected twice a year. In addition, implementation problems will not be solved by using this approach.

In order to test the feasibility of this approach, PP&E in Region IX weighted the CY 1977 LIAPS/HAP 1 data base in this manner, and compared it to similar statistics produced by the national evaluation of the Section 8 Existing program that collected data in 1976. (See Table 1) Although part of the discrepancy that exists between the two sets of data can be attributed to the time difference in the subject population, part can also be attributed to serious under-reporting problems (as outlined in the following sections of this report), and to the difference between the "average daily balance" and the "snapshot" concepts.

Table 1: Comparison of LIAPS/HAP 1 for CY 1977 and Nationwide Evaluation Data from CY 1976 for Selected Demographic Variables

	All Participants		Movers		Stayers a/	
	LIAPS	Evaluation Data	LIAPS	Evaluation Data	LIAPS	Evaluation Data
62 Plus	33%	33%	75%	75%	66%	59%
Under 62	67%	67%	24%	25%	34%	41%
Non Minority	68%	63%	63%	60%	67%	67%
Minority	32%	37%	37%	40%	33%	33%
(Black)	(20%)	(27%)				
(Spanish)	(9%)	(10%)				
(Other)	(3%)	(1%)				
Family Size						
1	36%	39%	31%	31%	NA	45%
2	25%	22%	27%	25%	↓	19%
3-4	27%	29%	30%	33%	↓	26%
5 plus	11%	11%	12%	11%	↓	10%
Number of Bedrooms						
0	4%	2%	NA	NA	NA	NA
1	41%	36%	↓	↓	↓	↓
2	37%	38%				
3	13%	21%				
4 plus	5%	3%				
Annual Income	\$3,961	\$3,535	\$3,820	NA	\$4,012	NA
Male HH	28%	22%	28%	22%	27%	22%
Female HH	72%	78%	72%	78%	73%	78%

Source: Analysis done by HUD Region IX's PP&E from a 1% weighted sample of the LIAPS/HAP 1 from 1977, and from Lower Income Housing Assistance Program (Section 8), Department of HUD, Washington, D.C., 1978, Tables 1, 2 and 6.

a/, Excluding Recertifications

As is evident from the above data, there is no consistent pattern of differences between LIAPS and the survey data. Some figures, such as the elderly/family split, are remarkable consistent, but others such as minority, family size, number of bedrooms, annual income and sex of head-of-household are off anywhere from 5 to 10 percentage points. Perhaps the most important conclusion that can be drawn from this comparison, is that the data from LIAPS does reflect the tenant population of Section 8, with an error of plus or minus 10 percentage points. This means, however, that differences between categories of interest, or populations of interest, must be significantly greater than 10 percentage points to have policy implications.

B. COMPLETENESS PROBLEMS WITH THE DATA

CONCLUSION: LIAPS data is consistently and considerably under-reported, and the under-reporting appears to be systematically linked to variables of importance at the local level.

In order to determine the completeness of the data presently in the system, PP&E obtained the 1977 and the June 1978 LIAPS-HAP 1 data tapes for analysis by the Survey Research Center at the University of California at Berkeley. Analysis was not done on the 1976 tape because the tape format had changed considerably between the 1976 and 1977 data submissions. Four comparisons were made.

First, a comparison was made of the total units reported on on in LIAPS against the Section 8 Management Information System. This was done for the nation and for Region IX. This latter system, the LIAPS-HAP 2, uses the HUD Forms 52683 and 52684 as the primary data input, and is updated monthly. Both PHA's and project owners send monthly totals of the units actually occupied as of the end of the month to the Area Office, where staff check the submissions, and forward the data to Central Office by the 12th working day of the month. Although there are some gaps in reporting, the Section 8 MIS is used in the Department's monthly management meetings for reporting on lease-up rates of the Region and Area Offices, and can provide a benchmark to compare the LIAPS totals against. There is little likelihood of the two figures being exactly the same, but program staff estimate that the Section 8 MIS data at least understate the totals. This makes the figure a conservation one to use to assess LIAPS completeness by.

Second, for Region IX, the total number of projects or PHA's reporting in each program category for both years in LIAPS was compared with the total number of projects or PHA's that had been reported by the Section 8 MIS to have reached occupancy. Third, an estimate was made of the total number of cases in those reporting projects or PHA's which had been reported upon in LIAPS. Fourth, listings of a 5% sample of the 1978 data base, and a 1% sample of the 1977 data base were made to check for other problems in completeness. The remainder of this section describes the findings which resulted from this analysis.

Finding #1: Overall, the LIAPS data for 1977 contained data on 61% of cases reported in occupancy by the Section 8 MIS, and only 9% of the cases for 1978.

Although 327,072 units were reported in occupancy by the Section 8 MIS at the end of CY 1977 for the Nation as a whole, LIAPS contains data on only 200,087, 61% of the total cases. This pattern is repeated for the June 1978 data with 37,150 cases in LIAPS compared to the 404,675 that were reported in occupancy at that time, or 18% of what could be anticipated. (See Table 2)

Table 2: Comparison of LIAPS/HAP 1 and Section 8 MIS Occupancy Data for CY 1977 and June 1978 for the Nation

	CY 1977 Data			June 1978 Data		
	c) LIAPS/HAP1	a) SEC 8 MIS	%	b) c) LIAPS/HAP1	a) SEC 8 MIS	%
New Construction + Rehab Units Reporting	17,831	27,713	64%	7,634	45,232	17
Projects Reporting		478	NA		749	NA
Loan Management Units Reporting	69,806	82,218	85%	19,805	93,530	21
Projects Reporting		1,451	NA		1,581	NA
Existing (Finders Keepers) Units Reporting	112,450	217,141	52%	0	265,913	0
PHA's Reporting		2,184	NA		2,646	NA
TOTAL Units Reporting PHA's + Projects	200,087	327,072	61%	37,150	404,675	9
		4,113	NA		4,976	NA

Source: Analysis done by HUD Region IX's PP&E from the LIAPS/HAP 1 and the Section 8 Management Information System, December 1978.

- a) Since some projects and PHA's report irregularly, the Section 8 occupancy figures were estimated by taking all those reporting as of December 1977 (or June 1978), as well as all those reporting in November of 1977 but not in December (or in May of 1978, but not in June).
- b) Only half of the total population in occupancy can expect to have been reported in LIAPS in June. Therefore, the percentage figure should be 50%.
- c) From Central Office tables.

Although Region IX's performance was slightly better than the national for New/Rehab and the Loan Management program in 1977, with 92% reporting, they did slightly worse insofar with respect to PHA reporting with only 42% of the eligible units reporting as compared to the national average of 52%. (See Table 3)

Table 3: Comparison of LIAPS/HAP 1 and Section 8 MIS Occupancy Data for CY 1977 and June 1978 for Region IX

	1977 Data			June 1978 Data		
	LIAPS/HAP1	Sec 8 MIS a)	%	LIAPS/HAP1 b)	Sec 8 MIS a)	%
New Construction + Rehab						
Units Reporting	1211	1320	92	438	2,460	18
Projects Reporting	NA	17	NA	14	34	41
Loan Management						
Units Reporting	13,360	14,449	92	3,918	16,194	24
Projects Reporting	NA	241	NA	38	254	15
Existing (Finders Keepers)						
Units Reporting	15,202	36,290	42	0	48,736	0
PHA's Reporting	61	102	60	0	265	0
Total						
Units Reporting	29,773	52,059	57	4,356	67,390	6
PHA's + Projects		448			553	

Source: Analysis done by HUD Region IX's PP&E from the LIAPS/HAP1 and the Section 8 Management Information System, December 1978.

- a) Since some projects and PHA's report irregularly, the Section 8 occupancy figures were estimated by taking all those reporting as of December 1977 (or June 1978), as well as all those reporting in November of 1977 but not in December (or in May of 1978, but not in June).
- b) Only half of the total population in occupancy can expect to have been reported in LIAPS in June. Therefore, the percentage figure should be 50%.

The general pattern of under-reporting is repeated in all four program areas, with the problem the most severe for the Existing (Finders-Keepers) program. Only 64% of the units, which were in occupancy for the New Construction and Rehabilitation programs in 1977, were in LIAPS, and 85% of the Loan Management cases. Although one would anticipate that reporting procedures would have improved for 1978, only 21% of the anticipated New cases were in LIAPS, 6% of the Rehabilitation cases, 17% of the Loan Management cases, and no Section 8 Existing (Finders-Keepers) cases were in the data base for June 1978.¹

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1. It must be remembered that we would only expect half of the total occupancy reported in the Section 8 MIS to be reported by June 1978, because of reporting procedures.)

Finding #2: The LIAPS data for the Existing (Finders-Keepers) program is under-reported, not only in terms of the total amount of the data reported in this system, but also in terms of entire PHA's missing from the system.

