ADMINISTRATIVE FEE STUDY
SECTION 8
EXISTING HOUSING PROGRAM

VOLUME I — TECHNICAL REPORT

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ABSTRACT

This report was prepared for the Office of Policy Development and Research, U.S. Department of Housing and Urban Development (HUD) under Task Order No. 4 of Contract No. H-5000. It presents an analysis of the costs reported by Public Housing Agencies (PHAs) for administering the Section 8 Existing Housing Program, and examines the adequacy of compensation provided to the agencies for performing those services under the current administrative fee structure. The research considers the effects of PHA service area, program size, area rental vacancy rates and various other program characteristics on the level of administrative effort and costs.

The Section 8 Existing Housing Program limits participation to the elderly and families with incomes of less than 80 percent of the median income of the population in an area as defined by HUD. The program provides a monthly payment to the owner equal to the difference between the rent for the unit (up to a maximum "Fair Market Rent" established by HUD) and the tenant's payment or Gross Family Contribution (GFC) of 15 to 25 percent (depending on family size and income) of adjusted gross income. Annually, the tenant's payment is recomputed based upon current income and owners are permitted to request a rental adjustment to reflect changes in market rents.

Under the current administrative fee structure, Public Housing Agencies receive a preliminary fee of up to $275 on a one-time basis for each unit added to the program to meet outreach and initial negotiation expenses. Administrative expenses incurred in performing on-going activities associated with intake of replacement tenants and provision of program services are compensated on the basis of the number of unit months under lease. At present, the program provides 8 ½% of the Fair Market Rent for a two-bedroom unit for each unit-month. The research indicated that through the period covered by the study

(1978-1979) the current fee structure has provided adequate compensation for the cost of administering the program including accumulation of operating reserves.

While the current fee structure has performed well, the research findings indicate that the current formula is more appropriate for an expanding program and will not function as effectively under stable program conditions. The average PHA in the study spent $30 per unit month (PUM) for all activities in the Section 8 program. Of this amount, $15.30 was derived from the preliminary expense reimbursement and $13.60 was provided from ongoing administrative fees. The heavy reliance on the preliminary fee expense reimbursement shows the difficulty that PHAs face if they do not obtain a significant number of new units every year.

Public Housing Agencies in metropolitan areas experience higher wage costs than rural PHAs. They also receive higher fees under the current system as a result of the generally higher FMRs in these areas. During the period studied, the smallest PHAs had very high intake rates (69% of units) and also had the highest PUM due to the expense of the intakes. However, they have the lowest 2-bedroom FMRs and thus the lowest ongoing fees. Large PHAs have significant economics of scale and therefore require less staff time per unit month, which compensates somewhat for their higher wage costs.

The findings of the administrative cost research have several implications for any proposed revisions to the current fee. The research confirms the validity of a formula approach, and suggests that reliance on a formula should be continued. The research results also suggest that the system should continue to use PHA workload factors as the basis of the fee. Unit-months leased and number of intakes are reasonable workload measures. However, it is suggested that PHAs be compensated for all new intakes in the program whether due to filling newly allocated units or due to turnover in the occupancy of previously allocated

units. Implementation at this approach would mean that more money would be paid as intake fees and less would be paid for ongoing unit maintenance fees.

EXECUTIVE SUMMARY

1.0 INTRODUCTION

Public Housing Agencies (PHAs) operating Section 8 Existing Housing programs carry out a number of important administrative functions in support of the program. These functions include:

- Outreach to gain the participation of landlords
- Outreach to attract prospective tenants
- Initial and annual certifications of tenant eligibility
- Initial and annual inspection of units
- Issuance of monthly housing assistance payments to landlords
- Liaison and complaint handling for tenants and landlords
- Accounting and financial reporting.

The current method of compensating PHAs for performing the program administration functions relies on a formula rather than reimbursement of actual costs. The advantages of this approach to both HUD and the PHAs are that it is easy to administer, requires a minimum of reporting, and reduces the time to make end of year adjustments in payments to PHAs.

The current fee structure compensates for the cost of adding units to the program separate from the compensation for costs incurred in administering the on-going program. Preliminary expenses associated with adding units are compensated up to a generally accepted maximum amount of $275 per unit. On-going administrative costs are compensated on the basis of $15.00 per

month for each unit under lease of 8 1/2% times the Fair Market Rent for a two-bedroom unit, whichever is greater.

The variables in the current fee structure are the Fair Market Rent (FMR) and the number of units added to the program. While the prevailing market rents in an area are approximate indicators of the relative differences among PHAs in wage and nonsalary costs incurred in administering the Section 8 program, there are other differences in the characteristics of PHAs and programs as well. This study was developed by HUD in response to Departmental concerns that the current fee structure might not provide adequate or equitable compensation when the determinants of administrative costs other than those reflected in the FMR are considered. The research conducted in the study examines the cost experiences of approximately 275 PHAs to determine the relationship among various characteristics of the PHAs and the adequacy of coverage and equity of treatment provided to PHAs by the existing fee structure.

The research parallels an effort conducted by Westat, Inc. as part of the larger research effort conducted in the Section 8 program in 1976 and 1977. That study was based upon a sample of only 30 PHAs and produced only inconclusive findings due to the newness of the program and limitations imposed by the small sample.

Research conducted in the Administrative Agency Experiment (AAE) and the Housing Allowance Program (EHAP) also provided sources of data on the cost of performing similar but not identical administrative functions. The costs experienced in the HASE, for example, were only slightly lower in total than the approximately comparable costs incurred by the PHAs in the study sample. The difference in costs for intake and client maintenance activities are significant, however, because of differences between the administrative requirements of the two programs.

2.0 STUDY OVERVIEW

The analysis of Section 8 program administrative costs is concerned primarily with the relative levels of effort and costs incurred by the sample PHAs in carrying out the major functions associated with:

- tenant and owner intake activities, e.g.,
  - eligibility determination
  - initial inspection of units
- program maintenance activities, e.g.,
  - disbursement of Housing Assistance Payments
  - recertification of income and eligibility
- support activities, e.g.,
  - accounting
  - HUD reporting

The number of staff and the levels of effort devoted to the various program administration activities were provided by the sample PHAs in a mail questionnaire. The cost of performing program administration was taken as the total of administrative expenses in conjunction with the addition of units to the PHA program. Examination of the management and expenditure practices of the sample PHAs revealed that the entire amount allocated by HUD for preliminary expenses was always spent by the agencies.

Because PHAs are compensated for the cost of the administrative services they provide on a formula rather than on actual basis, they might receive more or less in fees than actually expensed. Positive balances are transferred to an operating reserve that is intended primarily for use in the event of temporary shortfalls in HUD funding of administrative services. In practice the PHAs have considerable discretion in the use of

the reserve funds for other housing program activities. The research examined the provision for operating reserves as a measure of the adequacy of coverage provided by the current fee structure in compensating the PHAs and found that PHAs were adding about $3.50 to the operating reserve for each leased unit month in the program. There appeared to be no major inequity in the compensation structure in that the amount of the provision for operating reserves was very similar for all PHAs regardless of the program size or type of jurisdiction served. The analysis did show, however, that the PHAs depend to a considerable extent on the preliminary expense fees to generate contributions to operating reserves. In examining stable programs (defined as those in which preliminary expenses represented less than 40% of total fee revenue), it was noted that size of program had a significant effect on the amount of the provision for operating reserves. The amount placed in reserve ranged from a negative amount of $0.25 for the smallest PHAs (0-49 units) to nearly $6.00 for the largest PHAs (over 1,000 units). This finding has significant implications for the appropriateness of the current fee structure in providing adequate compensation to PHAs as the size of the program stabilizes.

3.0 ANALYSIS OF PROGRAM ADMINISTRATIVE COSTS

The analysis of the determinants of cost in administering the Section 8 program focused first on the relationships between the type of area served (location) and the level of effort and cost incurred in administering the program. Separate analyses then considered the correlations between the size of the program and costs and between vacancy rates and other program characteristics and costs.

A selection of the findings that emerged from these analyses include the following:

- Intake activities required the most staff time (61%)
- Typical PHA used an average of 2.25 full-time equivalent persons per 1,000 unit months
- Type of service area (metropolitan, nonmetropolitan, regional or state) was not related significantly to:
  - elderly/family ratio of units
  - proportion Section 8 units of total housing program
  - total administrative costs PUM

For the study period, however:

- Regional and nonmetro PHAs had higher intakes
- State and metro PHAs had higher labor costs

There were several significant relationships between the size of the PHA program and level of staff effort or administrative cost.

- Smaller PHAs had:
  - higher intakes as proportion of total program
  - more FTEs per 1,000 unit months
  - a slightly higher proportion of units with elderly tenants in their programs
- Labor costs were the highest in the largest PHAs
- Labor costs, FMR, and local income levels increased with program size
- Smallest PHAs (0-49 units) had highest per unit costs

Although it is often suggested by PHAs that local vacancy rates affect costs, no evidence of this relationship was found. Intake activity, however, was found to be highest in areas with

the highest vacancy rates (greater than 7.0% for Section 8 quality housing).

The initial analysis of the determinants of administrative costs relied on examination of the correlation of cost or staff effort to various PHA or program characteristics. The research was then extended to include bivariate and multivariate analysis so that the effects of all other variables could be controlled while examining the specific relationship between two or more selected variables. The findings that emerged from this more intensive analysis include the following:

- Type of service area had no significant effect on PHA expenses
- Very smallest PHAs (0-49 units) spent $8-$12 per unit month more than larger PHAs
- Section 8 administrative costs were reduced for PHAs administering other housing programs
- A $1.00 increase in FMR increased PHA expenses by $0.10 per unit month.

4.0 ANALYSIS OF FEE STRUCTURE

A number of implications for revisions to the current fee structure emerged from the analyses of the adequacy of coverage and degree of equity provided by the existing formula to date. It should be pointed out, however, that the major justification for any revision to the current fee structure is the need to provide a method of determining the compensation for program administration that is consistent with conditions in a mature rather than a growing program. A major conclusion of the study was that the existing formula has performed well in providing adequate and equitable compensation to PHAs that are initiating or expanding their Section 8 program. The current fee structure, however, has become obsolete. The success of the current fee structure is attributable in large part, to the preliminary

expense allowance for additional units. As the program of PHAs now participating in Section 8 reach stable conditions, the fee income available for preliminary expenses will be small or nonexistent. For that reason, a shift away from a fee structure that includes preliminary expenses as a major component of compensation seems appropriate.

Based on the findings of the administrative cost research and on general experience gained in the program as the result of the research, the following principles are suggested in revising the fee system:

- The system should generally continue to use a formula type approach rather than going to a budget or cost-reimbursement system.

- The system should continue to use PHA workload factors as the basis of fee. Unit-months leased and number of intakes are reasonable workload measures. However, the current system gives preliminary expense reimbursements on the basis only of new increments of units allocated by HUD, and does not directly reimburse PHAs for the intake expense due to replacing housholds which have moved out of the program. Intake of families which replace families moving from the program is indistinguishable from intake of families moving into newly allocated units. Thus, it is suggested that PHAs should be reimbursed for all new intakes in the program, whether due to filling "new" units or replacing households in previously allocated units. New intakes would not include counting families whose certificates have temporarily lapsed for six months or less in order to avoid artificially high intake fees. The formula would continue to use a maintenance fee to reimburse PHAs for the cost of ongoing operations such as HAP payments, recertification, annual unit reinspection and administrative overhead. The maintenance fee would be based on number of unit months leased. This system would mean that more money would be paid for intakes and less would be paid for ongoing unit maintenance fees.

This system would have three advantages over the current system:

- The new system would more accurately reimburse the PHAs for actual high cost of running intake functions.
- As the number of intakes rose under high turnovers and high allocations from HUD, or as they fell under low allocations and lower turnover rates, PHAs workloads would rise or fall and their fees would correspondingly be increased or reduced.
- Since the amount per turnover would be a fixed dollar amount (e.g., $200 in FY 1979), the current high variance in p.u.m. fees between high FMR and low FMR areas would be reduced. This would give somewhat more support to rural and small PHAs

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I. INTRODUCTION

This report presents the results of an analysis of the costs reported by public housing agencies (PHAs) administering the Section 8 Existing Housing Program and provides recommendations on an appropriate fee structure for reimbursement of those costs.

1. BACKGROUND TO THE STUDY

The Existing Housing Program is one of three programs enacted under Section 8 of the Housing and Community Development Act of 1974 authorizing the Department of Housing and Urban Development to provide housing assistance payments for low-income persons. The programs share a common objective of increasing the housing opportunities available to low-income persons by providing rent subsidies which increase the quality of housing they can afford. The Section 8 - New Construction and Section 8 - Substantial Rehabilitation programs differ from the Existing Housing Program in the way they are administered. Because the program administration costs incurred in these two programs have no comparable basis for analysis they were not included in this study.

The Existing Housing Program limits participation to the elderly and families with incomes of less than 80 percent of the median income of the population in an area defined by HUD. The program provides a monthly payment to the owner equal to the difference between the rent for the unit (up to a maximum "Fair Market Rent" established by HUD) and the tenant's payment or Gross Family Contribution (GFC) of 15 to 25 percent (depending on family size and income) of adjusted gross income. Annually, the tenant's payment is recomputed based upon current income, and owners are permitted to request a rental adjustment to reflect changes in market rents.

In five years of existence the Section 8 program has proven to be highly successful as both an alternative and supplement to the conventional public housing program. The major advantage offered by Section 8, particularly the existing program, is that it relies on the private sector to perform the traditional property management functions such as maintenance and rent collection. As long as the Fair Market Rent structure established for an area is consistent with prevailing market rents, the program assures the landlord of steady, adequate rental income and therefore provides an important incentive to owners to make housing available to low-income tenants.

1.1 Program Administration

The program is administered by designated public housing agencies (PHAs), which generally are Local Housing Authorities, or city or state departments of housing. An allotment and, subsequently, a contract authority for a specified number of assisted units are assigned to a PHA by HUD through the appropriate Area Office. The PHA is then responsible for gaining the participation of landlords in the program and for attracting applicants for the assisted housing units. In addition to the initial outreach activities directed at landlords and applicants, the PHA retains responsibility for processing applicants, issuing housing assistance payments to landlords, inspecting units annually, and resolving landlord or tenant complaints.

The major administrative functions performed by PHAs include:

- Outreach to gain the participation of landlords
- Outreach to attract prospective tenants
- Initial and annual certification of tenant eligibility
- Initial and annual inspection of units
- Issuance of monthly housing assistance payments to landlords
- Liaison and complaint handling for tenants and landlords

. Accounting and financial reporting.

1.2 Administrative Fee Structure

The housing assistance payments made to landlords and the cost of services provided in administering the program are reimbursed by HUD through an Annual Contributions Contract (ACC) with each PHA. Funds provided to PHAs under the ACC fall into one of three categories:

. Housing assistance payments
. Preliminary fee
. Administrative fee

The monthly housing assistance payments provided by PHAs to landlords for units under lease to eligible tenants, are based upon the rents established in Housing Assistance Payment contracts between PHAs and landlords.

A preliminary fee is provided as a one-time payment for each assisted unit authorized under the ACC. The amount of this fee is negotiated and in most instances does not exceed $275 per unit. This fee is intended to cover the presumably extraordinary costs of adding new housing units to a PHA's program. Preliminary costs include those incurred prior to execution of the ACC (pre-ACC) for activities such as initial landlord outreach PHA negotiations for new units, and costs incurred after ACC execution (post-ACC) for activities such as advertising, outreach, applicant processing, and landlord contract negotiation.

The cost incurred by PHAs for administrative functions after tenants are under lease such as payment processing, annual unit inspections, and tenant recertifications are reimbursed by HUD on a formula rather than an actual cost basis. At present, the reimbursement formula provides an administrative fee of 8 1/2% of the Fair Market Rent for a two-bedroom non-elevator unit for each unit under lease in the PHA program or $15.00, which ever is

greater. The costs of program administration and the adequacy of funding to defray these costs provided by the present fee structure are the major subjects of the analysis and recommendations presented in this report.

1.3 Objectives of the Research

This study was developed by HUD in response to concerns about the equity of the current fee system. It has generally been assumed that the formula approach to reimbursement has provided an incentive for participation in the program. The formula reduces the additional reporting, recordkeeping, and extent of end-of-year adjustments that would be required under a system of reimbursement based upon actual costs. The present system also rewards management efficiency and enables PHAs to apply any surplus in fees earned over actual administrative costs to other housing-related activities.

The equity of this approach and the adequacy of the fee structure in covering actual costs are difficult to estimate *a priori*. Agencies administering the Section 8 - Existing Housing Program differ considerably in terms of the:

- Number of projects and units under lease;
- Percent of elderly compared to family units;
- Location and geographical dispersion;
- Number of years in operation;
- Previous housing program experience; and
- Concurrent housing program responsibilities.

In addition some PHAs maintain that tenant turnover in units creates costs that are not adequately considered in the current fee structure. They believe that these costs would result in administering the program at a loss were it not for the additional revenue provided by the preliminary fee income earned when additional units are added to the program.

The overall objectives of this research were to examine the adequacy of cost reimbursement provided by the current system when program characteristics and related conditions are taken into account, and to recommend a reimbursement method that provides adequate recovery of costs and improved equity among PHAs, if the deficiencies in the current system warrant such a change. The research included:

- Comparison of actual costs of program administration reported by a sample of PHAs with the preliminary and administrative fee earned under the current reimbursement structure;
- Identification of program and organization characteristics of PHAs that appear to affect the costs of administration and an evaluation of the extent to which the current fee structure compensates for these characteristics; and
- Development of alternative reimbursement methods and evaluation of the potential advantages and disadvantages of these alternatives in terms of the adequacy and equity of compensation and ease of administration.

2. OTHER RELATED RESEARCH

Three research efforts have been conducted in the past six years that provide a basis for comparing the findings of this study with those of other analyses of program administration costs for Section 8 or similar administrative activities. The most directly relevant of these research efforts is one conducted by Westat, Inc. In that study the Section 8 program administration cost experiences of 30 PHAs were analyzed using 1976 data.

Research conducted under the Experimental Housing Allownce Program (EHAP) has provided additional information on program administration costs for a program that is similar but not identical to the Section 8 - Existing Housing Program. EHAP

housing allowances are given directly to tenants, and except for an inspection of the unit, there is virtually no involvement of the housing allowance agency with the landlord.

One component of the EHAP research examined the effects on the supply of housing to low- and moderate-income groups as a result of the increase in income available for housing costs. This experiment, the Housing Allowance Supply Experiment (HASE) was conducted by the Rand Corporation through non-profit organizations in two diverse locations. As part of the research, an elaborate system was established for recording the time and cost incurred for most administrative activities.

Another component of the EHAP research dealt with alternative approaches to administration of the housing allowance program. In the Administrative Agency Experiment (AAE) four different types of public agencies were selected to administer the program in accordance with their own operating practices. Cost information was collected for each agency to determine if any one type of agency offered any operating or cost efficiencies.

The major findings of these previous research efforts are summarized in the following discussions.

2.1 Analysis of Administrative Functions and Fees

The research conducted by Westat, Inc. relied on information collected from 30 PHAs selected by HUD and the Urban Institute in HUD Regions VI, VII, VIII, IX, and X. In presenting the results of their research, Westat indicated that the limitations of sample size and sampling procedures reduced the statistical reliability of the 30 PHAs to one which was only as good as a random sample of about 18 PHAs.

A variety of cost accounting methods and administrative procedures were encountered in the sample PHAs, which made it very difficult to identify direct relationships between costs and the

various administrative functions, e.g. outreach, application processing. As a result, it was necessary for the researchers to develop a method for calculating and weighting costs for each PHA based upon its relative representativeness in the population of PHAs in the sample regions.

Some of the observations made in the research include the following:

- PHAs in standard metropolitan statistical areas (Metros) experienced higher preliminary activity costs than PHAs in non-Metros. This was explained by the use in Metros of specialized, professional staff to carry out functions that are performed in non-Metros by nonspecialized staff. Some price index differences were also observed.
- PHAs that exceeded the preliminary fee provided tended to exceed the on-going fee as well.
- The preliminary fee seemed to be more than adequate to cover the costs incurred up to the point of lease-up.
- The on-going fee was judged as inadequate to cover the "steady state" costs of maintaining the program. The Westat Researchers estimated a flat cost of between $17.40 and $18.31 per leased unit-month (1976 dollars).

In reviewing the Westat research findings it is important to note that the survey was conducted very early in the life of the Section 8 existing program. None of the PHAs sampled, for example, had reached full lease-up of the initial ACC allotment. Only seven of the 30 PHAs had been in the program more than 30 months.

2.2 Housing Allowance Supply Experiment

The Housing Assistance Supply Experiment (HASE), as mentioned previously, was one of three demonstration programs sponsored by HUD as part of the Experimental Housing Allowance Program (EHAP).

The overall objective of EHAP was to test the feasibility of providing housing allowance payments to eligible renters or homebuyers. Like Section 8 the program stressed reliance on the private sector to provide and maintain the housing units. In the EHAP, supplemental rent payments were made directly to the program participants and not to the landlords as in the case of Section 8.

The major objective of the HASE was to determine the effects of this increase in family income available for housing needs on the supply of housing. In order to measure these effects it was necessary to establish full scale programs at sites which offered differences in housing market conditions. Brown County, Wisconsin (metropolitan Green Bay), the site of the first program, provided conditions of a market with low vacancy rates resulting from rapid growth in population and employment. The minority population is small. Approximately 3,000 households were receiving allowance payments at the end of the third year of the program.

St. Joseph's County, Indiana (metropolitan South Bend), the second HASE site, contrasted markedly with the Green Bay. High unemployment and a declining population had created conditions of high vacancy rates and significant deterioration of housing, particularly in the central city. South Bend also has a large minority population.

As part of the research effort the HASE contractor (The Rand Corporation) established comprehensive functional accounting systems as part of the program administration structure at each of the two sites. As a result they were able to compile detailed cost information on the activities performed in processing applicants and participants. The cost information available from the two sites provides an interesting basis for comparison with the Section 8 program cost experiences. It is important to note, however, that the HASE differs in several significant ways from

the Section 8 program. For example, considerable emphasis is placed on personalizing the application process, and protecting the confidentiality of participation in the program. Participants are permanently assigned to a counsellor, who devotes considerable time to each participant. Because the allowances are provided directly to the recipient, there is very little interaction required between the program staff and landlords, except for annual inspections.

There are a number of references to and comparisons with the HASE program administration cost experience throughout this report. The HASE has the advantage of access to more detailed data than were available for this cost study. As a result the descriptions of activities and the costs associated with them are stated with more precision that is possible in this study. However, while the HASE findings provide useful comparisons in terms of the time devoted to various functions and the relative distribution of major expense categories, the total cost per unit is of more significance in comparing the relative efficiencies of the two programs.

2.3 Administrative Agency Experiment

The Administrative Agency Experiment (AAE) also conducted under the EHAP provides another source of comparison of program administrative costs. The AAE was conducted at eight sites on a much smaller scale than the HASE program. The eight AAE sites included two local housing authorities, two welfare offices, two units of metropolitan government and two state housing agencies.

Each agency had discretion in its choice of administrative procedures but had to comply with the basic program requirements specified by HUD.

Some of the findings from the AAE research of relevance to this study were:

- Processing applicants who did not become recipients absorbed about one-third of all AAE intake costs. If the lowest attrition rate, not the median, could be achieved in each project, intake costs were estimated to decline by about 22 percent and total cost would then decrease by about 5 percent.

- Indirect costs appeared to vary with agency size. Larger agencies showed lower indirect cost rates as compared to smaller agencies when measured by the number of full-time equivalent staff members. Applying the lowest observed indirect cost total rate, rather than the median rate, reduced the estimated cost per family by 34 percent.

- Direct costs for intake and maintenance varied greatly among agencies. The research suggested that if the lowest cost observed in the AAE for each major element of intake and maintenance activities could be achieved in one program it would result in a total cost 50% lower than the median estimate of $276 per family per year.

In theory the cost data obtained in the AAE should be more comparable with the costs observed in the administration of Section 8. The AAE was limited to renters only and involved existing public agencies with program administration skills and experience similar to the PHAs included in this study. The wide range of costs observed at the AAE sites, however, makes any reliable comparisons difficult. The cost differences are the result primarily of the varying emphasis that the AAE agencies placed on the various intake and maintenance processing functions. This is unfortunate because the relative level of effort and cost devoted to these two major functions is of considerable interest in this study, in that under the current reimbursement structure the cost of replacing tenants or landlords that drop

out of the program is borne by the on-going administrative fee. Many PHAs in high cost areas or those experiencing high turnover argue that the administrative fee is not sufficient to cover the cost of turnover.