It is not possible to regard the under-reporting in LIAPS as being evenly and randomly distributed throughout the country, since it appears that the non-reporting is linked to certain variables of importance at the local level, such as whether the PHA serves an inner-city population or not. This can be illustrated by examining the data for Region IX in greater detail.

- a. For the Section 8 Existing program in Region IX, only 61 (60%) PHA's of the 102 with Section 8 units in occupancy, had data recorded in LIAPS for 1977. Among those PHA's for which data is not in LIAPS are the City of Los Angeles Housing Authority (with about 7,355 units in occupancy at that point in time; they were and are the PHA with the largest Section 8 program in the country); the Oakland Housing Authority (696 units reported in occupancy at that point in time); Sacramento City and County (with a combined total of 327 units at that point in time); Santa Barbara County (740 units in occupancy as of 12/77); Fresno County (618 units); and Monterey County (724 units). (See Table 4)

Table 4: Region IX PHA's with Section 8 Units Reported in Occupancy But With No Entry in LIAPS

<u>Public Housing Authority</u>	<u>PHA Identification Number</u>	<u>Section 8 MIS Units in Occupancy As Of 12/77</u>	<u>Public Housing Authority</u>	<u>PHA Identification Number</u>	<u>Section 8 MIS Units in Occupancy As Of 12/77</u>
Glendale, AZ	04 003	201	Monterey County, CA	06 033	724
Tucson, AZ	04 004	510	Butte County, CA	06 043	64
Nogales, AZ	04 023	65	Kings County, CA	06 053	0
Chandler, AZ	04 028	43	San Jose, CA	06 056	431
Pima County, AZ	04 033	190	Berkeley, CA	06 058	200
Cochise County, AZ	04 034	73	Pittsburg, CA	06 060	123
San Francisco, CA	06 001	455	Fairfield, CA	06 065	16
Oakland, CA	06 003	696	Madera, CA	06 069	60
City of Los Angeles, CA	06 004	7355	Santa Paula, CA	06 075	46
Sacramento (city)	06 005	183	Carlsbad, CA	06 077	78
Sacramento County	06 007	144	Culver City, CA	06 010	68
Santa Barbara County, CA	06 021	740	Dept Housing & Community Develop-		
Riverside County, CA	06 027	618	ment, CA	06 112	293
Oxnard, CA	06 031	156	Glendale, CA	06 114	136
Port Hueneme, CA	06 032	47			

Source: As analyzed by PP&E/HUD Region IX from the Section 8 MIS, and from LIAPS/HAP 1 Data Base, January 1979.

Follow-up with the City of Los Angeles and the Oakland Housing Authority indicates that both are in the process of automating the production of the Family Characteristics Report due to their large number of active tenants. Since automation is not completed, they have not submitted the report on Section 8 tenants to Washington for 1977 and June of 1978.

- b. For those PHA's in Region IX who did report in 1977 to the LIAPS-HAP I system, only 75% of their active tenant population had data in the system. Even if a PHA did submit data, they did not submit it on all of their active population. The lack of data on the elderly population due to the elderly recertification bias referred to above may account for some of this under-reporting, but this should be partially compensated by the inclusion of terminated tenants and, therefore, does not totally explain the under-reporting. Preliminary estimates indicate that the smaller PHA's report the most accurately, while the larger PHA's have the largest number of units not reported.

One explanation for the low number of cases on the system is that some PHA's may have submitted the December 1977 data late. If this occurs, the data will be keypunched and entered on to the 1978 data flow. Since the report date edit criteria is being used strictly this year, the 1977 data will not be posted onto the 1978 data base. However, no mechanism exists for posting onto the 1977 data base. Hence, this data will not become part of any data base.

- c. There was no data for any of the PHAs for June 1978 due to system problems. Although many PHA's did submit the "Family Characteristics Report" for this reporting period, an error with the project number resulted in the data being outputted as errors on the error listing. These were not corrected in time for the production of the June 1978 data tape, but were entered as part of the December 1978 update.

Finding #3: The Loan Management data not only shares the problems outlined above, but has additional problems which further undermine the credibility of the data.

The problems with the Loan Management data in LIAPS are more severe than with the other programs due to the inclusion in the data base of records with project numbers that do not match, and with what also appear to be serious coding or keypunching errors. First, while it was possible to compare the New and Rehab project numbers in the MIS to those in LIAPS to obtain a rough estimate of those reporting, it is not possible to do so for Loan Management projects. Because Washington staff wanted as much data in the system as possible for this particular program, the project number edit for Loan Management data was relaxed. Therefore, there are many project numbers in LIAPS which do not match those in MIS. In addition, there are project numbers in LIAPS which are obviously in error. Each Area Office in Region IX on the LIAPS tape shows at least one project number cited as "M0000," which is theoretically not possible since zero is never assigned as the last digit for project numbers.

In addition to the above mentioned problems with the Loan Management data, there is also another problem that casts doubt upon the validity of all the LM data. For the other program categories, usually more units were reported per project in the MIS than there were entries in LIAPS. This makes sense because the Section 8 monthly occupancy system is better monitored than the LIAPS for data submission. However, many of the Loan Management projects reported on in LIAPS, had units in excess of those reported in the MIS. This could be due to coding or keypunching errors. If this is the case, however, it casts doubt on the validity of all of the data which cannot be checked in this manner.

Finding #4: Individual variables have serious completeness problems.

There is no data in the system for "Very Low Income Limit", which is the \$ figure per year which is used to determine the percent of tenants in that category in each PHA or project. This figure varies by jurisdiction, by family size and over time. In addition, there are no entries for the "Very Low Income Indicator," and only 44% of the cases have a value in the "Eligibility Classification" code. There were few to no entries for Census Tract in our 1977 tape, and what few

entries we found on our 1978 tape were garbled and did not resemble Census Tract numbers. Although it was our understanding that "Contract Rent" was computed for all programs, our 1977 tape contained this variable for only 43% of the reporting cases.

C. ACCURACY PROBLEMS WITH RECORDING THE DATA IN THE FIELD

CONCLUSION: Inconsistent and inadequate practices in recording and posting the data in the field cast doubt upon the accuracy of individual data items in LIAPS.

Errors in recording and coding the data can arise at five points in the transmission of the data from the "real world" to LIAPS, for the Existing program data, and at four points for the other programs: (1) Representation of the data by the applicant; (2) Recording of the data to the first part of the Application; (3) Coding the data from the first to the second part of the Application; (4) Recoding the data from Part II of the application to the Tenant Characteristics Report; and (5) Key punching. The following discusses how errors in LIAPS arise at each of these points.

Finding #1: Applicant Representation of Information is accurate to the extent PHA's require verification.

The applicant can knowingly or unknowingly misrepresent his or her family characteristics. To the extent that the PHA requires verification of all the data required on the application, the chances for error at this point are reduced. During the six case studies done in this Region, we found that all PHA's required written documentation of the income data, and some made direct contact with the bank, welfare agency or employer themselves. However, all PHA's operate somewhat differently in the extent to which the applicant's representation of all the data items is taken as the truth. For example, although one PHA may require a birth certificate to ascertain age for the elderly, they may not for family applicants. Another PHA may ask the applicant, while another may let the applicant record the data on the Part I of the application himself or herself. Overall, there is no consistency from PHA to PHA at this step. Although field practices were not reviewed for New, Rehab or Loan Management projects, it is not anticipated that they would be more consistent or scrupulous than the PHA's.

Finding #2: Recording the Data to Part I of the Application was found to be inconsistent from PHA to PHA, both with regard to interpretation and with respect to the time period.

In our case studies, we found that five PHA's had the PHA staff fill in the relevant information on Part I of the application, while the sixth PHA assigned this task to the applicant in his or her home before the application was mailed in. In several PHA's this data was updated by "whiting out" the original information, if there was a substantial period of time between the application and the time the applicant was eligible to receive a certificate. In other PHA's a new application was filled out with the updated information. A similar procedure was followed if there were a substantial period of time between the time the applicant received the certificate, and the time he or she began receiving benefits under the Section 8 program. In two PHA's, if the application information was updated before tenancy, a second application form with partial information was added to the file.

Although the "Family Characteristics Report" is to be prepared from the information about the tenant at the time the tenant actually "moves in" this was not uniform for all PHA's surveyed and in some PHA's the data reflects the status of the tenant at the time the application was taken. It would be possible to verify the data at this step by comparing the Part I information to the same data independently requested from the applicant or tenant. However, this was beyond the scope of the study.

Finding #3: For several data items, substantial errors were made in coding the data onto Part II of the application and for the remainder of the data items there was no consistency from PHA to PHA in how the data was coded.

Most of the data items on Part II of the applications are coded from the first part of the application. This is usually done by the Eligibility Worker at the PHA. Our analysis of the Part I and Part II data in the six case study PHA's indicated that comparability between the data recorded in Part I, and then coded in Part II, varies widely depending upon the PHA and upon the individual Eligibility Worker.