3. MAJOR RESEARCH ISSUES

While the AAE and the HASE provide helpful background information on the costs of of administering a program similar but not identical to the Section 8 program, this research was concerned with identifying the characteristics of housing assistance programs that might affect cost including:

- Size of the program
- Geography of jurisdiction
- Tenant mix (elderly vs. families)
- Tenant turnover
- Tightness of rental housing market

In particular, this study concentrates on the following issues that have been raised by PHAs and HUD with regard to the costs of program administration.

3.1 Program Size and Economies of Scale

The size of the program or the sponsoring agency is not a consideration in the current administrative fee structure. It has been argued that the administration of the Section 8 program is comparable to case processing or other production-oriented management activities that experience declining costs per unit as the total number of units increases. In order to determine the extent to which economies of scale operate in Section 8 administrative functions, total costs reported by PHAs for administration as well as individual categories of expense were analyzed to determine which, if any, varied in proportion to program size.

3.2 Effects of High Cost Areas on Administrative Costs

The current reimbursement formula accounts for differences in administrative costs that appear to be attributable to the effects of local economic conditions by establishing the local Fair Market Rent as the basis for costs. To the extent that the FMRs in an area accurately reflect the cost of services that are required in the administration of Section 8, then the difference in costs incurred by PHAs should be matched by a difference in two-bedroom FMR, all other things being equal. The study examined alternative cost indices, giving special consideration to salary costs. Since administrative salaries account for 70 - 80 percent of PHA program management costs, the study used several indices of wage levels and then we compared FMRs and these wage indices in respect to their association with PHA costs.

3.3 Locational Effects on Administrative Costs

The current administrative fee structure does not distinguish between the cost experience of PHAs administering programs in different types of jurisdictions such as metropolitan, nonmetropolitan, state or regional areas. Cost differences attributable to geographical factors were thought to exist, even after adjustments for cost differences associated with program size and local economic conditions. The effects of locational characteristics were determined by comparing both the total per unit month (PUM) cost and the line item PUM cost for projects in metropolitan, nonmetropolitan, state and regional areas. The study uses several indicators of travel expenses for comparing metro PHAs to other PHAs.

3.4 Effects of Program Characteristics

The current fee structure makes no distinction in a number of areas which can reasonably be thought to affect the cost of

program administration. Some of the program characteristics that were examined to determine impact on costs include:

- Administration of elderly as opposed to family units
- Differences in the effort devoted to intake and maintenance activities
- Differences in the proportion of Section 8 - Existing housing in the total housing program workload of the PHAs.

3.5 Effect of Turnover

The effect of turnover rates on administrative costs is a major concern among PHAs and has been given separate consideration. At present the preliminary fee provided for each new unit is intended to be adequate to meet the marketing, negotiation, and processing costs necessary to bring landlords and participants into the program. Subsequent costs incurred in processing or renegotiation as a result of tenants and landlords withdrawing from the program must be covered by the on-going administrative fee. Many PHAs have expressed concern that these costs are not adequately compensated by the current reimbursement formula. The study examined the effect of turnover on administrative costs and the level of effort devoted to program maintenance activities.

3.6 Level of Service Provided

The level of services provided by PHAs both in terms of the type of service available to tenants and landlords, and the size of staff assigned to specific administrative functions may greatly affect administrative costs. The study identified the time spent and cost associated with different administrative functions and evaluated the effect of observed differences in staffing patterns on overall administrative costs.

4. ORGANIZATION OF THE REPORT

This report presents findings, conclusions, and recommendations resulting from the study of reported costs experiences of the sample of PHAs administering the Section 8 Existing Housing Program. The report includes:

- Analyses of preliminary and administrative costs reported by PHAs
- Comparison of costs with earned administrative fee
- Identification of variables that affect administrative costs
- Assessment of the adequacy of the existing reimbursement formula
- Discussion of potential alternatives to the existing fee structure.

The report is organized as follows:

- Chapter I - Introduction

This chapter provides a brief description of the Section 8 - Existing Housing program and an overview of the research conducted in the cost of program administration.

- Chapter II - Study Overview

A description is provided of the program administration practices of PHAs and the methodologies followed in analyzing the costs reported by PHAs.

- Chapter III - Analysis of Costs

The experiences of PHAs administering the Section 8 program are presented in a comparison of costs with program characteristics. Appendix III-A lists and defines the variables used in the cost study; Appendix III-B includes complete tables of the data referenced in the body of the chapter; Appendix III-C describes the regression analysis in detail.

- Chapter IV - Conclusions and Recommendations

Implications of the cost findings for the adequacy of the current fee structure are discussed. The findings of

the study are summarized in a series of conclusions about the disadvantages and potential for improvements in the existing fee structure. Recommendations are provided on the future treatment of preliminary and on-going costs in reimbursing PHAs for administration of the Section 8 program.

Volume II includes detailed information from the research and examples of source documents used in the data collection effort. The contents of Volume II include:

- Appendix A - Research Methodology
- Appendix B - Analysis of Response Rates and Comparison of Actual PHA Sample to PHA Population
- Appendix C - Frequencies on Important Variables
- Appendix D - Correlation Matrices
- Appendix E - Data Layout and Code Book
- Appendix F - Data Collection Forms
- Appendix G - Comments on HUD Reporting Procedures
- Appendix H - Analysis of Responses to Questionnaire Item No. 24 Request for PHA Comments and Recommendations on Current Fee Structure.
- Appendix I - The SPSS Program

II. STUDY OVERVIEW

This chapter describes the major functions performed in the administration of the Section 8 - Existing Housing Program, the method used to obtain information on the cost of performing these functions, and the major sources of information used on in the research.

1. ADMINISTRATIVE FUNCTIONS

The activities associated with administration of a Section 8 Existing Housing program can be grouped into three categories:

- Intake functions
- Maintenance functions
- Support functions

The intake and maintenance activities usually are carried out by one organizational unit established specifically for those purposes by the local housing authority or city or state housing agency that has assumed responsibility for the program. Support services such as personnel or accounting and payments processing typically are provided by other units of the agency on a part-time or shared cost basis. It is estimated that only about 20% of the agencies administer a Section 8 program exclusively. The compensation provided to a PHA for program administration does not equate directly to these activities. For example, while the preliminary fee covers new intake functions exclusively, the ongoing administrative fee must cover the virtually identical intake functions required by tenant turnover, as well as program maintenance and support activities.

1.1 Intake Functions

The major administrative activities included in the intake function of the Section 8 program are:

- Outreach to owners and families
- Processing applications
- Verifying and determining eligibility
- Issuing Certificates of Family Participation
- Inspecting units
- Determining rent reasonableness
- Negotiating contracts

It is important to understand that the performance of intake activities is not limited to the start-up period of a program. These activities are repeated each time a unit is vacated and a new tenant is assigned.

The responsibilities for these activities in large programs often are divided between two sections of the Section 8 administrative unit:

- Certification Section
- Lease and Contract Section

The certification section receives an application and verifies eligibility for participation in the program based upon family income and size. The Gross Family Contribution (GFC) is computed as part of this process. An eligible applicant generally must wait until a Certificate of Participation can be issued for a unit with the appropriate number of bedrooms. Most jurisdictions have waiting lists equal to or larger than the number of units available for occupancy at any one time. When a certificate is issued, the applicant assumes responsibility for finding an acceptable unit and obtaining at least a preliminary agreement from the landlord to participate in the program. The

program is designed to encourage a "free-market" negotiation between the prospective tenant and the landlord on the lease terms and rent. In practice, the PHA generally provides some assistance to a participant in locating and negotiating for a unit.

The lease and contract section assumes responsibility for processing after a participant has located a unit and a willing owner. The section inspects the unit to assure that it meets HUD Housing Quality standards (or other higher local standards approved by HUD) and assesses the reasonableness of the rent. After inspection and correction of any deficiencies by the owner the rent assistance payment is computed and the lease and contract are drawn up. The documents are signed under PHA supervision, and an authorization for payment of rent assistance is executed and forwarded to the accounting section.

1.2 Maintenance Functions

Client maintenance activities are those functions that are performed throughout the period of tenant occupancy of a Section 8 unit. These responsibilities include:

- Annual recertification of income and eligibility
- Annual reinspection of units
- Determination of Annual and Special Rent Adjustments
- Resolution of landlord or tenant complaints
- Contract administration
- Disbursement of Housing Assistance Payments

Responsibilities for maintenance functions are divided between the certification section and the lease and contract section consistent with their assignments in the intake process. For example, annual recertification of eligibility and recomputation of the rent contribution for current participants is per-

formed by the certification section. The lease and contract section performs the yearly reinspection of units, reviews and authorizes Annual and Special Rent Adjustments, and generally handles complaints filed by tenants or landlords. The section may also suspend payments or terminate contracts, as the circumstances require, in addition to carrying out the typical monitoring and recordkeeping duties associated with contract administration. In small programs, housing assistance payments to landlords are prepared by hand and issued by the Section 8 program unit. In larger programs this function is carried out by a centralized accounting section.

1.3 Support Functions

In addition to the specific functions associated with carrying out the Section 8 program, other traditional administrative services are performed out by the Section 8 program unit or on its behalf in the case of multi-program agencies. Typically, these activities include:

- Housing Assistance payment disbursement (if centralized)
- Funds investment
- Accounting and financial reporting
- Data processing support

Checks are issued monthly to landlords and in some instances to tenants (when they are paying their own utilities and their utility payment exceeds their Gross Family Contribution). Funds for making payments to landlords are drawn quarterly from HUD and are available for short-term investment to generate additional program income. In addition to the accounts payable activities, administration of the program requires the general accounting services associated with maintenance of general ledger accounts, payroll processing and reconciliation of receipts and balances.

When these financial management services are centralized, the cost of providing support to the Section 8 program is determined on the basis of the proportion of the workload from all the programs of the PHA.

2. PROGRAM ACCOUNTING

As part of their program administration responsibilities PHAs are required to account for and maintain records of expenses incurred in carrying out the Section 8 program. These records are subject to audit at least every two years. Although the accounting and audit requirements are important in assuring the integrity of the PHA's financial controls, the actual costs incurred in administering the program do not affect directly the amount of reimbursement received from HUD. As described previously, the fee earned by a PHA to compensate it for program administration costs is calculated at 8-1/2% of the FMR for a two bedroom non-elevator unit for each unit-month under lease: Administrative Fee = 0.085 x unit-months under lease x FMR. In administrating its program, a PHA might incur more cost or less cost than is compensated under the formula or than is allowed for preliminary expenses. Except in cases where the PHA is administering only a Section 8 program, the determination of the actual cost of program administration requires some assessment of the validity of costs that are allocated to the program for support services provided by other units of the PHA organization. Financial management and data processing are the two services that are most often charged to the program on an allocated basis. The basis for apportioning support costs varies among PHAs. The salaries and benefit costs of personnel providing support services generally are charged directly to the Section 8 program, based upon the percentage of their time devoted to the program.

Overhead costs such as rent and utilities and expenses for supplies for services, when they are shared with other programs,

are assigned to the Section 8 program through a variety of apportionment methods such as floor space, relative budget, number of transactions, relative salary costs or other bases. The costs ascribed to the Section 8 program in this manner are not reported separately. They are combined with the comparable direct costs incurred in the program and reported as line item expenses. Auditors in reviewing the allocation method are concerned primarily with the reasonableness of the approach selected by the PHA, and generally are not concerned with the equity achieved among the programs affected by the allocation method.

2.1 Categories of Expense

Expenses incurred by a PHA in administering the Section 8 program are reported once a year on HUD Form 52682 - Operating Statement for Housing Assistance Program. This report indicates:

- Operating Receipts

  Annual contributions, interest on invested funds, and other sources of income to the PHA

- Housing Assistance Payment and Preliminary Expenses

  Payments made to owners for units under lease, preliminary administrative expenses incurred before and after execution of the ACC, nonexpendable equipment purchases, and leasehold improvement costs.

- Administrative Expense

  Salary and operating expenses typically associated with program administration such as rent, legal expense, travel, accounting fees, and supplies.

- Other Expense

  Expenses typically included in overhead costs such as maintenance or custodial services, insurance, terminal leave payments, employee benefit contribution and other general expenses.

The PHA receives quarterly allotments from HUD to meet its expenses during the year. A final voucher for payment (HUD Form 52681 Voucher for Payment of Annual Contributions) is submitted at the end of the PHA fiscal year to reflect the housing assistance payments and administrative fees actually earned, and to reconcile under- or overpayments received by the agency. If the fees earned for preliminary expenses and for on-going administration exceed actual expenses in these categories the surplus is transferred to an operating reserve account. In the event that expenses exceed earned fees the PHA can draw on any accumulated operating reserves to meet the shortfall in funding.

2.2 Preliminary and Administrative Fees

Expenses incurred in the preliminary planning and start-up activities for adding assisted units to the PHA's Section 8 program are reported to HUD only in total for pre- and post-ACC activities. The PHA's estimate of specific preliminary expenses are described in the budget submitted as part of the request to obtain contract authority for additional assisted units. This budget supports the request for the $275 per unit allowed by HUD as a norm for preliminary expenses incurred prior to lease-up of the assisted units. The HUD Area Offices have responsibility for reviewing the budget and determining if the proposed expenses are justified. There appears to be some variation among the Area Offices in the amount allowed for preliminary expenses. Approximately 45% of the PHAs reported receiving $275 per unit. One-half of the PHAs responding to the survey indicated that they received less than $275 per unit. Allowances of more than $275 per unit were also reported by 5% of the PHAs responding.

While the preliminary fee was established in recognition of the one-time or start-up expenses of planning and initiating a Section 8 program or of carrying out the applicant processing and negotiations with landlords necessary to add additional units to the program, in practice it is sometimes difficult to make a

clear distinction between the activities covered by the preliminary fee and those covered by the administrative fee. For example, tenant and owner outreach activities might be performed as the result of a turnover of either a tenant of a unit, as well as in connection with allocation of a new unit.

The Section 8 program regulations require an accounting of preliminary expenses and adjustment of the allowance to cover only actual costs. The instructions provided by HUD to independent public accountants engaged in audits of the programs require an examination of the preliminary expenses recorded by the PHA. Costs disallowed in the audit can be recovered by HUD through subsequent adjustments in payments made to the PHA. In practice, preliminary costs are very rarely disallowed in the audit findings. This appears to be a result of inadequate definition of allowable costs to guide the auditors in their determination of preliminary expenses, as well as the latitude available to PHAs in assigning costs to either the preliminary or on-going expense category. Typically, PHAs regard the preliminary fee as a supplement to the administrative fee rather than a source of funding for a discrete set of activities.

2.3 Operating Reserve

The operating reserve account in the Section 8 program serves the same purpose as its counterpart account in the low-rent conventional housing program. It is a cash reserve against future program financial requirements funded from the surplus of revenue over expenses. Initially, HUD did not establish any restriction on the use of funds in the reserve account. The regulations were revised in 1980 to restrict the funds to use in housing program activities only.

Since housing assistance payments made by the PHA are reimbursed by HUD on an actual basis after adjusting for any income generated by PHA investment of program funds, the only source of operating reserves is the difference between the total revenue

from preliminary and administrative fees and the expenses incurred by the PHA in operating the program. In virtually every instance the preliminary fee equals the cost reported for preliminary administrative activities. This seems to reflect the general thinking of PHAs that it is better to spend all that is allocated rather than return any surplus to HUD. The money for operating reserves therefore comes simply from the difference between the administrative fee earned on the basis of the 8-1/2% of FMR formula and the cost reported by the PHA for administrative and other expenses.

Once a balance has been established in the operating reserve, the funds can be used to meet any shortfall between income and operating expenditures. Typically, this would be a temporary situation, but a total drawdown of the operating reserve could occur in case operating expenditures continually exceed the administrative fee earned in the program.

2.4 HUD Reporting Requirements

Agencies administering the Section 8 Existing Housing Program provide two annual financial reports to HUD:

- HUD Form 52682 - Operating Statement
- HUD Form 52681 - Voucher for Payment of Annual Contributions

As discussed previously, the Operating Statement describes the total costs recorded by the PHA in approximately 20 accounts. It is the basic source of information on the financial performance of the PHA as measured by the difference between revenues and expenditure and the status of the operating reserve.

The Voucher for Payment, as the name implies, is the document submitted by the PHA at the end of the fiscal year certifying the fees earned or payments made and status of income received

throughout the year. Since the PHA draws down funds quarterly based upon budgets derived from initial estimates of the number of units under lease, it generally closes the fiscal year with either an underpayment or an overpayment of HUD funds. The voucher provides for reconciliation of the payments to the amount earned by the PHA under the formula and results in issuance of a check by either the PHA or HUD.

The only other significant financial reporting required of the PHAs by HUD is a financial audit of the Section 8 program at least once every two years. The PHA is responsible for selecting an independent public accountant, who performs this review on HUD's behalf in accordance with guidelines published by HUD for the program. The audits are submitted for review to the Regional Inspector General's office having jurisdiction over the PHA. In addition to examining the adequacy and integrity of the financial controls applied by the PHA in administering the program, the audit should include:

- verification of accuracy of payments to landlords
- verification of tenant eligibility status and payments earned
- review of compliance with program requirements
- examination of appropriateness of costs recorded for preliminary expenses
- review of cost allocation methods

To supplement to the biannual audits, staff of the Inspector General's office perodically conduct audits of randomly selected PHAs.

3. DETERMINATION OF PROGRAM ADMINISTRATION COSTS

A major objective in this research of the adequacy of the fees provided for administration of the Section 8 program was to determine the cost to the PHA of performing program functions.

There are two techniques available for measuring the cost of performing administrative functions. They are work measurement and empirical analysis.

3.1 Work Measurement

Most studies of the cost of performing administrative functions rely on work measurement techniques to determine hourly or daily levels of output for comparision with the salary and related costs of performing the functions. While the traditional stop-watch approach to work measurement has limited application in studies of administrative productivity, generally good estimates of output can be obtained from supervisory estimates, self-reporting, and use of detailed time sheets that report the allocation of time by activity. All of these techniques were used in the Housing Assistance Supply and the Administrative Agency experiments to measure workloads. Determining the costs incurred in performing specific processing functions is more difficult than quantifying output. The accounting systems maintained by most service organizations are designed to record aggregate costs only, not to support detailed cost analyses. Most studies use direct salary to determine the basic cost of labor. Non-personnel costs are then added to the cost of performing a function through some method of allocation or proration.

In the AAE, the participating agency was relied on to provide recordkeeping and cost accounting for applicant intake and client maintenance at the experiment sites. The HASE had the advantage of a functional accounting system developed specifically for accumulation and analysis of the cost of program administration. Each major function was assigned a code for personnel to record their time and other related expenses. This cost information was combined with workload and caseload statistics to determine the per applicant or per recipient costs for each function with considerable precision.

Although the cost information obtained in the HASE, and to a lesser extent in the AAE, is reliable, there are sufficient differences between program administration in the EHAP and the Section 8 program to make it impossible to use EHAP costs to establish the costs of administering the Section 8 program. For instance, program benefits were available to a much wider range of income groups in the EHAP than are served in the Section 8 - Existing Housing Program. This difference will affect the yield rates (ratio of recipients to total applicants) because there will probably be more eligible applicants out of the applicant pool in the EHAP. In fact the HASE reported a yield of 55% in Brown County and 49% in St. Joseph County. In this study, the average yield rate is 41%. The HASE also requires considerably less involvement and negotiation with owners than the Section 8 - Existing program since payments are made to families, and they set their own limits on the rent they are willing to pay. In the AAE the participating public agency was allowed to establish the level of service that it would provide with the result that the costs reported for administering the housing assistance program varied considerably among agencies. The HASE reports that 49% of all intake expenses were attributable to enrollment processing. This study, while not strictly comparable, showed that eligibility determination and all general counseling services (incurred either as intake or maintenance services) required 42% of the program staff time.

The Housing Authority of the County of Santa Clara conducted an independent in-house analysis of its Section 8 program to determine the costs of program functions. The approach used was based upon work measurement techniques and required the staff to record the time devoted to various processing and administrative activities. The cost of labor for these activities was estimated by applying the salary (mid-range) of the staff involved to the time required for each activity. All other costs were prorated based upon the number of units under contract. The results of the study showed a significant relationship between contract

duration and program administration cost. If a unit was leased by the same family for at least two years, the Authority gained $61.00 in excess of the administrative fees earned during the same period. Proportionally greater gains were possible for longer contract periods. Generally, the Authority suffered a loss, if a lease ran less than two years. This loss amounted to $112.00, if the family moved in six months, and $61.00, if the unit was leased for only a year without renewal. The annual cost recorded by the Santa Clara PHA for a one-year contract without renewal was $361.00 including preliminary fees based upon 1979 data.

The method applied by the Santa Clara PHA to determine its processing costs yields reliable results but is a time-consuming and expensive process. It requires measuring performance at several times over varying intervals in order to minimize the effects of workload changes and other shifts. Moreover, it usually requires the cooperation of supervisors and employees in recording the time they spend on each task rather than just the total time on the job. It is usually necessary to modify the accounting system or to set up additional cost reporting procedures in order to match the costs (rather than time) to the output being measured.

Clearly, a work measurement approach is useful to managers in examining employee organizational productivity. The approach can also be useful to researchers in analyzing the determinants of cost and differences in productivity across entire organizations. However, the cost and time required to obtain the type of information needed for work measurement would have limited the number of PHAs that could have been reviewed in this study to a very small sample. The wide variances in data obtained in the Westat study and the AAE, both of which used on small samples, suggested that a research design based upon a large sample of PHAs might yield more reliable cost information.

3.2 Empirical Approach

The empirical approach followed in this study, use on aggregate cost information provided routinely to HUD as part of the PHAs' program reporting responsibilities and estimates of workload gathered primarily through a mail questionnaire distributed to 435 PHAs. Information on the characteristics of each program and on each agency was also obtained through the mail questionnaire. Other sources of information included:

- Low-Income Application Processing System (LIAPS)
- Audit reports
- Bureau of Labor Statistics wage information
- HUD-compiled area income limits

The information available from these sources did not permit determination of the cost of specific applicant processing or client maintenance functions. For example, the level of effort devoted to various administrative functions can be estimated only on the basis of the proportion of total staff time devoted to specific processing activities. The costs of program administration can be determined only on a per unit basis, and not on an applicant or recipient basis as was done under the EHAP. While more detailed information on program administration would have been useful, gathering such information is costly. Moreover, it is not necessary for developing a fee structure with national applicability. In fact, a fee structure that took into account each of the separate costs of performing the various Section 8 program administration functions would result in a very elaborate and overly complex reimbursement formula.

The research design in this study of the cost of administering the Section 8 program is based upon the reasonable assumption

that the functions required to administer the program are the same for all PHAs. All other things being equal, the level of effort required for each function for a given caseload would be the same for all PHAs. The research recognizes, however, that the cost of administering the program does differ on a per unit basis among PHAs for any one of several possible reasons, including the following:

- Cost of labor is not uniform;
- Processing costs might differ for elderly and family applicants or recipients;
- Intake and turnover rates might affect costs;
- There might be scale economies;
- Sharing common costs with other housing programs might generate efficiencies in administration;
- Some PHAs manage their programs more efficiently than others.

In considering these and other potential effects on the cost of adminstering the Section 8 program, it is clear that work measurement techniques would not be sufficient to identify these effects. Differences observed in the time devoted to various functions or the level of effort required could only be explained after examining these differences in program or PHA characteristics. If the effects of these program characteristics on the cost of program administration are real, they will show up in an empirical analysis. To design an appropriate formula (other than payment for actual expenses), it is necessary to take these effects into account in creating a formula for computing the total reimburseable cost. It is not necessary to account for the individual components of processing costs that make up the total. Therefore, while some precision is lost in estimating the costs of individual processing functions, the empirical approach is entirely appropriate for developing a formula that adequately considers the determinants of costs and that is easy to administer.

4. SOURCES OF PROGRAM AND COST DATA

The information analyzed for this study was based on data collected from a representative sample of 435 PHAs out of a total population of approximately 1700 PHAs administering Section 8 - Existing Housing programs. Sources of information can be divided into two main categories: a) data available through routine HUD reporting processes as well as other HUD or other agency data collection activities or studies; and b) data collected from HUD or PHA personnel by interview or questionnaire.

The data sources included the following:

- PHA Program and Financial Reports

  Basic program and financial data on Section 8 Existing projects was derived from three standard forms routinely submitted to HUD as part of program administration requirements. (See Appendix F for copies of the HUD forms used in the study.)

  - HUD Section 8 Housing Assistance Payments Program ACC/HAP Contract List (HUD-5041C)

    The number, size, type and Fair Market Rent (FMR) of units were stated for each project. This form is used by HUD as a project planning instrument. The information contained in the 5041C provided basic data required for the analysis of the relationship of administrative costs to FMRs.