Most frequently miscoded are "Source of Income," "Present Housing Status," "Present Housing Cost," "Displacement Status." "Total Number of Minors" and is subject to a great deal of judgment, and is therefore coded inconsistently from worker to worker, and PHA to PHA. For other variables, it was not possible to double-check against the Part I, or narrative information in the files. The exact nature of the coding problem varies for each data item, however. (This is described for each variable as part of the "Comments" section of the codebook in Appendix A.)

Finding #4: There was no consistency from PHA to PHA in the procedures used to code data from the application or other documents to the "Family Characteristics" Report.

The study team did not develop a test to ascertain how much of the data error was attributable to this process. However, at each of our six case study PHA's, we found a wide variety of methods used to transfer the data from Part II of the application form to the "Family Characteristics Report." As mentioned earlier, in one PHA the staff waited until the reporting date approached, and then the active files would be pulled to record the relevant data (this PHA had almost 2,000 tenants under contract), while another large PHA would record the data on to the form as the recertifications were done, or as the applicant became a tenant throughout the six-month reporting period.

One of the Area Offices in this Region has a staff person who reviews the "Family Characteristics Report" for computation errors in payments and subsidies, as well as other general checks. The reviewed form was seen in one PHA with many errors noted as a result of this process. The PHA corrected the errors and resubmitted the form to Washington as an amendment. However, amended data cannot be posted to the system because of the lack of an identifier for each tenant, and so this corrected data is merely thrown away. There is no national feedback mechanism to the PHA for verifying the data, so as long as the data which goes in looks "right," there is no incentive to cross-check the accuracy by anyone in the PHA.

During our data collection effort for the case study, the Study Team found that it was often difficult to determine which recertification form or which application to use to extract data, especially if the tenant had changed incomes throughout the year, or if he or she had moved more than once since becoming a Section 8 applicant. It is felt that this would be more difficult for a clerk with many other duties. Therefore, our assessment of the errors made for recertifications or tenants who have moved is that they are high.

Finding #5: Keypunching Errors

The original plan of the Study Team was to obtain listings from the LIAPS data base, and to send them to each PHA to reverify against their original submissions of the Tenant Characteristics Report so that keypunch (and other system) errors could be recognized and changed.¹ In doing so, an assessment of inaccuracy due to keypunch error would have been possible. However, because of the lack of completeness of the data in the data base, it was determined that the resolution of errors of this type would cause only minimal improvement, and this step of the analysis was abandoned. In analyzing a 1% sample of the 1977 data base, we found that about 4% of the cases had erroneous state codes, which could be due to a keypunching or coding error. In addition, a Central Office source in Housing MISD estimates that 4% of the error listings flagged by the edit criteria are due to keypunching errors or other coding errors.

D. ACCURACY PROBLEMS DUE TO IMPROPER KEYPUNCH INSTRUCTIONS AND THE LACK OF DATA CLEANING PROCEDURES

CONCLUSION: The Reports presently generated by Washington, as well as others generated by the Region IX Study Team contain measures of central tendency which are showed due to the retention of extreme values in the data base, and due to using zeroes for missing data on rents and subsidy payments.

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1. Although there is no identifier for each case in the data base, the cases are generally in the data base in the order that they were recorded on the Tenant Characteristics Report and could theoretically be traced back.

Finding #1: Blank cases coded as zero will cause critical variables such as the Housing Assistance Payment, and the Fair Market Rent to be underestimated where an average is computed.

Key punch instructions for all the Section 8 programs require that blanks be zero filled. This poses no problems for variables where zero is not a valid response. However, for variables such as bedroom size, number in the family, and all the dollar amounts where "zero" is valid, this convention will result in an underestimation of the value. To determine the extent of the problem, we used zero as a missing data code where zero was not appropriate to estimate the percent of cases falling into this category. 57% of the Contract Rent cases were coded zero, 2% of the Housing Assistance Payment cases, and 1/2% of the Gross Fair Market Rent cases. For other variables it was not possible to distinguish between valid zeroes (such as Net or Gross Family Contribution) and zeroes indicating missing data.

Finding #2: Obviously incorrect data is permitted to remain in the system.

It is evident from looking at the preliminary analysis of both Region IX and the national data for 1977 and 1978, that obviously incorrect data is permitted to remain in the system. (See Table 5).

Table 5: Examples of Extreme Values Found in LIAPS for Region IX Section 8

Program Variable	1977			1978		
	New	Loan Management	Existing	New	Loan Management	Existing
Number in Family	6	67	50	7	24	N.A.
Number of Minors	5	9	10	5	23	N.A.
Total Annual Income	\$11,278	\$44,398	\$46,880	\$14,260	\$39,254	N.A.
Total Eligibility Income	\$11,278	\$88,352	\$60,003	\$39,799	\$34,448	N.A.
Lower Income Limit	\$14,350	\$99,000	98,800	\$16,050	\$97,500	N.A.

Source: Analysis done by HUD Region IX's PP&E from the LIAPS/HAP 1 data

Both the maximum values for family size and income variables were clearly in error. The maximum family size in Region IX was shown as 50 for the Existing program and 24 for Loan Management participants, while the data showed a maximum of 23 minors for Loan Management families. The income data, as well as the income limit data, had similar errors. The 1977 data showed a maximum "Annual Income" for the Existing program of \$46,880, which appears unlikely, and the June data for Loan Management has a maximum of \$39,254 which also appears improbable. Similar errors were found for the "Eligibility Income" limit.

In addition, data for the "Lower Income Limit" fields were found to contain extreme and incorrect data. The 1977 data for the Existing program had a maximum value of \$98,800, and Loan Management in June 1978 had a maximum of \$97,500. The maximums for the program are set by HUD, and although they vary by area, family size, and time period, these values are well beyond the published limits.

Similar errors are revealed when the cross-tabulation produced by Central Office is examined. These tables show a family size of 9 living in an efficiency apartment, for example. In addition, some variables had strange values when preliminary descriptive statistics were run. For example, the average monthly Net Family Contribution on our 1% sample of the 1977 data tape was \$580.51, clearly higher than the average Gross Family Contribution of \$79.80, or the Fair Market Rent of \$188.51. These errors may be isolated cases, or they may be part of a systematic coding and keypunch error. It cannot be assumed however, that such errors are random and trivial and that they cancel each other out without further knowledge.

Errors such as these are commonly corrected for planning and evaluation data base through a cleaning program. The case is identified and flagged so that the data input document, or the original source, can be examined to correct the data base.

V. RECOMMENDATIONS

A. CAUSES OF THE SYSTEM PROBLEMS

Informal estimates from Washington indicate that the cost of LIAPS to the Department is approximately \$150,000 a year to operate, including keypunching the data, posting it to the system, and running the output reports. If one estimates the staff time of coding the "Family Characteristics Report" for the country by the PHA's at approximately \$70,000¹, the system has a cost to HUD of at least \$750,000 for the last three years. However, this system has not produced reports that can be used for serious analytical purposes. From a cost perspective alone, the system should either be changed or terminated. It should not be continued as it presently operates.

In order to develop recommendations about the type of changes that should take place, the causes behind the present system failure must be understood. Most of these causes are not unique to HUD, nor to LIAPS, but surround planning and evaluation (or "statistical") systems in most public agencies. The causes lie both with the conceptual design of the system, and with its implementation. The following details these causes.

1. Problems with the System Concept: The most serious biases to the data (the inclusion of terminees in the system, and the under-reporting of elderly, handicapped, and disabled individuals) results from designing the system as if it were an operational system to track internal processing and funds obligation on individual projects, as well as from the lack of use of the system for statistical purposes.
 - a. Lack of Understanding of Planning and Evaluation Data Systems: The problems with LIAPS are not unique to HUD. There appear to be a great many agencies, Federal, state and local, which lack an understanding of planning and evaluation data systems. The literature abound with examples of agencies with fancy data systems that contain

1. One suburban PHA estimated that it took three minutes per entry to prepare the Tenant Characteristic Reports including coding the Census Tract. At that rate, the actual coding for all 244,000 entries in the 1977 data base would have required 6 persons' years of clerical time, not including overhead. At a rate of \$7,000 per year, and an additional 50% for overhead, the total cost of data preparation in the field for 1977 was \$63,000. In addition, several large PHA's in this Region are developing computer systems to prepare the Tenant Characteristics Report. Their estimate of the cost involved to develop the systems was about \$5,300 for LA, and about \$300 to produce their report on over 8,000 tenants.

valuable demographic information, but which do not produce reports, or if reports are produced, are not used. If an agency does have a successful data system, it is apt to be an operational data system, where the quality is verified by use on a daily or monthly basis, and where the system is used to track individual projects.