  - Voucher for Payment of Annual Contributions Housing Assistance Payments Program (HUD-52681)

    This form is submitted at the close of each fiscal year to reconcile authorized and earned payments with actual HUD payments. The information on this form provided basic data required for determining per unit and per unit month costs. A key entry on the form is the administrative fee earned by the PHA based upon the reimbursement formula. This entry was compared with actual costs to determine the adequacy of coverage.

- Operating Statement Housing Assistance Payments Program (HUD-52682)

  This form is submitted at the end of each full fiscal year and describes the financial performance of the PHA in the administration of the Section 8 Program. Operating receipts and operating expenditures are described in detail in terms of major income and expense accounts. The operating statement provided the information on preliminary and ongoing administrative costs. While this form also reports detailed line-item expenses for ongoing administration, thesd data were not used in any significant way in this study. The reason the data were not used is that, without a functional or cost accounting system, PHAs cannot accurately separate, for example, salaries incurred in the preliminary stage of acquiring a new unit from salaries incurred in the ongoing stage of acquiring a new tenant.

- PHA Audit Reports

  An audit by an independent public accountant of HUD programs administered by a PHA is required once every two years. Audit reports were collected for a subsample of PHAs that had submitted them to the Regional Inspector General for the period covered by the study. The reports provided limited information on the accounting practices of PHAs and problems encountered in complying with program requirements.

- Regional Inspector General and Regional Accounting Division Staff Interviews

  Interviews were conducted in the Regional Offices with representatives of the Regional Inspector General's Office (RIG) and the Regional Accounting Division who are familiar with the financial practices of PHAs in the administration of the program. The primary intent of these interviews was to identify the types of errors that commonly occur in recording or reporting Section 8 financial information. These personnel were also queried about difficulties encountered by the PHAs in calculating both the Housing Assistance Payments and the administrative fee claimed by the PHA.

  (A copy of the questionnaire used in interviewing Regional Office Staff is included in Appendix F.)

- Section 8 MIS and LIAPS Data

  The central file of Section 8 projects maintained by HUD Central on the Section 8 Management Information System (MIS) was used to generate separate lists of PHAs admin-

istering Section 8 Existing Housing Programs for metropolitan and non-metropolitan areas as of June 30, 1979. Information on the characteristics of families moving into and occupying Section 8 Existing Housing units was obtained from the Low-Income Applicant Processing System (LIAPS). The data were principally drawn from HUD Form 52675 - Report on Family Characteristics. Information on various characteristics of Section 8 tenants such as number of minority tenants, sex and age of head of households, average income, family size and source of income was collected, but the number of useable responses from this data source was low. Moreover, it is not clear that data on tenant characteristics should be used in a reimbursement formula. For that reason, limited use was made of these data.

- Area Wage and Income Data

Information on local wages in the PHA jurisdiction was obtained for each available SMSA and county from two indices maintained by the Bureau of Labor Statistics. The study used information on the wages of public administration workers (managerial, supervisory and clerical) and data collected for CETA sponsors on the wages of all service workers from the ES-202 series of the U.S. Employment Service reports. A separate index was developed from the median income data developed by HUD for determining income limits for program participation in major SMSAs.

- Mail Questionnaire Survey

A questionnaire was developed to obtain information on the organizational and program characteristics through a mail survey of the sample PHAs. (A copy of the questionnaire is provided in Appendix F.) Information was sought on the characteristics of the program and the administrative experience of the PHA including:

- Operating Environment
- Other Housing Program Experience
- Area Vacancy Rates
- Workload Characteristics
- Contract and Other Support Services
- Cost Allocation Methods
- Use of Automated Methods
- PHA Comments and Recommendations.

The information provided in the questionnaire responses was central to the analysis of the impact of program characteristics on administrative costs. The data on workload were particularly helpful in analyzing the causes of cost differentials in otherwise similar programs.

- Additional Sources of Information

  Personnel in the Housing Management Division and in various HUD Regional and Area Offices were an additional source of information, especially in clarifying procedural aspects or characteristics of specific programs.

The sources of data and the approach to data collection were chosen specifically to avoid the need for costly on-site visits and the burden of submitting a separate report by sample PHAs. Reliance on existing reports offered the potential advantage of providing data for all of the PHAs in the sample. The disadvantage of this approach is that the HUD forms, although adequate for use in program administration, were not always well-suited to meeting the data needs of this research.

The level of detail of the cost information was determined by the categories reported on the HUD Forms 52681 and 52682. In addition to the limitations that this detail imposed, there were other difficulties encountered as a result of reliance on the existing HUD reporting system that occasionally frustrated the compilation or analysis of the data. Some of these difficulties included:

- Failure of the preparer to follow instructions in completing forms and frequent writing in of additional line items and entries;
- A high percentage of arithmetic errors in calculations;
- Entries to the wrong line;
- Incomplete forms (missing values);
- Frequent confusion in reporting of positive and negative balances;
- Illegible HUD adjustment entries;
- Major lapses in file management procedures at the Regional Office level resulting in unfiled or incomplete report packages, which required omitting the sample PHA.

These conditions significantly increased the effort required for both collecting and editing the data and reduced the number of PHAs included in the final analysis to approximately 300.

In addition to having defects in the data that were correctible by editing, the existing HUD reports limited the information on unit-months and preliminary expenses to totals only. This was not a serious limitation, but it did restrict the analysis of these factors. For example, it would have been useful to examine the number of units under lease by bedroom size and type (elderly or family). A breakdown of the actual costs incurred for preliminary expenses would have provided useful data, but they are not reported except in total for the pre- and post-ACC phases. In the absence of the detailed breakdown it was necessary to equate preliminary costs to the preliminary fee received which, as discussed previously, is a relationship that might not hold in every case.

5. DATA COLLECTION PROCEDURES

The Section 8 Management Information System (MIS) was used to generate a list of all PHAs administering Section 8 Existing Housing Programs in metropolitan and non-metropolitan areas as of June 30, 1979. The research was based on a sample of PHAs drawn from this list. Briefly stated, the sample was constructed to provide adequate respresentation of PHAs based on program size by type of jurisdiction. The distribution of PHAs in the sample by region is also very close to that of the total population. A full discussion of the sampling plan is presented in Appendix A.

Data collection procedures were developed to a) collect standard HUD reporting forms and other government reports and studies; b) interview key regional personnel; and c) conduct a mail questionnaire survey of every PHA in the sample.

Collection of the HUD reporting forms was focused on the ten Regional Offices of HUD. Personnel from the offices of Coopers & Lybrand in each city with a HUD Regional Office collected financial and program reports for sample PHAs during October 1979. During the site visits, the Regional Inspector General or designated representative and the Regional Accounting Division Staff were interviewed. It was necessary to supplement the original data collection plan when it was discovered that the information files maintained at the Regional Offices were incomplete in 9 of the 10 regions. For example, forms were not available for 228 PHAs at the Regional level. The reasons for incomplete files included delay in or incomplete submission of forms by PHAs, projects in the samples that were so new that data had not been submitted, and backlog in Regional Office filing activities. In order to assemble a complete set of HUD forms for each sample PHA, it was necessary to send requests for the required information to 33 Area Offices. Letter requests were followed by phone call to approximately one-half of these Area Offices.

Information not available from other sources concerning the comparative cost experience of PHAs serving metro and non-metro areas was obtained through the questionnaire sent to the PHAs in the sample. After a review of the draft questionnaire by HUD program and research staff, it was pretested at seven PHAs. The questionnaire submitted for OMB review reflected the changes recommended during the review and pretest.

Questionnaires were mailed in December 1979. Non-responding PHAs were sent a second copy of the questionnaire and a letter urging them to participate. Follow-up contact was conducted by phone to the remaining non-participants to assure an adequate response rate.

All of the data obtained in the study were compiled, edited, and entered into a data base for additional editing and subsequent analysis using the Statistical Package for the Social Sciences (SPSS).

6. THE SAMPLING PLAN

The sampling plan selected 100% of nonmetropolitan PHAs with 500 units or more, 50% of metropolitan PHAs with 500-999 units, 100% of metropolitan PHAs with 1,000 or more units and 25% of all other PHAs. As a result, large PHAs ($\geq$ 1,000 units) in metropolitan and nonmetropolitan areas had a 4 times greater chance of being selected than the smallest PHAs (0-499 units). To correct for this difference, large PHAs ($\geq$ 1,000) were weighted 0.25; small PHAs (0-499 units) were weighted 1.00. Medium size PHAs (500-999 units) in nonmetropolitan areas received a weight of 0.25 since they had four times the chance of being selected than the smallest nonmetropolitan PHAs, and medium sized (500-999) PHAs in metro areas received a weight of 0.5.

All of the analyses in this report rely on a weighted sample that corrects for the disproportionate sampling strategy used to select PHAs. The disproportionate sample overrepresents important PHA types so that they can be studied in separate detail. Since the purpose of this report is to compare PHAs of different types, employing an unweighted sample overrepresents PHAs with the highest probability of being selected.

This weighting system reduces the number of observations. While the original sample was 435 PHAs, weighting the sample reduces the number of observations to 291. This number was reinflated to the original sample size of 435, and all significance tests use this weighted N.

III. ANALYSIS OF PROGRAM ADMINISTRATION COSTS

Introduction

This chapter examines the characteristics of PHA programs and administrative practices that create differences in the cost of providing a housing unit under the Section 8 - Existing Housing Program. The research centers on the effects of PHA service area, program size, area rental vacancy rates and various program characteristics on the level of administrative effort and on program costs. The next chapter then presents an analysis of the adequacy of the current fee structure in accomodating the differences in costs that are identified, and discusses the implications of these findings on the need to revise the current fee structure.

This chapter begins with a brief review of the level of intake and maintenance activities performed by PHAs. The average proportion of time and staff allotted to each activity is reported; this level of effort information is later related to differences in program characteristics and costs. It is noted that the typical PHA spends 61% of staff time on intake activities, 25% on maintenance activities and 13% on activities classified as neither (mixed).

The chapter then proceeds with an analysis of the effects of a PHA's service area or jurisdiction on level of activity and costs. Three major findings are reported:

(1) PHAs in regional and nonmetro areas devoted more effort to intake activities during the study period than those with metro and state jurisdictions, while state and metro PHAs alloted a greater proportion of staff time to maintenance activities than did regional and nonmetro PHAs.

(2) Total costs showed no relation to service area: preliminary costs were highest in state and regional PHAs, while ongoing costs were highest in metro and nonmetro PHAs.

(3) While neither the proportion of units with elderly tenants nor the proportion of Section 8 units show any relation to PHA service area, labor costs were found to be highest in metro and state PHAs.

These findings reflect the offsetting effects on various costs of the type of PHA jurisdiction and indicate that no clear relationship exists between service area and program costs. It is concluded that service area might be a proxy for other variables, and does not emerge as a crucial variable to be included in the fee structure.

Third, the chapter analyzes the effects of program size; significant cost relationships were found to exist:

(1) Total costs were by far the highest in the smallest PHAs ($\leq$ 49 units) and progressively decreased with increasing size, with the exception of the very largest PHAs ($\geq$ 1000 units) where costs were slightly higher.

(2) Small PHAs had higher preliminary costs, due to their higher rates of intake and poor economies of scale. This is apparently the basis for the general inverse relationship found between program size and total cost.

(3) The largest PHAs had the highest labor costs, which may explain the observed upswing in total costs in PHAs of 1,000 units or more.

(4) Smallest PHAs had more FTEs per unit month and a larger percentage of elderly units, while larger PHAs maintain a larger percentage of Section 8 units.

These statements show evidence of a clear relationship between program size and costs.

The fourth section in this chapter deals with the relationship between vacancy rates in PHA areas and program costs. The only substantive finding is that intake activities and preliminary costs PUM were highest in PHAs in areas with the very

highest vacancy rates. No relationship was found, however, between vacancy rates and ongoing administrative costs, nor with the proportion of time spent on client maintenance or mixed activities.

The last section of this chapter analyzes the relationship between PHA costs and various PHA characteristics and staff activities. First the simple bivariate correlations are considered, and then the results of the multivariate regression analyses are discussed. From the bivariate analysis, two major findings with implications for the fee structure are noted:

(1) Ongoing PUM costs were positively related to labor costs in the PHA areas, while preliminary expenses tended to be negatively related to the labor cost indices.

(2) PUM costs were not significantly associated with either the proportion of elderly units in PHAs or with the proportion of Section 8 units.

The first finding supports the reasoning that larger PHAs have higher ongoing maintenance costs as a result of their higher labor costs. The second finding helps explain why a slightly larger proportion of elderly units in the smaller PHSs, did not counterbalance the effect of higher intakes on raising PHA cost. (The finding of no effect from proportion of Section 8 units is reversed in the regression analysis, which holds other factors constant).

The multivariate analysis adds the following key results to the cost study:

(1) PHA location had no significant effect on PHA expenses when other variables were held constant.

(2) The very smallest PHAs spent significantly more than other PHAs; the higher costs of the very largest PHAs disappeared, when other factors were held constant.

(3) PHA expenses increased with increases in net and total intakes, in the number of FTEs, in the area CETA wage index and in the FMR.

(4) When other factors were held constant, the presence of non-Section 8-Existing Housing units reduced Section-8 program costs.

The conclusion that emerges from the analysis presented in this chapter is that program size and certain program characteristics are likely to be key variables in determining Section 8 program administration costs. These variables will be discussed further in the our analysis of the current and alternative fee structures provided in Chapter IV. An outline of the five sections of Chapter III, described above, is presented on the following page.

1. LEVEL OF PHA INTAKE AND MAINTENANCE ACTIVITIES

Analysis of the Section 8 - Existing Housing Program administration costs necessarily requires studying the various activities performed by PHAs in administering the program; the objective is to determine how these activities may differ by level of effort and cost with respect to distinguishing program characteristics. The PHA activities under study include those aspects of a PHA's intake and maintenance activities described in the previous chapter.* The variables used in measuring these activities are listed and defined in Appendix III-A, found at the end of this volume. Support activities such as accounting and other services are not examined in detail in the study, but the cost of these services are included in the analysis of program costs.

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* The process also includes "outtake" activities, such as evictions, etc. These activities, while important when they occur, are said to be infrequent and are not addressed directly in this study.

This first section provides a brief analysis of the average level of effort by PHAs in carrying out their intake and maintenance functions during the period studied.

1.1 Intake Activities by Level of Effort

The data used to distinguish between the levels of effort applied to intake activities and applied to ongoing (maintenance) activities are not as precise as the data obtained in earlier related studies, notably the Housing Allowance Supply Experiment. The time estimates for various program administrative activities cited in the research are derived from estimates of staff time supplied by PHA staff in the mail questionnaire. Given the similarity of the activities performed by each PHA and a sample size of approximately 200 respondents, it is reasonable to expect that the level of efforts cited in this study for specific administrative activities are accurate to within 5% (+ or -). Additional error is introduced when, as was done in the study, specific activities are grouped together as intake or maintenance functions.

Table 1 on the next page summarizes the level of effort allotted by the typical PHA for various intake activities.* Whether the allotment of resources is measured in either time or people, eligibility determination is the largest single component of all intake activities. Initial negotiation, tenant outreach, landlord outreach, and intake inspections follow in that order.

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* The complete data from the tables inserted in this chapter are found in Appendix III-B.

In sum, intake activities comprise 61% of staff time, and use up 1.33 Full-time Equivalents (FTEs) per 1000 unit months in the typical PHA.** Since the typical PHA has 2.24 FTEs per 1000 unit months, intake activities clearly absorb a significant portion of staff resources. In assessing the significance of FTE figures, which are stated usually in terms of 1000 unit-months in this study, it might be useful to note that 1000 unit-months equates to a 83 unit program.

** These sums actually understate PHA intake activities because they exclude activities like general services that could not be classified as either an intake or a maintenance activity. We consider these activities later in this chapter.

Table 1: PHA Intake Activities by Level of Effort

Activity	Proportion of staff time	# FTEs per 1000 unit months
Eligibility determination	.20	.45
Initial negotiation	.15	.34
Tenant outreach	.10	.23
Landlord outreach	.09	.20
Intake inspections*	.07	.11
Total allocation - intake activities	.61	1.33

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* The figures for intake inspections are based on a smaller number of observations than the other items on this table. This occurs because the figures are based on observations that have no missing data for any one of the four variables from which the figures were computed. These figures are fairly accurate, since the proportions of staff time add to 99% even when inspections are allotted to maintenance and intake functions. (The proportion of staff time allotted to intake activities is 0.61, to maintenance is 0.25, and to mixed is 0.13). (Source: Table 1, Appendix III-B.)

1.2 Maintenance Activities By Level of Effort

The data below show that maintenance activities require just one-quarter of the typical PHA's time, but the number of FTEs allocated to maintenance is substantial -- about one-half of an FTE per 1000 unit months (PTUM).* Most of the time and staff resources used in maintenance are devoted to recertification and contract renewals; annual inspections use up the remainder.

Activity	Proportion of staff time	#FTEs per 1000 unit months
Recertification/ contract renewals	.18	.40
Annual inspections	.07	.12
Total allocation - maintenance activities	.25	.52

Activities that could not clearly be allotted to either maintenance or intake functions were termed mixed activities and categorized as "general services" or "other". Taken together, these mixed activities comprise 13% of staff time in the typical PHA and require nearly one-third (.30) of an FTE per 1000 unit months.

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* It is important to understand the limits of this data (and the data in Table 3 of Appendix III-B, from which they are derived). The data probably understate the importance of maintenance activities for two reasons. First, some maintenance activities are lumped together with intake activities. This is discussed later in the chapter as mixed activities. Second, more questions we asked about the allocation of time spent on intake activities than on maintenance activities. Intake activities are probably somewhat more distinct, and are easier to count. As a result, the data may understate the relative importance of maintenance functions.

1.3 Summary: Level of PHA Intake and Maintenance Activities

The following findings emerge from this section on level of PHA activities:

- Intake activities comprise 61% of staff time and require 1.33 FTEs per 1000 unit months in the typical PHA.
- On a proportion of time and on an FTE basis, eligibility determination is the largest single component of intake activities.
- Maintenance activities comprise 25% of staff time and require .52 FTEs per 1000 unit months in the typical PHA.
- Mixed activities comprise 13% of staff time and require .30 FTEs per 1000 unit months in the typical PHA.
- The mean number of FTEs per 1000 unit months in the typical PHA is 2.24.

2. EFFECTS OF PHA SERVICE AREA

Many individuals involved with the Section 8 - Existing Housing Program contend that the type of area served by a PHA is an important determinant of its costs. There is, however, disagreement regarding the direction of this effect. Some allege that PHAs located in metropolitan areas are likely to experience higher costs because of large workloads, higher salary costs, move difficult cases, greater reluctance among landlords to participate, and so on. Others suggest that PHAs in less congested areas incur higher costs due to the time and additional travel expense required in serving tenants and owners dispersed over wide areas. Although the data cannot directly address how

individual PHA staffers allocate their time to individual activities in metropolitan as opposed to other PHAs, the findings suggest that there are significant differences associated with a PHA's location.*

This study measures PHA location using four mutually exclusive categories: metropolitan (metro), state, regional, and nonmetropolitan (non metro). The metro/nonmetro designation is the one used by HUD. Some PHAs are statewide (e.g., the New Jersey Department of Community Affairs; the Maine State Housing Authority) and some are regional (e.g., the North Iowa Regional Housing Authority). State and regional PHAs often include both metro and nonmetro jurisdictions. As a result, each of these four types is analyzed separately.

2.1 PHA Service Area and PHA Activities

2.1.1 Intake Activities By PHA Service Area

Table 2 shows the results of the analysis of intake activities, by PHA location. The overall yield rate in the sample is .40, indicating that about 40% of applications reviewed become actual recipients. Yield rates are highest in non-metro PHAs (at .44) and they are lowest in regional PHAs (at .33) and metro PHAs (at .35). These differences are significant at the .015 level.

*The term "location" is used in the research to describe the area primarily served by a PHA. It is also a reliable description of the type and physical location of the PHA administering the program.

Table 2: PHA Intake Activities by PHA Service Area

	Metro	Regional	State	Nonmetro	Total	Sig. Level*
Yield rate	.35 (107)**	.33 (11)	.39 (6)	.44 (168)	.40 (293)	.015
Proportion of Staff time - all intake activities	.55	.64	.45	.63	.61	
# FTEs PTUM - all intake activities	1.10	1.82	.39	1.50	1.33	
Proportion leasing-in-place	.63 (105)	.71 (11)	.47 (5)	.74 (170)	.69 (291)	.003
Turnover rate - Leaving	.21 (75)	.18 (8)	.24 (3)	.28 (105)	.25 (192)	.103
- Moving	.08 (76)	.11 (9)	.04 (3)	.09 (107)	.08 (196)	.71
- Total	.28 (74)	.26 (8)	.28 (3)	.37 (105)	.33 (190)	.08

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* The significance level here and throughout this chapter is based on the F-test for the analysis of variance. The lower the significance level, the more confident one can be in rejecting the null hypothesis that there are no differences between the PHA locational groups.

** Numbers in parentheses reflect the number of observations (N) on which the calculation is based. Ns vary from one variable to another because of differences in missing values across variables.

The examination of intake workload in terms of staff requirements indicates that regional and nonmetro PHAs spend a greater proportion of staff time and use more FTEs per 1000 unit months on intake activities than do metro and state PHAs.* As noted in Table 2 above, summing the percentages of staff time for the various intake activities results in a clear pattern of locational differences, with regional and nonmetro PHAs spending 64% and 63% of staff time on intake functions respectively, versus 55% and 45% for metro and state PHAs. The differences are more pronounced with regard to the number of FTEs PTUM used. Regional and nonmetro PHAs use 1.82 and 1.50 FTEs PTUM while metro and state PHAs use 1.10 and .39, respectively.

Interestingly, the proportion of tenants who lease-in-place is also higher in regional and nonmetro PHAs than in metro and state PHAs. As seen above in Table 2, 69% of all new recipients in the typical PHA remained in the unit they initially occupied. This percentage rises to 74% and 71% in nonmetro and regional PHAs, respectively, while it is 63% in metro PHAs and 47% in state PHAs. Moreover, these differences are highly significant at the .003 level.

Analysis of the turnover rate by location reveals little substantive findings. The turnover rate is divided into two components: turnover attributable to recipients who leave the program, and turnover from recipients who move from one Section 8 - Existing unit to another. Total turnover is their sum. Table 2 above shows that most turnover is attributable to tenants leaving the program. In the average PHA, 25% of all Section 8 - Existing units under lease in a

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* It should be noted that the data reflecting the percentage of staff time spent on various functions represent estimates. Moreover, respondents were asked to estimate time spent only to the nearest 5%.

year were turned over because of tenants leaving the program, and only 8% because of moves to other units. Considered together, the highest total turnover rates occur in nonmetro PHAs. The differences in total turnover rates are not statistically significant at the .05 level; the differences among the PHAs are not large. High turnover in nonmetro PHAs, most of which is attributable to tenants leaving the program, combined with high levels of intake activity, could be one of many contributors to high costs. This relationship does not occur in regional PHAs. Regional PHAs have high intake activities, but they have the lowest total turnover rate. However, unlike other PHAs, a significant portion of their turnover is attributable to tenants who move from one Section 8 - Existing unit to another.

The specific breakdown for the individual intake functions can be found in Table 1 of Appendix III-B; certain patterns are conclusive. Specifically, nonmetro and regional PHAs have:

- the highest intake inspection rates
- the greatest proportions of time and amount of staff allotted to landlord and tenant outreach activities
- the most staff allotted to eligibility determination and contract and lease negotiation
- the highest proportion of tenants that lease in place

Intake activities were also analyzed using two slightly different measures of intake activities but finding the same results. The first measure is net new recipents added as a proportion of total units under lease. This variable was measured by subtracting the number of recipients who left the program, as reported in the questionnaire, from the number of new recipients, also as reported in the questionnaire. This figure was divided by the number of units under lease. The

result reflects net intakes, since PHAs simultaneously add new recipients while others leave the program. The second measure of intake activities reflects brand new intakes--the number of new recipients--as well as the number of current recipients who must be reprocessed because they moved from one Section 8 - Existing unit to another. This sum was divided by the total number of units under lease. The result is a measure of total "intakes." It reflects both new intakes as well as similar activities that are associated with transfers.

Table 3 below shows that net intakes during the years 1978 and 1979 were highest in nonmetro PHAs; in the typical nonmetro PHA, 58% of units under lease were net new additions. At the other extreme, only 10% of all units are net additions in state PHAs. Regional and metro PHAs are between these extremes: their net additions represent 36% and 37% of total units, respectively. Because the sample sizes are sometimes small, these differences are not significant at the .05 level, though they are clearly substantial.

Table 3: Intake Activities by PHA Service Area

	Metro	Regional	State	Nonmetro	Total	Sig. Level
Net new units as proportion of total units under lease (net intake)*	.37 (N=77)	.36 (N=9)	.10 (N=3)	.58 (N=107)	.48 (N=197)	.06
Number of new units plus number moving from one Section 8 unit to another as proportion of total units under lease (total intake)*	.71 (N=76)	1.08 (N=9)	.38 (N=3)	.97 (N-107)	.72 (N=197)	.09

*Source: Questionnaire and Form 52682 (See Table 7, Appendix III-B).

The total number of intake-like activities, as opposed to net intakes, is highest in regional and nonmetro PHAs. Although the sample is small, the findings indicate that regional PHAs process each unit more than once per year on average. This indicates that new recipients are also likely to move to another Section 8 - Exisiting unit in the same year that they become a recipient. Moreover, nonmetro PHAs face activity levels that are nearly as high as the regional PHAs. In metro PHAs, about 71% of the units under lease represent a new recipient or one who has moved. The proportion of intake activities is lowest in state PHAs, although our sample there is small. Although these differences are not significant at the .05 level because our sample sizes are sometimes small, the differences here are substantively important. Overall, the data on net and total intakes suggest that, relative to the total units under lease, more intakes occur in nonmetro and regional PHAs than in metro PHAs; by far the fewest occur in state PHAs.

2.1.2 Maintenance Activities by PHA Service Area

No consistent locational differences were revealed with regard to PHA maintenance activities, though the results shown in Table 4 below highlight some interesting findings:

Table 4: PHA Maintenance Activities by PHA Service Area

	Metro	Regional	State	Nonmetro	Total	Sig. Level
Proportion of staff time - Maintenance Inspections	.07 (23)*	.07 (3)	.14 (3)	.07 (44)	.07 (73)	.06
# FTEs PTUM - Maintenance Inspections	.11 (20)	.17 (3)	.11 (3)	.12 (42)	.12 (69)	.90
Proportion of staff time - Recertification/ Contract renewals	.20 (84)	.14 (11)	.33 (6)	.16 (145)	.18 (247)	.000
# FTEs PTUM - Recertification/ Contract renewals	.41 (54)	.55 (9)	.24 (3)	.39 (88)	.40 (154)	.75

State PHAs report by far the highest proportion of staff time for annual inspections. This reflects the greater travel requirements that characterize statewide PHAs. These differences are apparently not being compensated for by higher staff allotments to this activity, because the number of FTEs per 1000 unit months used for annual inspections is lowest for state PHAs.

Recertification and contract renewal activities, based on proportion of staff time, are higher in state and metro PHAs than in nonmetro or regional PHAs. These differences, statistically significant, indicate that renewal activities as a proportion of staff time are highest in PHAs where intake activities are lowest.** The differences in FTEs per 1000 unit months for

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* Number in parentheses reflect number of observations (N) on which calculation is based. Ns vary from one variable to another because of differences in missing values across variables.

** Note that this is not a tautology. It is possible for PHAs with higher intake activities to also spend more time on maintenance activities, and less on "mixed" activities.

renewal activities are not significant however; they reflect differences in total number of FTEs per 1000 unit months across different PHAs, as shown below.

	Metro	Regional	State	Nonmetro	Total	Sig. Level
# FTEs per 1000 unit months	1.84 (N=75)	2.73 (N=11)	0.88 (N=3)	2.53 (N=103)	2.24 (N=192)	.21

On a 1000-unit month base, state PHAs thus have the fewest FTEs, while regional PHAs have the most.

"Mixed" activities, those that could not clearly be allotted to either maintenance or intake functions, show no statistically significant or substantively consistent differences among PHA locations. Neither proportion of staff time allotted nor number of FTEs per 1000 unit months used for "general" or "other" services differed substantially by PHA service area.

2.1.3 Summary: PHA Service Area and PHA Activities

Taken as a whole, several conclusions emerge from this investigation of the relation between PHA service area and PHA intake activities:

- There is general evidence that, at least during the period study, regional and nonmetro PHAs have higher intake activities than metro and state PHAs.
- Regional and nonmetro PHAs also have a higher proportion of recipients who lease-in-place than metro and state PHAs.
- Net new intakes as a proportion of units under lease are highest in nonmetro PHAs and lowest in state PHAs.
- As a proportion of units under lease, total intakes (including new recipients as well as those who move from one Section 8 - Existing unit to another) are highest in regional and nonmetro PHAs; they are lowest in state PHAs.

- Turnover rates are highest in nonmetro PHAs.
- Most turnover is attributable to persons leaving the Section 8 - Existing program.

As for the relation between PHA location and maintenance activities, there are several findings of significance to the study objectives:

- State PHAs allot the highest proportion of staff time to annual inspections.
- On a proportion-of-time basis (but not on the basis of FTEs), there is a tendency for PHAs with high intake activities (i.e., nonmetro and regional) to spend less time on recertification and contract renewals. Metro and state PHAs spend a higher proportion of time on these activities than nonmetro and regional PHAs.
- State PHAs have the fewest FTEs per 1000 unit months, and regional PHAs have the most.

2.2 PHA Service Area and Selected PHA Characteristics

Before considering the relation between PHA service area and PHA costs, the study examined the association of locational characteristics with several factors that could affect PHA costs:

- the proportion of elderly units in the PHA
- the ratio of Section 8 - Existing units to all units operated by the PHA
- the cost of PHA labor

The cost of labor is measured using several indicators; measuring these costs is important, since labor is the main component in the PHA production process.

2.2.1 Proportion Elderly Units

The ratio of elderly to total units in a PHA is believed by many to be a predictor of administrative costs because elderly tenants are easier to place and less apt to move than young families. It is also believed that the emphasis on providing elderly units as opposed to family units differs with the locational characteristics of the PHA. The evidence shown below does not support the latter contention. While the proportion of elderly units is lowest in regional PHAs and highest in nonmetro PHAs, the differences are not statistically significant.

	Metro	Regional	State	Nonmetro	Total	Sig. Level
Proportion elderly*	.35	.30 (N=87)	.37 (N=14)	.39 (N=6)	.37 (N=126)	.23 (N=233)

The results of an analysis presented in a later section indicate that PHA costs do not vary significantly with the proportion of elderly units either.

2.2.2 Proportion Section 8 Units

The presence of non-Section 8-Existing units could also affect PHA costs, although the direction of the effect is not entirely clear. The presence of several programs in a single PHA makes it possible to share common costs, and this practice may result in cost savings. But any such cost savings may not show up in Section 8 - Existing cost reports. Some PHAs, for instance, may have conventional public housing programs that are strained financially and Section 8 - Existing programs that are operated at a profit to the PHA. Any cost savings that might be available to PHAs

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* Source: Form 5041C

administering several programs might be diverted to the program that is under the greatest financial strain through the selection of the cost allocation method. Whatever the effects of running joint programs, the number of Section 8 - Existing units relative to all units varies among PHA locations but not sufficiently to be statistically significant. Nonetheless, the differences are fairly large. At one extreme, nearly half of all units in regional PHA are Section 8 - Existing units; at the other, only 28% of state PHA's are Section 8 - Existing units.*

	Metro	Regional Level	State	Nonmetro	TotalSig.
Section 8 - Existing units as a proportion of total units under lease**	.32 (N=60)	.48 (N=9)	.28 (N=3)	.32 (N=81)	.33 (N=153)	.28

An analysis presented in later in this chapter indicates that while no direct relationship emerges between the proportion of Section 8 units and PHA costs, where other factors are held constant, a greater proportion of non-Section 8 units does reduce costs.

2.2.3 Indicators of PHA Labor Costs

The issue of labor costs is particularly important to the average PHA, because salaries are the largest single component of administrative expenses. Since preliminary expenses are not divided into subcategories, the ratio of salaries to total (preliminary plus ongoing) expenses cannot

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* These extremes are based on small Ns; not too much confidence should be placed in these figures as a result.

** Source: Questionnaire and Form 52682.

be directly measured. However, in the typical PHA, salaries and employee benefits comprise 70% of ongoing administrative expenses. If labor costs are roughly the same proportion of preliminary as ongoing expenses, then labor costs will have a significant impact on PHA expense levels.

Table 5 shows the relation among several indices of cost for PHA locations. No matter which index is selected, it reveals that metro and state PHAs are likely to face higher costs than nonmetro and regional PHAs.

Table 5: Selected Cost Indices by PHA Location

	Metro	Regional	State	Nonmetro	Total	Sig. Level
CETA wage index (mean = 100.0)	99.9 (149)	86.1 (2)	115.6 (1)	79.0 (220)	87.5 (372)	.00
Public Administration wage index (mean = 100.0)	102.3 (85)	77.4 (15)	105.2 (10)	78.8 (189)	86.3 (299)	.00
PHA median family income index (mean = 100.0)	107.2 (75)	91.1 (1)	118.2 (1)	78.9 (186)	87.2 (264)	.00
2-bedroom FMR	$198 (92)	$146 (12)	$203 (16)	$151 (127)	$170 (237)	.00

Consider first the CETA wage index. The CETA index covers all service workers, and it equals 100.0 in counties whose service workers earned the U.S. average in 1978. For counties in SMSAs, two CETA indices are available--a county index, and an SMSA index. The data reflect the highest of these two indices. For metro PHAs, the CETA wage index is 99.9; for nonmetro PHAs, the same index is 79.0. Assuming that PHA employees are typical of service workers, these figures suggest that metro PHAs are likely to face substantially higher costs than nonmetro PHAs.

The BLS index of wages for public administration employees (managerial, supervisory and clerical) indicates a similar pattern. This index equals 100.0 in counties whose public administration employees earned the U.S. mean in 1977. Counties whose public administration employees earned 10% more than the U.S. average have an index of 110; counties where employees earned 50% of the average have an index of 50. Like the CETA index, the data for PHAs in SMSAs reflect the higher of the SMSA or county index. The public administration wage index indicates that state and metro PHAs face significantly higher wage rates than regional and nonmetro PHAs. These differences are significant beyond the .001 level.

The other two indices also support the same finding. The income index, for example, exceeds 100.0 for metro and state PHAs. This indicates that these PHAs are located in counties that have median family incomes that are higher than the sample average. Regional and nonmetro PHAs have indices less than 100.0, meaning that these PHAs are in counties whose incomes are below that of the sample average. While incomes, unlike the wage indices, are not a direct indicator of costs, they do suggest public administration and service workers in high income counties are likely to have higher wages than similar workers in low income counties. Because PHAs in high income counties draw from this labor pool, PHAs in high income counties may also face higher salary costs.

The existing system for reimbursing PHAs for Section 8 - Existing administrative costs assumes that 2-bedroom FMRs are indicative of these costs. The evidence in Table 5 does not contravene this assumption. It reveals that FMRs are higher in state and metro PHAs than in regional and nonmetro PHAs. Moreover, these differences are significant beyond the .001 level.

In sum, while Table 5 does not suggest which of these alternative cost indices is the "best," it does suggest a consistent pattern. No matter which index is selected, state and metro PHAs face higher costs than nonmetro and regional PHAs. State PHAs, it should be noted, generally are headquartered in metropolitan areas.

2.2.4 Summary: PHA Service Area and Selected PHA Characteristics

- In the typical PHA, about 37% of all units under ACC are elderly units. This percentage does not vary significantly among PHAs in different locations.
- The ratio of Section 8 - Existing units to the total number of units administered by the PHA does not vary significantly with PHA location. In the average PHA, about 33% of all units are Section 8 - Existing units.
- No matter whether PHA costs are measured by a CETA wage index for service workers, a BLS wage index for public administration employees, an index of median family incomes, or 2-bedroom FMRs, the same picture emerges: state and metro PHAs face significantly higher costs than regional and nonmetro PHAs.

2.3 PHA Service Area and PHA Costs

Table 6 reveals that there is no statistically significant relation between total administrative costs reported by PHAs and PHA service area. There are significant although inconsistent and offsetting relationships, however, between the preliminary and ongoing components of cost and PHA service area.

Table 6: Selected PHA Costs by PHA Service Area

	Metro	Regional	State	Nonmetro	Total	Sig. Level
Total costs (ongoing and preliminary) PUM	$27.83 (105)	$32.60 (14)	$39.63 (6)	$30.85 (141)	$29.93 (266)	.50
Preliminary costs PUM	12.08 (107)	22.21 (14)	28.34 (6)	18.47 (141)	16.32 (267)	.07
Ongoing administrative costs PUM	15.66 (105)	10.40 (14)	11.30 (6)	12.38 (141)	13.56 (266)	.01
Preliminary as proportion of total*	.33 (105)	.54 (14)	.52 (6)	.43 (142)	.39 (267)	.04

The measure of total administrative costs comes from information reported by PHAs in HUD Form 52682. It is the sum of ongoing administrative costs (line 280) and the preliminary administrative expenses prior to and after execution of the Annual Contributions Contract (lines 90 and 100). This sum is then divided by the number of unit months reported by the PHA. Table 6 also reports information for ongoing costs (line 280) separately from preliminary expenses (lines 90 and 100)**.

Overall, state PHAs spend $39.63 PUM on total administrative costs. Regional PHAs are next at $32.60 PUM; nonmetro PHAs follow with $30.85 in total costs; and metro PHAs

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* These findings should not equal the mean preliminary costs PUM shown on the table divided by the mean total costs PUM shown on the table because the proportion of two means is not equal to the means of the proportions.

** It is understood that preliminary expenses are alloted on a per unit basis in PHAs, as opposed to the per unit month (PUM) basis used for ongoing administrative expenses, but analysis requires that both types of expenses be treated comparably. Therefore, preliminary expenses were calculated on a PUM basis as well.

report the lowest total expenses--$27.83 PUM.* These differences are substantial; state PHAs spend nearly $12.00 PUM more than metro PHAs. However, the differences are not statistically significant, indicating that there is considerable variation within each PHA locational group.

Separate examination of the two main components of PHA expenses--preliminary and ongoing--reveals that preliminary expenses are highest in state PHAs ($28.34 PUM), next highest in regional PHAs ($22.21 PUM), and lowest in nonmetro and metro PHAs at $18.47 PUM and $12.08 PUM, respectively. Although these differences are not significant at the .05 level due to small sample sizes in some categories, they are substantively important. The high preliminary costs of state PHAs may be attributed to the fact that in many cases state PHAs had to establish housing programs in communities that never had them before.

The above pattern is the same for total costs, and reflects the fact that preliminary expenses relative to total costs are highest in regional and state PHAs and lowest in nonmetro and metro PHAs. Specifically, according to Table 6, preliminary expenses comprise just over half of all costs in state and regional PHAs; they are about 40% of total costs in nonmetro PHAs, and comprise 33% of cost in metro PHAs.

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* Interestingly, these figures are not too different from those reported in HASE. The overall mean in Table 6 is $29.93 PUM. According to Kingsley, the HASE reports intake costs of $249 per recipient and $133 per recipient in maintenance costs. These add to $382 per recipient. Assuming that a recipient is equivalent to a "unit year", then $382/12, or $31.83, is the PUM cost in the HASE. Since the HASE allocated more resources to outreach efforts than the Section 8 - Existing Program does, the higher PUM cost is not surprising. However, later data sh ow greater efficiency in the HASE program. See G. Thomas Kingsley, Allowance Program Administration: Interim Findings: Housing Assistance Supply Experiment (Rand Corporation, Dec. 1979).

Ongoing administrative expenses are reported on line 280 (Form 52682). They are highest in metro PHAs, at $15.66 PUM. They are next highest in nonmetro PHAs ($12.38 PUM), and lowest in state and regional PHAs at $11.30 PUM and $10.40 PUM, respectively.

The total cost data thus conceal important differences in cost components. State and regional PHAs report the highest PUM preliminary expenses in both dollar and percentage terms; they report the lowest ongoing expenses. By contrast, metro and nonmetro PHAs have the lowest preliminary expenses and the highest ongoing expenses. The offsetting effects of cost behavior partly explain why locational differences in total costs reported by PHAs are not statistically significant.

2.3.1 Summary: PHA Service Area and PHA Costs

- The typical PHA spends $29.93 PUM; of this $16.32 is reported as preliminary expenses and the remainder, or $13.56 PUM, is reported as ongoing expenses.
- There is variation across PHA locations in the relative preponderance of preliminary and ongoing expenses. Slightly over half of the expenses reported by state and regional PHAs are preliminary expenses. Metro and nonmetro PHAs report that less than half of total expenses are preliminary.
- Regional and state PHAs have the highest preliminary costs PUM; metro and nonmetro PHAs have the highest ongoing costs PUM. These effects are offsetting; total costs bear no significant relationship to PHA service area.

In reviewing these findings, the effects of the period in which the study was conducted on the conditions prevailing at the PHAs should not be ignored. Regional and state PhAs as a group generally lagged behind metro, and to a lesser extent nonmetro, PHAs in initiating a Section 8 program. During the period of the study (1978 and 1979), state and regional PHAs tended to be in more of a growth phase (higher intake activity with associated higher percentage of fee income from preliminary expenses) than the more established less rapidly growing metro PHAs.

3. EFFECTS OF PHA PROGRAM SIZE

The size of a PHA program, as measured by the number of Section 8 - Existing units it has under lease, is thought to be an important predictor of its costs. There are various reasons for this belief. First, there may be some economies of scale. Even the smallest PHA needs personnel to certify tenants, sign contracts with landlords, inspect units, and so on. As the PHA grows, functions are more likely to be assigned to specialists, with resulting savings in the time and cost of processing. Beyond a certain workload level, average costs might increase as a result of the need to apply additional resources. For instance, coordination of very large programs might require additional supervisory personnel because of the large staff. Consequently, costs might rise because resources are devoted to communication, administration, and record keeping. In addition, the very largest PHAs typically are located in large cities, where they are likely to encounter higher salary levels, more difficult tenants, reluctant landlords, and perhaps tighter rental markets. These conditions are not the effects of scale; they are correlates of size, and they may account for the appearance of high costs in the largest PHAs.

3.1 Program Size and PHA Activities

3.1.1 Intake Activities by Program Size

The data suggest conflicting conclusions regarding the relationship between program size and intake activities, depending upon the type of measurement used. When intake activity is measured by net and total intake rates, a clear inverse relation to size is noted. When intake activity is measured by the proportion of staff time allotted to various intake functions, no clear relationship emerges. This may be attributed to the fact that staff time data are estimates only.

As shown on the following page small PHAs have significantly higher intake rates than large PHAs. Net new intakes as a proportion of total units under lease fall as PHA size increases. Moreover, total intakes (new recipients and movers) as a proportion of total units under lease are highest in the smallest PHAs. Both measures of intake rates are linearly related to PHA size, and both associations are significant beyond the .05 level.*

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* This statement is based on the grouped data for PHA size. The Pearson correlations uphold the general conclusion, although the significance levels differ slightly.

PHA Size

	0-49	50-99	100-299	300-499	500-999	> 1000	Sig. Level**	Pearson Correl. (r)***
Net new intakes/total units under lease	.69 (58)	.44 (45)	.42 (59)	.27 (19)	.30 (8)	.19 (6)	.02/.01	-.15 (200) S=.02
Total intakes/total units under lease	1.06 (58)	.77 (45)	.87 (59)	.62 (19)	.60 (8)	.52 (5)	.16/.04	-11 (199) S=.07

The data on proportion of staff time suggest, however, that there are no significant differences in intake activities carried out in large as opposed to small PHAs. No substantively important or statistically significant differences by size are reported among PHAs with respect to any of the intake activities indicators--yield rates, inspection rates, proportion of staff time spent on intake inspections, tenant or landlord outreach, eligibility determination or initial negotiations. Adding the proportions of staff time on all intake activities, however, suggests a weak inverse relationship, as shown below.

** Significance tests represent significance levels of F statistics. The first statistic is the significance level for the analysis of variance for between group differences. The second statistic is the significance level associated with the F-test for linear differences between groups.

*** Pearson correlations are shown since size is an interval variable. The top number is the correlation; the next is the number of observations on which the correlation is based; the last is the significance level.

PHA Size

	0-49	50-99	100-299	300-499	500-999	≥ 1000	Sig. Level	Pearson Correl. (r)
Proportion of staff time - all intake activities	.62	.63	.58	.55	.58	.51		
# FTEs PTUM - all intake activites	2.37	1.15	.98	.68	.56	.51		
# FTEs PTUM (Total)	3.82 (53)	1.89 (47)	1.71 (59)	1.22 (18)	1.13 (9)	1.16 (5)	.00/.00	-.19 (195) S=.00

The number of FTEs per 1000 unit months used for the various intake activities appears to bear a direct inverse relationship to program size. This reflects the fact that smaller PHAs have significantly more FTEs per 1000 unit months in general (see data above.)* The inverse relationship between total number of FTEs employed and PHA size is highly significant, and may suggest scale diseconomies, particularly in the smallest PHAs (0-49 units).** An alternative explanation, of course, could be that a larger staff is required by the smaller PHAs due to their higher rates of intake.

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* This refers to Section 8 - Existing unit months.

** While the break between 49 and 50 units in classifying the smallest group for scale diseconomies may seem arbitrary, it is useful, as seen from a scattergram relating number of FTEs per 1000 units months to PHA size. For instance, five of the sample PHAs are "outliers" in that they have more than 10.0 FTEs per 1000 unit months. These PHAs are evenly dispersed among the smallest PHAs (under 50 units): two have under 10 units, two have 30 units, and the other has 40 units. Among these five PHAs, the PHA with 40 units has more FTEs than the two PHAs with 30 units. The PHA with the seventh largest number of FTEs has about 140 units; most smaller PHAs have far fewer employees than this one. In short, no single break point emerges where scale economies become apparent. If there is such a point, it is probably around 50 units.

The proportion leasing in place also decreases as PHA size increases. Since small PHAs have more intakes, it is not surprising that they also have more leases-in-place relative to their size. Turnover rates, on the other hand, do not vary significantly with respect to PHA size.

	PHA Size							
	0-49	50-99	100-299	300-499	500-999	> 1000	Sig. Level	Pearson Correl. (r)
Proportion Leasing-in-place	.77 (60)	.67 (45)	.67 (58)	.62 (19)	.52 (9)	.47 (5)	.02/.001	
Turnover Rate:								
Leaving	.24 (56)	.23 (44)	.27 (57)	.24 (19)	.20 (8)	.25 (5)	.89	
Moving	.07 (58)	.06 (46)	.10 (58)	.11 (19)	.10 (8)	.15 (5)	.19	
Total	.31 (56)	.29 (44)	.36 (56)	.35 (19)	.30 (8)	.34 (5)	.76	.05 (194) S=.24

3.1.2 Maintenance Activities by Program Size

No significant relationship emerges between the level of maintenance activities and PHA size. As shown below, neither the annual inspection rate nor the sum of proportions of staff time allotted to all maintenance activities (annual inspections and recertification and contract renewals) follow any clear pattern across PHA size. They are both highest, however, in medium-sized PHAs.

PHA Size

	0-49	50-99	100-299	300-499	500-999	≥ 1000	Sig. Level	Pearson Correl. (r)
Annual inspection rate:	.68 (42)	.53 (25)	.71 (38)	.69 (11)	.48 (5)	.62 (4)	.08	-.03 (131) S=.38
Proportion of staff time - All maintenance activities	.24	.25	.27	.34	.27	.23		
# FTEs PTUM - All maintenance activities	.80	.44	.45	.41	.33	.29		

Although the number of FTEs per 1000 unit months allotted to maintenance activities declines as size increases, this is again attributable to the larger number of FTEs per 1000 unit months in smaller PHAs.

"General" and "other" activities (not classified as either intake or maintenance functions) also show no substantive variations with respect to program size. The decline in number of FTEs per 1000 unit months as size increases is once again a reflection of the larger staff sizes of the smaller PHAs.

3.1.3 Summary: Program Size and PHA Activities

- Small PHAs have higher intake rates than large PHAs on both a net and total basis.
- The variations by PHA size in proportion of staff time allotted to various intake, maintenance, and other activities are not significant.*
- Smaller PHAs have significantly higher proportions of tenants who lease in place than larger PHAs.
- There is a significant inverse relation between the number of FTEs and PHA size. The smallest PHAs (under 50 units) have 3.82 FTEs per 1000 units months; that number drops sharply to 1.89 in the next size grouping, and continues to drop gradually to about 1.2 in the largest PHAs.

3.2 Program Size and Selected PHA Characteristics

3.2.1 Proportion Elderly Units

Table 7 suggests that, with the exception of the largest PHAs, there is a slight linear association between PHA size and the proportion of elderly units. Although not quite significant at the .05 level, smaller PHAs have higher percentages of elderly units than larger ones.**

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* This conclusion is, of course, dependent on the nature of the data available. We did not ask, for example, how much time was allotted to supervising other staff in the questionnaire.