Planning and evaluation data systems, by definition, provide information on the type of beneficiary served as well as other program outcomes, and if the system is complete, on program costs as well. However, most public agencies operating social programs have only a very hazy idea at best of whom they should be serving (outside of statutory criteria), and how much it should cost to serve a particular beneficiary group. This is due to the fact that many social programs were enacted based upon desired program outcomes, rather than upon evidence about the relationship between program strategy and program outcome. The result is that there are no clear guidelines for "program success" that the planning and evaluation system should report on.

However, there seems to be a strong feeling that even though no one knows how to use the data, that we in HUD are delinquent if we do not collect basic demographic data on our program beneficiaries. Hence, systems such as LIAPS come about where the emphasis has been on defining the input for the system, rather than on what measures should be included in the output formats. Since no one is clear about why the data system exists or what it should produce, confusion naturally arises with regard to system design.

- b. Lack of Use of the System: The problems with the system concept are reinforced by the lack of use of the system for statistical purposes, either in HUD Washington, or the Regions, or by the PHA's and projects. In 1976 HUD/Washington let three national contracts to evaluate the Section 8 program, and much of the beneficiary effort had to re-collect data that should have been available on LIAPS. This is occurring again this year. Use of the data by HUD, either at the national, regional, or local level, would have revealed the problems with the system design earlier.

2. Problems in Implementation: The two major problems in the implementation of the system -- incomplete and inaccurate data -- are caused by a number of deficiencies: lack of a data management system; lack of an adequate data cleaning system; and inadequate and confusing data input forms and procedures.
 - a. Lack of a Data Management System: The most serious problem with the implementation of LIAPS is the lack of a feedback loop to insure that reports are received from the PHA's and projects on a timely basis, and that errors are corrected once they are detected by edit routines or preliminary descriptive analysis. The agencies and projects which input the data never receive anything back from the system. In addition, reports from the system are not generated for Area Offices or Regions -- HUD offices which have a substantial concern about who the program is serving in their reviews of the Block Grant and UDAG applications from localities. Most of HUD's operational systems do not have a formal data management system; data is anticipated to be "roughly right" since it is used on a daily basis in the Field Offices on a monthly basis by the EMR process¹. Since planning and evaluation systems are normally used on a less frequent basis, errors are not discovered until well past the time where the data may be easily corrected.
 - b. Lack of an Adequate Data Cleaning System: The present edit criteria, which are used by LIAPS, are not adequate to flag problems with the data. A good cleaning program such as is used for survey data can insure, at least that extreme and unreasonable values for the data are eliminated. In fact, the present edit criteria are usually overridden and not used.
 - c. Inadequate and Confusing Data Collection Forms and Procedures: The Application for Tenant Eligibility form (HUD 52659), which is the main source of the data, is an inadequate combination of a data collection instrument and a worksheet for PHA or project staff. It contains

1. In actual fact, the lack of a formal data management system in the Department causes serious problems with HUD's operational systems as well.

data items that are not available at the time of application, and leaves out others. In some cases, the coding categories in Part II do not have enough spaces for the entire number. In design, it is awkward to use and difficult to understand. The instructions are incomplete and confusing, since they are a combination of instructions to determine eligibility and instructions to record the data.

The instructions for filling in the "Family Characteristics Report" (HUD 52675) are incomplete and not written for a data clerk. In several cases data is transferred from the "Application" to the "Rent Incentive Form," and then onto the "Family Characteristics Report," allowing coding errors to arise at each step. Uniform training on how to fill out these documents is not given to HUD Area Office staff, let alone to PHA or project staff.

B. RECOMMENDATIONS

1. The Department should terminate the LIAPS System immediately since it is producing misleading statistics. These statistics should no longer be part of the HUD Statistical Yearbook. The Department should develop a new system for collecting and reporting on beneficiary and unit characteristics with the following elements:

Easily Accessible Data Base that Covers Application through Termination:

Content: A planning and evaluation system can and should contain the basic statistical data about a beneficiary from the point at which he/she applies, through active tenant status, to termination. Important issues to program design staff are the demographic characteristics of applicants who drop out, or for some reason do not become tenants, as well as a comparison of active and terminated tenants.

More specifically, the following questions should be answered by the data system in order to flag issues about the programs that need further study and evaluation, as well as to prepare estimates about future program design in terms of cost and demand:

- Who does the program benefit in terms of race, family size, number of children, sex of head-of-household, age, source of income, annual income? How do applicants differ from tenants? From terminated tenants? From withdrawn applicants?
- What is the cost to the government and to the individual for different types of subsidies, and different family types?
- What are the unit and neighborhood characteristics (such as racial and income composition of the neighborhood; and bedroom size, type of building) of active tenants?

Accuracy: The data in such a system should be of sufficient accuracy to permit the construction of cost and consumption functions, as well as other standard economic and sociological measures for the major program categories on a national and regional level, and to permit comparisons between different types of housing market areas (i.e., inner city, outer suburban, inner suburbs, rural, etc.). In addition, the data should be of sufficient accuracy to permit comparisons of the above items with other Federal housing and income redistribution programs. All data used for comparisons should be of sufficient accuracy to reveal differences of 5 to 10 percentage points that are statistically significant at the 90% or 95% confidence level.

Geographic Coverage of the Data Base: If the Department is willing to commit to the idea of developing performance indicators (and output reports geared to these levels) to assess the impact of the program at the Regional, Area Office, PHA and Project level, data collection should be on the complete universe. However, if output reports will not be prepared for these levels, and if the data base will not be accessible to these levels, data on a sample of the universe may be collected for the appropriate time period.

Accessibility: A data system which is to be used for planning and evaluation purposes cannot rely upon output reports alone to meet the needs of an agency. Instead, the data base itself must be made accessible to analysts at different levels of the agency for statistical analysis. The total data base, or subsets of the data base, must be able to be translated easily into standard statistical software packages, and in fact, should probably be archived in a formal manner as are survey data bases at the University of Michigan, or the University of California, for example. Historical data bases should be developed, so that past data is not lost as present data is inputted for operational purposes.

- Automated Codebook with Complete Documentation of the System: If the system contains the proper variables, and is accurate, planners and evaluators within and outside of HUD will want to do a great deal of further analysis with the data contained in the system. Therefore, the system must be completely documented so that persons not familiar with the HUD data systems in general, or LIAPS in particular, will be able to use the data.

One way of insuring that all the documentation is available, is through the construction of an automated codebook for the system, where entries could be changed as data collection instructions change, for example. Such codebooks are not now prepared for any of HUD's data bases, and this inhibits the use of HUD's data, and encourages the use of outside contracts or additional in-house efforts to recollect data already available in HUD systems.

A model codebook for LIAPS has been developed, and is included in the appendix of this report as Appendix A. This codebook should contain the name of the variable, descriptive statistics about the data set, and the location of the variable in the data base. The model codebook we have developed includes also extensive documentation for the data input forms and the instructions given to those in the field for coding and transmitting the data, as well as edit criteria and other information that would assist an analyst in interpreting the data.

- Formal Data Cleaning Procedures: Most public agencies do not rely upon formal procedures for cleaning the data in their data bases as is done with data sets developed as part of a survey. However, all data to be used for statistical purposes must be cleaned, since the presence of extreme values, or inaccurate data, will result in incorrect conclusions being drawn from the data. Each variable should have a range of values specified for it, and the data set should also be cleaned by specifying the interrelationship of variables as well. When errors are located, the data input form should be checked, or the original documents checked. Data should not be deleted from the system because it is in error (as is often the case with the present system), nor should the cleaning instructions be overridden (as is the present case).

The edit programs which, HUD employs for LIAPS are very crude compared to the standard checks used on most data bases used for planning and evaluation purposes when the effort is contracted out of an agency, for example.

- Data Management System: Perhaps one of the most important elements of any data system with regard to implementation is the management system that is used to see that the data gets into the system, and that it is properly edited and cleaned. Most public agencies appear to regard internal data systems as ones which are self-administered. They seem to feel that the publication of a request for a report, along with brief instructions for filling it out, is sufficient to ensure that the data will be produced correctly and in a timely manner. Such assumptions are never made with the production of survey information. There, detailed instructions and training sessions are given to those who collect and process the information, and field checks are routinely made to double-check the quality of the data. When errors are found as a result of cleaning, the original data collection instrument is examined, and if necessary, the original source contacted so that the error may be corrected. If

administrative data is to be used for planning and evaluation purposes, a similar in-house system must exist to ensure the quality of the data, or policy-makers will continue to contract out the task of collecting basic descriptive data about the agency's programs.

The following checks should routinely occur as part of the proposed system:

- Check to Insure that All Input Forms Have Been Submitted: If the effort is done in-house, this could be assigned to the Area Offices, for example, or PD&R could establish a special set of staff throughout the Area Offices in charge of this function for more than one data system.
- Check to Resolve Edit Flags: As the data cleaning program isolates problems, staff would check the original sources of data, and submit revised data elements.
- Check Descriptive Data for Errors: Even edit checks do not resolve all errors with the data. As the descriptive statistics are generated, illogical values should be identified and followed upon.
- Adequate Data Collection Forms and Procedures: The heart of any data system and its accuracy are the methods and forms used to collect the data from the original source. As was mentioned above, the present forms and procedures for LIAPS are inadequate, and should be substantially revised or eliminated, and new forms and procedures developed. Although normative design criteria for operational systems states that data should flow from processing wherever possible, planning and evaluation systems are not always able to follow this prescription. This type of system may require information about many different aspects of a person, or a unit, that are not required for operational purposes.

One problem with the present data collection instruments is that they are filled in at the time of the application, but the data system

requires data only when the applicant becomes a tenant. Given that it would be quite useful to know demographic characteristics about applicants who do not become tenants, and given that an ideal system would differentiate between active and terminated tenants at any point in time, a better solution might be a system that had one record per person, and was updated when activity took place on the tenant's case.

A possible alternative for obtaining accurate data, without overly burdening the PHA or project manager, might be a packet of cards capable of being read by an Optical Card Reader, where the relevant data is marked in by a clerk as an applicant proceeds through the program stages, and the card is sent into Washington on a weekly or monthly basis. This type of a system is used for the Single Family Mortgage Insurance program within HUD, and is not thought to burden the clerks in the Service Offices greatly. A system such as this would eliminate the double and sometimes triple coding problem present now in the collection of the data from the PHA's. It would also eliminate the recertification and termination problem, since these actions would be explicitly recorded for each case.

In addition, this system would make it possible to have historical information about each income change, and subsequent payment by the Department. This would make it possible to prepare computer reports checking the accuracy of the PHA or project manager's computations on subsidy amount in a timely and precise fashion. Accurate statistical comparisons could then be made for active and inactive applications, certificate holders and tenants, not only on a national or Regional Office level, but at the PHA level, if it is decided to collect data on the universe. Finally, a system of this sort would eliminate the need for a multi-purpose application, recertification and income change form that also serves as a computation sheet and a data input sheet. Such a form will not serve any of these diverse purposes well, and will result in problems with respect to additional workload on the PHA staff or project manager, or incorrect data.

- Timely and Relevant Output Reports: The system should provide reports disaggregated by Regional and Area Office, as well as by PHA and project with basic summary statistics, such as the distribution of values among the nominal level variables, and the means, minimum and maximum values for the internal level variables. This report should provide comparisons with the nation and other Regions. In addition, listings of the data inputted to the system by the PHA or project would be useful.
2. Planning and Evaluation Data Unit Should Be Established:

In order to implement the concept described in the previous section, Central Office should establish a discrete administrative unit with the responsibility for data quality for research purposes for the Section 9 LIAPS data base, and for all planning and evaluation data systems within HUD. Such a unit need not be located within a program area, and need not have total responsibility for the development or implementation of the system. It would, however, have operational responsibility for seeing that data management occurred, for documenting the data in a fashion sufficient for research purposes, for cleaning and archiving the data, and for making it available to analysts within HUD and outside the Department.

Specifically, the unit would have the following functions:

- Set Standards For Data Quality: This unit would be responsible for setting data quality standards for planning and evaluation data systems (not operational systems). Such standards should be consistent with research purposes inside and outside the Department.
- Prepare Documentation on the Data Bases: This unit would be responsible for drawing together the documentation on the planning and evaluation data systems within HUD, and working with program and

administrative staffs. Appropriate documentation would be similar to the codebook for the LIAPS data base included as the appendix to this report. A contract could be let to prepare the documentation, or a task force convened of appropriate people to work on the documentation of each system until all have been completed.

- Data Quality Assessment: As the documentation of each data system proceeds, this unit would also be responsible for assessing the overall quality of the system for planning and evaluation purposes, and for preparing a report with action recommendations to ameliorate the problems.
- Data Cleaning: Once the data quality was assessed, the unit would put the data file through a standard cleaning routine to identify extreme values, and non-logical punches. At the beginning of its tenure, it will not be possible to clean the data as a survey data base is cleaned, for example, but gross errors can be remedied, or at least deleted from the file.
- Data Management: In order to insure that the overall quality of the data improves over time, this unit would also have the function of monitoring the implementation of the data systems. To do this, the unit should develop a set of printouts for existing data systems (and see that they are developed as part of any new system) which flag errors, and which report them by organizational unit in a concise and clear manner. Error reports for operational systems within HUD are not appropriate for planning and evaluation systems. (See Appendix C for a sample listing of the LIAPS data for a single PHA which could be used for such a quality check.) This unit should work with the program units to institute practices to insure that complete data is entered into the system, and that edit and error flags are seen and corrected. To insure that this unit has clout in implementing the data management procedures, no data should be published in the HUD Statistical Yearbook, or used for budget purposes until this unit has approved the data, or a plan for improving the quality.

- Information Retrieval Function: This unit should develop an information retrieval system using individual variables in all of HUD's planning and evaluation system as the unit of retrieval. This system would be similar to some of the currently available systems for bibliographic retrieval, such as BALLOTS, DIALOG, or LEXIS. The system should contain the entire documentation that appears in the codebook, and should be able to be retrieved by content of data element, geographic coverage, dates, size of universe (or sample), and other relevant items. This system would be kept up by the unit, and could be accessed throughout HUD, and by other interested persons and libraries outside of HUD.
- Review Data Collection Procedures and Forms: This office should participate in the development of new data collection forms and procedures, as well as in revisions to present practices. This unit should have an absolute veto over changes. However, the unit should have the necessary resources (either staff or contract) to work with the program staffs so that the final form that is sent through clearance is adequate. This will also insure that the unit can update the changes to the automated codebook for the data base, so that documentation is current at all times.

Appendix A: Original Source Documents

INSTRUCTIONS FOR COMPLETING HUD-52659,
APPLICATION FOR TENANT ELIGIBILITY AND RECERTIFICATION FOR SECTION 8
HOUSING ASSISTANCE PAYMENTS PROGRAM

I. GENERAL INSTRUCTIONS:

A. New Construction or Substantial Rehabilitation:

1. Form HUD-52659 shall be used for all applications for family eligibility and recertification of annual income for New Construction and Substantial Rehabilitation projects under the Section 8 Housing Assistance Payments Program.
2. The housing owner (or his authorized managing agent, if any) is responsible for preparing HUD-52659 and submitting it to the appropriate HUD Field Office or PHA in support of his monthly request for Housing Assistance Payments. The owner is responsible for obtaining all necessary information from the applicant, verifying it and retaining documentation of the verifications in the files for HUD or PHA audit or inspection.
3. The copies shall be distributed as follows:
 - a. Private owner or PHA owner - two (2) copies to the HUD Field Office.
 - b. PHA/Private owner Projects - one (1) copy to the PHA and one (1) copy to HUD Field Office.

B. Existing:

The HUD-52659 shall be completed by the PHA for each applicant for a Certificate of Family Participation and at each recertification of a participating family. The form shall be prepared in original only. The PHA is responsible for verifying the applicant's statements as necessary and retaining the form and documentation of the verification in its files for HUD audit or inspection.

II. INSTRUCTIONS, PART I:

A. Project Identification:

Enter the name of the project as shown on the HAP contract and address of the office where applications are taken. For existing housing, show the name and address of the PHA.

B. Applicant:

Enter the name of the family member who will sign the lease as head of the family and the address where the applicant receives mail. On reexamination, enter the address of the dwelling occupied by the family.

C. Family Composition:

List each member of the family who lives or will live in the dwelling. List the family head on line 1 and the spouse, if any, on line 2. The head and/or spouse should be included even if temporarily absent from the household (such as being on active duty in the Armed Forces). Clearly indicate full-time students by writing (student) in parenthesis.

D. Income:

1. List each member of the family, other than minors, who will receive income during the next twelve months. "Minor" means a member of the household (excluding foster children), other than the family head or spouse, who is under 18 years of age or is a full-time student. Include the income of the head or spouse even if temporarily absent. If a single family member has more than one source of income, use a separate line for each source. (See Appendix I.)
2. In Column (2), show the type of income, (rate - hourly, weekly, or monthly) and the address of the firm or agency through which it can be verified. Column (3) should show the current income received by each member of the family. Regardless of whether or not current income can be expected to continue, it should be shown on an annual basis to provide a basis for comparison with anticipated income shown in Column (4). Column (4) should show the income anticipated over the next twelve months which may or may not be the same as current income. Any significant difference between the amounts shown in Columns (3) and (4) should be explained in a statement to be attached to and retained with the owner's copy of the form. If it is not feasible to anticipate a level of income over a 12-month period, a shorter period may be used.

E. Assets:

List all assets held by each member of the family. For this purpose assets mean the value of equity in real property, savings, stocks, bonds, and other forms of capital investment. The value of necessary items of personal property such as furniture and automobiles shall be excluded. Any income producing assets will already have been listed in D. above but they must also be listed in this section.