** A U-shaped curve would probably be even more descriptive of the observed data.

Table 7: Selected Cost and Program Characteristics by PHA Size

	PHA Size							
	0-49	50-99	100-299	300-499	500-999	≥ 1000	Sig. Level	Pearson Correl. (r)
Proportion Elderly	.41 (67)	.38 (61)	.34 (64)	.38 (21)	.28 (13)	.37 (10)	.21/.06	-.01 (234) S=.41
Proportion Section 8-Existing Units	.18 (42)	.29 (40)	.44 (44)	.39 (15)	.50 (8)	.41 (5)	.00/.00	.17 (155) S=.02

3.2.2 Proportion Section 8 Units

Table 7 also reveals that as PHAs get larger, the number of Section 8-Existing units relative to all units also rises significantly. Section 8-Existing units are thus more predominant in the large than in the small PHAs.

3.2.3 Indicators of PHA Labor Costs

Table 8 relates the various cost indices that were discussed in the previous section to the size of the PHA. Both the CETA wage index for service workers and the BLS wage index for public administration workers reveal a consistent linear relation to PHA size. It is important to note that the highest labor costs occur in the very largest PHAs.

Table 8: Cost Indices by PHA Size

Cost index	PHA Size 0-49	50-99	100-299	300-499	500-999	≥ 1000	Sig. Level	Pearson Correl. (r)
CETA wage index (mean = 100.0)	85.0 (76)	85-3 (61)	90.4 (64)	89.9 (22)	94.8 (11)	106.2 (9)	.00/.00	.24 (241) S=.001
BLS public administration wage index (mean = 100.0)	85.3 (54)	80.8 (50)	87.9 (48)	91.1 (15)	92.5 (12)	112.7 (6)	.00/.00	.29 (186) S=.001
Median family income index (mean = 100.0)	83.2 (49)	85.0 (44)	90.9 (43)	93.6 (15)	96.5 (7)	110.3 (7)	.01/.00	.24 (165) S=.00
Two-bedroom FMR	$159.89 (68)	$169.48 (61)	$172.84 (67)	$181.75 (21)	$176.51 (14)	$200.07 (10)	.03/.00	.18 (238) S=.00

Two of the indices investigated are only indirect indicators of PHA labor costs. Both the index of median income and the 2-bedroom FMR are significantly and linearly related to PHA size. The bigger the PHA, the more likely it is to be located in a county with high income and an area with high FMRs. Most importantly, just as the largest PHAs face the highest labor costs, they also score highest on the indirect measures of labor costs shown in Table 8. The gap between the largest and next largest PHA group with respect to the indirect indicators is also larger than that separating any other adjacent size groupings.

3.2.4 Summary: Program Size and Selected PHA Characteristics

- There is a slight, but statistically significant, tendency for smaller PHAs to have greater proportions of elderly units.
- There is a significant relation between PHA size and the proportion of Section 8 - Existing units: larger PHAs have a greater predominance of Section 8 - Existing units.

- Indices of labor costs do not vary consistently with PHA size, although there is evidence that these costs are highest in the very largest PHAs.

- There are significant positive correlations between PHA size and 2-bedroom FMRs and between PHA size and relative income in the PHA's area.

3.3 Program Size and PHA Costs

As seen in Table 9, the smallest PHAs have by far the highest costs. This is apparently due to the larger numbers of employees per unit month in smaller PHAs, which in turn has been associated with the smaller PHA's higher intake rates. Another important explanation of these high costs is the inability of small PHAs to exploit any economies of scale.

Table 9: PHA Costs by PHA Size

	PHA Size						Sig. Level	Pearson Correl. (r)
	0-49	50-99	100-299	300-499	500-999	> 1000		
Total costs (ongoing and preliminary) PUM	$42.88 (73)	$28.93 (70)	$24.30 (74)	$23.28 (25)	$22.14 (16)	$25.62 (12)	.00/.00	-.09 (276) S=.07
Preliminary costs PUM	28.79 (73)	15.31 (70)	10.83 (74)	9.21 (26)	8.53 (16)	9.81 (12)	.00/.00	-.09 (276) S=.06
Ongoing administrative costs PUM	14.09 (73)	13.63 (70)	13.47 (74)	13.86 (25)	13.61 (16)	15.72 (12)	.98/.79	.01 (275) S=.41
Preliminary as proportion of total	.49 (73)	.40 (70)	.32 (74)	.31 (25)	.37 (16)	.35 (12)	.07/.08	-.04 (276) S=.26
Percent receiving more than $275/unit in preliminary expenses	3.7 (59)	4.8 (46)	3.6 (62)	7.1 (21)	18.5 (10)	18.8 (8)	.09*	

Preliminary and ongoing administrative costs in the very smallest PHAs (less than 49 units) add to $42.88 PUM. They drop sharply to $28.93 PUM in the next largest PHAs (50-99 units), and continue to decline gradually to $22.14 in PHAs of 500-999 units. Costs turn upwards again in the very largest PHAs. While the downward pattern is statistically significant, a U-shaped curve may be a more accurate way to describe the pattern of total costs. Such a pattern suggests diseconomies in both the smallest and largest PHAs, but the diseconomies in small PHAs apparently exceed those in large ones. The higher costs in the largest PHAs may be attributable to the high price of factor inputs, i.e., labor costs, rather than to scale diseconomies.

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* Significance level for Tau - c. Value of Tau - c = -.09.

Interestingly, the association between PHA size and PHA costs is entirely accounted for by the relation of preliminary expenses to PHA size. According to Table 9, the association between ongoing administrative expenses and PHA size is not significant. The smallest PHAs (0-49 units) report spending $14.09 PUM in ongoing administration and PHAs more than 10 times larger (500-999 units) report spending just about 50¢ PUM less. The largest PHAs report spending the most in ongoing administration--$15.72 PUM.

The variance in mean costs among the different size groupings is far larger for preliminary than ongoing expenses. According to Table 9, the very smallest PHAs report nearly $29 PUM in preliminary expenses, while just slightly larger PHAs (50-99 units) spend about $14 PUM less. Although the drop is not so large, successively larger PHAs spend successively less in preliminary expenses PUM. The exception is the largest PHAs ($\geq$1000 units), which spend about $1.30 PUM more than PHAs with 500-999 units.

Table 9 confirms the presence of proportionately higher preliminary expenses in small PHAs. As a proportion of total expenses, preliminary expenses are highest in the smallest PHAs. The proportion drops in a linear fashion as PHA size gets larger; although the trend is not significant at the .05 level, it is substantively important.

One possible explanation for the higher preliminary expenses in small PHAs would be that the smallest PHAs are relatively more successful at negotiating more than $275/unit in preliminary expenses. In fact, however, just the opposite occurs. As PHA size increases, the percent who report recovering more than $275 per unit in preliminary expenses increases. About 4% of the small PHAs receive more than $275 per unit; in contrast, about 18% of the largest PHAs receive more than $275 in preliminary fees.

A better explanation, appears to be that the small PHAs were undergoing relatively greater expansion of their program during the period studied than the large PHAs. As already observed, the smallest PHAs have the highest rates of intake activities, on both a net and total basis. This means that a larger percentage of their unit months were new unit months than in large PHAs. Of course the economies of scale problems of the small PHAs also contribute significantly to their relatively higher costs.

3.3.1 Summary: Program Size and PHA Costs

- Small PHAs have significantly higher PUM costs than large PHAs. The smallest PHAs have the highest costs ($42.88 PUM). Costs drop sharply to $28.83 PUM in the next size grouping, and continue to drop gradually to $22.14 PUM in PHAs with 500-999 units. Costs then rise again in the largest PHAs to $25.62 PUM.

- The rise in costs of the largest PHAs is due most likely to their higher costs of labor.

- Cost differences among PHAs of different sizes are attributable to differences in preliminary expenses. Ongoing expenses do not vary significantly among PHAs of different sizes.

- Smaller PHAs incur higher preliminary costs than larger PHAs, due to their higher intake rates and less mature program status.

- The higher unit-months per employee in large PHAs indicate that they achieve economies of scale that are not attainable by smaller PHAs.

4. EFFECTS OF AREA RENTAL VACANCY RATES

The vacancy rate of rental units in the jurisdiction of a PHA is widely believed to have a number of different effects on the components of PHA activities, and ultimately on PHA costs. In a very tight rental market, where vacancy rates are low, PHA preliminary costs may be higher because of the greater difficulty of

finding units for the program. A tight rental market could also increase the demand for Section 8 - Existing housing units. This, in turn, will increase the level of effort required by the PHA for application review and eligibility determination. These activities result in higher administrative costs. By contrast, a tight rental market reduces the number of options available to current Section 8 - Existing housing tenants; as a result, turnover will be less and the associated administrative costs will be lower. It is also possible that these two effects cancel one another, so that no systematic relation between vacancy rates and costs appears in the data.

Constructing an adequate test of these hypothesis is a major undertaking. For instance, it would be necessary to have accurate knowledge of the rental and owner-occupied vacancy rates in the PHA's area, an estimate of the degree to which FMRs lag the market rates for comparable units, knowledge of the elasticity of supply in a particular rental market, and information about the income elasticity of demand. The effort required to determine those conditions is beyond the scope of this study. Instead, the study assumes that all of these factors except the vacancy rate are either constant, randomly distributed across PHAs, or otherwise unimportant. Even the vacancy rate information must be interpreted with caution. Rental vacancy rates were taken from information given by the respondents to the questionnaire, and these responses may contain many random errors. Some of the randomness is concealed by grouping the responses into broad categories, but there is no external check on the validity of the data on vacancy rates. Vacancy rates are aggregate baselines reflecting apartments of different sizes and rent levels; vacancy rates change frequently and are difficult to measure accurately. These problems could also add to error in measurement. In interpreting the results in the tables that follow, these limitations should be recognized.

4.1 PHA Activity Levels and Vacancy Rates

Overall, the results from the study (See Tables 16-20, Appendix III-B) show that vacancy rates are not directly correlated with any measure of PHA intake or maintenance activities. The major exception is the persistent finding that PHA intake activities are highest in areas with the highest vacancy rates (>7.01%). As seen below, every indicator of intake activity is highest in the area with greater than 7% rental vacancies. This is especially pronounced in the differences in number of FTEs employed (number of FTEs for all intake activities and also total number of FTEs)*:

	Vacancy Rate (%)					
	0-1.00	1.01-2.0	2.01-4	4.01-7	>7.01	Sig. level
Proportion of staff time - all intake activities	.59	.60	.60	.62	.68	
# FTEs PTUM - all intake activities	1.09	1.44	1.09	1.04	2.39	
Total intake rate	.77	.80	.92	.85	1.27	.30/.09
Net intake rate	.43	.50	.47	.52	.69	.64/.19

A possible explanation for the relationship between vacancy rate and intake rate is that areas characterized by high vacancy rates are also areas of economic decline with large or recent allocations of Section 8 units.

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* This suggests a possible relationship to PHA size, since small PHAs also have more FTEs. The linear correlation between vacancy rates and PHA size is small (r = .10), however. Nonetheless, the correlation between size and vacancy may very well not be linear.

The data show no significant relation between vacancy rates and the proportion of staff time spent in tenant outreach. It is reasonable to conclude that most PHAs will have tenant waiting lists under all economic conditions. Theory leads to the expectation that landlord outreach and initial contract and lease negotiations will be most time consuming in areas where vacancy rates are low, but the evidence from this study does not support such an expectation. By contrast, evidence in Table 17, Appendix III-B discloses that the proportion of staff time spent on eligibility determination increases positively and significantly with PHA vacancy rates. According to Tables 18 and 19 of Appendix III-B, the allocation of staff time is not significantly related to any single maintenance activity nor to any activities that occur in both the intake and maintenance process.

4.2 PHA Costs and Vacancy Rates

The data below show no significant relationship between vacancy rates and PHA costs. Neither preliminary, ongoing, nor total costs rise or fall with the level of rental vacancies in a PHA's jurisdiction. However, although not statistically significant, preliminary costs are especially high in PHAs with the highest vacancy rates; these also have the highest intake rates.

	Vacancy Rate (%)					
	0-1.00	1.01-2.0	2.01-4	4.01-7	> 7.01	Sig. level
Ongoing administration and preliminary expenses PUM	$30.62 (70)	$27.19 (33)	$24.49 (32)	$30.74 (33)	$31.01 (15)	.67/.90
Preliminary expenses PUM	15.87 (70)	12.91 (33)	11.52 (32)	16.11 (33)	20.94 (15)	.61/.66
Ongoing administrative expenses PUM	14.75 (70)	14.28 (33)	12.92 (32)	14.63 (33)	10.08 (15)	.47/.22
Proportion preliminary costs	.36 (70)	.37 (33)	.34 (32)	.38 (33)	.50 (15)	.65/.34

4.3 Summary: Effects of Area Rental Vacancy Rates

- Intake activities and preliminary costs PUM are highest in PHAs in areas with the very highest vacancy rates.
- There is no significant relation between rental vacancy rates and the proportion of time spent by PHA staff on various maintenance and mixed activities.
- There is no significant relation between rental vacancy rates and ongoing administrative costs PUM.

5. THE RELATIONSHIPS BETWEEN PHA COSTS AND PROGRAM AND ADMINISTRATIVE CHARACTERISTICS

5.1 Bivariate Analysis

This section considers some of the simple (bivariate) correlations between PHA costs, as reported on HUD Form 52682, and various PHA characteristics and staff activities. The measure of association used on is the Pearson product -- moment correlation coefficient. It has a value that ranges from -1.00 to +1.00. When its value is close to zero and statistically insignificant, the coefficient indicates that there is no association between two variables. When its value is a significant positive number, it means that high values of one variable tend to be associated

with high values of the other. Negative correlations mean that high values of one variable tend to be associated with low values of another.*

5.1.1 PHA Costs and Selected PHA Characteristics

Table 10 on the following page discloses that PUM costs are not significantly associated with the proportion of elderly units in the PHA nor with the proportion of Section 8. These data do not support the contention that PHAs with high proportions of elderly units have lower costs than PHAs with large proportions of family units. Nor do the data support the belief that the proportion of Section 8 - Existing housing units to the total number of units under a PHA's total program has any effect on costs. However, such conclusions cannot be relied on solely from the analysis of two variables. The report reexamines these issues in Section 5.2 and estimates the impact of the proportion of elderly and the impact of non-Section 8 - Existing units on costs holding other variables constant.

Table 10 also shows that the number of FTEs per 1000 unit months is significantly and positively related to preliminary expenses PUM but not to ongoing expenses PUM. The number of FTEs is also related to the predominance of intake activities. Specifically, the correlation between net intakes and the number of FTEs per unit month is .49; that between total intakes and FTEs is .61; and both are highly significant (See Correlation Matrix, Appendix D). Although this issue is

* It should be recognized that the correlation measures linear association only. It has already been seen, for example, that PHA size and PHA costs may be nonlinearly related, since the smallest and the largest PHAs have the highest costs. Where the study anticipate nonlinear activities, as with size, the study does not rely on correlations alone to interpret findings.

reexamined in the multivariate analysis, this finding suggests that high preliminary expenses, large staffs, and high intake rates are mutually interrelated.

Table 10 also shows that preliminary expenses are not positively related to any of the cost indices; by contrast, ongoing administrative costs are positively and significantly related to all four of the cost indices. The relative income index reveals that PUM preliminary expenses tend to rise as the relative income in the PHA's jurisdiction falls. It has been observed that preliminary expenses also rise with intake activities. While one could speculate that the program expanded most in areas with the lowest incomes, examination of the correlations between intake activities and the relative income index shows the relation to be weak. The correlation of net intakes to income is -.13 and that between total intakes and income is -.12; neither are significant at the .05 level, but both are significant at the .10 level.

While Table 10 shows that ongoing expenses rise significantly with labor costs, the data also provide additional support for the contention that preliminary expenses rise with the predominance of intake activities. Preliminary expenses rise significantly with the intake inspection rate ($r = .28$), the proportion of staff time spent on tenant outreach ($r = .20$), the proportion leasing in place ($r = .39$), the proportion of net intakes ($r = .33$), and the proportion of total intakes ($r = .29$). There is also a significant correlation between preliminary expenses and turnover ($r = .22$), which has been categorized an intake-like activity. The measure of turnover includes both the number of tenants who left the program, and also those who moved from one Section 8 unit to another.

It is also interesting to observe that preliminary and ongoing expenses are inversely but significantly correlated ($r = -.21$). Moreover, ongoing expenses appear to be greatest in

PHAs where intake activities are least evident. For instance, according to Table 10, preliminary expenses are positively related to the intake inspection rate but ongoing expenses are negatively related. Both correlations are significant. Similarly, ongoing expenses are negatively related to the proportion who lease in place, to net intakes, to total intakes and to turnover while preliminary expenses are positively related to these variables. These relationships show the shift in dependency on administrative (as opposed to preliminary) expenses as the program stabilizes.

5.1.2 Summary: Bivariate Analysis

From the bivariate analysis discussed above, it's concluded that:

- PUM costs are not significantly associated with either the proportion of elderly units in the PHA or with the proportion of Section 8 units in the PHA's total housing program.
- There is a significant positive association between PUM preliminary costs and the number of FTEs per 1000 unit months, the intake inspection rate, the proportion who lease in place, the proportion of net intakes, the proportion of total intakes, and turnover. By contrast, the correlation of PUM ongoing expenses with each of these variables is a significant negative number.
- There is a significant positive relation between ongoing PUM costs and four indices of labor costs in the PHAs area. Preliminary expenses tend to be negatively related to these cost indices, although the correlations are not always significant.

5.2 MULTIVARIATE (REGRESSION) ANALYSIS

Additional analysis of the determinants of PHA costs can help to understand why some PHAs have higher expenses than others. This understanding is important to any consideration of alternatives to the current fee structure. So far this chapter

has shown that expenses appear to be highest in very small PHAs, in PHAs with high intake rates, in PHAs with the largest number of FTEs, in state and regional PHAs, and in PHAs where labor costs are likely to be highest. Many of these factors, however, may be interrelated. For instance, state and regional PHAs have high costs, mostly due to their high preliminary expenses. Regional PHAs have correspondingly high intake rates; state PHAs, however, report the lowest intake rates. Labor costs, on the other hand, are highest in state PHAs. It is thus not clear whether PHA location, intakes or labor costs (or all three) actually account for the high total costs. Additional analyses using multivariate statistical techniques can shed light on issues like these, because they permit the investigator to estimate the impact of one variable (e.g., PHA location) on PHA costs holding the other variables (e.g., PHA intake rates and labor costs) constant.

Multivariate analysis can thus alter or reaffirm the conclusions that emerged in the variable-by-variable analyses. Variables that appear unrelated to costs in the bivariate analysis could turn out to be important determinants of cost in the multivariate analysis. Similarly, variables that seem important in the bivariate analyses may emerge as relatively unimportant when viewed in a multivariate perspective.

While such a perspective is most useful for understanding the causes of variations in PHA costs, the results of multivariate analyses cannot necessarily be transferred to the construction of a new formula. Consider, for instance, the possibility that in the analysis of PHA costs, it became clear
that the intake, location and cost variables are all interdependent. Suppose the multiple regression results, when holding constant the differences in intake rates among PHAs, reveal that location then has no impact on PHA costs. Suppose further that, when differences in location among PHAs are held constant, variation in intake rates does have substantial impact

on PHA costs. Such evidence would indicate that variation in intake rates rather than differences in PHA location have a direct effect on PHA costs. While evidence of this nature adds to the understanding of the determinants of PHA costs, such a conclusion does not necessarily warrant a recommendation that the formula for funding PHAs be based on intakes rather than location. While the formula used to distribute monies to PHAs for administering Section 8 - Existing Housing should rely on the multiple regression results, the formula itself need not -- and perhaps should not -- look like a regression equation that explains PHA costs. This is because certain variables that have the clearest relation to costs may be hard to collect data on or foster unwanted incentives or manipulations in the program; related proxy variables should therefore be used in their place. (For instance, no one would want to give a higher fee to PHAs with low yield rates, since this would be an incentive to low efficiency.)

5.2.1 PHA Characteristics and Workload as Joint Determinants of PHA Costs

Underlying the regression analyses is a model of the determinants of PHA costs that has two basic components. The first component refers to relatively fixed characteristics of the PHA's environment. These characteristics include a measure of the PHA's size, the PHA's location, a measure of the rental vacancy rate in the PHA's jurisdiction, indicators of the labor costs that the PHA is likely to face, and a measure of whether the PHA is involved in other housing programs besides Section 8 - Existing. The second component captures the daily activities that occur in the PHA as reflected by the PHA's workload and tenant mix. These factors include measures of the PHA's staff size (relative to total units), the relative predominance of elderly households among the PHA's tenants, and several important aspects of PHA's workload: the amount of leasing-in-place, the number of applicants who become recipients, the number of intakes, and the number of turnovers. These variables are regressed on PHA

costs, the dependent variable in the analyses, which are defined as total administrative expenses -- preliminary plus ongoing -- per unit month.

The analyses simultaneously address two issues affecting the determinants of the administrative costs of Section 8 - Existing housing. First, we examine whether fixed characteristics of the PHA's environment continue to be related to PHA costs even when measures of the PHA's workload are held constant. Although the bivariate analyses suggest that the PHA's environment as well as its workload both affect PHA costs, these analyses also disclosed that the workload and environment are closely related. For instance, small PHAs and nonmetro and regional PHAs have a disproportionately large number of intakes. Multiple regression analyses helps to sort out whether workload, environment or both account for differences in PHA costs. This information help to understand of the determinants of PHA costs.

Second, the multiple regressions help to select among the various measures of a PHA's environment and workload. For instance, it is important to know whether a PHA's size or its location, or both, have a direct effect on PHA costs. Similarly, bivariate analyses revealed that PHAs in metro areas have relatively high labor costs, and that PHAs with high labor costs have relatively high expenses. The multivariate analyses tell us whether this is attributable to the location of the PHA or to the costs the PHA faces. Such information not only helps to understand PHA costs, but also is very useful in designing a formula that is more appropriate to the current and future nature of the Section 8 program.

Multiple regression also helps to select among multiple measures of the same concept. This is particularly important for designing a new formula. For instance, the analysis consider four different measures of a PHA's labor costs. The

multiple regression reveals which of the four have the most significant influence on PHA costs; these results can be incorporated into a new formula. Similarly, the analyses rely on three indicators of intake activities in the PHA. The bivariate analyses reveal that each is an important determinant of PHA costs; the multivariate analyses help to decide whether one indicator is more important than another.

5.2.2 Summary: Multivariate Analyses

The steps followed in applying multivariate analysis to PHA costs are described in detail in Appendix III-C of this report. The findings that emerge from that analysis are presented here in summary to provide the appropriate perspective to the analysis of the current and alternative fee structures that follows.

- PHA location has no significant effect on PHA expenses, if other variables have been held constant.
- The very smallest PHAs (under 50 units) spend significantly more than other PHAs, even when other variables are held constant. In dollar terms, the estimates suggest that the smallest PHAs spend from $8.00 to $12.00 PUM more than larger PHAs.
- When other factors are held constant, the very largest PHAs (over 1000 units) do not spend significantly more than smaller PHAs.

- When other factors are held constant, the presence of non-Section 8 - Existing Housing units reduces the cost of running the Section 8 - Existing program. This reduction may be as much as $13.00 PUM.*

- The lease-in-place rate does not have a significant negative impact on PHA expenses. Instead the coefficient is a significant postive number. This indicates that leasing-in-place does not reduce costs, when other factors are held constant.

- An increase in total intakes significantly raises PHA costs. Holding other variables constant, an increase of 1 percent in the proportion of units that require an intake raises PHA costs by about $5.00 to $7.00. This means that, for the typical (mean) PHA with 254 units under lease, adding one more intake raises PHA costs by about 2¢ to 3¢ PUM.

- Hiring one more FTE (per 1000 unit months) significantly raises PHA costs by about $2.00 to $3.00 PUM.

- As FMRs increase, so do the total PUM expenses in a PHA, even when other variables are held constant. Overall, a $1.00 increase in the FMR is associated with about a 10¢ PUM increase in PHA expenses.*

- As the CETA wage index for all service workers in a PHA area increases, PHA expenses do also. Holding other variables constant, a 1% increase over the national average CETA wage brings about a 20¢ PUM increase in PHA expenses.

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* This conclusion depends on whether FMRs or the CETA index is used as a measure of costs. The presence of non-Section 8 - Existing units is not as significant determinant of PHA expenses when the CETA index is used. Note that this conclusion differs from what was concluded from the bivariate analysis; this again shows the benefit of the regression analysis in holding other confounding variables constant.