F. Allowances:

1. In Column (1) enter the family member number from Section C to indicate on whose behalf each allowance is made. In Column (2) enter the type of expenditure and the source through which it can be verified. In Columns (3) and (4) enter the amount of expenditure anticipated over the next twelve months.
2. Medical expenses are those medical expenses which are anticipated during the 12-month period for which the Annual Income is computed, and which are not covered by insurance (however, premiums for such insurance may be included as medical expenses).
3. Unusual expenses are amounts paid by the family for the care of minors under 13 years of age or for the care of disabled or handicapped family household members, but only where such care is necessary to enable a family member to be gainfully employed, and the amount allowable as Unusual Expenses shall not exceed the amount of income from such employment.

Line 1 Enter the total of the entries in Column 3.

Line 2 From the amount shown in line 1, deduct an amount equal to 3% of Annual Income. Enter the result on line 2. If the result is 0 or less, enter 0.

Line 3 Enter the total of the entries in Column 4.

Line 4 Multiply the number of minors by \$300.

Line 5 Total of lines 2, 3, and 4.

The applicant shall sign Part I in the space indicated after it has been completed.

III. INSTRUCTIONS, PART II:

The numbering for the Part II Instructions correspond to those on the form.

A. Project Identification:

1. State Code: (See Appendix II)
2. Project Number:

From Housing Assistance Payments Contract or Annual Contributions Contract.

3. Original Application or Reexamination:

Indicate whether this application applies to an original application or a reexamination.

B. Applicant:

4. Minority Group Category:

The minority group with which the family identifies itself. If the family does not identify itself, it shall be counted in the group which would most likely reflect the opinion of the head of the household (or the answer that would most likely have been given by the head of the household). The categories are self-explanatory except, possibly, for Spanish American, Oriental, and Other Minorities:

- a. Spanish American:

Includes Mexican, Cuban, Latin American, Puerto Rican, and other Spanish or Iberian. They include Spanish-speaking families and those with Spanish surnames when self-identified as such. Do not include these in the White Column.

- b. Oriental:

Includes Japanese, Korean, Chinese, and Filipino.

- c. Other Minorities:

Includes Aleut, Eskimo, Hawaiian, Part Hawaiian, Polynesian, Micronesian and others not elsewhere categorized.

This information is required for statistical purposes so the Department may determine the degree to which its programs are utilized by minority families. The General Counsel of HUD has ruled that the regulation issued on behalf of the Secretary requiring collection of racial and ethnic data has the force and effect of law, and takes precedence over any conflicting State or local requirements.

5. Present Housing:

- a. Enter Code 1 if for any reason it is impossible to ascertain the condition of applicant's present housing.
- b. Enter Code 2 if the family has no residence where it regularly lives together as a family or if the family is under a notice of termination, foreclosure, eviction.
- c. Enter Code 3 if the family's present housing is deficient in any one or more of the following respects:
 - (1) Dwelling structurally unsafe
 - (2) No potable running water in dwelling unit
 - (3) No usable flush toilet in dwelling unit
 - (4) No installed usable tub or shower in dwelling unit
 - (5) No operating sink or proper stove connections in kitchen
 - (6) Inadequate or no electric wiring system in dwelling unit
 - (7) Inadequate or unsafe heating facilities for dwelling unit
 - (8) Overcrowded: More than 2 persons per bedroom
 - (9) Single family unit occupied by 2 or more families
- d. Enter Code 4 if the family is presently living in standard housing.

6. Present Housing Costs:

Enter present housing costs on a monthly basis include utilities.

7. Displacement Status:

- a. Enter Code 1 if it is impossible to ascertain whether or not family is displaced.
- b. Enter Code 2 if family is displaced by a government activity that makes it eligible for benefits under the Uniform Relocation Act.
- c. Enter Code 3 if the family is displaced by government action but is not eligible for benefits under the Uniform Relocation Act.
- d. Enter Code 4 if the family is displaced by a natural disaster declared by the President or his designee.
- e. Enter Code 5 if the family is displaced by private action, individual disaster, etc.
- f. Enter Code 6 if the family is not displaced.

C. Family Status:

8. Special Characteristics - Check as Many Boxes as Applicable:

- a. Check elderly if either the head or spouse is sixty-two years of age or older.
- b. Check disabled if either the head or spouse has a disability which prevents him or her from engaging in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or which can be expected to last for a continuous period of not less than 12 months including a disability attributable to mental retardation.
- c. Check Handicapped if the head or spouse has an impairment which (a) is expected to be of long-continued and indefinite duration; (b) substantially impedes his ability to live independently; and (c) is of such a nature that such ability could be improved by more suitable housing conditions.
- d. Check none if none of the above apply.

9. Number in Family:

Should equal the total number of lines filled in in Part I, Section C.

10. Number of Minors:

Should equal the total number of minors shown in Part I, Sec. C.

11. Number of Bedrooms:

a. New Construction - Substantial Rehabilitation.

The appropriate bedroom size should be assigned on the following basis:

<u>No. of BR</u>	<u>No. of Occupants</u>	
	<u>Min.</u>	<u>Max.</u>
0	1	1
1	1	2
2	2	4
3	4	6
4	6	8
5	8	10
6	10	12

b. Existing Housing

In issuing the certificate of family participation the PHA will determine the appropriate unit size by applying the following criteria.

- (1) The bedroom size assigned should not require more than two persons to occupy the same bedroom.
- (2) The bedroom size assigned should not require persons of the opposite sex other than husband and wife to occupy the same bedroom other than infants or very young children.

These principles result in the following standards.

<u>No. of BR</u>	<u>Minimum</u>	<u>Maximum</u>
0	1	1
1	1	2
2	2	4
3	4	6
4	6	8
5	8	10
6	10	12

Ordinarily, a Certificate for a 1 bedroom dwelling would be assigned to a single person household only when there were no 0 bedroom dwellings in the program or when there were no 0 bedroom dwellings readily available in the area.

It should be emphasized that the foregoing guidelines are set forth solely for determining the bedroom size to be designated on the certificate of eligibility. The regulations provide that the family may rent a larger dwelling provided the rent to owner plus any allowances for utilities and other services does not exceed the fair market rent for the bedroom size designated on the certificate of eligibility. The family may rent a smaller bedroom size unit provided the unit meets the standards of acceptability i.e. "...at least one sleeping room or living/sleeping room of appropriate size for each two persons."

12. Age of Head - from Part I, Sec. C.

13. Sex of Head - from Part I, Sec. C.

14. Husband and wife present - Check appropriate box.

D. Income

15. Number of Recipients - The number of family members listed in Part I, Section D who expect to receive income throughout the next twelve months.

16. Source of Income - Check as many boxes as are applicable. Refer to Part I, Section D.

- a. Check wages if all or part of the family's income is earned.
- b. Check welfare if all or part of the family's income is derived from welfare (public assistance).

This includes payments to families or individuals on the basis of economic need, age, family composition and size, and health of recipient, funding for such programs will be on the basis of Federal, State or local governments or a combination thereof. The following are examples of Federal and State programs:

- (1) AFDC. Aid to Families with Dependent Children
- (2) SSI. Supplemental Security Income (PL-92603)

(3) Mandatory Minimum State Supplementation of SSI Benefits (PL-9366)

(4) Optional State Supplementation of SSI Benefits (PL-92603)

- c. Check benefits if all or part of the family's income includes income such as Social Security, Railroad Retirement, U. S. military retirement, Miners' Blacklung Benefits, Veterans Administration Pensions, and retirement pensions into which the individual has made payment, or is eligible to receive payments by virtue of the previous participation by the individual, spouse or head of household. All Veterans Administration funds, including those given to families with limited income are included as government benefits. Benefits paid on behalf of a child are considered as income accruing to the parent.
- d. Check other if the family receives income from any other source. It includes funds from individuals such as alimony, child support, etc. Child support is considered as income accruing to the parent, not the child. Other income would also include income from assets.

17. Annual Income - total of Column (4) Part I, Section D.

18. Income from Assets - total of amounts listed in Column (4), Part I, Section D., which are identified in Column (2) as income from assets.

E. Assets and Eligibility:

19. Total Assets - Total of Column (3), Part I, Section E

20. Eligibility Income

- a. If Total Assets (item 19) are \$5,000 or less, enter the figure shown in (item 17) Annual Income
- b. If Total Assets (item 19) are greater than \$5,000 and Income from Assets (item 18) is less than 10% of Total Assets, then:
1. Subtract Income from Assets (item 18) from Annual Income (item 17).
 2. To the resulting figure, add an amount equal to 10% of the assets.
 3. Enter the total in (item 20)
- c. If Total Assets (item 19) are greater than \$5,000 and Income from Assets (item 18) is greater than 10% of assets enter the figure shown in (item 17) Annual Income.