The analysis of costs incurred in administering the Section 8 program thus reveals that program size and certain program characteristics are important determinants of the cost and level of effort expended by PHAs. The significance of these relationships to the adequacy of coverage provided by the current administrative fee structure is examined in the following chapter, along with the effects on reimbursement levels of several alternative fee structures.

APPENDIX III-A

DEFINITION OF VARIABLES

Variable	Definition	Data Source
Intake Activities:		
Yield Rate	Number of applicants who become recipients divided by the total number of applicants reviewed.	Questionnaire
Intake Inspection Rate	Number of intake inspections divided by the number of units currently under lease.	Questionnaire and Form 52682
Initial Inspection Rate	Inspection rate for each new unit: tells us the proportion of the total units lease that received initial inspections.	Questionnaire and Form 52682
Reinspection Rate	Inspection rate for new units initially found unacceptable: Tells us the proportion of the units under lease that received reinspections. These inspection rates are reported both separately and in total.	Questionnaire and Form 52682
Proportion of Staff Time Devoted to Intake Inspections	Proportion of staff time spent on all inspections multiplied by the ratio of intake to total inpections.*	Questionnaire

* Some respondents misunderstood the questions on staff times, or reported obviously incorrect information. The results omit these responses.

DEFINITION OF VARIABLES

(Continued)

Number of full time employees (FTEs) per thousand unit months (PTUMs) alloted to Intake Inspection.	Number of FTEs per thousand unit months* multiple by the proportion of staff time spent on intake inspection. This variable reflects how many staffers are engaged in intake inspections.	Questionnaire
Proportion of staff time spent on tenant outreach		Questionnaire
Number of FTEs (PTUM) allotted to tenant outreach.	Number of FTEs (PTUM) in a given PHA multiplied by the proportion of staff time spent on tenant outreach.	Derived
Proportion of staff time spent on landlord outreach		Questionnaire
Number of FTEs (PTUM) allotted to landlord outreach	Number of FTEs (PTUM) in a given PHA multiplied by the proportion of staff time spent on landlord outreach.	Derived
Proportion of staff time spent on eligibility determination.		Questionnaire

* Number of FTEs per thousand unit months was calculated by the following formula: [(number of FTEs)/unit months)] x 1000. We used thousand unit months for ease of discussion, since the number of FTEs per unit month turns out to be a very small number.

DEFINITION OF VARIABLES
(Continued)

Number of FTEs (PTUM) allotted to eligibility determination	Number of FTEs (PTUM) in a given PHA multiplied by the proportion of staff time spent on eligibility determination.	Derived
Proportion of staff time spent on initial contract & lease negotiation		Questionnaire
Number of FTEs (PTUM) allotted to initial contract and lease negotiation	Number of FTEs (PTUM) in a given PHA multiplied by the proportion of staff time spent on initial contract and lease negotiation.	Derived
Proportion leasing-in-place	Number of recipients who remained in the unit they initially occupied (prior to program) divided by the total number of new receipients.	Questionnaire
Maintenance Activities:		
Turnover rate	The turnover rate has two components:	Questionnaire
Leaving:	Number of occupants who left the program divided by total number of units under lease.	
Moving:	Number of recipients who moved from one Section 8-Existing unit to another, divided by total number of units under lease. These rates are reported both separately and in total.	Questionnaire

DEFINITION OF VARIABLES

(Continued)

Maintenance (or Annual) Inspection Rate	Number of annual inspections divided by total number of units under lease.	Questionnaire
Proportion of staff time devoted to Maintenance Inspections	Proportion of staff time devoted to all inspections multiplied by the ratio of maintenance to total inspections.	Questionnaire
Number of FTEs (PTUM) devoted to Maintenance Inspections	Number of FTEs (PTUM) multiplied by the proportion of staff time devoted to maintenance inspections.	Derived
Proportion of staff time spent in recer-tification and contract renewals		Questionnaire
Number of FTEs (PTUM) allotted to recertif-ication and contact renewals	Number of FTEs (PTUM) multiplied by the proportion of staff time spent on recertification and contract renewals.	Derived

Mixed Activites (Both intake & maintenance):

Proportion of staff time spent on General Services to Section 8-Existing Tenants		Questionnaire
Number of FTEs (PTUM) allotted to General Services	Number of FTEs (PTUM) multiplied by the proportion of staff time spent on General Services	Derived

DEFINITION OF VARIABLES

(Continued)

Proportion of staff time spent on "Other" Activities not elsewhere reported		Questionnaire
Number of FTEs (PTUM) allotted to "Other" activities.	Number of FTEs (PTUM) multiplied by the proportion of staff time spent on "Other" activities	Derived

Appendix III - B

List of Tables

TABLE 1

PHA Intake Activities by PHA Location and Type of Activity

Intake Activity	PHA Locations					Sig. Level*
	Metro	Regional	State	Nonmetro	Total	
Yield rate	.35 (107)**	.33 (11)	.39 (6)	.44 (168)	.40 (293)	.015
Intake inspection rate						
- Initial inspection	.43 (65)	.55 (6)	.33 (3)	.58 (72)	.50 (146)	.008
- Reinspection	.14 (73)	.25 (11)	0.0 (3)	.15 (101)	.15 (188)	.18
- Total	.54 (63)	.69 (6)	.32 (3)	.69 (69)	.61 (141)	.039
Proportion of staff Time-intake Inspections	.06 (23)	.05 (3)	.06 (3)	.07 (44)	.07 (73)***	.59 .59
# FTEs PTUM- Intake inspections	.10 (20)	.10 (3)	.05 (3)	.12 (42)	.11 (69)***	.76
Proportion of staff Time-tenant Outreach	.09 (84)	.13 (11)	.04 (6)	.10 (145)	.10 (247)	.051
# FTEs PTUM- Tenant outreach	.20 (54)	.39 (9)	.02 (3)	.24 (88)	.23 (154)	.35
Proportion of staff Time-landlord Outreach	.08 (84)	.13 (11)	.06 (6)	.10 (145)	.09 (247)	.079
# FTEs PTUM- Landlord outreach	.18 (5)	.23 (9)	.03 (3)	.22 (88)	.20 (154)	.67
Proportion of staff Time-eligibility Determination	.18 (84)	.17 (11)	.18 (6)	.21 (145)	.20 (247)	.31
# FTEs PTUM- Eligibility determination	.35 (54)	.67 (9)	.15 (3)	.53 (88)	.45 (154)	.32
Proportion of staff Time-initial Negotiations	.14 (84)	.16 (11)	.11 (6)	.15 (145)	.15 (247)	.31

Table 1 - continued

	Metro	Regional	State	Nonmetro	Total	Sig. Level*
# FTEs PTUM- Initial negotiations	.27 (54)	.43 (9)	.14 (3)	.39 (88)	.34 (154)	.48
Proportion leasing-in-place	.63 (105)	.71 (11)	.47 (5)	.74 (170)	.69 (291)	.003
Turnover rate						
- Leaving	.21 (75)**	.18 (8)	.24 (3)	.28 (105)	.25 (192)	.103
- Moving	.08 (76)	.11 (9)	.04 (3)	.09 (107)	.08 (196)	.71
- Total	.28 (74)	.26 (8)	.28 (3)	.37 (105)	.33 (190)	.08

* The significance level is based on the F-test for the analysis of variance. The lower the significance level, the more confident one can be in rejecting the null hypothesis that there are no differences between the PHA locational groups.

** Numbers of parentheses reflect number of observations (N) on which calculation is based. N's vary from one variable to another because of differences in missing values across variables.

*** The number of observations is smaller for these variables than others on this table because the data for these variables are based on observations that have no missing data on any one of the four other variables from which they were computed.

TABLE 2

PHA Intake Activities by Level of Effort

Activity	Proportion of staff time	# FTEs per 1000 unit months
Eligibiity determination	.20	.45
Initial negotiation	.15	.34
Tenant outreach	.10	.23
Landlord outreach	.09	.20
Intake inspections*	.07	.11
Total allocation - intake activities	.61	1.33

Source: Table 1.

* Recall that the figures for intake inspections are based on a smaller number of observations than the other items on this table. This occurs because it is based on observations that have no missing data for any one of the four variables from which it was computed. We are reasonably confident that this figure is fairly accurate, since the proportions of staff time add to 99% even when we allot inspections to maintenance and intake functions. (The proportion of staff time alloted to intake activities is 0.61, to maintenance is 0.25, and to mixed is 0.13).

TABLE 3

PHA Maintenance Activities by PHA Location and Type of Activity

Maintenance Activity	PHA Location					Sig. Level*
	Metro	Regional	State	Nonmetro	Total	
Maintenance (or annual) inspection rate	.61 (46)**	.72 (6)	.69 (3)	.65 (73)	.64 (128)	.74
Porportion of staff time - Maintenance Inspections	.07 (23)	.07 (3)	.14 (3)	.07 (44)	.07 (73)	.06
# FTEs PTUM - Maintenance Inspections	.11 (20)	.17 (3)	.11 (3)	.12 (42)	.12 (69)	.90
Proportion of staff time - Recertification Contract renewals	.20 (84)	.14 (11)	.33 (6)	.16 (145)	.18 (247)	.000
# FTEs PTUM - Recertification Contract renewals	.41 (54)	.55 (9)	.24 (3)	.39 (88)	.40 (154)	.75

* The significance level is based on the F-test for the analysis of variance. The lower the significance level, the more confident one can be in rejecting the null hypothesis that there are no differences between the PHA locational groups.

** Numbers in parentheses reflect number of observations (N) on which calculation is based. N's vary from one variable to another because of differences in missing values across variables.

TABLE 4

FTEs per 1000 Unit Months, by PHA Location

	Metro	Regional	State	Nonmetro	Total	Sig. Level*
# FTEs per 1000 unit months	1.84 (N=75)	2.73 (N=11)	0.88 (N=3)	2.53 (N=103)	2.24 (N=192)	.21

* Significance level based on F-test for the analysis of variance.

TABLE 5

PHA Maintenance Activities by Level of Effort

Activity	Proportion of staff time	#FTEs per 1000 unit months
Recertification/ contract renewals	.18	.40
Maintenance inspections*	.07	.12
Total allocation - maintenance activities	.25	.52

Source: Table 3

*Based on smaller N than renewal data.

TABLE 6

Mixed PHA Activities (Maintenance and Intake) by PHA Location and Type of Activity

Activity	PHA Location					Sig. Level*
	Metro	Regional	State	Nonmetro	Total	
Proportion of staff time - General services	.10 (84)	.06 (11)	.07 (6)	.09 (145)	.09 (247)	.25
# FTEs PTUM - General services	.16 (54)	.13 (9)	.05 (3)	.25 (88)	.21 (154)	.16
Porportion of staff time - Other	.04 (84)	.05 (11)	.07 (6)	.04 (145)	.04 (247)	.83
# FTEs PTUM - Other	.09 (54)	.13 (9)	.07 (3)	.09 (88)	.09 (154)	.92

*Significance level based upon F-test for analysis of variance.

Note: Numbers in parentheses indicate number of observations on which calculation is based.

TABLE 7

Proportion Elderly, Proportion Section 8 - Existing Units and Intake Activities, by PHA Location

	PHA Location					
	Metro	Regional	State	Nonmetro	Total	Sig. Level***
Proportion elderly*	.35 (N=87)	.30 (N=14)	.37 (N=6)	.39 (N=126)	.37 (N=233)	.23
Section 8 - Existing Units as a proportion of total units under lease**	.32 (N=60)	.48 (N=9)	.28 (N=3)	.32 (N=81)	.33 (N=153)	.28
Net new units as proportion of total units under lease (net intake)**	.37 (N=77)	.36 (N=9)	.10 (N=3)	.58 (N=107)	.48 (N=197)	.06
Number of new units plus number moving from one Section 8 - unit to another as proportion of total units under lease (total intake)**	.71 (N=76)	1.08 (N=9)	.38 (N=3)	.97 (N=107)	.72 (N=197)	.09

*Source: Form 5041C.

**Source: Questionnaire and Form 52682.

***Significance level is based upon F-test for analysis of variance.

TABLE 8

Selected Cost Indices by PHA Location

Cost Index	PHA Location					Sig. Level*
	Metro	Regional	State	Nonmetro	Total	
2 bedroom - FMR	$198 (92)	$146 (12)	$203 (6)	$151 (127)	$170 (237)	.00
CETA wage index (mean = 100.0)	99.9 (149)	86.1 (2)	115.6 (1)	79.0 (220)	87.5 (372)	.00
Public administration wage index (mean = 100.0)	102.3 (85)	77.4 (15)	105.2 (10)	78.8 (189)	86.3 (299)	.00
PHA median family income index (mean = 100.0)	107.2 (75)	91.1 (1)	118.2 (1)	78.9 (186)	87.2 (264)	.00

*Significance level is based on F-test for analysis of variance.

Note: Numbers in parentheses reflect number of observations on which calculation is based.

TABLE 9

Selected PHA Costs by PHA Location

	PHA Location					
	Metro	Regional	State	Nonmetro	Total	Sig. Level*
Total costs (ongoing and preliminary) PUM	$27.83 (105)	$32.60 (14)	$39.63 (6)	$30.85 (141)	$29.93 (266)	.50
Preliminary costs PUM	12.08 (107)	22.21 (14)	28.34 (6)	18.47 (141)	16.32 (267)	.07
Ongoing administrative costs PUM	15.66 (105)	10.40 (14)	11.30 (6)	12.38 (141)	13.56 (266)	.01
Preliminary as proportion of total**	.33 (105)	.54 (14)	.52 (6)	.43 (142)	.39 (267)	.04

*Significance level is based on F-test for analysis of variance.

**These figures should not equal the mean preliminary costs PUM shown on the table divided by the mean total costs PUM shown on the table because the proportion of two means is not equal to the mean of the proportions.

Note: Numbers in parentheses reflect number of observations on which calculation is based.

TABLE 10

Selected PHA Characteristics by PHA Size

	PHA Size							
	0-49	50-99	100-299	300-499	500-999	>1000	Sig.* level	Pearson correl (r)**
Proportion elderly	.41 (67)	.38 (61)	.34 (64)	.38 (21)	.28 (13)	.37 (10)	.21/.06	=.01 (234) S=.4
Proportion Section 8 - Existing	.18 (42)	.29 (40)	.44 (44)	.39 (15)	.50 (8)	.41 (5)	.00/.00	. (155) S=.02
#FTEs per 1000 unit months	3.82 (53)	1.89 (47)	1.71 (59)	1.22 (18)	1.13 (9)	1.16 (5)	.00/.00	-. (195) S=.00

* Significance tests represent significance levels of F statistics. The first statistic is the significance level for the analysis of variance for between group differences. The second statistic is the significance level associated with the F-test for linear differences between groups.

** Pearson correlations are shown since size is an interval variable. The top number is the correlation; the next is the number of observations on which the correlation is based; the last is the significance level.

TABLE 11

Selected PHA Costs by PHA Size

	PHA Size							
	0-49	50-99	100-299	300-499	500-999	≥1000	Sig.* level	Pearson correl. (r)
otal costs (ongoing nd preliminary) PUM	$42.88 (73)	$28.93 (70)	$24.30 (74)	$23.28 (25)	$22.14 (16)	$25.62 (12)	.00/.00	-.09 (276) S=.07
reliminary costs PUM	28.79 (73)	15.31 (70)	10.83 (74)	9.21 (26)	8.53 (16)	9.81 (12)	.00/.00	-.09 (276) S=.06
ngoing administrative osts PUM	14.09 (73)	13.63 (70)	13.47 (74)	13.86 (25)	13.61 (16)	15.72 (12)	.98/.79	.01 (275) S=.41
reliminary as roportion of total	.49 (73)	.40 (70)	.32 (74)	.31 (25)	.37 (16)	.35 (12)	.07/.08	-.04 (276) S=.26
ercent receiving more han $275/unit in reliminary expenses	3.7 (59)	4.8 (46)	3.6 (62)	7.1 (21)	18.5 (10)	18.8 (8)	.09**	

Significance tests represent significance levels of F-statistics. The first statistic tests for between group differences, and the second tests for linear between group differences.

Significance level for Tau - c. Value of Tau - c = -.09.

TABLE 12

Cost Indices by PHA Size

Cost Index	PHA Size 0-49	50-99	100-299	300-499	500-999	≥1000	Sig.* level	Pearson corr (r)
CETA wage index (mean = 100.0)	85.0 (76)	85.3 (61)	90.4 (64)	89.9 (22)	94.8 (11)	106.2 (9)	.00/.00	.2 (241) S=.00
BLS public administration wage index (mean = 100.0)	85.3 (54)	80.8 (50)	87.9 (48)	91.1 (15)	92.5 (12)	112.7 (6)	.00/.00	.29 (18 S=.00
Median family income index (mean = 100.0)	83.2 (49)	85.0 (44)	90.9 (43)	93.6 (15)	96.5 (7)	110.3 (7)	.01/.00	.2 (165) S=.0
Two-bedroom FMR	$159.89 (68)	$169.48 (61)	$172.84 (67)	$181.75 (21)	$176.51 (14)	$200.07 (10)	.03/.00	.1 (238) S=.

*Significance tests represent significance levels of F-statistics. The first statistic tests for between group differences, and the second tests for linear between group differences.

TABLE 13

PHA Intake Activities by PHA Size and Type of Activity

Intake activity	PHA Size 0-49	50-99	100-299	300-499	500-999	≥1000	Sig.* level	Pearson correl. (r)**
Yield rate	.44 (60)	.35 (45)	.39 (59)	.46 (19)	.40 (10)	.37 (5)	.40	-.01 (199) S=.47
Intake inspection rate:								
Initial inspection	.51 (37)	.48 (35)	.53 (41)	.47 (20)	.52 (8)	.53 (5)	.96	- -
Reinspection	.16 (58)	.14 (45)	.15 (52)	.14 (19)	.17 (8)	.26 (4)	.81	- .06
Total	.64 (37)	.57 (35)	.60 (37)	.60 (19)	.69 (8)	.76 (4)	.84	(144) S=.22
Proportion of staff time: Intake inspections	.07 (22)	.07 (19)	.07 (18)	.06 (9)	.07 (3)	.03 (1)	.84	-.10 (75) S=.19
FTEs PTUM: Intake inspections	.18 (20)	.09 (18)	.10 (18)	.07 (8)	.09 (3)	.06 (1)	.16/.12	-.15 (70) S=.11
Proportion of staff time: Tenant outreach	.11 (51)	.09 (40)	.09 (45)	.07 (15)	.08 (6)	.09 (4)	.60	-.04 (163) S=.30
FTEs PTUM: Tenant outreach	.45 (44)	.15 (40)	.16 (45)	.07 (14)	.07 (6)	.06 (3)	.00/.00	-.19 (156) S=.01
Proportion of staff time: Landlord outreach	.11 (51)	.09 (40)	.07 (45)	.07 (15)	.09 (6)	.13 (4)	.10	.03 (163) S=.38
FTEs PTUM: Landlord outreach	.39 (44)	.15 (40)	.12 (45)	.09 (14)	.10 (6)	.07 (3)	.00/.00	-.19 (156) S=.01

Table 13 - Continued

Intake Activity	PHA Size 0-49	50-99	100-299	300-499	500-999	≥1000	Sig.* level	Pearson correl (r)**
Proportion of staff time: Eligibility determination	.18 (51)	.23 (40)	.21 (45)	.20 (15)	.21 (6)	.13 (4)	.41	-.08 (163) S=.15
# FTEs PTUM: Eligibility determination	.77 (44)	.45 (40)	.35 (45)	.25 (14)	.17 (6)	.16 (3)	.03/.01	-.16 (156) S=.02
Proportion of staff time: Initial negotiations	.15 (51)	.15 (40)	.14 (45)	.15 (15)	.13 (6)	.13 (4)	.95	-.07 (163) .19
#FTEs PTUM: Initial negotiation	.58 (44)	.31 (40)	.25 (45)	.20 (14)	.13 (6)	.16 (3)	.03/.01	-.15 (156) S=.03
Net new intakes as proportion of total units under lease	.69 (58)	.44 (45)	.42 (59)	.27 (19)	.30 (8)	.19 (6)	.02/.01	-.15 (200) S=.02
Total intakes (new and movers) as proportion of total units under lease	1.06 (58)	.77 (45)	.87 (59)	.62 (19)	.60 (8)	.52 (5)	.16/.04	-.1 (199) S=.07
Proportion leasing-in-place	.77 (60)	.67 (45)	.67 (58)	.62 (19)	.52 (9)	.47 (5)	.02/.001	
Turnover rate: Leaving	.24 (56)	.23 (44)	.27 (57)	.24 (19)	.20 (8)	.25 (5)	.89	-
Moving	.07 (58)	.06 (46)	.10 (58)	.11 (19)	.10 (8)	.15 (5)	.19	-
Total	.31 (56)	.29 (44)	.36 (56)	.35 (19)	.30 (8)	.34 (5)	.76	.0 (194) S=.24

* Significance levels represent significance level of F statistics. The first statistic is the significance level for the analysis of variance for between group differences. Where shown, the second statistic is the significance level associated with the F-test for linear differences between groups.

** Pearson correlations are shown because size is an interval variable. The top number is the correlation; the middle is the number of observations; and the last is the significance level.

TABLE 14

PHA Maintenance Activities by PHA Size and Type of Activity

Maintenance Activity	PHA Size 0-49	50-99	100-299	300-499	500-999	≥1000	Sig.* level	Pearson correl. (r)**
Maintenance (or annual) inspection rate	.68 (42)	.53 (25)	.71 (38)	.69 (11)	.48 (5)	.62 (4)	.08	-.03 (131) S=.38
Proportion of staff time: Annual inspections	.07 (22)	.07 (19)	.08 (18)	.08 (9)	.08 (3)	.03 (1)	.74	-.08 (75) S=.25
#FTEs PTUM: Annual inspections	.18 (20)	.10 (18)	.12 (18)	.09 (8)	.09 (3)	.05 (1)	.56/.25	-.12 (70) S=.16
Proportion of staff time: Recertification/contract renewals	.17 (51)	.18 (40)	.19 (45)	.26 (15)	.19 (6)	.20 (4)	.10/.09	.06 (163) S=.22
#FTEs PTUM: Recertification/contract renewals	.62 (44)	.34 (40)	.33 (45)	.32 (14)	.24 (6)	.24 (3)	.05/.03	-.13 (156) S=.06

* Significance levels represent significance level of F statistics. The first statistic is the significance level for the analysis of variance for between group differences. Where shown, the second statistic is the significance level associated with the F-test for linear differeces between groups.

** Pearson correlations shown because size is an interval variable. The top number is the correlation; the middle is the number of observations; and the last is the significance level.

TABLE 15

Mixed PHA Activities, by PHA Size and Type of Activity

Mixed Activity	PHA Size 0-49	50-99	100-299	300-499	500-999	≥1000	Sig.* level	Pearson correl. (r)**
Proportion of staff time - general services	.10 (51)	.07 (40)	.11 (45)	.08 (15)	.11 (6)	.12 (4)	.33	. (163) S=.
# FTEs PTUM: General services	.34 (44)	.14 (40)	.19 (45)	.10 (14)	.13 (6)	.14 (3)	.00/.03	-.1 (15
Proportion of staff time - other	.05 (51)	.06 (40)	.03 (45)	.02 (15)	.03 (6)	.06 (4)	.41	. (16 S=.2
# FTEs PTUM: Other	.12 (44)	.13 (40)	.04 (45)	.02 (14)	.03 (6)	.03 (3)	.15/.03	-.1 (15 S=.

* Significance levels represent significance level of F statistics. The first statistic is the significance level for the analysis of variance for between group differences. Where shown, the second statistics is the significance level associated with the F-test for linear differences between groups.

** Pearson correlations shown since size is an internal variable. The top number is the correlation; the middle is the number of observations; and the last is the significance level.

TABLE 16

Selected PHA Characteristics by Vacancy Rate

	Vacancy Rate (%)					
	0-1.00	1.01-2.0	2.01-4	4.01-7	>7.01	Sig.* level
Proportion elderly	.42 (56)	.38 (29)	.39 (31)	.35 (28)	.28 (15)	.15/.02
FTEs per 1000 unit months	1.96 (66)	2.11 (28)	1.94 (31)	1.65 (33)	3.47 (15)	.08/.28

* Significance levels represent significance level of F statistics. The first statistic tests for between group differences, and the second statistic tests for linear differences between groups.

TABLE 17

PHA Intake Activities by PHA Vacancy Rate and Type of Activity

Intake Activity	Vacancy Rate (%) 0-1.00	1.01-2.0	2.01-4	4.01-7	>7.01	Sig.* level
Yield rate:	.43 (109)	.43 (47)	.40 (44)	.41 (41)	.33 (26)	.40/.10
Intake inspection rate:						
Initial inspection	.44 (54)	.55 (26)	.53 (23)	.48 (25)	.57 (7)	.38/.26
Reinspection	.12 (66)	.12 (31)	.18 (29)	.18 (32)	.24 (14)	.18.02
Total	.52 (51)	.66 (26)	.65 (21)	.62 (25)	.72 (7)	.25/.08
Proportion of staff time: Intake inspections	.06 (33)	.06 (10)	.09 (11)	.07 (9)	.09 (4)	.16/.05
# FTEs PTUM: Intake inspections	.10 (30)	.13 (10)	.09 (10)	.13 (9)	.26 (4)	.18/.09
Proportion of staff time: Tenant outreach	.10 (98)	.10 (35)	.11 (31)	.10 (34)	.10 (22)	.97/.83
# FTEs PTUM: Tenant outreach	.18 (59)	.24 (22)	.16 (18)	.15 (24)	.36 (14)	.12/.31
Proportion of staff time: Landlord outreach	.10 (98)	.10 (35)	.11 (31)	.07 (34)	.09 (22)	.32/.25
# FTEs PTUM: Landlord outreach	.19 (59)	.19 (22)	.16 (18)	.10 (24)	.37 (14)	.03/.43
Proportion of staff time: Eligibility determination	.18 (98)	.19 (35)	.16 (31)	.23 (34)	.27 (22)	.00/.01

Table 17 - Continued

Intake Activity	Vacancy Rate (%) 0-1.00	1.01-2.0	2.01-4	4.01-7	>7.01	Sig.* level
# FTEs PTUM: Eligibility determination	.31 (59)	.60 (22)	.42 (18)	.39 (24)	.88 (14)	.05/.04
Proportion of staff time: Initial negotiations	.15 (98)	.15 (35)	.13 (31)	.15 (34)	.13 (22)	.59/.23
# FTEs PTUM: Initial negotiations	.31 (59)	.28 (22)	.26 (18)	.27 (24)	.52 (14)	.42/.43
Proportion leasing-in-place	.73 (111)	.69 (47)	.58 (43)	.65 (39)	.79 (24)	.004/.32
Turnover rate: Leaving	.25 (68)	.21 (31)	.27 (31)	.26 (33)	.23 (14)	.86/.87
Moving	.06 (70)	.08 (31)	.09 (31)	.09 (32)	.10 (15)	.62/.13
Total	.32 (68)	.30 (31)	.34 (31)	.34 (32)	.31 (14)	.94/.71
Total intake rate	.77	.80	.92	.85	1.27	.30/.09
Net intake rate	.43	.50	.47	.52	.69	.64/.19

* Significance levels represent significance level of F statistics. The first statistic tests for between group differences, and the second statistic tests for linear differences between groups.

TABLE 18

PHA Maintenance Activities, by Vacancy Rate and Type of Activity

Maintenance Activity	Vacancy Rate (%) 0-1.00	1.01-2.0	2.01-4	4.01-7	>7.01	Sig.* level
Maintenance (or annual) inspection rate	.69 (50)	.65 (20)	.60 (21)	.61 (18)	.83 (5)	.30/.53
Proportion of staff time: Maintenance inspections	.07 (33)	.07 (10)	.09 (11)	.06 (9)	.13 (4)	.05/.28
# FTEs PTUM: Maintenance inspections	.13 (30)	.12 (10)	.08 (10)	.10 (9)	.30 (4)	.13/.45
Proportion of staff time: Recertification/contract renewals	.19 (98)	.17 (35)	.18 (31)	.18 (34)	.20 (22)	.92/.87
# FTEs PTUM: Recertification/contract renewals	.40 (59)	.34 (22)	.46 (18)	.34 (24)	.65 (14)	.43/.38

* Significance level represent significance level of F statistics. The first statistic test for between group differences, and the second statistic tests for linear differences between groups.

TABLE 19

Mixed PHA Activities by Vacancy Rate and Type of Activity

Activity	Vacancy Rate (%) 0-1.00	1.01-2.0	2.01-4	4.01-7	>7.01	Sig.* level
Proportion of staff time: General services	.09 (98)	.10 (35)	.10 (31)	.10 (34)	.06 (22)	.24/.58
# FTEs PTUM: General services	.16 (59)	.29 (22)	.18 (18)	.24 (24)	.19 (14)	.35/.46
Proportion of staff time: Other	.05 (98)	.04 (35)	.05 (31)	.04 (34)	.03 (22)	.93/.42
# FTEs PTUM: Other	.09 (59)	.12 (22)	.07 (18)	.03 (24)	.11 (14)	.61/.50

* Significance levels represent significance level of F statistics. The first statistic tests for between group differences, and the second statistic tests for linear differences between groups.

TABLE 20

Selected PHA Costs by Vacancy Rate

	Vacancy Rate (%)					Sig.* level
	0-1.00	1.01-2.0	2.01-4	4.01-7	>7.01	
Ongoing administration and preliminary expenses PUM	$30.62 (70)	$27.19 (33)	$24.49 (32)	$30.74 (33)	$31.01 (15)	.67/.90
Preliminary expenses PUM	15.87 (70)	12.91 (33)	11.52 (32)	16.11 (33)	20.94 (15)	.61/.66
Ongoing administrative expenses PUM	14.75 (70)	14.28 (33)	12.92 (32)	14.63 (33)	10.08 (15)	.47/.22
Proportion preliminary costs	.36 (70)	.37 (33)	.34 (32)	.38 (33)	.50 (15)	.65/.34

* Significance levels represent significance level of F statistics. The first statistic tests for between group differences, and the second statistic tests for linear differences between groups.

TABLE 21

PHA Costs and Selected PHA Characteristics: Pearson Correlations (r's)*

PHA Characteristic	PHA Costs			
	Total preliminary and ongoing expenses PUM	Preliminary expenses PUM	Ongoing expenses PUM	Percent preliminary expenses
# FTEs per 1000 unit months	.45 (195) S=.001	.48 (195) S=.001	-.03 (195) S=.33	.31 (195) S=.001
Proportion elderly	-.04 (232) S=.29	-.01 (233) S=.44	-.07 (232) S=.16	.02 (234) S=.38
Proportion Section 8	-.02 (155) S=.42	-.04 (155) S=.31	.04 (155) S=.31	-.02 (155) S=.39
2-Bedroom FMR	.03 (236) S=.31	-.07 (237) S=.15	.24 (236) S=.001	-.10 (238) S=.06
Income index	-.12 (164) S=.06	-.18 (164) S=.01	.19 (164) S=.01	-.13 (165) S=.04
BLS public administration wage index	-.09 (185) S=.12	-.17 (186) S=.01	.27 (185) S=.001	-.16 (186) S=.01
CETA wage index	.01 (240) S=.45	-.05 (240) S=.20	.16 (240) S=.01	-.05 (242) S=.24

*Top figure listed in each entry is the correlation coefficient; middle figure is the number of observations; and bottom figure is the significance level.

TABLE 22

PHA Activities and PHA Costs: Pearson Correlations (r's)

	PHA Costs			
	Total preliminary and ongoing expenses PUM	Preliminary expenses PUM	Ongoing expenses PUM	Percent preliminary expenses
Intake Activities				
Yield rate	.04 (195) S=.30	.06 (199) S=.20	-.05 (199) S=.24	.02 (201) S=.40
Intake inspection rate	.19 (143) S=.01	.28 (144) S=.001	-.18 (143) S=.02	.24 (143) S=.002
Proportion of staff time: Intake inspections	-.02 (75) S=.42	-.11 (75) S=.18	.13 (75) S=.13	-.09 (75) S=.22
Proportion of staff time: Tenant outreach	.24 (163) S=.001	.20 (163) S=.005	.11 (163) S=.08	.13 (163) S=.05
Proportion of staff time: Landlord outreach	.08 (163) S=.15	.10 (163) S=.09	-.03 (163) S=.34	.07 (163) S=.18
Proportion of staff time: Eligibility determination	.03 (163) S=.35	.03 (163) S=.37	.02 (163) S=.42	-.05 (163) S=.26
Proportion of staff time: Initial negotiations	.01 (163) S=.46	.00 (163) S=.49	.01 (163) S=.44	.01 (163) S=.43
Proportion leasing-in-place	.30 (176) S=.001	.39 (176) S=.001	-.15 (176) S=.02	.41 (176) S=.001

Table 22 - Continued

	Total preliminary and ongoing expenses PUM	Preliminary expenses PUM	Ongoing expenses PUM	Percent preliminary expenses
Net intakes as percent of total units	.26 (200) S=.001	.33 (200) S=.001	-.14 (200) S=.02	.35 (200) S=.001
Total intakes as percent of total units	.21 (199) S=.001	.29 (199) S=.001	-.18 (199) S=.01	.35 (199) S=.001
Turnover rate (total)	.13 (194) S=.04	.22 (194) S=.001	-.22 (194) S=.001	.35 (194) S=.001
Maintenance Activities				
Proportion of staff time: Annual reinspections	-.06 (75) S=.31	-.11 (75) S=.17	.07 (75) S=.26	-.09 (75) S=.21
Proportion of staff time: Recertification/contract renewals	-.07 (163) S=.20	-.07 (163) S=.18	.00 (163) S=.49	.02 (163) S=.41
Mixed Activities				
Proportion of staff time: General services	-.14 (163) S=.03	-.11 (163) S=.08	-.09 (163) S=.14	-.04 (163) S=.32
Proportion of staff time: Other	-.03 (163) S=.33	-.02 (163) S=.41	-.04 (163) S=.30	-.07 (163) S=.18

APPENDIX III-C

MULTIVARIATE ANALYSIS OF COSTS

This Appendix describes in detail the steps followed in the analysis of the determinants of cost in Section 8 program administration. The variables used in our regression analysis are listed and defined below:

Characteristics of PHA environment

1. PHA location - dummy variable: 1 if nonmetro or regional, 0 otherwise

2. PHA size - 2 dummy variables: size 1 = 1 if PHA is 0-49 units and 0 otherwise; size 2 = 1 if PHA is $\geq$ 1000 units and 0 otherwise

3. Rental vacancy rate

4. Four cost indices

   a) 2 bedroom FMR
   b) CETA wage index - all service workers
   c) BLS public administration wage index
   d) Index of median family income

5. Presence of other housing programs - dummy variable: 1 if non-Section 8 - Existing units present and 0 otherwise

Characteristics of PHA workload and tenant mix

1. Number of FTES per 1000 unit months

2. Proportion of units under ACC that are elderly units

3. Yield rate - number of recipients/number of applicants

4. Intake inspection rate - number of initial inspections and re-inspections/number of units under lease

5. Annual inspection rate - number of annual inspections/number of units under lease

6. Turnover rate - number of recipients moving or leaving/number of units under lease

7. Lease-in-place rate - number of recipients remaining in initial unit/number of recipients

8. Net intake - number of recipients less number of recipients leaving/number of units under lease

9. Total intake - number of recipients plus number of recipients moving/number of units under lease

1.0 Intermediate Findings from the Stepwise Regressions

As a first step in our multivariate analysis, we used stepwise regression to indicate the variables that best predict PHA costs. Stepwise multiple regression first enters the independent variable that has the highest simple correlation with the dependent variable. The second variable entered is the independent variable that is best correlated with the residual variation that remains once the first variable is entered. The third variable entered has the highest correlation with the residual that remains after the first two variables are entered, and so on until all the variables have been entered.

Unfortunately, stepwise regression has several drawbacks. First of all, it relies on a subset of observations that have no missing values for any one of the variables that could potentially be used in the regression. Our stepwise regression specifies one dependent variable and 17 independent variables that could potentially explain variance in the dependent variable. The stepwise regression procedure thus selects a subset of observations with no missing values in any of these 18 variables. In the ordinary multiple regression that follows, we limit the number of independent variables, which increases the number of usable observations. When missing values occur with some frequency, as they do in our data, the number of usable observations in a stepwise regression is likely to be quite low. Second, stepwise regression "discriminates" against variables that are redundantly measured. Among the variables in our analysis, we rely on redundant measures of PHA labor costs and PHA intake activities. Once one redundant variable in a cluster is "used up", stepwise regression may ignore the others until after other variables not in the cluster have been entered. As a consequence, stepwise regression may make one variable in a redundant cluster look "better" than it would look if each variable in a cluster were separately examined.

Both of these problems plague the stepwise regressions used in this study. Yet the advantage of relying on stepwise procedures is that it avoids the possibility of ignoring variables that are important determinants of PHA costs. We thus have three competing goals: we want to include important variables; we want to have enough observations in the multivariate analysis so that our results do not reflect an atypical subsample of PHAs; and we want to exclude variables that are truly unimportant. Stepwise regression helps achieve the first goal; the ordinary multiple regressions in the following section help us achieve the latter goals.

The first stepwise regression reflects these issues. This model includes all of the independent variables listed above: the resultant N was just 31 observations, which is too small for statistical purposes and too small to be representative of the entire sample of PHAs. Nonetheless, the first three variables entered into this stepwise regression significantly raised the explained variance. (See Table 1) Moreover, the standard errors of the regression coefficients for these three variables were sufficiently small so that the associated t - statistics were significant. These variables were the first size dummy (for very small PHAs), the total intake rate, and the FMR. The fourth variable entered - the lease-in-place rate - was not significant.

These results suggest that three factors are likely to emerge as important and direct determinants of PHA costs. The first is PHA size: holding other variables constant, the very smallest PHAs are likely to have higher costs than other PHAs. Another is a measure of PHA intake: holding other factors constant, more intakes raise PHA expenses. According to the stepwise results, total intakes may be particularly important. Total intakes include new units as well as current recipients who move from one unit to another. Costs are also important: holding other factors constant, PHAs in high cost areas - at least as measured

Table 1: Stepwise Regression - All Independent Variables (Results Shown for 1st Four Steps Only)

(N=31)

	Variable(s)	Multiple R^{2**}	Reg. coef.(b)	t-statistic
Step 1	Size 1	.38	15.59	4.18*
Step 2	Size 1		14.39	5.03*
	Total intake	.65	12.31	4.68*
Step 3	Size 1		17.31	7.06*
	Total intake		15.23	6.68*
	FMR	.77	.14	3.89*
Step 4	Size 1		15.94	6.20*
	Total intake		15.73	6.99*
	FMR		.17	4.90*
	Lease-in-place	.79	7.87	1.50

*Significant at .05 level

**These R^2 are an artifact of the small number of observations upon which these results were calculated.

by the FMR - have higher expenses. Forthcoming regressions reinvestigate - but basically uphold - these basic conclusions.

Our next step was an effort to retain the advantages of stepwise regression while augmenting the number of observations at the same time. To accomplish this, we excluded three variables from the second stepwise regression: the vacancy rate, the proportion of units that were elderly, and the annual inspection rate. There were several reasons for omitting these variables. Recall that some variables must be deleted in order to raise the number of observations. The bivariate analyses revealed that these particular variables had insignificant correlations with the dependent variable ($r = .01$ between vacancy and total expenses PUM; $r = -.04$ between annual inspections and expenses PUM; and $r=-.03$ between proportion elderly and expenses). The first stepwise regression entered these variables in the 9th, 10th and 11th places and, when added, neither variable significantly raised the proportion of explained variance in the dependent variable (R^2). Nor were the t-statistics associated with these variables significant.*

Table 2 shows the results of deleting these variables. First, N increases to 52, which is still too small for statistical and analytical purposes. Second, roughly the same variables are significant in this model as in the previous model. Table 2 shows that five variables, when added, raised the R^2 significantly. These variables included three measures of intake activities - net intake, lease-in-place, and turnover; the size

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* These deletions are also provisional. Once we select a more parsimonious regression, we re-enter these variables to see if they remain insignificant.

Table 2: Stepwise Regression Results - 3 Independent Variables Deleted (Results Shown for First 6 Steps Only)

(N=52)

	Variable	R^2	Reg. Coef.	Std. Error	t-statistic
Step 1	Net intake	.19	14.15	4.15	3.41*
Step 2	Net intake		13.41	3.84	3.49*
	Size 1	.32	10.44	3.35	3.12*
Step 3	Net intake		17.33	3.78	4.58*
	Size 1		13.06	3.21	4.07*
	FMR	.43	.14	.04	3.00*
Step 4	Net intake		16.92	3.61	4.69*
	Size 1		12.08	3.09	3.91*
	FMR		.15	.04	3.75*
	Lease-in-place	.50	13.35	5.50	2.67*
Step 5	Net intake		17.67	3.41	5.18*
	Size 1		12.58	2.92	4.31*
	FMR		.19	.04	4.75*
	Lease-in-place		14.51	5.21	2.79*
	Turnover	.56	15.80	6.02	2.62*
Step 6	Net intake		17.15	3.38	5.07*
	Size 1		12.27	2.89	4.25*
	FMR		.16	.045	3.56*
	Lease-in-place		16.48	5.30	3.11*
	Turnover		11.61	6.56	1.77
	Presence of non-Sect 8	.58	6.60	4.39	1.50

*Significant at .05 level

dummy; and a measure of PHA costs (the FMR).* The presence of non-Section 8 Existing units, a dummy variable, did not significantly raise the R^2 when it was added to the stepwise multiple regression.

1.1 Summary: Stepwise Regression Results

Overall, the stepwise regressions show that three factors are likely to emerge as important determinants of PHA costs: the small size of a PHA, the labor costs in a PHA's area, and the PHA's intake activities. All of these variables have the expected sign: the smallest PHAs have significantly higher costs than larger PHAs, PHAs in high cost areas have higher costs, and PHA's with high intake rates have high costs. The results so far also lead us to reject some contentions. For instance, the bivariate results suggested that PHA location has an important impact on PHA costs, but this impact disappears when differences in intake rates are held constant. Apparently, locational differences in PHA costs are attributable to locational differences in intake rates. The bivariate results also suggested that the largest PHAs have higher costs than other PHAs; but in the stepwise regressions, this size variable was not important. The original impact of large size is probably due to the prevalence of high costs in areas where PHAs are largest. Thus, it is costs and not PHA size that explain why the largest PHAs have relatively high PUM expenses. Finally, the proportion elderly does not appear to be an important determinant of PHA expenses in either the bivariate or the stepwise regression results.

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* The lease-in-place rate consistently appears to be correlated with other measures of intake activities. This was also true in the bivariate analyses as well. No matter whether we measure it relative to the number of units under lease or relative to the number of recipients in the survey year, leasing-in-place is associated with an intake. The fact that the sign of its regression coefficient is positive, like that of the other intake measures, also suggests that it reflects intake.

2.0 Multiple Regression Analysis

The results of the stepwise regressions are preliminary in that they are based on a small N; nor do they help us sort among redundant measures of the same factor. The multiple regressions excluded variables that the stepwise regressions also excluded. However, because of its potential importance in a formula, we include PHA location in the multiple regression even though the stepwise regression excluded it. Moreover, each multiple regression includes one (of three) measures of intake activities and one (of four) measures of PHA costs. The result was 12 separate regression equations.

Before considering these results, the correlation matrices reported in Table 3 show why we regard the four cost indices and the three intake indices as redundant. All of the cost indices are significantly correlated, with no correlation under .60. The intake measures are also highly correlated: relatively more FTEs appear in PHAs with high net and high total intakes.* Including redundant measures in the same regression is perilous; each indicator competes against another, making the entire set of redundant variables appear unimportant when in fact each would appear important if it were separately examined.**

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* The number of FTEs per 1000 unit months can be used as a proxy for intakes because this total number of FTEs per 1000 unit months, and the number of FTEs per 1000 unit months employed on all intake activities (a summation of the number of FTEs PTUM on individual intake activities), are highly associated - as seen in our discussion in Chapter III of intake activities by service area and size.

** We also examined the correlations of the lease-in-place rate with the three intake measures reported in Table 3. Lease-in-place is somewhat related to net intakes (r=.37), but not related to total intakes (r=.01). We thus include the lease-in-place rate in the regression models below.

Table 3: Correlations Among Redundantly Measured Factors: PHA Costs and PHA Intakes

Cost Indices

	Income	BLS Wage Index	CETA Service Index	FMR
Income	1.00	.63	.71	.63
BLS Wage Index		1.00	.66	.64
CETA Service Index			1.00	.66
FMR				1.00

Intake Indicators

	# of FTEs PTUM	Net Intake Rate	Total Intake Rate
# of FTEs PTUM	1.00	.49	.61
Net intake Rate		1.00	.85
Total intake Rate			1.00

Table 4 reports the multiple regression results. These results generally support the findings from the stepwise analysis. In no instance does PHA location have a significant impact on PHA expenses once other variables are held constant.* In all but one regression, the very smallest PHAs (under 50 units) spend significantly more than other PHAs even when other variables are held constant. However, once other variables are held constant, the very largest PHAs (1000 units or more) do not spend significantly more than mid-size PHAs (50-999 units). This conclusion emerges in each regression equation. Table 4 also discloses that the presence of non-Section 8 Existing housing units in a PHA reduces costs significantly, even when other variables are held constant. Most of the measures of intake activity are also significant in Table 4. Moreover, with some exceptions, the lease-in-place rate coefficient is a significant positive number, and nowhere is it negative. This indicates that PHAs with high proportions of recipients who lease in place do not have lower expenses than PHAs with low proportions who lease in place, holding other factors constant.

Before drawing more specific conclusions from Table 4, however, it is possible to eliminate some of the equations based on the results from using different cost indices. Table 4 discloses two reasons for rejecting the equations that incorporate the income and BLS wage indices. First of all, whenever the income index or the BLS wage index are used to measure PHA costs, these variables are not significant in the multiple regression. By contrast, the CETA index and the FMR are nearly always significant, and have the expected sign as well.** Second, using the

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* This conclusion also emerges under different codings of the location dummy. The coding used in Table 4 is 1 if the PHA is non-metro or regional, and 0 otherwise.

** The wage index has a negative sign in two cases; in theory, its sign should be positive.

TABLE 4: Multiple Regression Results - 3 Intake Measures, 4 Cost Indices: Value and Significance of Regression Coefficients

Eqn. #	Location	Size 1	Size 2	Presence of Non - Section 8-F	Lease-in Place Rate	Total Intake	Inc. index	Constant	R^2	N
(1)	.49	8.18*	-.57	-1.30	8.37	3.17*	.09	7.30	.18	118
							FMR			
(2)	1.69	11.44*	1.44	-12.95*	12.02*	7.36*	.10*	4.03	.27	163
							CETA			
(3)	-.61	11.49*	-1.16	-6.19*	11.69*	5.19*	.19*	.80	.21	168
							BLS			
(4)	-5.82	8.61*	-1.26	-9.61*	16.70*	10.44*	-.05	21.12	.25	129
							FTE	Inc.		
(5)	2.77	7.83*	1.84	-.74	9.66*	.98	.12	1.91	.18	109
							FMR			
(6)	.99	8.59*	4.30	-10.47*	12.80*	3.07*	.07	7.33	.30	155
							CETA			
(7)	1.04	10.37	.90	-4.28	13.56*	2.02*	.25*	-7.46	.25	157
							BLS			
(8)	-4.36	5.08	2.75	-7.93	17.50*	4.20*	.01	14.37	.30	120
						Net Intake	Inc.			
(9)	-.24	7.36*	-.09	-.86	7.62	6.16*	.08	8.34	.22	118
							FMR			
(10)	2.48	10.71*	1.94	-12.63*	10.31*	8.14*	.10*	7.91	.26	164
							CETA			
(11)	-.83	10.97*	-.55	-5.87	10.22*	8.31*	.20*	1.24	.24	168
							BLS			
(12)	-4.14	7.60*	1.86	-8.68*	13.66*	12.94*	-.04	23.49	.25	129

* t- statistic significant at .05 level

income index and the BLS wage index reduces the number of usable observations on which to base our conclusions. This occurs because we encountered more missing observations for these indices than for the other indices as we collected our data. In all cases in Table 4, the equations that use FMRs or the CETA index have more observations than equations using income or the BLS index. We conclude from this evidence that it is justifiable to reject the equations using the income and the BLS indices as optimal descriptors of the determinants of PHA costs.* Equations (2), (3), (6), (7), (10) and (11) are thus the best descriptions of the determinants of PHA expense levels, and the summary statements that follow are based on those six equations.**

2.1 Summary: Multiple Regression Analysis

- PHA location has no significant impact on PHA expenses once other variables have been held constant.

- The very smallest PHAs (under 50 units) spend significantly more than other PHAs, even when other variables are held constant. In dollar terms, our estimates suggest that the smallest PHAs spend from $8.00 to $12.00 PUM more than larger PHAs.

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* This does not mean that we should necessarily reject using these indices in a formula.