21. Income Limit - Lower Income Families:

Income limits will be provided by HUD Field Offices.

22. Income Limit - Very Low Income Families:

Income limits will be provided by HUD Field Office.

23. Lower Income - If item 20 is less than item 21 (but more than item 22) the family is lower income.

24. Very Low Income - If item 20 is less than item 22, the family is very low income

F. Allowances

25. Medical and Unusual Expenses - Total of medical and unusual expenses - Part I Section F, lines (3) and (4).

26. Total Allowances - Enter total from Part I Section F, line (5).

27. Income After Allowances - Annual Income (item 17) less Total Allowances. (item 26)

G. Housing Assistance Payment

28. Gross Rent - The contract rent for the appropriate size unit plus the amount shown as the Allowance for Utilities and Other Services (item 31). For existing housing, enter the appropriate Fair Market Rent.

29. Gross Family Contribution

1. If the family is:
- a. A large very low income family (includes six or more minors and is very low income).
 - b. A very large lower income family (includes eight or more minors) or

- c. has medical and unusual expenses exceeding 25% of annual income, then compute gross family contribution by dividing annual income (Item 17) by 12 and multiplying the result by .15.
 2. For all other families, compute the gross family contribution by:
 - a. Dividing Annual Income (item 17) by 12 and multiplying the result by .15, and
 - b. Dividing Income After Allowances (item 27) by 12 and multiplying the result by .25, and enter the larger of these two results.
- 30.* Housing Assistance Payment - New Construction and substantial rehabilitation only. (Subtract Gross Family Contribution (item 29) from Gross Rent (Item 28)).
- 31.* Allowance for Utilities and Other Services - New Construction and Substantial Rehabilitation only. Form HUD-52667.
- 32.* Net Family Contribution. New construction and substantial rehabilitation only. Subtract Allowances for Utilities and Other Services (item 31) from Gross Family Contribution (item 29). "If Line 31 exceeds Line 29, show the answer as a negative figure, which represents the amount to be paid to the family by the owner from funds supplied by HUD or the PHA."

The owner, manager or PHA shall sign Part II after he has filled in the information required and completed any necessary verification.

*The information shown in lines 30, 31, and 32 is not available in the Existing program when this form is signed by the PHA and the family. It will be recorded on HUD-52674 after the Agreement to Lease is executed.

APPENDIX I

Income shall include, but not be limited to:

- (1) The gross amount, before any payroll deductions, of wages and salaries, overtime pay, commissions, fees, tips and bonuses;
- (2) The net income from operation of a business or profession or from rental of real or personal property (for this purpose, expenditures for business expansion or amortization of capital indebtedness shall not be deducted to determine the net income from a business);
- (3) Interest and dividends;
- (4) The full amount of periodic payments received from social security, annuities, insurance policies, retirement funds, pensions, disability or death benefits and other similar types of periodic receipts;
- (5) Payments in lieu of earnings, such as unemployment and disability compensation, workmen's compensation and severance pay (but see paragraph (b) (3) of this section).
- (6) Public Assistance. If the Public Assistance payment includes an amount specifically designated for shelter and utilities which is subject to adjustment by the Public Assistance Agency in accordance with the actual cost of shelter and utilities, the amount of Public Assistance income to be included as income shall consist of:
 - (i) The amount of the allowance or grant exclusive of the amount specifically designated for shelter and utilities, plus
 - (ii) The maximum amount which the Public Assistance Agency could in fact allow for the family for shelter and utilities,
- (7) Periodic and determinable allowances, such as alimony and child support payments, and regular contributions or gifts received from persons not residing in the dwelling;
- (8) All regular pay, special pay and allowances of a member of the Armed Forces (whether or not living in the dwelling) who is head of the family or spouse.

The following items shall not be considered as income:

- (1) Casual, sporadic or irregular gifts;
- (2) Amounts which are specifically for or in reimbursement of the cost of medical expenses;
- (3) Lump-sum additions to family assets, such as inheritances, insurance payments (including payments under health and accident insurance and workmen's compensation), capital gains and settlement for personal or property losses (but see Section 889.103).
- (4) Amounts of educational scholarships paid directly to the student or to the educational institution, and amounts paid by the Government to a veteran for use in meeting the costs of tuition, fees, books and equipment. Any amounts of such scholarships, or payments to veterans, not used for the above purposes or which are available for subsistence are to be included in income;
- (5) The special pay to a serviceman head of a family away from home and exposed to hostile fire;
- (6) Relocation payments made pursuant to Title II of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970;
- (7) Foster child care payments;
- (8) The value of coupon allotments for the purchase of food pursuant to the Food Stamp Act of 1964 which is in excess of the amount actually charged the eligible household;
- (9) Payments received pursuant to participation in the following volunteer programs under the ACTION Agency:
 - (i) National Volunteer Antipoverty Programs which include VISTA, Service Learning Programs and Special Volunteer Programs.
 - (ii) National Older American Volunteer Programs for persons aged 60 and over which include Retired Senior Volunteer Programs, Foster Grandparent Program, Older American Community Services Program, and National Volunteer Program to Assist Small Business Experience, Service Corps of Retired Executive (SCORE) and Active Corps of Executives (ACE).

APPENDIX II

<u>State</u>	<u>State Code</u>
Alabama.....	01
Alaska.....	02
Arizona.....	04
Arkansas.....	05
California.....	06
Colorado.....	08
Connecticut.....	09
Delaware.....	10
Dist. of Columbia.....	11
Florida.....	12
Georgia.....	13
Hawaii.....	15
Idaho.....	16
Illinois.....	17
Indiana.....	18
Iowa.....	19
Kansas.....	20
Kentucky.....	21
Louisiana.....	22
Maine.....	23
Maryland.....	24
Massachusetts.....	25
Michigan.....	26
Minnesota.....	27
Mississippi.....	28
Missouri.....	29
Montana.....	30
Nebraska.....	31
Nevada.....	32
New Hampshire.....	33
New Jersey.....	34
New Mexico.....	35
New York.....	36
North Carolina.....	37
North Dakota.....	38
Ohio.....	39
Oklahoma.....	40
Oregon.....	41
Pennsylvania.....	42
Rhode Island.....	44
South Carolina.....	45
South Dakota.....	46
Tennessee.....	47
Texas.....	48
Utah.....	49
Vermont.....	50
Virginia.....	51
Washington.....	53
West Virginia.....	54
Wisconsin.....	55
Wyoming.....	56
American Samoa.....	60
Canal Zone.....	61
Canton and Enderbury Isl.....	62
Guam.....	66
Johnston Atoll.....	67
Midway.....	71
Puerto Rico.....	72
Ryukyu Isl. - South.....	73
Swan Islands.....	74
Trust Territories of	
Pacific Islands.....	75
Misc. Caribbean Isl. (U.S.).....	76
Misc. Pacific Island (U.S.).....	77
Virgin Islands.....	78
Wake Island.....	79

INSTRUCTIONS FOR PREPARATION OF FORM HUD-52675
REPORT ON FAMILY CHARACTERISTICS SECTION 8 EXISTING HOUSING PROGRAM

SUBMISSION INSTRUCTIONS:

Each Public Housing Agency that has entered into an Annual Contributions Contract with HUD under the provisions of 24 CFR, Part 882 - Existing Housing, shall submit the original of Form HUD-52675 to HUD, Office of Housing, Management Information Systems Division, Washington, D. C. 20410. The form shall be submitted on a consolidated basis for all of the projects authorized under the PHA's ACC Part I. A copy shall also be sent to the appropriate HUD field office. It shall be submitted not later than January 15, for every six month period ending December 31, and not later than July 15, for every six month period ending June 30.

The PHA shall report with respect to families who actually entered into leases with owners during the period covered by the report and families under effective leases with owners if the PHA made a reexamination of their income and other factors pursuant to Section 882.212 of the Existing Housing Regulations during that period. All entries shall be taken from Form HUD-52659 (4-75), Application for Tenant Eligibility and Recertification and Form HUD-52674, Computation of Shopping Incentive Credit except for County Code (Col. 23) and Census Tract or Enumeration District (Col. 24) which shall be determined in accordance with the instructions provided below. All monetary entries shall be expressed in whole dollar amounts only.

All entries on the form shall be positioned to the right i.e.,

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 to insure accurate key-punching except for the entries in Column 24 Census Tract or Enumeration District which shall be entered in accordance with instructions for those columns.

GENERAL INSTRUCTIONS:

- A. ACC Number - A number assigned by the HUD field office at the time the first ACC for any PHA is prepared. The number consists of an alphabetical Regional Office abbreviation followed by four digits and ending with the letter E. For state codes, see the Low-Rent Housing Handbook on information Requirements. 7505.4, Appendix 1, July 1975.
- B. Reporting Date - Month, enter 06 for the June Report and 12 for the December Report. Year, enter the last two digits of calendar year - for example 77 for 1977.