** Deleting the nonsignificant variables - PHA location and the dummy variable for large PHAs - does not alter our conclusions at all. Nor does adding two of the variables that we dropped: proportion elderly and the yield rate. In no case do these variables increase the explained variance; nor do these variables have a significant regression coefficient.

- Once other factors are held constant, the very largest PHAs (over 1000 units) do not spend significantly more than smaller PHAs.

- The presence of non-Section 8- Existing Housing units reduces the cost of running the Section 8 - Existing program. This reduction may be as much as $13.00 PUM.*

- The lease-in-place rate does not have a significant negative impact on PHA expenses. Instead the coefficient is a significant positive number. This indicates that leasing-in-place does not reduce costs, holding other factors constant.

- Total intakes significantly raise PHA costs. Holding other variables constant, an increase from 0 to 1.00 in the proportion of units that require an intake raises PHA costs by about $5.00 to $7.00 PUM.**

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* This conclusion depends on whether FMRs or the CETA index is used as a measure of costs. The presence of Non-Section 8 - Existing units is not a significant determinant of PHA expenses when the CETA index is used.

**Increasing the proportion of units that require an intake from 0 to 1.00 is of course unrealistic; no PHAs have zero intakes. This "0 to 1" example is used however, since it reflects the change in the dependent variable (PUM cost) by a unit change in the independent variable (here, total intakes), taken directly from the coefficient in the regression equation. We did not offer a more realistic range, e.g., an increase of .25 to .35, even though this is easily derived (a .1-unit increase here raises cost by 1/10 what a 1-unit change would, i.e., $.50 to $.70 PUM). We refrained from such an example because any arbitrary selection could very well be misleading; the impact of intake rates on costs may not be linear over the entire set of PHAs. Thus a .25 to .35 increase in intake rate may have a different cost effect than a .65 to .75 increase. This same argument holds true for selecting the mean value and a one standard deviation increase.

- Hiring more FTEs (per 1000 unit months) significantly raises PHA costs by about $2.00 or $3.00 PUM.

- An increase from 0 to 1.00 in the proportion of units that represent a net intake significantly increases PHA expenses by about $8.00 PUM. This means that for the typical (mean) PHA with 254 units under lease, adding one net intake raises PHA costs by about 3¢ PUM.

- As FMRs increase, so do the total PUM expenses in a PHA, even when other variables are held constant. Overall, a $1.00 increase in the FMR is associated with about a 10¢ PUM increase in PHA expenses.

- As the CETA wage index for all service workers in a PHA area increases, PHA expenses do also. Holding other variables constant, a 1% increase over the national average CETA wage brings about a 20¢ PUM increase in PHA expenses.

IV. ANALYSIS OF FEE STRUCTURE

This chapter presents an analysis of the relationship between the costs reported by PHAs for administering the Section 8 - Existing Housing Program and the fee earned for preliminary and administrative expenses. Intake and maintenance cost estimates from this study are compared with the current formula fee provisions and with estimates of previous studies. The degree of coverage provided by the current fee structure and the degree of equity achieved across PHAs are examined. The implications for alternative fee structures are discussed.

1.0 ANALYSIS OF PROVISION FOR OPERATING RESERVE

The previous chapter examined the costs reported by PHAs and the characteristics of the PHA or its program that affected the cost of program administration. The determinants of the cost of program administration are important in explaining differences in cost experiences among PHAs. The significance of these differences in creating inequities in the reimbursement received by PHAs can be determined only by examining the relationship between costs and the administrative fees. The measure of that equity is the amount that PHAs transfer into or out of the operating reserve after determining their earned fee.

This amount is dependent in part upon the total fees that PHAs receive. One source of compensation to the PHAs for services performed is the preliminary fee. In general, the preliminary fee provides up to a maximum of $275 for each new unit added to the PHA program. (As indicated previously, 5% in the study sample reported receiving more, 48% received $275, and 47% received less). The other source is the administrative fee. This fee generates 8.5% of the two-bedroom FMR for each unit-month under lease in the PHA program. The sum of these fees is the amount that the PHA has available to meet operating expenses. Any surplus in fees over costs goes to operating reserves, which are then available to meet future shortfalls in the earned fee or other housing program needs.

Virtually all PHAs in the sample reported surpluses and operating reserves. It is important to note that virtually the entire sample included PHAs with preliminary fees; this has implications for the ability of the present formula to provide adequate compensation when programs have stabilized and new units are no longer being added.

1.1 Operating Reserves and PHA Characteristics

Table 1 shows that the typical PHA receives from the ongoing formula about $3.74 PUM more than it reports spending. This is the contribution made by an average PHA to its operating reserve. Table 1 also shows that this contribution does not vary with respect to size. Table 2 shows that it is not significantly dependent on PHA location.

Despite the uniformity of this PUM "surplus" among PHAs in different locations and different size categories, Table 3 shows that this surplus is not necessarily random. First of all, PHAs with high reimbursement for preliminary expenses--whether measured on a PUM basis or as a percentage of total expenses -- make greater contributions to their operating reserve. By contrast, PHAs with high PUM administrative expenses have smaller PUM surpluses.* This relationship substantiates descriptions by several PHA administrators that the early years of a program provide a "nest-egg" that can be spent in subsequent years for administering a fixed number of units. Overall, because ongoing and preliminary expenses offset one another as the dominant source of fees (and costs), the presence of a surplus is not

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* The magnitude of this correlation is partly an artifact reflecting the presence of ongoing administrative expenses in both variables of the correlation.

significantly correlated with total PUM expenses.* In other words, if a PHA reports that it is meeting its costs largely through the preliminary expenses, then it is probably in a start-up situation and has a relatively small number of unit months under lease to generate administrative fees. PHAs reporting low preliminary expenses per unit are probably deriving most of their income from a large number of leased-up units.

1.2 Operating Reserve and Program Characteristics

Just as the PUM contribution of the PHA to its operating reserve is positively correlated with preliminary expenses, so also is it positively related to some of the factors relating to intake activities that may contribute to high preliminary expenses. According to Table 3, the PUM surplus is significantly and positively related to the turnover rate, the rate of the number of FTES, the net intake rate, and the total intake rate.

Overall, these results suggest that the surplus is fairly equitably distributed across different PHAs. Even though small PHAs have higher total expenses than large PHAs, most of this extra cost is attributable to start-up activities and the relatively large amount of preliminary expenses they receive. As PHA size increases, the ongoing fee becomes greater. (See Table 9 in Section III.) However, FMRs, which partly determine the size of the administrative fee, are also higher in larger PHAs. (See Table 8 in Section III). Small PHAs are incurring relatively more intakes that warrant relatively higher preliminary fee income. Large PHAs have higher FMRs that warrant higher ongoing fee income. As a result, the inequities of the preliminary fee are counteracted by offsetting inequities in the ongoing fee; the net result is that on the average the PHAs in

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* Where ongoing expenses PUM are high, preliminary expenses PUM are low. Their correlation is -.27.

each size category were compensated in a reasonably equitable manner during the period under study.

This conclusion is valid for the period of the study (data drawn almost equally from Fiscal Years 1978 and 1979), but it should be recognized that the small PHAs were primarily in a program expansion phase during this time. When their programs reach a stable level, they will be dependent almost exclusively on the administrative fee. Since the FMRs in small PHAs are not likely to match those received in general by large PHAs, it is likely that their provision for reserves will be considerably less than that of the larger agencies. Overall, the analysis indicates that the current formula has performed relatively well during the early years of the Section 8 program and has provided adequate compensation to PHAs for program administration services.

Some additional correlational evidence supports the contention that, at least during the time of the sample survey, the current two-part formula treats most PHAs equitably. The two-part formula means that PHAs with relatively high FMRs receive higher ongoing administrative fees on a PUM basis; the correlation between these two variables is .33. Moreover, PHAs that receive higher ongoing fees also have a larger "surplus"; the actual correlation is .45.

The second part of the formula is the preliminary fee. It has already been shown that the PUM preliminary fee increases as PHA size decreases. This occurs because during the period studied smaller PHAs were most likely to be in starting up. Similarly, smaller PHAs have more intakes, on both a total and net basis. PHAs with relatively high net intakes tend to have high PUM preliminary fees; the correlation is .36. Just as high ongoing fees are associated with a larger surplus, so also are high preliminary fees associated with a high surplus; their correlation is .30.

Table 1: PHA Contribution to Operating Reserve, by PHA Size

	Size							
	0-49	50-99	100-299	300-499	500-999	≥1,000	Total	Sig.
Admin. fee received minus ongoing fees reported (PUM)	$3.60 (N=71)	$3.76 (N=69)	$3.88 (N=74)	$3.80 (N=25)	$3.50 (N=16)	$3.66 (N=12)	$3.74 (N=266)	.99

Table 2: PHA Contribution to Operating Reserve, by PHA Location

	Location				
	Metro	Regional	State	Nonmetro	Sig.
Admin. fee received minus ongoing fees reported (PUM)	$3.57 (N=103)	$3.22 (N=14)	$4.99 (N=6)	$3.98 (N=136)	.66

Table 3: Correlation between PHA Contribution to Operating Reserve and Selected PHA Characteristics and Costs (Pearson Correlations)

Admin. fee required minus ongoing fees reported (PUM)

correlated with:	r	N	Sig.
Prelim. expenses PUM	.31	266	.001
Ongoing admin. expenses PUM	-.83	266	.001
Prelim. expenses as percent of total	.53	266	.001
Total expenses PUM	.05	266	.23
Turnover rate	.34	186	.001
Yield rate	-.02	192	.37
FTEs per 1000 unit mos.	.12	188	.046
Net intake rate	.10	193	.073
Total intake rate	.17	192	.009

In addition, these two sources of administrative fees are not highly related; the correlation between the ongoing fee PUM and the preliminary fee PUM is .10, which is not significantly different from zero at the .05 level. Few PHAs receive large sums, on a PUM basis, from both sources simultaneously.

The explanation for the offsetting contributions of the two-part formula is important, because it suggests that small PHAs, when they stop growing, may find themselves financially squeezed by the current formula. Specifically, the apparent reason for the offset is that PHAs with high FMRs are large and, according to several indicators, have proportionately fewer intakes.* Even though these PHAs are not just starting up they happen to be located in areas where FMRs are relatively high. As a result, their relative dependence on the ongoing fee does not put them into a financial bind. By contrast, when smaller PHAs can no longer add new units, they too will become relatively dependent on the ongoing fee; but, because they are located in areas where FMRs are low, their ongoing fee will be smaller than the fee received by larger PHAs. They will thus be unable to contribute to their operating reserve.

Although there is have no direct evidence to support this conclusion, it is a reasonable inference from the study of the subpopulation of 153 PHAs that receive 40% or less of their total fees from the preliminary fee. In this subgroup, the very smallest PHAs (0-49 units) actually lose $.26 PUM from their operating reserve. The next two size groups (50-99 units and 100-299 units) add $1.52 PUM; the following two size groups (300-499 units and 500-999 units) add $2.65 PUM and $2.32 PUM,

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*The correlation between FMR and size is .18; it is significant at the .01 level. The correlation between FMR and the intake inspection rate is -.28; between FMR and the turnover rate is -.16; between FMR and the total intake rate is -.12. All are significant at the .05 level.

respectively. The largest PHAs (1000 units and over) add $5.19 PUM to their operating reserve. Thus, among PHAs that receive less than half of their revenues from the preliminary fee, there is a significant relation between PHA size and the PHA's ability to augment its operating reserve. Large PHAs that are relatively less dependent on the preliminary fee face substantially less fiscal duress than small PHAs which receive proportionately smaller preliminary fees. As indicated, small PHAs are located in areas with low FMRs. When these PHAs can no longer add new units, the ongoing administrative formula appears to treat them less generously than it treats the larger PHAs.

Such an inequality might be justifiable if there were substantial and consistent evidence that it is cheaper to operate small PHAs than large ones. However, the evidence from the analysis in Section 5 of Chapter III of the determinants of PHA costs does not support this conjecture. It reveals instead that, even when other variables are held constant, the very smallest PHAs tend to have higher costs than other PHAs.

1.3 Summary: Analysis of Provision for Operating Reserve

- The typical PHA receives from the ongoing formula, about $3.74 PUM more than they report spending. The amount is similar for all PHAs irrespective of program size or area served.

- PHAs with high preliminary expenses PUM (and the associated high intake activities) make greater contributions to their operating reserve. A "nest-egg" is apparently built up in the early years of a program to be spent later when the program stabilizes.

- Since the older PHAs under study were also larger (and had fewer intakes), their higher associated FMRs and thus higher ongoing fees offset their lower preliminary fees (and lower preliminary expenses). Small PHAs in the start-up mode had higher intakes and thus higher preliminary fees to offset lower ongoing fees for their relatively fewer units under lease. The current formula has therefore performed well to date. As the smaller PHAs -- with lower FMRs -- reach a stable level, however, their dependence on ongoing fees may result in program budget deficits.

2.0 INTAKE AND MAINTENANCE COST ESTIMATES

Under the existing fee structure PHAs are compensated separately only for those costs incurred in processing applicants for intake into additional units allocated by HUD. The cost of processing of a new program recipient to replace a tenant that leaves the program must be met out of the administrative fee rather than the preliminary expense fee under the current compensation system. The research shows that intake activities (resulting from both the addition of more units or turnover) are the most time-consuming and costly function carried out by the PHAs. The findings on the effects of turnover and on the effort required for intake activities provide considerable evidence for the need to include these determinants of cost in the formula structure. To determine what might be an appropriate approach to compensating PHAs in a way that reflected the cost of intake activities, separate estimates were developed for the costs of intake and program maintenance activities.

The estimates of intake and maintenance costs are approximations, at best. They are based in large part on questionnaire responses to the percentage of staff time spent on various activities, which are classified as intake, maintenance or mixed activities. (Table 4 shows in detail the computational steps followed.) The proportion of staff time spent on these activities was multiplied by total expenses PUM (preliminary plus ongoing) to derive an estimate of intake, maintenance and mixed costs PUM. Maintenance costs per year and costs per intake also were estimated.

All of these calculations share certain limitations. First of all, the percentage of time figures are respondent's estimates, reported only to the nearest 5%. Second, allotting total expenses to intake, maintenance and mixed activities ignores PHA contributions to operating reserves, PHA expenses for indirect costs, capital expenditures, and so on. Third, the percent of staff time spent on an activity is not necessarily equivalent to the percent of costs that the activity actually requires. Some activities use little time but incur high costs; others may use substantial time but have low costs. Nonetheless, given the labor intensive nature of PHA activities, it is not entirely unreasonable to assume that percent of costs roughly corresponds to percent of time.

Another limitation is that respondents were not asked to estimate the percent of time they spent on intake as opposed to annual inspections. Instead, the predominance of intake to total inspections was estimated by weighting the proportion of time spent on all inspections according to the relative frequency of new (intake) to total units in the PHA. This assumes that each unit (new and old) received one inspection.

There are two sets of cost estimates, one based on total intakes, and one based on new intakes. All measures of intake units are calculated for total and new intakes. The number of maintenance units must be adjusted accordingly. For example, the

Table 4: Calculations for Estimates of Intake and Maintenance Costs

	Calculations based on total intakes	Calculations based on new intakes
Number of intakes	Number of recipients + number moving from one Section 8 unit to another = # total intakes (Mean = 143) (N = 301)	Number of recipients (Mean = 127) (N = 308)
Number of maintenance units	Number of units minus number of total intakes = number of total maintenance units (Mean = 110) (N = 141)	Number of units minus number recipients = number of new maintenance units (Mean = 125) (N = 157)
Intakes as proportion of all units	Number of total intakes/ (number of total intakes plus number of total maintenance units) = proportion total intakes (Mean = .50) (N = 141)	Number of recipients/ (number of recipients plus number of new maintenance units) = proportion new intakes (Mean = .47) (N = 157)
Proportion of staff time on intake inspections	Proportion total intakes times proportion of staff time spent on inspections = proportion of staff time spent on total intake inspections (Mean = .07) (N = 108)	Proportion new intakes times proportion of staff time spent on inspections = proportion of staff time spent on new intake inspections (Mean = .07) (N = 120)
Proportion of staff time on maintenance inspections	(1 - proportion total intakes) times proportion of staff time spent on inspections = proportion of staff time spent on maintenance (less total intake) inspections (Mean = .08) (N = 108)	(1 - proportion new intakes) times proportion of staff time spent on inspections = proportion of staff time spent on maintenance (less new intake) inspections (Mean = .08) (N = 120)

Table 4: Calculations for Estimates of Intake and Maintenance Costs (Continued)

	Calculations based on total intakes	Calculations based on new intakes
Proportion of staff time spent on intake activities	Proportion of staff time spent on landlord outreach, tenant outreach, eligibility, determination, initial contract/lease negotiation and total intake inspections = proportion of staff time spent on total intake activities (Mean = .58) (N = 108)	Proportion of staff time spent on landlord outreach, tenant outreach, eligibility, determination, initial contract/ lease negotiation and new intake inspections = proportion of staff time spent on new intake activities (Mean = .58) (N = 120)
Proportion of staff time spent on maintenance activities	Proportion of staff time spent on maintenance (less total intake) inspections, recertification/contract renewal, and general services = proportion of staff time spent on maintenance (less total intake) activities (Mean = .36) (N = 108)	Proportion of staff time spent on maintenance (less new intake) inspections, recertification/contract renewal, and general services = proportion of staff time spent on maintenance (less new intake) activities (Mean = .37) (N = 120)
Proportion of staff time spent on mixed activities	Proportion of staff time-other (Mean = .04) (N = 253)	Proportion of staff time-other (Mean = .04) (N = 253)
Intake cost PUM	Proportion of staff time spent on total intake activities times total total expenses PUM (Mean = $14.74) (N = 107)	Proportion of staff time spent on new intake activities times total expenses PUM (Mean = $15.55) (N = 120)
Maintenance cost PUM	Proportion of staff time spent on maintenance (less total intake) activites times total expenses PUM Mean = $8.77) (N = 107)	Proportion of staff time spent on maintenance (less new intake) activities times total expenses PUM (Mean = ($9.12) (N = 120)
Mixed cost PUM	Proportion of staff time spent on mixed activities times total expenses PUM (Mean = $1.38) (N = 162)	Proportion of staff time spent on mixed activities times total expenses PUM (Mean = $1.38) (N = 162)

Table 4: Calculations for Estimates of Intake and Maintenance Costs (Continued)

	Calculations based on total intakes	Calculations based on new intakes
Cost per intake	Proportion of staff time spent on total intake activities times total expenses/number of total intakes (Mean = $424.72) (N = 107)	Proportion of staff time spent on new intake activities times total expenses/number of new intakes (Mean = $533.15) (N = 120)
Maintenance cost per total unit	Proportion of staff time spent on maintenance (less total intake) activities times total expenses/total number of units under lease (Mean = $91.59) (N - 107)	Proportion of staff time spent on maintenance (less new intake) activities times total expenses/total number of units under lease (Mean = $94.18) (N = 120)

less than the estimates of $425 per total intake, though greater than the estimate of $92 for maintenance. Because of the differences in the way the costs are calculated for the two programs, it is not appropriate to conclude a great deal from the differences.

Although the intake cost estimates exceed those reported in the Supply Experiment, they are roughly comparable to the estimates reported in the Administrative Agency Experiment (AAE). In the AAE, intake processes were similar to those that occur in the Section 8 - Existing Housing program. Specifically, intake activities included tenant outreach, the certification and selection of recipients from applicants, and the inspection of units.

Based on the first two years of the experiment, costs ranging from $253 - $305 per recipient were reported for intake costs.* These figures reflect 1974 dollars. Inflating these estimates to 1978 dollars with the CPI index of costs for all services yields new estimates of between $353-$425 per recipient for intake. These figures are not too dissimilar from the estimates of $425 per total intake. The AAE cost estimates are, however, lower than the estimates based on new intakes. (See Table 5). In all cases the maintenance cost estimates for this study are lowest, but as pointed out these costs might not be strictly comparable because of differences in the functions performed in the two programs. Differences in turnover between programs also will affects the substitutability of these measures.

In sum, the data in Table 5 suggest that, depending on how costs are estimated, an intake may cost anywhere from $425 to

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*The estimates depend on the estimating procedure used. The AAE estimates include direct as well as indirect costs.

Table 5: Comparison of Intake and Maintenance Costs - Section 8-Existing, HASE and AAE: 1978 Estimates

	Intake Costs per intake	Maintenance costs per unit
Section 8 - Existing costs (based on total intakes and maintenance units adjusted for total intakes)	$425	$92
Section 8 - Existing costs (based on new intakes and maintenance units adjusted for new intakes)	$533	$94
HASE estimates	$291	$155
AAE estimates	$353-$425	$285-299

$533, while annual maintenance costs are about $93 per unit. These figures are higher than the HASE cost estimates for intakes, but the low estimates in this study are comparable to the highest of those reported in the AAE.

3.0 IMPLICATIONS FOR ALTERNATIVE FEE STRUCTURES

The findings of the study have several implications for conversion to an alternative to the current fee structure for compensating PHAs for administering the Section 8 program. The need to consider alternative approaches does not arise from any major deficiency of the current fee structure for insuring the adequacy and equitability of compensation provided to PHAs to date. In fact, the formula has performed remarkably well in both encouraging expansion of the Section 8 program, and providing adequate compensation for on-going administration of the program. The performance of the formula to date is also evidence of the suitability of this approach, rather than of a method of reimbursement based upon actual expenses.

Although the study findings indicated that the current fee structure has performed well during the intitial years of the Section 8 program, it is clear that its success is attributable in large part to the positive effects that fee income for preliminary expenses has had on the ability of PHAs not only to cover the costs of program administration, but also to create operating reserves. As the Section 8 programs of individual PHAs reach maturity and the number of new additional units becomes a very small percentage of the total number of units in the program, agencies will become dependent almost totally on the administrative fee income to meet their costs of administration. Large programs will be affected less severely only because PHAs with large programs tend to be serving areas with relatively high FMRs, and they also are able to achieve some economies of scale of their operations. Agencies with small programs will suffer disproportionately because they tend to be located in areas of

low FMRs, they are not able to take advantage of scale economies, and they have not amassed large operating reserves that could be used to meet a shortfall in funding.

The study findings show that intake activity accounts for the major portion of staff time requirements and costs in the administration of the program. The efforts associated with replacing a tenant who leaves the program appears to be very similar to those associated with processing a participant for assignment to a new unit added to the program. The current fee structure does not provide compensation for the cost of these turnover intakes, yet the cost incurred by PHAs experiencing high turnover can result in costs exceeding the compensation provided by HUD.

The study findings also support the commonly held opinion that the preliminary expense component of the current fee structure has encouraged expansion of the Section 8 Existing Housing program, if the ability to accumulate operating reserves is taken as the measure of the incentive provided.

In view of the generally positive performance and effects of the existing fee structure, the suitability of an alternative should be evaluated in terms of its ability to meet the following criteria:

- Simple to administer
- Provide adequate incentives for program expansion
- Provide adequate and equitable compensation among all PHAs

The number of alternative fee structures that can be identified that are consistent with the study findings and also meet the criteria for improving upon the existing structure are few.

Based on the findings of the administrative cost research and on general experience gained in the program through the research, the following principles are suggested in revising the fee system.

- The system should generally continue to use a formula type approach rather than going to a budget or cost-reimbursement system. This will minimize the difficulty of HUD area offices administering the fees and will enhance the equity of the system.

- The system should continue to use PHA workload factors as the basis of fee. Unit-months leased and number of intakes are reasonable workload measures. However, the current system gives preliminary expense reimbursements on the basis only of new increments of units allocated by HUD, and does not directly reimburse PHAs for the intake expense due to replacing households which have moved out of the program. Intake of families that replace families moving from the program is indistinguishable from intake or families moving into newly allocated units. Thus, it is suggested that PHAs should be reimbursed for all new intakes in the program, whether due to filling new units or replacing households in previously allocated units. In order to avoid artificially high intake fees new intakes would not include counting families whose certificates have temporarily lapsed for six months or less. The formula would continue to use a maintenance fee to reimburse PHAs for the cost of ongoing operations such as HAP payments, recertification, annual unit reinspection and administrative overhead. The maintenance fee would be based on number of unit months leased.

Revision of the system along the lines described offers the following advantages:

- PHAs would be compensated more accurately for the high cost of performing intake functions

- As the number of intakes rose under high turnovers and high allocations from HUD, or as they fell under low allocations and lower turnover rates, PHAs' workloads would rise or fall and their fees would correspondingly be increased or reduced.

- The amount per turnover would be a fixed dollar amount (e.g., $200 in FY 1979), and the current high variance in PUM fees between high-FMR and low-FMR areas would be reduced. This would give more support to rural and small PHAs