Tenant Data

- Column 01. Certificate Number - Space is provided for an entry of up to five digits as required by the PHA's administrative procedures. The number is not incorporated into the HUD data base.
- Column 02. Minority Code - Enter from Form HUD-52659, Part II, item 4.
- Column 03. Present Housing - Enter from Form HUD-52659, Part II, items 3 and 5 and from Form HUD-52674, Part I, items 2 and 4. Enter code as follows:
1. If prior housing status is unknown.
 2. If family is without or about to be without housing.
 3. If family is moving from substandard housing.
 4. If family is moving from standard housing.
 5. If family is leasing in place (see Form HUD-52674).
- For all Reexaminations enter 6.
- Column 04. Present Housing Cost - Enter from Form HUD-52659, Part II, item 6.
- Column 05. Displacement Status - Enter from Form HUD-52659, Part II, item 7.
- Column 06. Family Status - Enter from Form HUD-52659, Part II, item 8.
- Column 07. Number in Family - Enter from Form HUD-52659, Part II, item 9.
- Column 08. Number of Minors - Enter from Form HUD-52659, Part II, item 10.
- Column 09. Number of Bedrooms - Enter from Form HUD-52659, Part II, item 11.
- Column 10. Sex of Head - Enter from Form HUD-52659, Part II, item 13.
- Column 11. Source of Income - Enter from Form HUD-52659, Part I, D and Part II, item 16. Check as many columns as are applicable to the family.
- a. Check wages, if all or part of the family's income is earned.
 - b. Check benefits if all or part of the family's income includes income such as Social Security, Railroad Retirement, U.S. military retirement, Blacklung Benefits, Veterans Administration Pensions, and retirement pensions into which the individual has made payment, or is eligible to receive payments by virtue of the previous participation by the individual, spouse or head of household. All Veterans Administration Funds, including those given to families with limited income are included as government benefits. Benefits paid on behalf of a child are considered as income accruing to the parent.
 - c. Check AFDC, if family receives assistance from a welfare agency under Title 4.a of the Social Security Act - Aid to Families with Dependent Children.
 - d. Check SSI, if family receives income from the HEW Supplemental Security Income Program (Title XVI) including any State Supplementation.
 - e. Check Other Welfare, if family receives welfare from any source other than AFDC or SSI.
 - f. Check Other, if the family receives income from any other source. This includes funds from individuals such as alimony, (child support is considered as income accruing to the parent, not to the child). Other income would also include income from assets.
- Column 12. Annual Income - Enter from Form HUD-52659, Part II, item 17.
- Column 13. Eligibility Income - Enter from Form HUD-52659, Part II, item 20.
- Column 14. Lower-Income Limit - Enter from Form HUD-52659, Part II, item 21.
- Column 15. Very Low-Income - Enter from Form HUD-52659, Part II, item 24.
- Column 16. Medical and Unusual Expenses - Enter from Form HUD-52659, Part II, item 25.
- Column 17. Total Allowances - Enter from Form HUD-52659, Part II, item 26.
- Column 18. Gross Family Contribution - Enter from Form HUD-52659, Part II, item 29.
- Column 19. Housing Assistance Payments - Enter from Line 19, Form HUD-52674.
- Column 20. Allowance for Utilities and Other Services - Enter from Line 10, Form HUD-52674.
- Column 21. Fair Market Rent - Enter from Line 8, Form HUD-52674.
- Column 22. Rent Credit - (formerly Shopping Incentive). Enter from Line 15, Form HUD-52674.
- Column 23. County Code - Enter in the three positions a three digit county code as provided in the Federal Information Processing Standards Publication (FIPS PUB 6-2) which will be mailed to Public Housing Agencies by the Bureau of Census, Data Users Services Division. Counties are listed alphabetically by State in the publication.

INSTRUCTIONS (Continued)

Example: State name: Alabama
 State Abbr.: Ala.
 State Code: 01
 County Name: Baldwin
 County Code: 003

0	0	3
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Column 24. Census Tract or Enumeration District Number

General. Appropriate census tract (CT) or enumeration district (ED) maps will be mailed to Public Housing Agencies by the Bureau of Census, Data Users Services Division for use in recording locational data on Form HUD-52675. Public Housing Agencies (PHA's) within Standard Metropolitan Statistical Areas (SMSA) receive census tract maps. PHA's outside SMSAS receive enumeration district maps. In some instances, a PHA may receive maps which show both enumeration district numbers and census tract numbers. When using these maps, PHA's are requested to record only the census tract number in item 24.

Census Tract Number. Enter a 1 to 6 digit number for the census tract in which the family unit is located as shown on the census tract maps, "1970 Census of Population and Housing: Census Tracts, PHC (1) Series." Below are examples of recordings of census tract numbers with and without decimal places.

Example A--Census Tract No. 1

/	/	/	/	1	.	0	0
---	---	---	---	---	---	---	---

B--Census Tract No. 25

/	/	/	/	2	/	5	.	0	0
---	---	---	---	---	---	---	---	---	---

C--Census Tract No. 1104.01

1	/	1	0	/	4	.	0	1
---	---	---	---	---	---	---	---	---

Enumeration District Numbers. Enter a 1 to 4 digit number for the enumeration district in which the family unit is located as shown on enumeration district maps "1970 Census Enumeration District Maps", except when such maps show both ED and CT numbers. In such instances, record only the census tract (CT) number following the examples provided in the above section on Census Tract Numbers. Enumeration district numbers which have a suffix letter A through H should be recorded with the letter. The following examples are provided for recording ED numbers in item 24.

Example A--ED 1

/	/	/	/	1	.	E
---	---	---	---	---	---	---

B--ED 25

/	/	/	/	2	/	5	.	E
---	---	---	---	---	---	---	---	---

C--ED 104A

/	1	0	/	4	.	A	E
---	---	---	---	---	---	---	---

The last two positions in item 24 are used differently with recording ED numbers. The last position should always contain the letter "E" to show that the number is an ED NUMBER. The next to last position is used to record the ED suffix letter.

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
SECTION 8 HOUSING ASSISTANCE PAYMENTS PROGRAM
COMPUTATION OF SHOPPING INCENTIVE CREDIT
AND HOUSING ASSISTANCE PAYMENT--EXISTING HOUSING

PART I: BASIC INFORMATION

1. Housing Applicant Name _____
2. Address _____
3. Certificate of Family Participation No. _____
4. Rental Unit Address _____
5. Name of Owner _____
6. Address _____
7. HAP Contract No. _____

PART II: COMPUTATION OF SHOPPING INCENTIVE CREDIT

8. Fair Market Rent \$ _____
(Enter appropriate fair market rent for dwelling size
designated in Certificate of Family Participation)
9. Contract Rent (or Contract Rent initially proposed by the Owner,
if higher) \$ _____
10. Allowance for Utilities and Other Services ...\$ _____
11. Total of lines 9 and 10\$ _____
12. Rent Savings (line 8 minus line 11)\$ _____
13. Factor for determining Shopping Incentive
Credit (line 12 divided by line 8 - express
as a percentage) % _____
14. Gross Family Contribution (taken from
Item 29 of Form HUD-52659)\$ _____
15. Shopping Incentive Credit (line 13 times
line 14)..... \$ _____

PART III: COMPUTATION OF HOUSING ASSISTANCE PAYMENTS

16. Gross Rent (Approved Contract Rent plus
Allowance for Utilities and Other Services)....\$ _____
17. Net Amount payable by family toward Gross Rent
(line 14 minus line 15).....\$ _____
18. Net Family Contribution Paid to (or by) Owner (Line 17
minus line 10). If line 10 exceeds line 17, show the difference
as a negative figure, which represents the amount to be paid
to the Family by the Owner and will always equal the amount
by which the HAP payment exceeds Contract Rent.....\$ _____
19. Housing Assistance Payments (Line 16 minus Line 17).....\$ _____

INSTRUCTIONS FOR PREPARATION OF FORM HUD-52674

Computation of Shopping Incentive Credit and Housing Assistance Payments

Original Application: Form HUD-52674, Computation of Shopping Incentive Credit and Housing Assistance Payment, shall be completed by the PHA for each existing housing lease that has been approved on Form HUD-52517B, Agency Determination With Respect to Request for Lease Approval.

Reexamination: Form HUD-52674 shall be completed when the Form HUD-52659, Application for Tenant Eligibility and Recertification, is completed at reexamination of family income. Changes in family income, Fair Market Rents, Contract Rent, or the Allowance for Utilities and Other Services may result in a change in the Shopping Incentive Credit.

PHA Files: The Form HUD-52674 shall be attached to the Form HUD-52659, Application for Tenant Eligibility and Recertification, and shall be retained in the PHA files for review and audit by HUD.

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Housing and Urban
Analysis of the data quality
of the Section 8 tenant

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